UNIVERSITY OF CAPE COAST

A HISTORICAL STUDY OF THE SOUL IN EUROPEAN PHILOSOPHY UP TO THE 20TH CENTURY

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DECEMBER, 2008

DECLARATION

CANDIDATE'S DECLARATION

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this University or elsewhere.

…… Date: ……

ANSAH RICHARD

SUPERVISORS' DECLARATION

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

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ABSTRACT

The problem of the soul and its content(s) is among the most important problems of philosophy. Various theories as to what the term soul designates have claimed to be reconcilable with the tenets of such philosophical concepts as materialism, idealism, dualism, naturalism, etc. One of the definitions of the soul is that the soul is the ultimate internal principle by which one thinks, feels, and wills, and by which the body is animated. The term "mind" usually denotes this principle as the subject of conscious states, while "soul" denotes the source of vegetative activities as well. That a person's vital activities proceed from a principle capable of subsisting in itself, is the thesis of the substantiality of the soul: that this principle is not itself composite, extended, corporeal, or essentially and intrinsically dependent on the body, is the doctrine of immaterialism. The assertion of an independent principle (in some sense distinct from the body) is highly acclaimed in substance dualism. Substance dualists mostly believe that the mysteries of birth and death, the lapse of conscious life during sleep and in swooning, the operations of imagination and memory, which abstract a man from his material presence even while awake, suggest the inevitable thought of something besides the visible organism.

Even so, the issues of what exactly the soul designates, how it relates or does not relate to the body, how that which is immaterial (as the soul is considered to be), etc. have made it very difficult for one to philosophically do espouse the concept of then soul. This essay has tried to assemble the various conceptions of the soul from the pre-Socratic period to the 20th century. It seems, based on the findings so far, that in the absence of a better and an all-embracing definition of what the term soul designates, dualism offers itself as a better option.

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DEDICATION

THIS WORK IS DEDICATED TO DR. R. N. OSEI, FOR HIS LOVE, SUPPORT AND PATIENT; TO PROF. OZUMBA, FOR HIS WORDS OF ENCOURAGEMENT; TO MY FAMILY AND ALL MY FRIENDS.

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Chapter One

Background To The Study: Introduction

Although the world today is, increasingly, in an age of science, the notion of self and mind is largely construed as non material. Central to most traditional conceptions of the human is the idea that the person possesses a soul, an immaterial essence that persists after the physical self disappears. Even if one does not associate oneself with the traditional conception of the soul, one might still suppose that in addition to being bodies, 'humans' are also mental agents, in that consciousness and choice depend on something nonphysical above and beyond the brain – though they (those who hold this view) believe that naturalist thinkers might contest this – they insist that this point is cogent. Further, it is widely believed (by the believers and nonbelievers of the soul alike) that 'man' has free will, the power to choose without his (man's) choices being entirely determined by natural causes and circumstances. There is, thus, a conflict, at the deepest level, between traditional mind-body (or soul-body) dualism and the scientific view about man – the view that man is primarily a physical entity, inseparable from animals in the natural world. The real problem is how to reconcile this conflict, the traditional conception of the soul with the naturalist or scientific conception that seems to have no logical space for the existence of immaterial substances.

The growth of experimental psychology in the 20th century spawned a wide variety of schools and scientific approaches to the question: the soul and human specificity. Of particular importance is "methodological behaviourism" and "logical behaviourism." In simple terms, "behaviourists" consider humans as highly complex

machines whose laws and workings can be deduced by scientific observation of their external behaviour. Platonic or Cartesian dualisms are strictly excluded.

Criticisms of behaviourism did not delay in coming. Yet the perennial dilemma of the relationship between the body and the soul comes to the fore again in terms of the relationship between the mind (which mostly takes the place of the "soul" in this research) and the body. It is often asked: what is the relationship between the self, subjectivity, the mind, on the one hand, and the biological, chemical and physical organism usually termed the brain, on the other? A wide variety of explanations drawing on neurobiology, the cognitive sciences, information theory, computer science, linguistics and sociology, the theory of *identity* with the associated question of artificial intelligence, that of *emergentism* and that of *interactive dualism* have been suggested.

Some philosophers find it difficult to swallow, without qualification, the behaviourist conception of the soul or mind and taking issue with the behaviourist position, insist on the ontological independence of the human mind. The human being is more than an automated mechanism driven by stimulus and response. Human behaviour, at least in part, is directed by a self-conscious self. Hence the "self" cannot be identified with behaviour as such, but with the interior principle of behaviour. The mind, however, is identified purely and simply with the brain. This approach rests on what is called "the principle of economy" according to which there is no need to multiply unnecessarily the causes of any phenomenon. If therefore all human processes, events and mental states (mental teleology, behavioural intentionalism, cognition, willing, choice) can be explained adequately on the basis of the workings of the brain, there is no need to postulate the existence of an immaterial principle of

life. This, it is assumed, is the case: if cerebral processes could be mapped in sufficient detail on a screen as it were, human action and development could be suitably predicted. Leaving aside for the moment the fact that many philosophers and neurologists do not identify the mind (or soul) with the brain, what is called the "binding problem" still remains, and can be stated as follows: what keeps such structures in their place first of all, and, even more, where did their form or structure originate?

Emergentist materialism holds that matter is all that exists, but within reality matter expresses itself in qualitatively distinct levels of being. Each level supposes the anterior one, yet surpasses it ontologically. Common experience does not permit humans to understand everything in purely physical terms. Here it is accepted that the mind is the brain, but it is added that the human brain differs qualitatively and not only quantitatively from any other known material object. The human being must thus be distinguished both from the biosphere and from his nearest genetic relative, the chimpanzee. The principal property of this type of emergentist materialism is what is called "plasticity", that is the aptitude of the brain to programme and organise itself. Other attempts to solve the mind-body problem are found in recent years. However, insofar as they generally begin with a monistic view of reality from which higher levels of life are seen to spontaneously evolve, it is difficult to shake off the impression that such levels are merely quantitative improvements of the lower ones. Little space is left for either human intentionality or transcendence. The 'possible' ontological independent existence of a non material substance – the soul – and its relation with the body continues to be 'popular' among philosophers and scientists today. The discussions on the soul's relation with the body, thus, constitute the subject matter of this research.

Purpose of The Study

The aim of this research is to do a critical study of the concept of the soul in European philosophy in the twentieth century. The research delves into such conceptions of the soul as, that 'the soul is an immaterial particle present within any living entity whose presence causes the entire body to be pervaded by consciousness, (although the issue that this should include all living things is still difficult to affirm or deny) the symptom of the soul.' This view was (and even still is) widely held by many European philosophers, especially those whose thoughts dominated the medieval period such as St. Thomas Aquinas and St. Anselm. Again, other medieval philosophers hold that 'the soul is eternal, it has no birth and it never perishes.' The soul is the 'person within the body' or the ghost in the machine.' Man, according to this view, being mortal has both a beginning and a 'telos' or an end – birth and death. But this applies only to his corporeal or material existence, his body. Man's intelligible or intellectual or - a vitally important attribute - rational existence, his soul, has a beginning (a creation) but no end; it too is immortal, like all beings of the intelligible universe.

The presence of the soul in any living entity, though debatable as indicated above, is indicated by consciousness. This, perhaps, suggests (though not universally embraced) that the soul dwells in every living thing (at their own variant level – making the soul and for that matter, consciousness of a bat different from the soul of a man). Although human beings cannot actually see the soul, they can see its symptoms – the soul is the living principle that separates living things from non-living things. Human beings cannot "see" electricity but when they see an illuminated light-globe they recognise the presence of electricity. Similarly, when they are conscious they recognise the presence of the soul.

In another sense, the soul is considered by most European philosophers – Plato, Rene Descartes, Gottfried Wilhelm von Leibniz, John Eccles, Karl Popper, David Chalmers, etc. as the principle of life, that is, what makes living things alive. The Greek word for 'alive', like the equivalent Latin word 'animatus' and its English derivative 'animate', is etymologically the same as 'ensouled'; this is the ancient connection between the ideas of the soul and of life. Plato, presumably following Socrates, both identified the soul with the person who reasons, decides, and acts, and assumed that this person or soul is not the familiar creature of flesh and blood but rather the incorporeal occupant and director of, even the prisoner in, that corporeal being. The separate Greek word translated 'soul' or 'mind', later becomes the English 'psyche', which is also the root in 'psychology', 'psychosomatic', 'psychophysical', and so on. This conception of soul has received lots of debates from pre-Socratic philosophy to contemporary philosophy. Most logical positivists – A. J. Ayer, Ludwig Wittgenstein, Bertrand Russell, etc. disagree with the pre-scientific and modern view(s) of the soul. This essay, therefore, tries to do a study of the various conceptions of the soul in twentieth century philosophy, making reference(s) to other conception(s) of the soul before the period under consideration. This is to assess the adequacy of science and technology in getting humans a full understanding of the soul in particular and human nature in general and to provoke discussion and encourage new lines of investigation.

Statement of The Problem

Philosophy has attained notoriety for perennial problems. These problems are perennial because apart from ensuring that the professional philosophers keep the task of philosophizing going, they (the problems) ensure their continual relevance to

human existence. One of such problems has to do with the concept of the soul. It is essential to ask the question why the soul should be a relevant issue at this time in human existence when science and technology is at its zenith of advancement; and the soul seems of no immediate significance for the well being of the society. Yet it is becoming earnestly apparent in the West that scientific and technological development might not be all that could ensure the fulfillment of human aspirations.

When one is exposed to the conflict between the traditional (or humanistic) and scientific conceptions of the soul, one is faced with the almost insuperable problem of how to reconcile the two views – the traditional view that reveals humans as essentially subjects of experience and immaterial beings, and science which unlocks the secrets of humans' animal essence. This problem is, perhaps, the one that many twentieth century European philosophers tried to investigate.

What does the term 'soul' designate in the universe? One must consider, here, the class of beings that are assumed to have souls: viz, all mammals or some of them, all reptiles or some of them, all bacterial or some of them (or not at all, etc.) Up to the present time those who have discussed and investigated the soul seem to have confined themselves to the human soul. Twentieth century European philosophers were confronted with the question whether the soul could be defined in a single unambiguous and coherent formula for all kinds of beings (material and immaterial) that are believed to possess it (soul).

Of course, "good" scientific hypotheses have associated with them tools for investigating their validity. Where do people turn for a scientific investigation of a coherent idea of the human soul and or soul in general?

The problems that engulf the concept of the soul and constitute the subject of investigation can, thus, be summarized as follows.

To begin with, there is disagreement regarding what the term soul designates in European thought --- there is disagreement on the conceptual analysis of the word, soul. Do animals have soul? One of the problems with this question, which has provoked a lot of controversy among animal researchers and the ideologues of cognitive science, is that there is scant agreement on the meaning of the term "soul" as it appears in the question.

Secondly, science seems to assert that man is nothing but a highly evolved animal with a brain like an electronic computer while traditional conceptions of the soul posit an immaterial soul in man, a conception that seems forever to elude science. The question is, how is it possible for a physical thing – a person, an animal, a robot – to extract knowledge in the guidance of successful action? Some philosophers believe that even though lots of discoveries have been made in science, scientific investigation(s) has not been able to dispense with the immaterial component of humankind.

Again, soul proponents – idealists, dualists – do not agree on the link between the body and the soul (qua mind) on the one hand and the relation between the soul and the mind on the other hand. The problem of the relation between bodies and minds and especially of the link between brain structures and processes on the one hand and mental dispositions and events on the other is an exceedingly difficult one.

Moreover, reading the soul *qua* mind, if there is artificial intelligence (AI) should humans recognize entities that possess AI as having souls? That is, can machines think? This has been a conundrum for philosophers for years, but in their fascination with the pure conceptual issues they have for the most part overlooked the real (social) importance of the answer. It is of more than academic importance that people learn to think clearly about the actual cognitive powers of computers, for they

are now being introduced into a variety of sensitive social roles, where their powers will be put to the ultimate test: In a wide variety of areas, people are on the verge of making themselves dependent upon their (computers) cognitive powers. The cost of underestimating them could be enormous.

Finally, materialist reductionism of the soul also creates problems. Is the mind (or soul) a mysterious ethereal controller of the brain, or a complex but wholly explicable product of the brain's chemical, electrical and neurological processes? Indeed, is the mind (or soul) real or imagined? Are there really beliefs? Or are people learning (from neuroscience and psychology, presumably) that, strictly speaking, beliefs are figments of people's imagination, items in a superseded ontology? These ontological questions seem to admit just two possible answers: either beliefs exist or they don't, and here materialism is unable to help whoever wants to know. There is no such state as quasi-existence; there are no stable doctrines of semirealism. A bracing conviction prevails, then, to the effect that when it comes to beliefs (and other mental items) one must be either a realist or an eliminative materialist.

It is worth stressing that when one considers the problems above, one realizes that it is difficult to provide immediate answers (or interventions) to them. It is in this light that I see the need to investigate into the concept of the soul as paramount.

HYPOTHESIS/THESIS

Rapid developments in neuroscience over the past four decades continue to receive wide attention. Each new reported advance points to ever tightening links between mind and brain. For many centuries, what is today called 'mind-talk' was familiar as 'soul-talk'. Since, for some, the possession of a soul is what marks off humans from brutes and other forms of creatures. This research brings together the

findings from so-called bottom-up research, in which one observes changes in behaviour and cognition resulting from experimental interventions in neural processes, with top-down research where one tracks changes in neural substrates accompanying habitual modes of cognition or behaviour. Further reflection alerts one to how the dualist views widely held by New Agers – David Chalmers, John Eccles and Karl Popper -, some humanists and many others, contrast with the views of monists – Paul and Patricia Churchland, Jerry Fodor, etc. and other scholars, who agree in emphasizing the unity of the person. The final analysis of the findings in this research depicts that it is more plausible to accept, perhaps, a dualist view of the soul or, to an appreciable extent, a neutral monist stand on the soul.

METHODOLOGY

The method of conceptual analysis is employed in this essay in assessing both primary and secondary sources on the "soul debate" that make this essay. It is worth mentioning that the method of conceptual analysis cannot be used solely without linking it up with the methods of thorough evaluation, assessment, exposition and examination of existing arguments. So, there are instances where these other methods are employed to augment the main method in this essay. The essay, thus, combines these methods effectively in laying bare the arguments espoused in this thesis.

LIMITATION /DELIMITATION

There are a number of issues concerning the soul which this essay, perhaps, cannot discuss. Since late antiquity Platonists have debated whether Plato intended that the whole soul should be seen as immortal, whether only the rational part was to have the status, or whether some third possibility should apply. In fact this work makes no (or perhaps does not try to make) explicit division of the soul into parts but

much of the discussion is carried on as if the entire 'soul' were in its true nature capable of functioning as a unified whole which retained both motivation and feelings. Other reflections on the soul from Asia and Africa and elsewhere would not feature prominently in this essay.

Review of Literature

Accounts of the nature of the soul in pre-Socratic, Socratic, medieval, modern and contemporary philosophy occur throughout many texts from each period. To begin with, the idea of the soul could be traced to Thales, the father of philosophy. For as attributed to him, "Thales, too, seems, from what they relate, to have supposed that the soul was something kinetic, if he said the [Magnesian] stone possesses soul because it moves iron". (Allen, Reginald E., ***Greek Philosophy: Thales to Aristotle,*** London: Collier Macmillan Publishers, 1966, p.30). "And some say that [soul] is intermingled in the universe for which reason, perhaps, Thales also thought that all things are full of gods". (Allen, 1966, p.30). "Thales holds, also, that the mind of the world is god, and that the sum of things is besouled, and full of daimons (spirits); right through the elemental moisture there penetrates an immaterial power that moves it." The soul, therefore, is a living element – it is that which causes motion."(Allen, 1966, p.30). The soul, thus, was considered to be the source of life in Thales' time.

Though this was considered plausible in Thales' time, the concept (of the soul) took a different dimension after Thales' time.

Pythagoras founded a mystical cult society with religious taboos. The religious inclination of the Pythagoreans was borrowed from Egypt and therefore not originally Greek. The religious impulse in Pythagoreanism led to the doctrine that the soul is immortal, that it undergoes reincarnation in various forms of animal life, and that, therefore, all life is akin – a claim that found practical expression in abstention from meat. Philosophy, to the Pythagoreans, "is purification, a regimen designed to free the soul from the burden of sense and the corruption of the physical; prominent sources of disorder," (Copleston, Frederick, ***History of Philosophy***, Vol. 4, Rome, Image Books, p.47). It is important to assert here that there was nothing of this in Thales' time, for whom soul, or life, though of fundamental importance as an attribute of the primordial stuff, had no ethical or religious implications.

Plato was influenced by the Pythagoreans' conception of the soul and its destiny. The Pythagoreans were doubtlessly impressed by the importance of the soul and its right attendance (upkeep or care or cultivation), and this was one of the most cherished convictions of Plato, to which he clung all his life. Plato asserts that "the soul is essentially a self-mover, a source of activity and motion. This means that the soul cannot die because it cannot abandon its essence – life" and that the soul is in prison of the body – that is, the body is the prison house of the soul.

Both Plato and Socrates, in the ***Phaedrus*** and in the ***Timaeus***, say the soul is immortal; that it pre-existed the body and will exist after the destruction of the body and later re-enter another body to be born – the centre of knowledge. The soul acquires knowledge when it is not attached to the body. The body and the senses are hindrances to knowledge so the soul could not acquire knowledge when in the body.

At birth, Socrates tells us, the soul forgets what it had learnt. The soul, after leaving the body, joins the gods in the intelligible realm.

In Aristotle, one finds such an attempt to give the soul a philosophical foundation. In an attempt to escape the transcendence of Platonic *Forms,* Aristotle conceives the soul as subsisting in the material world(s). This is the starting point of Aristotle's conception of the soul. Aristotle acknowledges that a living body possesses a soul, which is essentially the form of that body. Every natural living body, according to Aristotle, is composed of matter and form (body and soul). Aristotle summarises this in the following words:

> Every living body is a substance … substance as compound. But since every such body is also this sort of body – the sort that is alive – the soul cannot be a body, since the body is a substance as subject and matter, and is not said of a subject. The soul, then, must be substance as the form of natural body that is potentially alive. (De Anima 2004:2)

Aristotle recognizes a living being as body and soul: body is potential and soul is the form, which, Aristotle holds, actualizes the potency of the (or, its) body. The body is matter while the soul is form; for the soul is that which makes a living being what it is.

Aristotle could not imagine the soul having the capacity to exist separately from the body as it gives shape and form to it. The soul, Aristotle contends, cannot be separated from the body. To this extent, matter necessarily comes with a form. The soul is not a body but it requires a body to sustain it. It is not a body but it belongs to a body; for this reason, it is present in the body to actualize it. "Neither the soul nor the body can exist without the other; they both exist together and both perish together," (De Anima 2000:7). This of course implies that there is no immortality of the soul, according to Aristotle. This follows from his (Aristotle's) logical view that the body and the soul are substantially united as matter and form into a single substance: thus,

in Aristotle's view, the soul cannot be disembodied. The soul is a form, which gives shape to matter and defines its end. It is that which causes the movement in matter.

Aristotle, moreover, contends that the soul is responsible for the movement of the body. For him, appetite and desire are the drives for this motion of the soul. Aristotle (De Anima 2004:4) says:

> That which moves therefore is a single faculty and the faculty of appetite; for if there had been two sources of movement – mind and appetite – they would have produced movement in virtue of some common character. As it is, mind I never found producing movement without appetite … but appetite can originate movement … for desire is a form of appetite.

The soul, according to Aristotle, is neither affected nor acts without the body. All affections of the soul – emotion, gentleness, pity, loving and hating – require a body. Affections are, therefore, Aristotle holds, forms that involve matter. It could be inferred from the above discussion that the soul was considered, in Thales' time to Aristotle's time, to be that 'element' that produces or gives 'life' to its 'hosts.' Though the literature of the time seem(s) exhaustive, there is still the question of the ontological independence of the soul to the body. Again, there is a conflict between Plato's conception of the soul and Aristotle's conception of the subject (the soul). While Plato tells us that the soul is immortal, Aristotle believes that neither the soul nor the body is immortal.

In the medieval period, philosophers like St. Augustine, St. Anselm and Thomas Aquinas tried to discuss what they take the soul to be. Augustine for instance asks, what could the soul be? The problem of its (the soul's) definition equals the problem which confronted St. Augustine's attempt at characterizing time. Augustine {1995:363} writes:

> What then is time? If no one asks me, I know; if I want to explain it to a questioner, I do not know. But at any rate this much I dare affirm I know; that if nothing passed there would be no past

time: if nothing were approaching there would be no future; if nothing were, there would be no present time.

In this set of mostly 'uncritical assumptions,' humans are bequeathed with the origin of a concept that has been assailed with skepticism and controversies in critical thoughts. The basic question (as made clear in the statement of problem) is whether there could be such a thing that is both material and immaterial. One is immediately confronted with the dilemma faced by Descartes over the concept of mind and this leads to another question: Is the mind the soul? Descartes seems to assume so.

According to Rene Descartes, the soul, not the mind, is the man. Man consists of a soul, spirit and physical body. The spirit of man, Descartes asserts, contains the mind or intellect. No other part of man was made in the image of god, but the soul. For that's why the soul, according to Descartes, is the man.

Descartes believes that humans are thinking thing(s), (a res cogitans) spirits or souls, somehow associated with material bodies. The declaration of the Cogito that 'I think therefore I am' seems to suggest that humans' true nature is this thinking thing. In contrast, according to Descartes, non-human animals are automata. They are not thinking things. Though living beings with nervous systems, they have no true spirit or soul. Their behaviour is explicable wholly in terms of physical mechanism.

Descartes' conception of the soul sets out to recast "platonic dualism." The soul or mind, according to Descartes, can exist without the body. It should be noted at this point that the soul and the mind are used interchangeably in Descartes' *Meditations*. In fact, it is instructive that the term "soul" appeared in the full title of the *Meditations*. In the second *Meditation*, Descartes uses "mind". Descartes, perhaps, does not recognize the soul as dwelling in plants and animals nor does he acknowledge it as dwelling in different degrees in living things. The soul belongs solely and exclusively to human beings. To Descartes, unlike Thales, stones, lakes

and animals exist without minds or souls. It is only human bodies that have souls or minds. Descartes' Cartesian view, then, is that the soul is distinct from the body. He maintained that the essence of the physical (the body) is extension in space and the essence of a mental or non material substance is to think. Minds are unextended substances and thus are distinct from any physical substances. Descartes maintained, however, that our minds are not our brains, lack spatial location, and can continue to exist after the destruction of our bodies.

Minds are real things, real objects, real entities, according to Descartes, but they are fundamentally different from material substance. They are of a peculiar kind of stuff, immaterial matter, insubstantial substance and bodiless body. Descartes claims that it is supposed to have no extension, that is, no shape, size or capacity to occupy space; it is neither visible to the eye, tangible to touch nor is it visible under any high intensive microscope however powerful it is. The mind or soul is no way spatial nor is it physical. These qualities of mind by Descartes raise a special problem. How can something or substance that is intangible, non-spatial and non-extended dwell in substantial objects like the human body? Descartes holds that what connects the mind and the brain is causation – states of our minds causally interact with states of our brains. When bodily sensations such as aches, pains, itches, and tickles cause us to moan, wince, scratch, or laugh, they do so by causing brain states (events, processes) which in turn cause bodily movements. In a deliberate action, we act on our desires, motives, and intentions to carry out our purposes; and acting on these mental states involves their causing brain states, which in turn cause our bodies to move, thereby causally influencing the physical world. The physical world, in turn, influences our minds through its influence on our brains. Perception of the physical world with the five senses – sight, hearing, smell, taste and touch - involves causal

transactions from the physical to the mental: what we perceive (i.e., see, hear, etc.) causes a sense experience (i.e., visual experience, aural experience, etc.). Thus, Descartes held that there is two-way psychophysical causal interaction: from the mental to the physical (as in action) and from the physical to the mental (as in perception).

Perhaps the most widely discussed difficulty for this view is how states of a non-spatial substance (a mind) can causally interact with states of a substance that is in space (a brain). Such interactions - though some philosophers have tried over the years to suggest solution - have seemed utterly mysterious to many philosophers.

Hume characteristically signals the logical conclusion of the concept of the soul, especially, in the modern period. This derives from his iconoclasm concerning the notion of the self, which subsists in the philosophy of Descartes, Locke and Berkeley. The starting point of Hume's theory of the *self* is the denial of the idea of tangible continuity and extension, which is supposed to define a *self.* For Hume, such a *self* cannot exist since human beings have no impression of it in perception. According to Hume, to conceive, to know or to believe is nothing but to have ideas. Therefore, human beings cannot conceive of, know of or believe in anything of which they have no impression. Hume, thus, asserts that the mind is nothing but a bundle of perceptions related by resemblance, succession, and causation to which is ascribed the identity by a kind of fiction. (Steven M. Cahn, Classics of Western Philosophy, 4th ed., Cambridge, Hackett Publishing Company, Inc., 1995, p.864).

Hume argues that people are only apt to confuse things that feel alike; mistake the series of related but different perceptions, which make up the mind, for a single unvarying perception. The human mind, Hume says, is nothing but these series of related but different perceptions. This, Hume alleged, earlier philosophers mistook for

a permanent self (the soul). The earlier philosophers mistook the mind (and for that matter, the soul) as an individual entity capable of an independent life without the body. Hume says, to ascribe an entity to mind is a misnomer. There is no self, Hume holds; the mind is nothing other than bundles or conglomeration of perceptions. Anything short of that would be a misrepresentation and a misjudgement of what the mind is. (steven M. Cahn, 1995, p.865).

The implication of Humean theory of the 'self is simple: since people do not have a coherent impression of a *self* except as a bundle of disjointed perceptions in conflict, it is equally difficult to fashion a concept of a soul that is tangible and continuous and equally attached to the *self*. Thus, if the *self* cannot be ontologically independent of the body because it is a mere idea and not an impression of a substantial phenomenon, the idea of an equally substantial soul, from Aristotle to Descartes, must be difficult to swallow too. In this sense, Humean philosophy becomes the critical juncture in the debate of the soul. One can say here that Hume's scathing criticism of the *self* (and by implication the soul) serves as a critical point for the resolution of the general problem of the soul that has escaped the intellectual ability of earlier philosophers. For Hume, the non-existence of the soul solves the problem of its existence.

John Locke who is usually regarded as the father of modern empiricism seems to have accepted that persons have immaterial souls. Even so, whether or not Locke was sincere, as an empiricist, to have accepted the conception of an immaterial soul, one cannot argue it here. However, his main theoretical innovation was to argue that even if an object is composed of an immaterial soul, because one cannot give a coherent account of the soul, the object being so composed can have nothing whatsoever to do with whether the soul dwells in the object. Locke argues that it is

when objects retain the "same consciousness" that makes them the same objects over time. Locke also asserts, unlike the case of souls, each individual (human being) has direct, introspective access to his or her own consciousness and indirect access – by observing their behaviour – to the consciousness of others. Here again, one is confronted with the same problem of having to think about that which is immaterial interacting with that which is material.

One philosopher whose conception of the soul has gained much recognition in twentieth century philosophy is Joseph Priestley. In his view, there is no need to postulate any immaterial soul to account for human behaviour because the notion of an immaterial soul is scientifically useless. Priestley wrote as a critique to what he referred to as "the primitive view on the soul". He argues that, "the primitive view" on immortality of the soul is not only, in the highest degree, improbable, but even actually impossible {165}.

Moreover, according to Bertrand Russell, modern science gives no indication whatever of the soul or mind as an entity; indeed the reasons, he says, for disbelieving in it are very much of the same kind as the reasons for disbelieving in matter. Mind and matter were something like the lion and the unicorn fighting for the crown; the end of the battle is not the victory of one or the other, but the discovery that both are only heraldic inventions. The world consists of events, not of things that endure for a long time and have changing properties. Events can be collected into groups by their causal relations. If the causal relations are of one sort, the resulting group of events may be called a physical object, and if the causal relations are of another sort, the resulting group may be called a mind. Any event that occurs inside a man's head will belong to groups of both kinds;

Well, maybe not any event; to take drastic example, being shot in the head.

Considered as belonging to a group of one kind, it is a constituent of his brain, and considered as belonging to a group of the other kind, it is a constituent of the mind.

Thus both mind and matter, Russell says, are merely convenient ways of organizing events. There can be no reason for supposing that either a piece of mind or a piece of matter is immortal. The sun is supposed to be losing matter at the rate of millions of tons a minute. The most essential characteristic of mind is memory. Memory is clearly connected with a certain kind of brain structure and that is the only way one can, according to Russell, account for the soul.

Two other, materialistically oriented contemporary movements in philosophy of mind could be mentioned to marshal what European philosophers in the twentieth century consider the soul to be. One is analytic behaviorism associated with Gilbert Ryle and to a certain extent, Ludwig Wittgenstein. The major principles of this movement are that mental faculties are reducible to dispositions to behave in certain ways in specific circumstances and that these dispositions are themselves based on the body's physical state. Moreover, references to the state of mind, to inner processes of thought, must be to publicly observable conditions or behaviour. The second movement is central state physicalism, which emphasizes a neurological--and thus physical interpretation of mind. Physicalists recognize a distinction between dispositions (tendencies to behave, feel, or think in certain ways) and other mental activities, but believe all such mental states are states of the nervous system. Thus, any immaterial quality or uniquely mental faculty (or "ghost in the machine" to use Gilbert Ryle's term) is thereby exorcized.

After considering the history and nature of the classical body-mind (or body-soul) problem, John Dewey concludes that it is a pseudo-problem. What has happened is that the fact of organization has been misunderstood, and that the organization of some natural events has been hypostatized into an entity. "Organization is a fact, though it is not an original organizing ... special force or entity called life or soul." The term "psycho-physical" describes the connection more appropriately. If one accepts the common denotation of "physical" as coextensive with the inanimate, the prefix "psycho-" may be used to denote the fact that:

> Physical activity has acquired additional properties, those of ability to procure a peculiar kind of interactive support of needs from surrounding media. Psycho-physical does not denote an abrogation of the physico-chemical; nor a peculiar mixture of something physical (as a centaur is half man and half horse); it denotes the possession of certain qualities and efficacies not displayed by the inanimate. (Dewey, J. and Arthur B., ***Knowing and the Known***, Boston, Beacon Press, 1949, pp.107-109).

The classical soul-body problem, thus, according to Dewey, disappears. Organization replaces entelechy. This bulk simplicity of Dewey's explanation to the concept of the soul rather seems jejune and unilluminating – how does one explain mental activities like 'thought?'

But nowadays, according to John Searle and to some extent Hilary Putnam, no one accepts the independent existence of immaterial substances like soul or mind except on religious grounds. To Putnam, "there are no purely philosophical or scientific motivations for accepting the ontological independence of immaterial substances," (Putnam Hilary, ***Psychological Predicates***, New York, Garland, 1976, p.31).

Even so, such philosophers like Colin McGinn, Owen Flanagan among others disagree with Searle's assertion. Colin McGinn, for instance, asserts that many thinkers have supposed that such immaterial entities (such as the soul) are essential to understanding the nature of consciousness, at least in the human case. The universe, McGinn holds, contains four basic kinds of entities: inanimate natural objects like rocks, planets, and clouds; living organisms like plants, worms, and bacteria; constructed artifacts like clocks, cars, and computers; and sentient or conscious beings like bats, apes, and humans. According to McGinn, it is when one considers deeply the origin of each of these entities that one comes to appreciate which of the entities can be assigned soul.

Some others, like Richard Swinburne, think that the soul could be talked about apart from the physical (but doubt that the soul could function disembodied), disagreeing with Platonic accounts of the soul. Evidence seems to confirm that brain activity of some sort is necessary for humans to have cognitive powers. However, this evidence presents no insurmountable difficulties for belief in the soul. For one thing, Swinburne notes, the connection between physical systems and brains cannot be absolutely established, since humans have no postmortem experience of souls. At best, Swinburne holds, humans get a correlation between brain and mental activity in this life. Since the soul has continued in the meantime, personal identity is protected.

John Carew Eccles and Karl Popper collaborated to publish the influential 1977 book ***The Self and its Brain,*** a fascinating probe into the body-mind, self and soul puzzle. It remains the most cited of all Eccles' and Popper's philosophical writings. Eccles and Popper (both dualists) believe that humans have a non-material mind or soul or self that acts upon, and is influenced by, the material brains – a mental

world in addition to the physical world, and that the two interact. As exactly what the mind or soul is, Eccles considered that it couldn't be pure nothingness (otherwise it didn't exist) in which case he reasoned it to be composed of finer grades of energy-substance. Indeed, he suggested the inner constitution might comprise several non-physical levels.

Eccles says that the interaction between brain and mind "can be conceived as a flow of information, not of energy" (**How the Self Controls its Brain**, p. 9.) But information must surely be carried by some form of matter-energy, and if the mind can alter the probability of neural events, it is more likely that it does so by means of subtler, etheric types of force or energy, acting at the quantum or subquantum level. Eccles says that his theory can account for ordinary voluntary actions, but that "more direct actions of the will are precluded by conservation laws." (**How the Self Controls its Brain**, p. 163.) This is significant, for even if there is no measurable violation of energy conservation in ordinary mental phenomena, this may not be the case with certain paranormal phenomena, especially psychokinesis and materializations. Eccles, however, does not take paranormal phenomena chiefly. (**Evolution of the Brain**, p. 242.)

Eccles is in basic agreement with the neo-Darwinian theory that evolution is driven by random genetic mutations followed by the weeding out of unfavorable variations by natural selection, but he also believes that "there is an immaterial operation over and above the materialist happenings of biological evolution." (**Evolution of the Brain**, p. 239.) He accepts that mammals (such as dogs, cats, horses, and monkeys) and possibly birds are conscious beings, which experience feelings and pain, but denies conscious experiences to invertebrates and lower

vertebrates such as fish and even amphibians and reptiles which, he says, have instinctual and learned responses, but no awareness or sensation. He maintains that the mental (or psychon) world, and therefore conscious experiences, came into existence with the development of the complex neocortex of the mammalian brain, and that the neocortex evolved by natural selection because it enabled the increased complexity of sensory inputs to be integrated, and therefore offered survival advantages. Then, with hominid evolution there eventually came higher levels of conscious experiences, and ultimately in Homo sapiens sapiens -- self-consciousness -- which is the unique life-long experience of each human SELF, and which must be regarded as something beyond Darwinian evolution. (**How the Self Controls Its Brain,** p. 139).

When one reads all that has been said about the soul from the pre-Socratic time to the contemporary time, one realizes, perhaps, that a dialectic between two different and opposed conceptions of naturalism – in particular, of a naturalistic account of rationality – is working itself out in the mind-body relation today. There's the reductionist version (McDowell calls it "bald" naturalism; "scientism" is another derogatory that is currently in fashion). And there's the kind of naturalistic pluralism that McDowell himself is striving for in his **Mind and World.** Very roughly, the distinction is between the tradition that runs from kant through the positivists to the likes of Dewey and Quine, and the tradition that runs from Descartes through the Hegelians to Wittgenstein, Ryle, the Churchlands (Paul and Patricia Churchland), David Chalmers, Davidson, Jerry Fodor and Hilary Putnam. Having delineated the available literature on the topic (the concept of the soul) up to this level, what is left to be done is to work out a modem or a system that will provide a vivid definition of the soul and how, if possible, it relates to the body.

These writers cited have been greatly referred to in this essay to show how useful their works are to shaping this work. These works, for instance, tell the reader, at least, how the word ‘soul’ has assumed different definitions and referents in the history of philosophy. They also make the reader aware of the need to appreciate the various changes the word ‘soul’ has undergone and whether it is still a revered word in philosophy or it has lost its value to a more contemporary word in philosophy of mind – say the concept of ‘mind.’

CHAPTER TWO

Pre-Twentieth Century conceptions of the soul:

Ancient and medieval theories of the Soul.

Ancient philosophical theories of the soul are in many respects sensitive to ways of speaking and thinking about the soul [*psuchê*] that are not specifically philosophical or theoretical. One may, therefore, begin with what the word 'soul' meant to speakers of Classical Greek, and what it would have been natural to think about and associate with the soul. One, then, turns to various Presocratic thinkers, and to the philosophical theories that are one's primary concern, those of Plato (first in the *Phaedo*, then in the *Republic*), Aristotle (in the *De Anima* or *On the Soul*), Epicurus, Lucretius and the Stoics. These are by far the most carefully worked out theories of the soul in ancient philosophy. Later theoretical developments — for instance, in the writings of Plotinus and other Platonists, are best studied against the background of the classical theories, from which, in large part, they derive. This chapter seeks to provide a vivid description of the soul as it appeared from the pre-Socratic to the medieval period in Philosophy.

From comparatively humble Homeric beginnings, the word 'soul' undergoes quite remarkable semantic expansion in sixth and fifth century usage. By the end of the fifth century — the time of Socrates' death — the soul is standardly thought and spoken of, for instance, as the distinguishing mark of living things, as something that is the subject of emotional states and that is responsible for planning and practical thinking, and also as the bearer of such virtues as courage and justice. Coming to philosophical theory, one first traces a development towards comprehensive articulation of a very broad conception of the soul, according to which the soul is not

only responsible for mental or psychological functions like thought, perception and desire, and is the bearer of moral qualities, but in some way or other accounts for all the vital functions that any living organism performs. This broad conception, which is clearly in close contact with ordinary Greek usage by that time, finds its fullest articulation in Aristotle's theory. The theories of the Hellenistic period, by contrast, are interested more narrowly in the soul as something that is responsible specifically for mental or psychological functions. They (the theories) either de-emphasize or sever the ordinary-language connection between the soul and life in all its functions and aspects.

1.1 The Greek Notion of the Soul

The Homeric poems, with which most ancient writers can safely be assumed to be intimately familiar, use the word ‘soul’ in two distinguishable, probably related, ways. The soul is, on the one hand, something that a human being risks in battle and loses in death. On the other hand, it is what at the time of death departs from the person's limbs and travels to the underworld, where it has a more or less pitiful afterlife as a shade or image of the deceased person. It has been suggested (for instance, by Snell 1975, 19) that what is referred to as soul in either case is in fact thought of as one and the same thing, something that a person can risk and lose and that, after death, endures as a shade in the underworld. The suggestion is plausible, but cannot be verified. In any case, once a person's soul has departed for good, the person is dead. The presence of the soul therefore distinguishes a living human body from a corpse. However, this is plainly not to say that the soul is thought of as what accounts for, or is responsible for, the activities, responses, operations and the like that constitute a person's life. Homer never says that anyone does anything in virtue

of, or with, their soul, nor does he attribute any activity to the soul of a living person. Thus, though the presence or absence of soul marks out a person's life, it is not otherwise associated with that life. Moreover, it is a striking feature of Homeric usage that, in Furley's words (Furley 1956, 4), to mention soul is to suggest death: someone's soul comes to mind only when their life is thought, by themselves or others, to be at risk. Thus Achilles says that he is continuously risking his soul (*Iliad* 9.322), and Agenor reflects on the fact that even Achilles has just one soul (*Iliad* 11.569). It should also be pointed out that in the Homeric poems, only human beings are said to have (and to lose) souls. Correspondingly, Homer never envisages shades or images of non-human creatures in the underworld. These two facts taken together suggest that in whatever precise way the soul is conceived of as associated with life, it is in any case thought to be connected not with life in general, or life in all its forms, but rather, more specifically, with the life of a human being.

Several significant developments occurred in the ways Greeks thought and spoke about the soul in the sixth and fifth centuries. The questions about the soul that are formulated and discussed in the writings of Plato and Aristotle to some extent arise from, and need to be interpreted against the background of, these sixth and fifth century developments. One factor that is of central importance is the gradual loss of the Homeric connection between mentioning a person's soul and the thought that their life is vulnerable or at risk (*contra* Burnet 1916, 253). In ordinary fifth century Greek, having a soul is simply being alive; hence the emergence, at about this time, of the adjective ‘ensouled’ [*empsuchos*] as the standard word meaning “alive”, which was applied not just to human beings, but to other living things as well. There is some reason to think that the word ‘soul’ was used in this straightforwardly positive way already in the sixth century. Thales of Miletus, who is credited with successfully

predicting a solar eclipse occurring in 585, reportedly attributed soul to magnets, on the grounds that magnets are capable of moving iron (Aristotle, *De Anima* 1.2, 405a19-21). Thales' thought was presumably that since it is distinctive of living things to be able to initiate movement, magnets must in fact be alive or, in other words, ensouled. Thus, while Homer spoke of soul only in the case of human beings, in sixth and fifth century usage soul is attributed to every kind of living thing. What is in place, then, at this time is the notion that the soul is what distinguishes that which is alive from that which is not.

However, it is not just that soul is said to be present in every living thing. It is also the case that an increasingly broad range of ways of acting and being acted on is attributed to the soul. Thus it had come to be natural, by the end of the fifth century, to refer pleasure taken in food and drink, as well as sexual desire, to the soul. (Claus 1981, 73-85.) People are said, for example, to satisfy their souls with rich food (Euripides, *Ion* 1170), and the souls of gods and men are claimed to be subject to sexual desire (fragment assigned by Nauck to Euripides' first *Hippolytus*). In contexts of intense emotion or crisis, feelings like love and hate, joy and grief, anger and shame are associated with the soul. “Nothing bites the soul of a man more than dishonour”, says Ajax in a fragment from a tragedy of unknown authorship, just before he commits suicide (Nauck, *TGF, Adesp.* fr. 110). Oedipus says that his soul laments the misery of his city and its inhabitants (*Oedipus Tyrannus* 64). Moreover, the soul is also importantly connected with boldness and courage, especially in battle. Courageous people are said, for instance in Herodotus and Thucydides, to have enduring or strong souls (cf. Laches' second definition of the virtue that is courage, in Plato's *Laches* 192c, as “strength of the soul”; also relevant is Pindar, *Pythian* 1.47-8, “standing in battle with an enduring soul”). In the Hippocratic text *Airs, Waters,*

Places, the soul is thought of as the place of courage or, as the case may be, its opposite: in the case of lowland inhabitants, courage and endurance are not in their souls by nature, but must be instilled by law (ch. 23); similarly in benign climates, men are fleshy, ill-jointed, moist, without endurance and weak in soul (ch. 24).

The connection between the soul and characteristics like boldness and courage in battle is plainly an aspect of the noteworthy fifth century development whereby the soul comes to be thought of as the source or bearer of moral qualities such as, for instance, temperance and justice. In Pericles' funeral oration that Thucydides includes in his account of the Peloponnesian War, he says that those who know most clearly the sweet and the terrible, and yet do not as a result turn away from danger, are rightly judged "strongest with regard to soul" (2.40.3). This text, and others like it (cf. also Herodotus 7.153), indicate a semantic extension whereby 'soul' comes to denote a person's moral character, often, but not always, with special regard to qualities such as endurance and courage. While the connection with courage is obvious in a number of texts, there are other texts in which the soul is the bearer of other admirable qualities, such as a Euripidean fragment that speaks of the desire characteristic of a soul that is just, temperate and good (fr. 388). Hippolytus, in Euripides' play named after him, describes himself as having a "virgin soul" (*Hippolytus* 1006), obviously to evoke his abstinence from sex. In Pindar's second Olympian, salvation is promised to those who "keep their souls from unjust acts" (2.68-70). The last two texts mentioned may well be influenced by Orphic and Pythagorean beliefs about the nature and immortality of the soul, to which this essay will turn in due course. But it would be a mistake to think that the moralization of the soul (i.e. its association with moral characteristics) wholly depended on Orphic and

Pythagorean speculation. It would, at the very least, be to disregard the soul's connection with courage in poetry.

To educated fifth century speakers of Greek, it would have been natural to think of qualities of soul as accounting for, and being manifested in, a person's morally significant behaviour. Pericles acts courageously, and Hippolytus temperately (or chastely), because of the qualities of their souls from which such actions have a strong tendency to flow, and their actions express and make evident the courage, temperance and the like that characterize their souls. Once one is in a position properly to appreciate the connection between soul and moral character that must already have been felt to be natural at this stage, it should come as no surprise that the soul is also taken to be something that engages in activities like thinking and planning. If the soul is, in some sense, responsible for courageous acts, for instance, it is only to be expected that the soul also grasps what, in the circumstances, courage calls for, and how, at some suitable level of detail, the courageous act must be performed. Thus in a speech of Antiphon, the jury is urged to "take away from the accused the soul that planned the crime", in striking juxtaposition of the ideas of life-soul (as in Homer) and of soul as responsible for practical thought. Somewhat similarly, in a Sophoclean fragment (fr. 97) someone says that "a kindly soul with just thoughts is a better inventor than any sophist" (cf. also Euripides, *Orestes* 1180). Moreover, it is easy to see that there are connections between familiar uses of 'soul' in emotional contexts and attributions to the soul of cognitive and intellectual activities and achievements. There is, after all, no clear-cut and manifest difference between, say, being in the emotional state of fear and having a terrifying thought or perception. When Oedipus' soul laments, or Ajax's soul is bitten by dishonour, emotion obviously goes hand in hand with cognition, and if it is natural to refer the

one to the soul, there should be nothing puzzling about attributions to it of the other. Thus in non-philosophical Greek of the fifth century the soul is treated as the bearer of moral qualities, and also as responsible for practical thought and cognition. For further discussion, consider this supplement on the contrary claims of Burnet 1916.

From Homer to the end of the fifth century, the word 'soul' undergoes remarkable semantic expansion, in the course of which it comes to be natural not only to speak of soul as what distinguishes the living from the dead and (not the same distinction) the animate from the inanimate, but also to attribute to the soul a wide variety of activities and responses, cognitive as well as emotional, and to think of it as the bearer of such virtues as courage, temperance and justice. As a result of these developments, the language made available something that Homeric Greek lacked, a distinction between body and soul. Thus the Hippocratic author of *Airs, Waters, Places* writes of "endurance in body and soul" (ch. 23). Antiphon says of a defendant who is sure of his innocence that though his body may surrender, his soul saves him by its willingness to struggle, through knowledge of its innocence. For the guilty, on the other hand, even a strong body is to no avail, since his soul fails him, "believing the vengeance coming to him is for his impieties" (Antiphon 5). Homer, by contrast, knows and speaks of a whole lot of different sources and bearers of psychological predicates, but lacks a word to pick out the soul as a single item to which the predicates in question can, in some way or other, be referred and which can be distinguished from, and in suitable contexts contrasted with, the body (cf. Snell 1975, 18-25).

1.2 Presocratic Thinking about the Soul

The semantic expansion of 'soul' in the sixth and fifth centuries is reflected in the philosophical writings of the period. For instance, once it becomes natural to speak of soul as what distinguishes the animate from the inanimate, rather than as something that is restricted to humans, it becomes clear that the domain of ensouled things is not limited to animals, but includes plants as well. Empedocles and, apparently, Pythagoras (cf. Bremmer 1983, 125) thought that plants have souls, and that human souls, for instance, can come to animate plants. (Note, though, that Empedocles, in extant fragments, rarely uses the word 'soul', preferring the word *daimôn*.) Empedocles in fact claimed to have been a bush in a previous incarnation, as well as, among other things, a bird and a fish (fr. 117, Kirk, Raven & Schofield 1983 [in what follows KR&S], 417). Incidentally, Empedocles, like Anaxagoras and Democritus, referred to plants as animals, presumably because they are alive (*zên*, from which the word for animal, *zôon*, derives) (for details, cf. Skemp 1947, 56).

There is, moreover, some reason to think that philosophical activity, notably Pythagorean speculation (beginning around mid-sixth century), contributed to the semantic expansion of the notion of the 'soul'. At least some of the earliest extant texts that associate with the soul moral virtues other than courage suggest Pythagorean influence. It is, in fact, not difficult to see how Pythagoreanism may have furthered the expansion of 'soul'. Pythagoreanism was concerned with, among other things, the continued existence of the person (or something suitably person-like) after death. It is obvious that against the Homeric background, 'soul' was an eminently appropriate word to use so as to denote the person, or quasi-person, that continued to exist after death; there was, after all, the familiar Homeric use of 'soul' as that which endures in the underworld after a person's death. To make the continued

existence of this soul significant as the continued existence of the person in question, at least some of the states, activities, operations and the like that seemed crucial to the identity of the person had to be attributed to the soul (following Furley 1956, 11, who goes further than that, writing of the need for the soul "to include *all* the functions of personality"; cf. Barnes 1982, 103-6). This tendency is well illustrated by a story about Pythagoras, reported by Xenophanes (fr. 7, KR&S 260): "Once, they say, he was passing by when a puppy was being whipped, and he took pity and said: 'Stop, do not beat it; it is the soul of a friend that I recognized when I heard its [i.e., the soul's!] voice.'" It is not just that the soul of Pythagoras' friend accounts for the character of the yelping (or whatever). Pythagoras is in fact quoted as saying that it is his friend's soul that is doing the yelping! This is not strange because the Pythagorean soul is believed to be Egyptian importation. I have discussed the Egyptian conception of the soul in the next chapter.

Heraclitus (fl. around 500 BC), who repeatedly mentions Pythagoras, attributes wisdom to the soul provided that it is in the right state or condition: "a dry soul", he claims, "is wisest and best" (fr. 118, KR&S 230). He may have been the first thinker to articulate a connection between soul and motor functions. "A man when he is drunk", Heraclitus remarks, "is led by an unfledged boy, stumbling and not knowing where he goes, having his soul moist" (fr. 117, KR&S 231). On the most plausible construal of Heraclitus' sentence, he is saying that the drunken person stumbles because his perceptual abilities have been impaired, and this impairment is due to the moistness of his soul (Schofield 1991, 22). Like many (or indeed all) sixth and fifth century thinkers who expressed views on the nature or constitution of the soul, Heraclitus thought that the soul was bodily, but composed of an unusually fine or rare kind of matter, e.g. air or fire. (A possible exception is the Pythagorean

Philolaus, who may have held that the soul is an ‘attunement’ of the body; cf. Barnes 1982, 488-95, and Huffman.) The prevalence of the idea that the soul is bodily explains the absence of problems about the relation between soul and body. Soul and body were not thought to be radically different in kind; their difference seemed just to consist in a difference in degree of properties such as fineness and mobility.

1.3 Plato's Theories of the Soul

The various developments that occurred in the sixth and fifth centuries in how Greeks thought and spoke of the soul resulted in a very complex notion that strikes one as remarkably close to conceptions of the soul that are found in fourth century philosophical theories, notably Plato's. There is thus some reason to think that the philosophical theories in question are best interpreted as working with, and on, the relatively non-theoretical notion of the soul that by the end of the fifth century has come to be embedded in ordinary language. In what follows the main concern will be to characterize some of the theories in question. But one should also attend, wherever this seems appropriate and helpful, to ways in which familiarity with the ordinary notion of the soul might enable individuals to understand better why a theory or an argument proceeds the way it does. In addition, one should note ways in which philosophical theories might seem to clarify and further articulate the ordinary notion. One may begin with Plato, and with a question that is intimately tied up with the ordinary notion of the soul as it developed from the Homeric poems onwards, namely, whether a person's soul in particular (or, soul in general) does indeed survive bodily destruction.

1.3.1 The Concept of the Soul in the *Phaedo*

It is probably true that in mainstream fifth century Greek culture, belief in an afterlife of the soul was weak and unclear (Claus 1981, 68; Burnet 1916, 248-9). If so, it is fitting that Socrates' arguments for the immortality of the soul, most prominently in the *Phaedo*, are offered to interlocutors who, at the outset of the discussion, are by no means convinced of the idea. (In fact, in the *Apology*, 40c, Socrates himself is presented as being noncommittal about what happens to the soul at death, and even about whether it survives at all.) "Men find it very hard to believe", Cebes says at *Phaedo* 70a, "what you said about the soul. They think that after it has left the body it no longer exists anywhere, but that it is destroyed and dissolved on the day the man dies." This view is restated by Simmias (at 77b) as the opinion of the majority (cf. 80d); it should be noted that the view includes the idea that the soul is a material thing, and is destroyed by being dispersed, "like breath or smoke" (70a). Glaucon, in the last book of the *Republic* (608d), is taken aback by Socrates' question,

"Haven't you realized that our soul is immortal and never destroyed?"

He looked at me with wonder and said: "No, by god, I haven't. Are you really in a position to assert that?"

Moreover, apart from the question of immortality or otherwise, there is the further question whether the soul, if it does have some form of existence after the person has died, "still possesses some power and wisdom" (*Phaedo*, 70b; cf. 76c). Answering both questions, Socrates says not only that the soul is immortal, but also that it contemplates truths after its separation from the body at the time of death. Needless to say, none of the four main lines of argument that Socrates avails himself of succeeds in establishing the immortality of the soul, or in demonstrating that disembodied souls enjoy lives of thought and intelligence. The arguments have been

discussed in some detail, for instance in Bostock 1986, and for our purposes there is no need to state and analyze them systematically. It will suffice to comment selectively on aspects of the arguments that bear directly on Plato's conception of the soul. The argument that sheds most light on what Plato takes the nature of the soul to be is the affinity argument (78b-80b). This argument confronts head-on the widespread worry that the soul, at or soon after death, is destroyed by being dispersed. It begins by distinguishing between two kinds of things: on the one hand, things that are perceptible, composed of parts, and subject to dissolution and destruction; on the other hand, things that are not perceptible, but intelligible (grasped by thought), not composed of parts, and exempt from dissolution and destruction. These two categories are obviously mutually exclusive. It is not clear whether or not they are meant to be exhaustive. Moreover, the category of imperishable, intelligible being is exemplified, but not, it seems, exhausted, by Platonic forms such as equality, beauty and the like (*contra* Bostock 1986, 118). Intelligible being evidently includes what Socrates calls the divine, whose nature it is to rule and to lead (80a), and there is no indication that the forms exhaust the divine, or even include the divine, so understood. Thus the argument leaves room for the idea that souls are not forms, but are nevertheless intelligible, partless and imperishable (*contra* Robinson 1995, 29). In fact, in framing the argument in the way he does Plato furnishes the conceptual framework needed for saying that body and soul differ in kind, the one being perceptible and perishable, the other being intelligible and exempt from destruction. However, the argument does not support such a strong conclusion, and Socrates is aware of this.

What he does, in fact, conclude is that the soul is *most like*, and *most akin to*, intelligible being, and that the body is most like perceptible and perishable being. To

say this is plainly neither to assert nor to imply (as Robinson 1995, 30, appears to think) that soul in some way or other falls short of intelligible, imperishable being, any more than it is to assert or imply that body in some way or other falls short of, or rather rises above, perceptible, perishable being. The argument leaves it open whether soul is a perfectly respectable member of intelligible reality, the way human bodies are perfectly respectable members of sensible reality, or whether, alternatively, soul has some intermediate status in between intelligible and perceptible being, rising above the latter, but merely approximating to the former. Socrates does seem to take his conclusion to imply, or at least strongly suggest, that it is natural for the soul either "to be altogether indissoluble, or nearly so", but, in any case, that the soul is less subject to dissolution and destruction than the body, rather than, as the popular view has it, more so. If this position can be established, Socrates is in a position to refute the popular view that the soul, being composed of ethereal stuff, is *more* liable to dispersion and destruction than the body. However, as Cebes points out (88b), unless Socrates can establish that the soul is altogether exempted from destruction, confidence of survival in the face of death is misplaced. Socrates' soul may be a great deal more durable than his body, but as long as it is not truly imperishable, there can be no guarantee that it will survive Socrates' impending death. For it might have experienced any number of incarnations already, and the current one might be its last. So Socrates launches his most elaborate and final argument for the immortality of the soul, which concludes that since life belongs to soul essentially, the soul must be deathless — that is, immortal.

The affinity argument is supposed to show not only that the soul is most like intelligible, imperishable being, but also that it is most akin to it. Socrates argues that the soul is like intelligible being on the grounds that it is not visible and, in general,

not perceptible (anyhow to humans, as Cebes adds at 79b), and that it shares its natural function with the divine, namely to rule and lead (the body in the one case, mortals in the other). There is a separate argument for the kinship of the soul with intelligible being. When the soul makes use of the senses and attends to perceptibles, "it strays and is confused and dizzy, as if it were drunk" (79c). By contrast, when it remains "itself by itself" and investigates intelligibles, its straying comes to an end, and it achieves stability and wisdom. It is not just that the soul is in one state or another depending on which kind of object it is attending to, in such a way that its state somehow corresponds to the character of the object attended to. That would not by itself show that the soul is more akin to the one domain rather than the other (this is the point of Bostock's criticism, Bostock 1986, 119). To understand the argument properly, it is crucial to note that when the soul attends to perceptibles, it is negatively affected in such a way that its functioning is at least temporarily reduced or impaired ("dizzy, as if drunk"), whereas there is no such interference when it attends to intelligibles (cf. Socrates' fear, at 99e, that by studying things by way of the senses he might blind his soul). The claim that the soul is akin to intelligible reality thus rests, at least in part, on the view that intelligible reality is especially suited to the soul, as providing it with a domain of objects in relation to which, and only in relation to which, it can function without inhibition and interference and fully in accordance with its own nature, so as to achieve its most completely developed and optimal state, wisdom.

It hardly needs pointing out, then, that the soul, as Plato conceives of it in the *Phaedo*, is crucially characterized by cognitive and intellectual features: it is something that reasons, more or less well depending on the extent to which it is disturbed or distracted by the body and the senses; something that regulates and

controls the body and its desires and affections, “especially if it is a wise soul” (94b), presumably in a way that involves, and renders effective, judgments about what it is best to do, and how it is best to behave; and something that has, as the kind of adornment that is truly appropriate to it, virtues such as temperance, justice and courage (114e f.). However, it should be clear that the soul, as it is conceived of here, is not simply the mind, as we conceive of it. It is both broader and narrower than that. It is broader in that Plato evidently retains the traditional idea of soul as distinguishing the animate from the inanimate. Two of the four main lines of argument for the immortality of the soul rely not on cognitive or indeed specifically psychological features of the soul, but simply on the familiar connection between soul and life. According to the cyclical argument (70c-72d), being alive in general is preceded by, just as it precedes, being dead. Socrates takes this to show that a creature's death involves the continued existence of the soul in question, which persists through a period of separation from body, and then returns to animate another body in a change which is the counterpart of the previous change, dying. According to the last line of argument that Socrates offers in the *Phaedo*, the soul is immortal because it has life essentially, the way fire has heat essentially. It is plain that both of these arguments apply to the souls of all living things, including plants (cf. 70d, 71d). And in the final argument, Socrates explicitly appeals to the idea that it is the soul that animates the body of a living thing (105c):

What is it that, when present in a body, makes it living? — A soul.

Now, as might have been seen in some detail, the Greek notion of soul included the idea of soul as animating body probably as early as the sixth century, when Thales attributed soul to magnets. Connections between the soul and morally significant characteristics such as courage, temperance and justice, and with

cognitive and intellectual functions, notably with planning and practical thought, are firmly established in fifth century Greek usage. But it is obviously far from clear whether the ordinary notion of soul, as it develops from the Homeric poems down to the end of the fifth century, is a well-formed, coherent notion, one that can suitably support the very prominent role that Plato assigns to the soul in the *Phaedo* as well as in other dialogues. Perhaps most pressingly, it is far from clear whether what distinguishes the animate from the inanimate is the very thing that, in the case of some animate organisms, is responsible for cognitive functions such as sense-perception and thought, and that, specifically in the case of human beings, is the bearer of moral qualities such as justice, courage and the like. The question is neither explicitly raised nor, of course, resolved in the *Phaedo*; but a passage in the *Republic* (352d-354a), suggests that Plato took the ordinary notion of soul, in all its richness and bewildering complexity, to be well-formed and coherent, and to be capable of supporting the requirements of his own theory.

Given the idea that soul is the distinguishing mark of all living things, including plants, the Greek notion of soul is, as might have been seen already, broader than the concept of mind. For it is at least conceivable, and probably true as a matter of fact, that there are living (hence ensouled) organisms without minds, without, that is to say, desire and cognition by sense or intellect. (Plato appears to think that plants do have minds in this sense, because he takes them to exhibit desire and sense-perception (*Timaeus* 77b), but that is presumably supposed to be a matter of empirical fact or inference, rather than simply a consequence of the fact that plants have souls.)

In another way, the conception of soul that is in evidence in the *Phaedo* is significantly narrower than the concept of mind, in that the soul, as conceived of in this particular dialogue, is not, in fact, responsible, or *directly* responsible, for all of a

person's mental or psychological activities and responses, but only for a rather severely limited subset of them. Socrates attributes a large variety of mental states (etc.) not to the soul, but to the (animate) body, such as, for instance, beliefs and pleasures (83d), and desires and fears (94d). At the same time, the soul is not narrowly intellectual: it too has desires (81d), even passionate ones (such as the nonphilosophical soul's love [*erôs*] of the corporeal, 80b), and pleasures as well, such as the pleasures of learning (114e). Moreover, the soul's functions are, as we have seen already, not restricted to grasping and appreciating truth, but prominently include regulating and controlling the body and its affections (such as beliefs and pleasures, desires and fears), no doubt in light of suitable judgments, arrived at, or anyhow supported and controlled, by reasoning. The soul of the *Phaedo* in fact seems to be precisely what in *Republic* 4 is identified as just one part of the soul, namely reason, whereas the functions of the lower parts, appetite and spirit, are assigned, in the psychological framework of the *Phaedo*, to the animate body. And just as the functions of reason (in the *Republic*) and of the soul (in the *Phaedo*) are not restricted to cognition, but include desire and emotion, such as desire for and pleasure in learning, so the functions of non-rational soul (in the *Republic*) and of the body (in the *Phaedo*) are not restricted to desire and emotion, but include cognition, such as beliefs (presumably) about objects of desire, 'descriptive' or (rather) non-evaluative ("there's food over there") as well as (*contra* Lovibond 1991, 49) evaluative ("this drink is delightful") (cf. *Phaedo* 83d).

One somewhat surprising, and perhaps puzzling, feature of the *Phaedo* framework is this. On the one hand, Socrates evidently takes the soul to be in some way responsible for the life of any living organism, and hence presumably for *all* the various activities (etc.) that constitute, or are crucially involved in, any organism's

life. On the other hand, he also takes it that there is a restricted class of activities that the soul is responsible for *in some special way*, such that it is not actually the case that the soul is responsible in this special way for all of the relevant activities that living organisms engage in. Thus, given the idea that the soul is responsible, in some way or other, for all the life of any living organism, one would certainly expect it to be responsible, in some way or other, for (say) the desires, emotions and beliefs of organisms whose lives include such psychological states — and not just for some restricted subset of these desires, emotions and beliefs, but in fact for all of them. However, Socrates' attribution to the soul of all and only desires, emotions and beliefs *of reason* (to use the *Republic* framework) is actually quite compatible with the view that the soul is responsible for all the life-activities organisms engage in, including, of course, the desires (etc.) of what in the *Republic* framework is the non-rational soul. What Socrates needs is something that can certainly be supplied, some suitable articulation of the different ways in which the soul can be said to be responsible for relevant activities of a living organism. One such way is that to be capable of engaging in the activity in question at all, an organism has to be ensouled, perhaps ensouled in a certain way (for instance, in the way animals are rather than in the way plants are). Another (stronger) way in which the soul can be responsible for an activity is *directly*: rather than being the thing in virtue of which the organism can do or undergo something or other (for instance, becoming thirsty and forming the desire to drink on that basis), the soul can also perform activities in its own right (for instance, contemplating mathematical truths). So, to restate somewhat more clearly: the *Phaedo*'s conception of soul is narrower than the concept of mind in the following way. The range of activities (etc.) that the soul is directly responsible for, and which may be described as activities of the soul strictly speaking, is significantly narrower

than the range of mental activities. It does not include all of a person's desires, nor need it include all emotional responses, or even all beliefs. One plainly could not have (for instance) ‘bodily’ desires such as hunger and thirst without being ensouled, but that does not mean that it must be the soul itself that forms or sustains such desires.

Once humans properly understand the *Phaedo*'s theory of soul, then, they are in a position to see that it offers a psychological framework that is coherent, though far from fully articulated. But one should also note that the theory is somewhat unsatisfactory, in that it appears rather strikingly to fail to do justice to the unity of the mind. The various activities (etc.) that are characterized as mental or psychological, such as (most importantly) desire and cognition, seem to be, or manifest themselves to us as being, the activities of a single integrated subject; they do not (ordinarily) appear to belong to a plurality of distinct items that operate more or less separately from one another. When Socrates' contemplation of mathematical truths is disrupted by an intense desire for food, it does not seem to be the case that it is one thing (say, his soul) that has been doing the contemplating and another thing (say, his body) that now wants to get something to eat. It is rather that both contemplation and desire to eat seem to belong to one integrated subject, regardless of whether individuals wish to say that the subject in question is Socrates' mind, or whether individuals prefer to say that it is Socrates insofar as he has a mind (or something like that). As things are, the psychological theory of the *Phaedo* assigns Socrates' contemplation directly to his soul, but leaves his desire for food curiously remote from it, apparently taking ‘bodily’ desire (for instance) to be related to the soul in much the same way in which the operations involved in (say) metabolism and growth are so related. (Those too take place only because his body is ensouled.) It is plausible, though not certain, that

Plato felt the force of this problem. It is, in any case, resolved by the new theory of soul that the *Republic* presents.

1.3.2 The Concept of the Soul in the *Republic*

The *Phaedo* was also known to ancient readers as Plato's *On the Soul*, whereas the *Republic* has *On Justice* as an alternative ancient title. Plato, however, conceives of justice as the excellent state of the soul, and so it is not surprising that the *Republic* sheds a great deal of light on Plato's conception of the soul. One way in which it does so is by explicitly integrating a number of central features of the ordinary notion of soul, features which, in the *Phaedo*, coexist somewhat uneasily: namely, responsibility for the life of an organism (that is, in the human case, responsibility for its being and remaining alive as a human being), for cognitive and (especially) intellectual functions, and for moral virtues such as courage and justice. Towards the end of *Republic* 1, Socrates offers Thrasymachus an elaborate argument to the conclusion that "injustice is never more profitable than justice" (354a). If one sets aside, as irrelevant to the dialectical context, the possibility that injustice and justice are *equally* profitable, it is clear that the conclusion here is equivalent to the position that the *Republic* is designed to establish, in response to Glaucon's request, at the beginning of Book 2, to be convinced by Socrates "that it is better in every way to be just than to be unjust" (357a). The argument at the end of Book 1 proceeds by attempting to prove an interim conclusion that is unnecessarily strong, namely that the just person is happy, whereas the unjust person is wretched. To establish the desired conclusion, it is enough to prove that the just person is always *happier* than the unjust person, which, unlike the unnecessarily strong interim conclusion, is compatible with the view that justice is not sufficient for (fully completed) happiness, since that

requires suitable external circumstances in addition to justice. Nothing in Socrates' long answer to Glaucon (and Adeimantus) commits him to the view that justice is sufficient for (complete) happiness (cf. Irwin 1999). However, that view is not implied by the conception of the soul that Socrates relies on in this (Book 1) argument. Moreover, nothing in the *Republic* contradicts or modifies this conception of the soul (on the contrary: cf. 445a9f., 609b f.), and so there is no reason not to take it seriously as a contribution to Plato's on-going reflection on the soul, even though the argument that surrounds it is designed to support a conclusion that Socrates subsequently succeeds in avoiding.

The argument begins with the premise that things perform their function well if they have the virtue appropriate to them, and badly if they have the relevant vice (353c). It then attributes to the soul the function of "caring for things, ruling and deliberating (and all the things of this kind)", and adds that *living* is also part of the function of soul (353d). This yields an interim conclusion, that a good soul cares, rules, deliberates (etc.) and lives well, whereas a bad soul (assuming that not to do well is to do badly) does these things badly. A third premise is that justice is the virtue appropriate to the soul, injustice being its vice. Hence another interim conclusion: a just soul lives well; an unjust one, badly. But living well, says the next premise, is being happy (and living badly is being wretched). And so Socrates can draw the interim conclusion that we have encountered already, which is that the just person (the person, that is, whose soul is just) is happy, whereas the person whose soul is unjust is wretched.

One makes nonsense of the argument if one supposes (with Robinson 1995, 36) that when Socrates introduces *living* as part of the function of soul, he has *being alive* in mind. The idea of being good (or bad) at being alive is, obviously, very odd,

as is the idea of being alive well or badly. But there is no need to suppose that such ideas are involved here, or that Socrates passes from one sense of 'living' [*to zên*] to another. It is, after all, open to individuals to interpret what Socrates is saying in terms of a conception that integrates the things that Socrates attributes to the soul as functions, or as parts or aspects of its function, namely in terms of the conception of living a life, and not just any kind of life, but a distinctively human one. Caring for the right sorts of things in the right way, ruling or regulating oneself and (when appropriate) others, and deliberating about how to act are not just necessary, but central aspects of living a human life, and all of these things can be done well or badly. Depending on the condition of their soul, a person can be better or worse at doing these things. The just person, whose soul is in the best condition, is truly excellent at living a human life, in that they are excellent at doing the various things that are importantly involved in leading a distinctively human life. If this is along the right lines, we might be in a position to see Plato's answer to the question how it can be that one thing, the soul, accounts for the life of an organism as well as for its cognitive and intellectual functions, and is also the bearer of virtues or excellences. The answer suggested by the Book 1 argument is this. The way in which the human soul accounts for the life of a human organism is by accounting for the distinctively human life that the individual in question leads. But to account for such a life, it must also account for the cognitive and intellectual functions which guide and shape such a life. Moreover, the dramatic differences in how good people are at leading lives, and relatedly the dramatic differences in how well they exercise their cognitive and intellectual functions, are due to differences in the conditions of their souls, namely the presence or absence of the virtues of justice, wisdom, courage and temperance.

This answer significantly clarifies (the relevant aspects of) the ordinary Greek notion of soul.

The *Republic* also puts forward a new theory of soul, which involves the claim that the embodied human soul has (at least) three parts or aspects, namely reason, spirit and appetite. Here, Socrates begins by enunciating a principle to the effect that opposite actions, affections and states cannot be assigned to one thing in respect of the same part of it, in relation to the same object and at the same time. It is then agreed that desiring and being averse are opposites, and hence that desiring to do something and being averse to doing that same thing are opposites in relation to the same object. But it does frequently happen, Socrates points out and Glaucon agrees, that the soul desires to do something and at the same time is averse to doing that same thing. This happens, for instance, when a person is thirsty and on that basis wants to drink, but at the same time wishes not to drink, on the basis of some calculation or deliberation, and in fact succeeds in refraining from drinking, thirsty though they are. It follows from the premises stated that the human soul must have at least two parts, so that one opposite (the desire to drink) can be assigned to one part of the soul and the other (the aversion to drinking) can be assigned to the other. Having thus identified reason and appetite as distinct parts of the soul, Socrates draws attention to other kinds of conflict between desires, which bring to light spirit, the third part of the soul.

The *Republic* contains a great deal of information that one can rely on in characterizing the three parts of the soul that Socrates introduces. Reason is the part of the soul that is, of its own nature, attached to knowledge and truth. It is also, however, concerned to guide and regulate the life that it is, or anyhow should be, in charge of, ideally in a way that is informed by wisdom and that takes into consideration the concerns both of each of the three parts separately and of the soul as a whole (442c);

these concerns must be supposed to include a person's bodily needs, presumably *via* the concerns of appetite. The natural attachment of spirit is to honour and, more generally, to recognition and esteem by others (581a). As a motivating force it generally accounts for self-assertion and ambition. When its desires are frustrated, it gives rise to emotional responses such as anger and indignation and to behaviour that expresses and naturally flows from such responses. Socrates takes spirit to be a natural ally of reason, at least part of its function being to support reason in such conflicts as may arise between it and appetite (440ef, 442ab). To assign it this function is neither to say nor to imply that spirit cannot, in the case of a corrupt and de-natured soul, turn against reason, even if well brought-up individuals like Glaucon are not familiar with such corruption either in their own case or in the case of others (440b). Appetite is primarily concerned with food, drink and sex (439d, 580e). It gives rise to desires for these and other such things which in each case are based, simply and immediately, on the thought that obtaining the relevant object of desire is, or would be, pleasant. Socrates also calls appetite the money-loving part, because, in the case of mature human beings at least, appetite also tends to be strongly attached to money, given that it is most of all by means of money that its primary desires are fulfilled (580e-581a). The idea must be that given suitable habituation and acculturation in the context of a life lived in human society, appetite tends to become attached to money in such a way that it begins to give rise to desires for money which in each case are based, simply and immediately, on the thought that obtaining money is, or would be, pleasant; and this idea is natural and plausible enough. (Irwin 1995 & Price 1995, 57-67, offer an alternative and incompatible interpretation.)

Viewed from the perspective of the theory of soul presented in the *Phaedo*, the *Republic* theory involves not so much a division of soul as an integration into soul of

mental or psychological functions that had been assigned, somewhat problematically, to the body. In both dialogues, Socrates appeals to the same *Odyssey* passage (*Od*. 20.17-18 at *Phaedo* 94d, *Od*. 20.17 at *Republic* 4, 441b), in which Odysseus prevails over his own anger: in the *Phaedo*, to exemplify a conflict between soul and body; in the *Republic*, to exemplify a conflict between two parts or aspects of the soul, reason and spirit. What the *Republic* offers is a theory of soul which, among other things, allows attribution of (in principle) all mental or psychological functions to a single subject, the soul. The theory thus respects the unity of the mind, in a way that the *Phaedo* theory does not. Moreover, the *Republic* theory also offers an attractive and well-supported articulation of desire into different kinds, which has profound implications both for what it is to have one's soul (or mind) in optimal condition and for how it is that this condition is best brought about. (To see that Plato is acutely aware of these implications, one only needs to look at what the *Republic* has to say about virtue and education.) However, it may be worth insisting once more that one should not disregard the fact that the conception of the soul that features in the *Republic* is broader than the concept of mind, in that it continues to be part of this conception that it is soul that accounts for the life of the relevant ensouled organism. But if it is soul that accounts for the life of, say, human organisms, there must be some sense in which the human soul accounts not only for mental functions like thought and desire, but also for other vital functions such as the activities and operations of the nutritive and reproductive systems. To the extent that it leaves unclear how exactly it is that the soul is related to a broad range of activities (etc.) that are crucially involved in the lives of ensouled organisms, Plato's theory of the soul, in the *Republic* and beyond, remains incompletely developed. It is, of course, not surprising that the *Republic* does not confront the question how it is that the soul is

related to life-functions that, as Aristotle recognizes (*Nicomachean Ethics* 1.13, 1102b11-2), are irrelevant to the ethical and political concerns of the *Republic*. However, context and subject matter impose no such constraints on the 'plausible myth' of the *Timaeus*, and also that dialogue, in presenting a somewhat revised version of the *Republic*'s account (*Tim*. 69c ff.), fails to address the question how the soul is related to non-mental vital functions.

1.4. Aristotle's Theory of the Soul

Aristotle's theory, as it is presented primarily in the *De Anima*, comes very close to providing a comprehensive, fully developed account of the soul in all its aspects and functions, an account that articulates the ways in which all of the vital functions of all animate organisms are related to the soul. In doing so, the theory comes very close to offering a comprehensive answer to a question that arises from the ordinary Greek notion of soul, namely how precisely it is that the soul, which is agreed to be in some way or other responsible for a variety of things living creatures (especially humans) do and experience, also is the distinguishing mark of the animate. According to Aristotle's theory, a soul is a particular kind of nature, a principle that accounts for change and rest in the particular case of living bodies, i.e. plants, nonhuman animals and human beings. The relation between soul and body, on Aristotle's view, is also an instance of the more general relation between form and matter: thus an ensouled, living body is a particular kind of in-formed matter. Slightly simplifying things by limiting ourselves to the sublunary world (cf. *De Anima* 2.2, 413a32; 2.3, 415a9), we can describe the theory as furnishing a unified explanatory framework within which all vital functions alike, from metabolism to reasoning, are treated as functions performed by natural organisms of suitable structure and

complexity. The soul of an animate organism, in this framework, is nothing other than its system of active abilities to perform the vital functions that organisms of its kind naturally perform, so that when an organism engages in the relevant activities (e.g., nutrition, movement or thought) it does so in virtue of the system of abilities that is its soul.

Given that the soul is, according to Aristotle's theory, a system of abilities possessed and manifested by animate bodies of suitable structure, it is clear that the soul is, according to Aristotle, not itself a body or a corporeal thing – that is, not a substance. Thus Aristotle agrees with the *Phaedo*'s claim that souls are very different from bodies. Moreover, Aristotle seems to think that all the abilities that are constitutive of the souls of plants, beasts and humans are such that their exercise involves and requires bodily parts and organs. This is obviously so with, for instance, the abilities for movement in respect of place (e.g., by walking or flying), and for sense-perception, which requires sense-organs. Aristotle does not, however, think that there is an organ of thought, and so he also does not think that the exercise of the ability to think involves the use of a bodily part or organ that exists specifically for this use. Nevertheless, he does seem to take the view that the activity of the human intellect always involves some activity of the perceptual apparatus, and hence requires the presence, and proper arrangement, of suitable bodily parts and organs; for he seems to think that sensory impressions [*phantasmata*] are somehow involved in every occurrence act of thought, at least as far as human beings are concerned (*De Anima* 3.7, 431a14-7; 3.8, 432a7-10; cf. *De Memoria* 1, 449b31ff.). If so, Aristotle in fact seems to be committed to the view that, contrary to the Platonic position, even human souls are not capable of existence and (perhaps almost as importantly) activity

apart from the body, because the soul is not a thing – a substance (*De Anima* 1.1, 403a3-25, esp. 5-16).

It is noteworthy that Aristotle's theory does not mark off those vital functions that are mental by relating them to the soul in some special way that differs from and goes beyond the way in which vital functions in general are so related. It is certainly not part of Aristotle's theory that the soul is specially and directly responsible for mental functions by performing them on its own, whereas it is less directly responsible for the performance by the living organism of other vital functions such as growth. As this aspect of his theory suggests, Aristotle is confident that once one has a proper understanding of how to explain natural phenomena in general, there is no reason to suppose that mental functions like perception, desire and at least some forms of thinking cannot be explained simply by appealing to the principles in terms of which natural phenomena in general are properly understood and explained (cf. Frede 1992, 97).

It might be thought that since Aristotle's theory treats mental functions and other vital functions exactly alike, it obscures a crucial distinction. This worry, however, turns out to be unjustified. The theory treats mental and other vital functions alike only in that it views both kinds of functions as performed by natural organisms of the right kind of structure and complexity. Viewing mental and other vital functions in this way is perfectly compatible with introducing a distinction between mental and other functions if concerns of some kind or other call for such a distinction. Aristotle is perfectly capable, for instance, of setting aside non-mental vital functions as irrelevant for the purposes of practical philosophy (*NE* 1.13, 1102b11-12).

1.5 Hellenistic Theories of the Soul

Coming from the theories of Plato and Aristotle, the first thing that might strike us about the theories of soul adopted by the two dominant Hellenistic schools, Epicurus' Garden and the Stoa, is the doctrine, shared by both, that the soul is corporeal. A number of Stoic arguments for the claim that the soul is a body have been discussed over the years (Annas 1992, 39-41). The best one of these, perhaps, is that the soul is a body because (roughly) only bodies affect one another, and soul and body do affect one another, for instance in cases of bodily damage and emotion. Epicurus employs the same argument in his *Letter to Herodotus*, which provides an outline of his physical doctrines (Long and Sedley 1987 [in what follows Long and Sedley] 14A7). In a way that reminds one of Presocratic theories, both Epicurus and the Stoics hold that the soul is a particularly fine kind of body, diffused all the way through the perceptible (flesh-and-blood) body of the animate organism. As if echoing the view of the soul that Simmias in the *Phaedo* presents as the majority view, Epicurus thinks that the soul is dispersed at death along with its constituent atoms, losing the powers that it has while it is contained by the body of the organism that it ensouls (Long and Sedley 14A6). The Stoics agree that the human soul is mortal, but they also take it that it can and does survive the person's death — that is, its separation from the perceptible body. Chrysippus apparently thought that the souls of wise persons persist (as fine, imperceptible corporeal structures) all the way to the next conflagration in the cosmic cycle, whereas the souls of other people last for some time, and then get dispersed (Diogenes Laertius 7.157; cf. Long and Sedley 53W). Thus Chrysippus can accept, at least for the souls of the wise, Socrates' claim in the

Phaedo that the soul is "altogether indissoluble, *or nearly so*" (*Phaedo* 80b), even though he plainly cannot accept all of Socrates' argument for this claim.

1.5.1 Epicurus' Theory of the Soul

Epicurus is an atomist, and in accordance with his atomism he takes the soul, like everything else that there is except for the void, to be ultimately composed of atoms. Sources are somewhat unclear as to exactly which kinds of materials he took to be involved in the composition of soul. It is very probable, though, that in addition to some relatively familiar materials — such as fire-like and wind-like stuffs, or rather the atoms making up such stuffs — the soul, on Epicurus' view, also includes, in fact as a key ingredient, atoms of a nameless kind of substance, which is responsible for sense-perception. Thus it seems that while he thought he could explain phenomena such as the heat or warmth of a living organism, as well as its movement and rest, by appealing to relatively familiar materials and their relatively familiar properties, he did feel the need to introduce a mysterious additional kind of substance so as to be able to explain sense-perception, apparently on the grounds that "sense-perception is found in none of the named elements" (Long and Sedley 14C). It is worth noting that it is specifically with regard to sense-perception that Epicurus thinks the introduction of a further, nameless kind of substance is called for, rather than, for instance, with regard to intellectual cognition.

What this suggests, and what in fact people have independent reason to think, is that on Epicurus' view, once one is in a position adequately to explain sense-perception, one will then also be in a position to work out an explanation of intellectual cognition, by appropriately extending the explanation of sense-perception. How does such extension work?

Perceptual beliefs, like the belief that ‘there is a horse over there’, will be explained, in Epicurus' theory, in terms of sense-impressions and the application of concepts (‘preconceptions’; for discussion cf. Asmis 1999, 276-83), and concept-formation is in turn explained in terms of sense-impression and memory. According to Diogenes Laertius' summary (Long and Sedley 17E1-2), the Epicureans say that preconception is, as it were, cognition or correct belief or conception or universal ‘stored notion’ (i.e. memory), of that which has frequently become evident externally: e.g. ‘such-and-such a kind of thing is a man’. For as soon as the word ‘man’ is uttered, immediately its impression also comes to mind by means of preconception, as a result of antecedent sense-perceptions.

Moreover, sense-impressions, interpreted and articulated in terms of concepts or preconceptions, yield experience concerning evident matters, which in turn forms the basis for conclusions about non-evident matters. For example, extensive experience can make clear to one not only that the human beings one has interacted with have a certain feature (say, rationality), but also (later Epicureans will say, probably somewhat developing Epicurus' position) that it is inconceivable that any human being could fail to have that feature (cf. Long and Sedley 18F4-5). And so, experience will not only make one expect, with a very great deal of confidence, that any human being one will ever encounter anywhere will be rational. Experience also, according to the Epicureans, supports the inference to, and hence justifies one in accepting, the (non-evident) conclusion that all human beings, everywhere and at all times, are rational (cf. Allen 2001, 194-241). This obviously is an extremely generous view of what experience, and ultimately sense-perception, can do! Once one recognizes the enormously powerful and fundamental role Epicurus and his followers assign to sense-perception, one will not be surprised to see that they feel

the need to include in the composition of the soul a very special kind of material that accounts specifically for sense-perception, but apparently do not think that, in addition to that, some further special material is needed to enable intellectual or rational activity.

In the Epicurean tradition the word 'soul' is sometimes used in the broad traditional way, as what animates living things (e.g., Diogenes of Oenoanda, fr. 37 Smith), but the focus of interest, so far as the soul is concerned, is very much on the mental functions of cognition, emotion and desire. A view that is common in the tradition and that very probably goes back to the founder is that the soul is a composite of two parts, one rational, and the other non-rational. The rational part, which Lucretius calls mind [*animus*], is the origin of emotion and impulse, and it is also where (no doubt among other operations) concepts are applied and beliefs formed, and where evidence is assessed and inferences are made. The non-rational part of the soul, which in Lucretius is somewhat confusingly called soul [*anima*], is responsible for receiving sense-impressions, all of which are true according to Epicurus. Error arises at a later stage, when sense-impressions are interpreted by the rational part of the soul, in a way that, as one might have seen, crucially involves memory. Sense-perception, conceived of simply as the reception of sense-impressions by the non-rational soul, does not involve memory (cf. Long and Sedley 16B1). Since the formation and application of concepts requires memory, sense-perception, so conceived of, does not involve conceptualization, either. The non-rational part is also responsible for transmitting impulses originating from the rational part, as well as (presumably) for a wide variety of other vital functions. (When Epicurus distinguishes between pleasures and pains of the soul and those of the body,

incidentally, the distinction he has in mind must be between the rational part of the soul on the one hand and the body animated by non-rational soul, on the other.)

1.5.2 The Stoic Theory of the Soul

Stoic physics allows for three different kinds of *pneuma* (lit. 'breath'), a breath-like material compound of two of the four Stoic elements, fire and air. The kinds of *pneuma* differ both in degree of tension that results from the expanding and contracting effects, respectively, of its two constituents, and in their consequent functionality. The lowest kind accounts for the cohesion and character of inanimate bodies (e.g., rocks); the intermediate kind, called natural *pneuma*, accounts for the vital functions characteristic of plant life; and the third kind is soul, which accounts for the reception and use of impressions (or representations) (*phantasiai*) and impulse (*hormê*: that which generates animal movement) or, to use alternative terminology, cognition and desire. The available literature, which unfortunately is fragmentary and often unclear, suggests strongly that according to the Stoic theory, the body of an animal (human or non-human) contains *pneuma* of all the three kinds, with the lowest kind responsible for the cohesion and character of parts like teeth and bones, natural *pneuma* in charge of metabolism, growth and the like, and finally soul accounting for distinctively mental or psychological functions, crucially cognition, by sense and (in the case of humans) intellect, and desire (cf. Long 1999, 564, for discussion and references). If this is indeed the picture that the theory presents, the soul is no longer responsible for all vital functions, and for all aspects of life, but only for specifically mental or psychological functions. (Accordingly, the Stoics depart from the Platonic and Aristotelian view that plants are ensouled organisms.) At the same time, the Stoic theory does attempt to explain non-mental vital functions as well, in terms of the

activity of 'nature', the intermediate kind of *pneuma*. In severing the deeply entrenched, Greek ordinary-language connection between soul and life in all its forms, the Stoic theory is taking an enormously momentous step, one that obviously restricts rather dramatically the proper subject matter of a theory of soul. In fact it is arguable that the Stoics, in limiting the functions of soul in the way they did, played an important role in a complicated history that resulted in the Cartesian conception of mind, according to which the mind plainly is not something that animates living bodies. This narrowing of the conception of soul is one of two aspects of the Stoic theory that deserves particular notice.

The second noteworthy aspect is the insistence of the Stoic theory that the mind of an adult human being is a single, 'partless' item that is rational all the way down. According to the Stoic theory, there are eight parts of the soul, the 'commanding faculty' [*hêgemonikon*] or mind, the five senses, voice and (certain aspects of) reproduction. The mind, which is located at the heart, is a center that controls the other soul-parts as well as the body, and that receives and processes information supplied by the subordinate parts. The minds of non-human animals and of non-adult humans have faculties only of impression and impulse. Achieving adulthood, for humans, involves gaining assent and reason. Reason (it would seem) makes assent possible, in that it enables the subject to assent to or withhold assent from impressions, and it transforms mere impressions and mere impulses, such as other animals experience, into rational impressions and rational impulses. The rationality of an impression (for example, of a tree one sees before oneself) consists in its being articulated in terms of concepts, possession of which is constitutive of having reason; the rationality of an impulse consists in the fact that it is generated or constituted by a voluntary act of assent of the mind to a suitable practical

('impulsive') impression — the impression, for instance, that something within view would be nice to eat. Thus, depending on the type of impression assented to, assent generates or constitutes belief (or knowledge) concerning some matter of fact, or an impulse to act in some way or other.

It is crucially important not to misunderstand these various faculties as parts or aspects of the mind, items that operate with some degree of autonomy from one another and can therefore conflict. On the Stoic theory, the faculties of the mind are simply things the mind can do. Moreover, it is a central part of the theory that, in the case of an adult human being, there is no such thing as an impulse without an act of assent of the mind to a corresponding practical impression. In a rational subject, the faculty of impulse depends on the faculty of assent, which, like all faculties of such a subject, is a rational faculty. This theory leaves no room for the Platonic conception that the souls of adult human beings contain non-rational parts which can, and frequently do, generate impulse and behaviour independently of, and even contrary to, the designs and purposes of reason. Nor, relatedly, does it leave room for the shared Platonic and Aristotelian view that desire, even in the case of adult humans, comes in three forms, two of which are such that desires of these forms do not arise from, or depend on, activities of reason. The Stoic theory has the attractive consequence that each adult person is, through their own reasoned assent, unambiguously and equally responsible for all their voluntary behaviour: there are no Platonic non-rational parts, or Platonic-Aristotelian non-rational desires, that could produce actions against one's own reason's helpless protestations. However, the theory needed to be defended both against rival philosophical theories and against pre-theoretical intuitions that militate in favour of these theories. One such intuition is that passion can, and frequently does, conflict with reason. To judge from a report

by Plutarch, it appears that the Stoics were able to explain away this particular intuition, and also to disarm the argument for tripartition of the soul in *Republic* 4, which depends on the *simultaneity* of a desire for and an aversion to one and the same thing. According to Plutarch (Long and Sedley 65G1),

> Some people [the Stoics] say that passion is no different from reason, and that there is no dissension and conflict between the two, but a turning of the single reason in both directions, which is difficult to notice owing to the sharpness and speed of the change.

Introducing the idea of unnoticed oscillation of a single, partless mind is highly ingenious and must have been dialectically effective at least to some extent. However, the theory of the soul that we find in classical Stoicism appears to be committed to the view that in the case of adult humans, there simply are no motivational factors that do not depend on reason and that can significantly affect, often for the worse, how a person behaves and how their life goes. It must have been difficult to defend this view against the Platonic-Aristotelian position. And so it is not surprising that in an environment in which interest in Plato's and Aristotle's writings was on the rise again, at least one prominent Stoic philosopher, Posidonius (first century B.C.), apparently gave up at least part of the classical Stoic theory. The available literature is not easy to interpret, but it very much appears that Posidonius introduced into a basically Stoic psychological framework the idea that even the minds of adult humans include, to put things cautiously, motivationally relevant forces (of two kinds) that do not depend on assent or reason at all and that are not fully subject to rational control. (cf. Cooper 1998, 77-111.)

1.6 The Medieval Account Of The Soul

Aristotle's thought influenced the medieval account of the soul greatly and it is, thus, worthwhile to begin here with some keynotes from him, Aristotle. Aristotle, who was given to analytical ontological speculation, suggested and developed three degrees of soul in *De Anima (On the Soul)*. He argued that three degrees of soul can be described using the three words: *zoe*, *psucho*, and *pneuma*. Beginning with the proposition that the soul is in some sense the principle of animal life, Aristotle notes that most people agree that the soul is characterized by three marks: movement, sensation, and incorporeality, but that it is itself unmoved. It is the source of movement and sensation and is characterized by them.

Though insisting that soul and body must be inseparable, Aristotle distinguishes soul from body. He defines soul as "substance in the sense which corresponds to the definitive formula of a thing's essence" and "'the essential whatness' of a body." Soul, according to Aristotle, is that by which "humans live, perceive, and think." It is actuality, while the body is potentiality. Indeed, soul "is the actuality of a certain kind of body ... soul is an actuality or formulable essence of something that possesses a potentiality of being besouled." It is "the cause of source of the living body" and "analogous to the hand; for as the hand is a tool of tools, so the mind is the form of forms and sense the form of sensible things."

Aristotle then argues that the soul has four forms expressed in powers: the power of touch, the power of appetite, the power of locomotion, and the power of thinking. He then distinguishes between the souls of plants, animals, and humans, arguing that all share the nutritive soul, which is the most primitive and widely distributed power of soul. While animals also have the power of sensation,

locomotion, and imagination, humans have an additional power, the power to think or calculate.

Aristotle was the first to demarcate three degrees of *psucho*, and his analysis has been tremendously influential in subsequent discussions about the soul, including Christian discussions. Augustine, e.g., in *City of God* when critiquing Marcus Varro's beliefs that the Earth is a deity, mentions that Varro distinguishes three degrees of the World Soul: the degree that instills life, the degree that provokes sentience, and the highest degree, which is the mind. This last, according to Varro, is God. In human beings, Varro calls it the *genius*.

Augustine objects to Varro's unnecessary multiplication of deities, asserting that the numerous titles Varro uses number demons, not deities. Instead Augustine, basing his thesis on scriptural references to soul and spirit, argues in *A Treatise on the Soul and Its Origin* (419) that human beings have only "two ‘somethings,’ soul and spirit," that these two terms can be used interchangeably, and that they refer to the same substance. The soul, he says, is made by God, but its mutability testifies to its being distinct from God. To claim it is a part of God is blasphemous. While the soul derives its life from God, the body derives its life from the soul. Augustine says later: "The entire nature of man is certainly spirit, soul and body; therefore who would alienate the body from man's nature is unwise."

His argument is intended to defend against doctrines that would denigrate the physical world and is not intended to establish any sharp distinction between spirit and soul. Indeed, Augustine argues that the close identification between soul and body suggests that the soul has gender. Augustine is far more interested in differentiating between created souls and God, and in defending the goodness of the body as part of

God's good creation, than he is in distinguishing between aspects of the soul. And he seems predisposed, perhaps because of the influence of Hebraic anthropology, to view persons in holistic rather than pluralistic terms. Nevertheless, the three aspects, *zoe* (bodily vitality), *psucho* (soul), and *pneuma* (spirit), are still discernible, and it is mind (*pneuma*) that differentiates humans from the beasts.

Such distinctions were preserved well into the Middle Ages in Christian, Muslim, and, particularly via Moses Maimonides, in Jewish thought. For example, the Scholastics who dominated European metaphysics from the eleventh to the fourteenth centuries differentiated among three types of soul or three aspects of a soul: (1) the *vegetative* soul, which imparted the property of life (analogous to the *zoe*); (2) the *sensitive* soul, which was associated with animal awareness and shared by humans and other animals (analogous to the *psucho*); and (3) the *rational* soul (analogous to the *pneuma*), which was the seat of critical reflection and the earmark of human beings. They argued that only the rational soul was immortal, a doctrine they borrowed from Aristotle's belief that the mind alone had the power to exist independently. While Scholasticism was founded on a basic cultural unity that came to dominate Europe and can be traced to the Carolingian Empire, it evidenced considerable variety, making sweeping generalizations about the movement problematic. Thus, I shall use Thomas Aquinas as my example, not only because he is the best known and most influential of the Scholastics but also because his debt to Augustine, in this case, is explicit and considerable.

Augustine's view on the comparative simplicity of the soul impressed Aquinas, who began his own discussion of the soul by citing Augustine's defence of that simplicity. The soul, Aquinas tells us, is the first principle of life, and life reveals

itself in two activities: knowledge and movement. Since all bodies are not alive, one may assert that no body can be the first principle of life. He defines the human soul as the principle of intellectual operation that is both incorporeal and subsistent. The body provides the soul with sense impressions that the soul interprets. Appealing again to Augustine, Aquinas argues that a human being cannot be reduced to soul or body alone but is both soul and body. Thus Aquinas argues that humans are not essentially souls inhabiting bodies. Nor, he says, does soul refer to a general form that belongs to the species. Human beings are instead a complex of soul and body expressed as individuals.

The intellectual principle that is the distinctly human soul, though it relies on a corruptible body, is itself incorruptible. Human souls are distinct from the souls of brutes in this sense: while the souls of animals are generated by some power of the body, the human soul is produced directly by God. This intellectual principle is both the form of the human body and the agency by which people understand the form of the human body. Each intellect is individual - indeed it is impossible that it should be otherwise - and it has primacy among all other things that pertain to a person. Furthermore, Aquinas argues that it is impossible for several essentially different souls to be in a body hence the nutritive soul (*zoe*), the sensitive soul (*psucho*), and the intellectual soul (*pneuma*) are numerically one and the same soul. In fact, he argues, the intellectual soul contains the nutritive and sensitive souls.

The monistic view (defended by Augustine and later Aquinas) that the soul is the form of the body is, in the opinion of many, a fair summation of most religions' position. Certainly through Augustine, it had a profound influence on the Reformers. Calvin, e.g., though he explicitly rejected Aristotle's assertion that the soul is

inseparable from the body, was willing, like Augustine, to use soul and spirit interchangeably. Soul is, he said, the essence of a person, separable from the body, immortal but created out of nothing. It is the proper seat of God's image in human beings. Soul, Calvin maintained, is an incorporeal substance that, though set in the body in which it dwells as though in a house, is not limited to the body. The soul has a variety of powers, but its two most basic powers are its power to understand and its power to will.

This definition by Calvin seems quite appealing. Compare it to three dictionary definitions selected at random.

> **Soul:** an entity conceived as the essence, substance, animating principle, or actuating cause of life, or of the individual life manifested in thinking, willing, and knowing. In many religions it is regarded as immortal and separable from the body at death ... 8. A disembodied spirit [partial definition] *Webster's Collegiate Dictionary,* 5th ed. (1944).

> **Soul:** 1. The principle of life, feeling, and action in man, regarded as distinct from the physical body; the spiritual part of man as distinct from the physical part. 2. The spiritual part of man regarded in its moral aspect, or as capable of surviving death and subject to happiness or misery in a life to come. 3. A disembodied spirit of a deceased person" [partial definition] *The Random House College Dictionary Revised Edition* (1984).

> **Soul:** 1. The animating and vital principle in human beings, credited with the faculties of thought, action, and emotion and often conceived as an immaterial entity. 2. The spiritual nature of human beings, regarded as immortal, separable from the body at death, and susceptible to happiness or misery in a future state. 3. The disembodied spirit of a dead human being, a

shade" [partial definition] *The American Heritage College Dictionary*, 3rd ed. (1993).

Clearly there are differences in the definition given by Calvin and those given by the dictionaries. The concept of the soul as substance that one finds in Calvin and in the 1944 dictionary has been superseded by the concept of the soul as an immaterial principle, while the idea of the soul as something essential to human beings has been lost. The 1984 and 1993 dictionaries, following ancient tradition, use soul and spirit as synonyms but in the 1944 dictionary that point, while there, is not emphasized. This lack of emphasis is especially striking since the definition given for spirit in the 1944 dictionary is quite similar to the one given for soul. Calvin and all three dictionaries, however, associate soul with volition and awareness, conceive it as distinct from and separable from the body, and assume an individuality to soul that suggests identifiable personality. Finally, in all cases, soul is understood to have significant religious overtones.

Aristotle, applying reason to the assumptions of his day and structuring that data within the philosophical system he developed, attempted to describe and classify what was meant by soul. His conclusions were both precise and complex. Since then there has been some significant reductionism at work. Although Augustine and Aquinas owe much to Aristotle, they are far more comfortable with the term's ambiguities than was Aristotle. They are noticeably less precise and much less willing to attach the kind of importance to shades of meaning that Aristotle saw as significant. Both men use soul and spirit as synonyms, though they concede a technical distinction between the two words. Calvin, despite having read *De Anima*, owes even less to Aristotle than do Augustine and Aquinas.

It is striking that both Augustine and Calvin in their discussions of soul are less interested in defining the word than they are in applying certain theological principles to it. In this they differ from Aquinas, who does discuss the nature of the soul at some length. Augustine's concerns, as we noted, have more to do with defending the Christian doctrine of creation than they do with clarifying what he means by soul itself. Calvin in his *Institutes* has much to say about the soul but most of his discussion is couched in the terms of forensic salvation. He is more concerned with the soul's care and redemption than he is with its nature.

1.7 Conclusion

Ancient philosophy did not, of course, end with classical Stoicism, or indeed with the Hellenistic period, and neither did ancient theorizing about the soul. The revival of interest in the works of both Plato and Aristotle beginning in the second half of the second century B.C. prominently included renewed interest in Platonic and Aristotelian conceptions of the soul, sparking novel theoretical developments, such as, for instance, Plotinus' argument (directed in particular against the Stoics) that the soul could not be spatially extended, since no spatially extended item could account for the unity of the subject of sense-perception (Emilsson 1991). Philosophers of religion such as Clement of Alexandria and Gregory of Nyssa were heavily indebted to philosophical theories of soul, especially Platonic ones, but also introduced new concerns and interests of their own. Nevertheless, these and other post-classical developments need to be interpreted within the framework and context furnished by the classical theories. Symbols for soul were derived, at this time, from natural phenomena like wind, shadows, and sea.

Such tropes were an attempt to focus on soul understood as a metaphysical, vital principle that existed within living things. In animals it betrayed its presence by activities (particularly breathing), and in humans - and sometimes in animals - it was believed to continue after the destruction of the physical body. The soul had significant religious implications. As a continuing vital principle, the soul is closely associated with consciousness, especially a concept of consciousness as something that endures after the destruction of the physical body. Initially, concepts of the afterlife seemed less significant. In time, however, Plato and Aristotle began to associate the soul's survival after the destruction of the body with the idea of a penultimate or a final judgment. Hence, like most metaphysical terms, the soul is what Paul Helm has called theory-laden. The metaphors, by which People understand the soul, work insofar as they express what is explicit or implied in whatever world view gave rise to them. For example, if one believes that the universe is fundamentally pluralistic, one's symbols for soul will reflect that pluralism. If one believes that the universe is fundamentally monistic, one's symbols for soul will reflect that monism. Furthermore, the term itself is not static but evolves as world views change, and even borrows its meaning from different world views, sometimes mixing distinct traditions. While such eclecticism enriches some terms, it compromises the clarity of others. In the case of "soul," clarity seems to suffer.

Thus some theologians do not like the word "soul." Charles W. Carter, e.g., believes that "person" or "individual" is a more satisfactory designation in English than is soul, since person or individual is a more specific indicator of a self - conscious rational human. He prefers *ego* (or more precisely *ego-psyche*) to *psyche* itself.

Many scholars find the term soul problematic. Because it is so conditioned by a culture's larger metaphysical world view, and because many cultures do not systematize in the same critical way as all others do, it is quite possible that people's very "Aristotelian" attempts to criticize and classify other concepts of the soul result in their misunderstanding them. However else contemporary ethnographers evaluated nineteenth century efforts by E. B. Tylor (*Primitive Culture*, 1871) or early twentieth century efforts by James Frazer (*The Golden Bough*, 1911-1915) to organize concepts about the soul, none would affirm the evolutionary paradigm these pioneers used to structure their work. Nevertheless, the twelve volumes of *The Golden Bough* remain a treasure trove of specific information about what so-called primitive societies thought.

CHAPTER THREE

TRADITIONAL AND NATURALIST CONCEPTIONS OF THE SOUL

One of the crucial philosophical problems today is how to deal with the relation between body and soul. Although many philosophers and theologians share the same proposition –"man is a union of body and soul", they in effect understand it quite differently. What is soul in essence? In what ways are soul and body related and, or, united? The different answers to these two questions constituted monism and dualism of man in the histories of philosophy and religion. Having delineated the conceptions of the soul as it existed from the pre-Socratic period to the medieval period in chapter two, this chapter tries to look at how these conceptions later developed and influenced philosophical traditions and philosophers in the modern period.

The Soul is a term rarely used with precise definition in philosophy, religion, or common life. It is generally regarded as descriptive of an entity related to but distinguishable from the body.

The soul is said to be the immaterial or non material aspect or essence of a person, an animal, etc., conjoined with the body. The concept of the soul is found in nearly all cultures, though the interpretations of its nature vary considerably. The ancient Egyptians conceived of a dual soul, one surviving bodily destruction but remaining near the body. The early Hebrews did not consider the soul as distinct from the body, but later Jewish writers perceived the two – the body and the soul - as separate. Christian theology adopted the Greek concept of an immortal soul, adding the notion that God created the soul and infused it into the body at conception. In

Islam the soul is believed to come into existence at the same time as the body but is everlasting and subject to eternal bliss or torment after the destruction of the body. In Hinduism, each soul, or *atman*, was created at the beginning of time and imprisoned in an earthly body (affirming the Platonic conception of the soul as discussed in chapter two); at destruction, the soul is said to pass to a new body according to the laws of karma. Buddhism negates the idea of a soul, asserting that any sense of an individual self is illusory.

Most traditions, thus, tend to associate the soul with the vital force in living things (though debatable) and often identify it with particular parts or functions of the body (the heart or kidneys, the breath or pulse). Other religions show traces of such animistic ideas. In Hinduism, the Atman (originally meaning "breath") is the individual factor that is indestructible and that after bodily destruction is reborn in another existence. But Atman is identified with Brahman, the Source of all things to which the soul ultimately returns when it ceases to have a separate existence. (Buddhism, on the other hand, repudiates the notion of Atman, positing the theory of Anatta, nonself.) Early Jewish thought did not conceive the soul as existing apart from the body except in the shadowy realm of departed spirits (Sheol). Greek and especially Platonic thought divided humans into two parts: body and soul. The soul, often referred to as the psyche, was considered both preexistent and immortal. The **soul**, according to many religious and philosophical traditions, is a self-aware *ethereal substance* particular to a unique living being. In these traditions the soul is thought to incorporate the inner essence of each living being, and to be the true basis for sentience. In distinction to spirit which may or may not be eternal, souls are usually considered to be immortal and to pre-exist their incarnation in flesh.

Most western traditional (religious) philosophers have argued that the existence of consciousness requires some form of substantial soul. What are the proofs which modern theologians attempt to give of the immortality of the soul?

The Bahá'í Faith affirms that "the soul is a sign of God, a heavenly gem whose reality the most learned of men hath failed to grasp, and whose mystery no mind, however acute, can ever hope to unravel, (Rohde, 1928). Concerning the soul or spirit of human beings and its relationship to the physical body, Bahá'u'lláh explained:

> "Know thou that the soul of man is exalted above, and is independent of all infirmities of body or mind. That a sick person shows signs of weakness is due to the hindrances that interpose themselves between his soul and his body, for the soul itself remains unaffected by any bodily ailments... When it leaves the body, however, it will evince such ascendancy, and reveal such influence as no force on earth can equal... consider the sun which hath been obscured by the clouds. Observe how its splendor appears to have diminished, when in reality the source of that light hath remained unchanged. The soul of man should be likened unto this sun, and all things on earth should be regarded as his body. So long as no external impediment intervenes between them, the body will, in its entirety, continue to reflect the light of the soul, and to be sustained by its power. As soon as, however, a veil interposes itself between them, the brightness of the light seems to lessen.... The soul is the sun by which the body is illumined, and from which it draws its sustenance, and should be so regarded, (Rhode, 1928).

The soul not only continues to live after the physical destruction of the body, but is, in fact, immortal. Bahá'u'lláh wrote:

> "Know thou of a truth that the soul, after its separation from the body, will continue to progress until it attains the presence of God, in a state and condition which neither the revolution of ages and centuries, nor the changes and chances of this world, can alter. It will endure as long as the Kingdom of God, His sovereignty, His dominion and power will endure, (Rhode, 1928). Bahá'u'lláh taught that individuals have no existence previous to their life here on earth. The soul's evolution is always towards God and away

> from the material world. A human being spends nine months in the womb in preparation for entry into this physical life. During that nine-month period, the fetus acquires the physical tools (e.g., eyes, limbs, and so forth) necessary for existence in this world. Similarly, this physical world is like a womb for entry into the incorporeal world. Humans' time here is thus a period of preparation during which they (humans) are to acquire the incorporeal and intellectual tools necessary for life. The crucial difference is that, whereas physical development in the mother's womb is involuntary, immaterial and intellectual development in this world depends strictly on conscious individual effort.

In Buddhism, it is acknowledged that there is a self (identity), however only a temporary one illustrated by experiences, therefore, not the true nature (anatta). Buddhism teaches that all things are impermanent (agreeing wholly with Heraclitus), in a constant state of flux; all is transient, and no abiding state exists by itself. This applies to humanity, as much as to anything else in the cosmos; thus, there is no unchanging and abiding self. The idea of the "I" or "me" is simply a sense, belonging to the ever-changing entity, that (conventionally speaking) is the body, and mind. This expresses in essence the Buddhist principle of *anatta* (Pāli; Sanskrit: anātman).

Buddhist teaching holds that the delusion of a permanent, abiding self is one of the main root causes for human conflict on the emotional, social and political levels. They add that understanding of *anatta* (or "not-self") provides an accurate description of the human condition, and that this understanding allows humans to go beyond their mundane desires. Buddhists can speak in conventional terms of the "self" as a matter of convenience, but only under the conviction that ultimately humans are changing "entities". In physical or bodily destruction, the body and the

mind disintegrate; if the disintegrating mind is still in the grip of delusion, it will cause the continuity of the consciousness to bounce back an arising mind to an awaiting being, that is, a fetus developing the ability to harbour consciousness. Thus, in some Buddhist sects, a being that is born is neither entirely different, nor exactly the same, as it was prior to rebirth.

However, there are scholars, such as Shirō Matsumoto, who have noted a curious development in Mahayana Buddhist philosophy, stemming from the Cittamatra and Vijnanavada schools in India: although this school of thought denies the permanent personal selfhood, it affirms concepts such as Buddha-nature, Tathagatagarbha, Rigpa, or "original nature". Matsumoto argues that these concepts constitute a non- or trans-personal self, and almost equate in meaning to the Hindu concept of Atman, although they differ in that Buddha-nature does not incarnate.

In some Mahayana Buddhist schools, particularly Tibetan Buddhism, the view is that there are 3 minds: Very-Subtle-Mind, which isn't disintegrated in incarnation-death; Subtle-Mind, which is disintegrated in death, and is "dreaming-mind" or "unconscious-mind"; and Gross-Mind. Gross-Mind doesn't exist when one is *sleeping*, so it is more impermanent even than Subtle-Mind, which doesn't exist in bodily destruction. Very-Subtle-Mind, however, does continue, and when it "catches on" or coincides with phenomena again, a new Subtle-Mind emerges, with its own personality/assumptions/habits and *that* someone/entity experiences the karma on that continuum that is ripening then.

One should note the polarity in Tibetan Buddhism between *shes-pa* (the principle of consciousness) and *rig-pa* (pure consciousness equal to Buddha-nature). The concept of a person as a *tulku* provides even more controversy. A *tulku* has, due to heroic austerities and esoteric training (or due to innate talent combined with great

subtle-mind commitment in the moment of death), achieved the goal of transferring personal "identity" (or nature/commitment) from one rebirth to the next (for instance, Tibetans consider the Dalai Lama a *tulku*). The mechanics behind this work as follows: although Buddha-nature does not incarnate, the individual self comprises *skandhas*, or components, that undergo rebirth. For an ordinary person, *skandhas* cohere in a way that dissolves upon the person's physical or bodily destruction. So, elements of the transformed personality re-incarnate, but they lose the unity that constitutes personal selfhood for a specific person. In the case of *tulkus*, however, they supposedly achieve sufficient "crystallization" of *skandhas* in such a manner that the *skandhas* do not entirely "disentangle" upon the *tulku's* destruction; rather, a directed reincarnation occurs. In this new birth, the *tulku* possesses a continuity of personal identity/commitment, rooted in the fact that the consciousness or *shes-pa* (which equates to a type of *skandha* called *vijnana*) has not dissolved after bodily destruction, but has sufficient durability to survive in repeated births. Since, however, subtle-mind emerges in incarnation, and gross-mind emerges in periods of sufficient awareness *within* some incarnations, there isn't really any contradiction: very-subtle-mind's original nature, that is irreducible mind / clarity whose function is knowing, doesn't have any "body", and the coarser minds that emerge "on" it while it drifts/wanders/dreams aren't continuous. Any continuity of awareness achieved by tulku is simply a greater continuity than is achieved by/in a normal incarnation.

Many contemporary Buddhists, particularly in Western countries, reject the concept of rebirth or reincarnation as incompatible with the concept of *anatta*, and typically take an agnostic stance toward the concept. Stephen Batchelor, notably, discusses this issue in his book *Buddhism Without Beliefs*. However, the question arises: if a self does not exist, who thinks/lives now? Some Buddhist sects hold the

view that thought itself thinks: if you remove the thought, there's no thinker (self) to be found. This is a typical Descartesianism. A detailed introduction to this, and to other basic Buddhist teachings, appears in *What the Buddha taught* by the Buddhist monk Walpola Rahula.

Other scholars see the Buddha's warning that those who believe that a permanent self does not exist are just as gravely mistaken as those who believe that one does, and understand that Buddha taught that both views were erroneous and could not capture the actual truth of the matter, speculations along those lines would only cause suffering rather than its removal.

Most Christians regard the soul as the immortal essence of a human being - the seat or locus of human will, understanding, and personality. Christian scholars hold, as Aristotle did, that "to attain any assured knowledge of the soul is one of the most difficult things in the world". Augustine, one of the most influential early Christian thinkers, described the soul as "a special substance, endowed with reason, adapted to rule the body". Philosopher Anthony Quinton asserts, “the soul is a series of mental states connected by continuity of character and memory, [and] is the essential constituent of personality, (McGraw, 2004)

The soul, therefore, according to most Christian belief, is not only logically distinct from any particular human body with which it is associated; it is also what a person is". Richard Swinburne, a Christian philosopher of religion at Oxford University, writes that "it is a frequent criticism of substance dualism that dualists cannot say what souls are.... Souls are immaterial subjects of mental properties. They have sensations and thoughts, desires and beliefs, and perform intentional actions. Souls are essential parts of human beings... (Swinburne, 1997)

The origin of the soul has provided a sometimes vexing question; the major theories put forward include Creationism, traducianism and pre-existence.

Medieval scholars often assign to the soul attributes such as thought and imagination, as well as faith and love: this suggests that the boundaries between "soul" and "mind" can vary in different interpretations.

Jehovah's Witnesses view the Hebrew word Nephesh in its literal concrete meaning of breath, making a person who is animated by the spirit of God into a living breather. Spirit is seen to be anything powerful and invisible symbolized by the Hebrew word Ruach which has the literal meaning of wind. Thus Soul is used by these scholars to mean a person rather than an invisible core entity associated with a spirit or a force, which can leave the body.

Present Catechism of the Catholic Church defines the soul as "the innermost aspect of man, that which is of greatest value in him, that by which he is most especially in God's image: 'soul' signifies the *spiritual principle* in man."

Swedenborgianism teaches that each person's soul is created by the Lord at the same time as the physical body is developed, that the soul is the person himself or herself, and that the soul is eternal, and has an eternal spiritual body, that is substantial without being material.

Some scholars believe that the soul is what keeps the spirit alive (thinking and feeling) and, thus, makes one conscious of one’s self.

In early years of Christianity, the Gnostic Christian Valentinus of Valentinius (*circa* 100 - *circa* 153) proposed a version of spiritual psychology that accorded with numerous other "perennial wisdom" doctrines. He conceived the human being as a triple entity, consisting of body (*soma*, *hyle*), soul (*psyche*) and spirit (*pneuma*). Valentinus considered that all humans possess semi-dormant "spiritual seed" (*sperma*

pneumatikon). Evidently his spiritual seed corresponds precisely to *shes-pa* in Tibetan Buddhism, *jiva* in Vedanta, *ruh* in Hermetic Sufism or soul-spark in other traditions.

Many scholars, and indeed, many people who ostensibly subscribe to beliefs of the soul having clear-cut dogma on the concept of soul, take an "à la carte" approach to the belief, that is, they judge each issue on what they see as its merits and juxtapose different beliefs from other religions, and from their understanding of science.

In Hinduism, the Sanskrit words most closely corresponding to soul are "Jiva", meaning the individual soul or personality, and "Atman", which can also mean soul or (even God). The Atman is seen as the portion of Brahman within living beings. Hinduism contains many variant beliefs on the origin, purpose, and fate of the soul. For example, advaita or non-dualistic conception of the soul accords it union with Brahman, the absolute uncreated, in eventuality or in pre-existing fact. Dvaita or dualistic concepts reject this, instead identifying the soul as a different and incompatible substance.

The Bhagavad Gita, one of the most significant puranic scriptures, refers to the immaterial body or soul as Purusha. The Purusha is part and parcel of God, is unchanging (is never born and never dies), is indestructible, and, though essentially indivisible, can be described as having three characteristics:

(i) *Sat* (truth or existence)

(ii) *Chit* (consciousness or knowledge)

(iii) *Ananda* (bliss)

According to the Qur'an of (15:29), the creation of man involves Allah "breathing" a soul into him. This intangible part of an individual's existence is "pure" and this is equated to the soul.

Jainists believe in a jiva, an immortal essence of a living being analogous to the soul, subject to the illusion of maya and evolving through many incarnations from mineral to vegetable to animal.

Hebrew scholars offer no systematic definition of the soul; various descriptions of the soul exist in classical rabbinic literature.

Saadia Gaon, in his *Emunoth ve-Deoth* 6:3, explains classical rabbinic teaching about the soul. He holds that the soul comprises that part of a person's mind which constitutes physical desire, emotion, and thought.

Maimonides, in his *The Guide to the Perplexed*, explains classical rabbinic teaching about the soul through the lens of neo-Aristotelian philosophy, and viewed the soul as a person's developed intellect, which has no substance.

Kabbalah (esoteric Jewish mysticism) sees the soul as having three elements. The Zohar, a classic work of Jewish mysticism, posits that the human soul has three elements, the *nefesh*, *ru'ah*, and *neshamah*. A common way of explaining these three parts follows:

Nefesh - the lower or animal part of the soul. It links to instincts and bodily cravings. It is found in all humans, and enters the physical body at birth. It is the source of one's physical and psychological nature.

The next two parts of the soul are not implanted at birth, but are slowly created over time; their development depends on the actions and beliefs of the individual. They are said to only fully exist in people’s awakened spiritually:

Ruach - the middle soul or spirit contains the moral virtues and the ability to distinguish between good and evil. In contemporary parlance, it equates to psyche or ego-personality.

Neshamah - the higher soul, Higher Self or super-soul distinguishes man from all other life forms. It relates to the intellect, and allows man to enjoy and benefit from the afterlife. This part of the soul is provided to all humans at birth. In the Zohar, after bodily destruction *Nefesh* disintegrates, *Ruach* is sent to a sort of intermediate zone where it is submitted to purification and enters in "temporary paradise", while *Neshamah* returns to the source, the world of Platonic ideas, where it enjoys "the kiss of the beloved". Supposedly after resurrection, *Ruach* and *Neshamah*, soul and spirit re-unite in a permanently transmuted state of being.

The *Raaya Meheimna*, a Kabbalistic tractate always published with the Zohar, posits two more parts of the human soul, the *chayyah* and *yehidah*. Gershom Scholem wrote that these "were considered to represent the sublimest levels of intuitive cognition, and to be within the grasp of only a few chosen individuals":

Chayyah - The part of the soul that allows one to have an awareness of the divine life force itself.

Yehidah - the highest plane of the soul, in which one can achieve as full a union with the creator of it (the soul)

In Egyptian Mythology, an individual was believed to be made up of various elements, some physical and some non physical. These are the two parts which the ancient Chinese believed constitute every person's soul. The *p'o* is the visible personality indissolubly attached to the body, while the *hun* is its more ethereal complement also interpenetrating the body, but not of necessity always tied to it. The hun in its wanderings may be either visible or invisible; if the former, it appears in the guise of its original body, which actually may be far away lying in a trance-like state tenanted by the p'o. And not only is the body duplicated under these conditions, but also the garments that clothe it.

Some Egyptian transhumanists believe that it will become possible to perform mind transfer, either from one human body to another, or from a human body to a computer. Operations of this type (along with teleportation), raise philosophical questions in artificial intelligence related to the concept of the Soul.

Crisscrossing specific traditions, the phenomenon of therianthropy and belief in the existence of otherkin also occur. One can perhaps better describe these as phenomena rather than as beliefs, since people of varying ethnicity, or nationality may believe in them. Therianthropy involves the belief that a person or his soul has a non material, emotional, or mental connection with an animal. Such a belief may manifest itself in many forms, and many explanations for it often draw on a person's religious beliefs. Otherkins hold similar beliefs: they generally see their souls as entirely non-material, (and usually not of this physical world).

Another fairly large segment of the population, not necessarily favouring organized tradition, simply label themselves as "spiritual" and hold that both humans and all other living creatures have souls. Some further believe the entire universe has a cosmic soul as a spirit or unified consciousness. Such a conception of the soul may link with the idea of an existence before and after the present one, and one could consider such a soul as the spark, or the self, the "I" in existence that feels and lives life.

Some believe souls in some way "echo" to the edges of this universe, or even to multiple universes with compiled multiple possibilities, each presented with a slightly different energy version of itself. The science fiction author Robert A. Heinlein, for example, has explored such ideas.

In Surat Shabda Yoga, the soul is considered to be an exact replica and spark of the Divine. The purpose of Surat Shabda Yoga is to realize one’s True Self as soul

(Self-Realization), True Essence (Spirit-Realization) and True Divinity (God-Realization) while living in the physical body.

Soul, in most of the cases explained above, is synonymous with Mind, and emanates (since it is non-dimensional, or trans-dimensional) from the Spirit (the essence that can manifest itself through any level in pantheistic hierarchy - as a mind/soul of a single cell (with very primitive, elemental consciousness), a human or animal mind/soul (with consciousness on a level of organic synergy of an individual human or animal), or a (superior) mind/soul with synergetically extremely complex and sophisticated consciousness of whole galaxies involving all sub-levels. Spirit (or essence) manifests as - Soul/Mind. And the (non-physical) Soul/Mind is a 'driver' of the body. Therefore, the body, including the brain, is just a 'vehicle' for the physical world (if one, for example, has a whole planet as a 'body' then its brain is the synergetic super-brain that involves all the brains of species with a brain, on that planet).

Concerning the origin of the soul, the Hebrew Scripture reads: “then the Lord formed man from the dust of the ground, and breathed into his nostrils the breath of life; and the man became a living soul.” (Genesis 2:7) Again, “When their (the living souls) breath is taken away they die and return to their dust. When you send forth your spirit, they are created;”(Psalms 104: 29-30). These descriptions, which look very simple at first glance, are actually considerably significant to the soul debate because they reveal the basic attitude towards the origin and essence of the soul in the earliest monotheism in the world. Humans are clearly informed by these two verses of the Bible that (1) man is created by God, therefore is ultimately non material in origin; and (2) man is a mixture of body and soul (mind), and (3) human body is made of the

dust of the ground, which implies that the earth is the mother of human being, and (4) the soul is essential to life, without which man could not live.

In Hebrew, the soul may be expressed in the following five words: *ruach, nephesh, neshamah, jechidah, chayyah*. According to *Genesis Rabba*, none of the five words means rational soul (as seen in Plato's *Republic*) or pure mind in a philosophical sense. One is informed that "*Nephesh* is the blood; as it is said, 'for the blood is the life (nephesh)'(Deut. Xii. 23). *Ruach* is that which ascends and descends; as it is said, 'who knoweth the spirit (*ruach*) of man whether it goes upwards?' (Eccles. Iii. 21). *Neshamah* is the disposition. *Chayyah* is so called because all the limbs perish but it survives. *Jechidah*, 'the only one', indicates that all the limbs are in pairs, while the soul alone is unique in the body" (Cohen, 1995). These interpretations are fundamentally in accordance with the expositions of M. Maimonides, a great modern Jewish thinker and interpreter of the Bible favourable to Aristotelianism. According to him, *Ruach* is a homonym, signifying "air", that is, one of the four elements. It also denotes "wind". Next it signifies "breath" as in Psalms "A breath (*ruach*) that passes away, and does not come again (128: 39) and in Genesis "wherein is the breath (*ruach*) of life" (7: 15). It also signifies spirit which "remains of man after his bodily destruction, and is not subject to destruction." As regards the Hebrew word *nephesh*, Maimonides informs one that it, as a homonymous noun, signifies "the vitality which is common to all living, sentient beings." It also denotes "blood", "reason" and the part of man that remains after his physical destruction (*nephesh*, soul). Here reason as one of the meanings of *nephesh* is mentioned but it is neither fundamental nor emphasized in the context. Indeed, in ancient times Israel did not have the dichotomy of mind and body and therefore spirit in the Hebrew language has no clear meaning of mind or reason which is in opposition to body. If one has to

reduce the Hebrew spirit or soul to matter or mind, one would rather think that it belongs in the category of matter. Maybe one can find an accurate interpretation from the Chinese tradition. Wang Chong in the East Han Dynasty says, "man could not live but for refined air." Wang Chong, *Lun Heng:* ***On Death.*** Here, according to Wang Chong, "Refine air" can also be translated into energy. Dai Zhen in the Qing Dynasty says something similar: "Man has sensation through action of the best of refined air." Dai Zhen, Introduction (second part) to *Yuan Shan*.

In Chinese tradition, something that determines the existence of a living being is called "root of life". Thus the refined air in the two Chinese philosophies was regarded as the root of life. One may say, then, that, in the Hebrew tradition, the spirit or soul means nothing but refined air which actualizes one's life. The verses of the Psalms, "When you take away their breath, they perish and return to their dust and when you send forth your spirit, they are created" (Psalms 104: 29-30) seem to suggest this point.

Most traditions also hold that the soul is not an independent substance separable from the body. The soul is not, as a part of the whole, put together with the body; nor is it added to the body externally and accidentally. Rather it enters the body as a living element. Therefore the combination of body and soul is a perfect internal union. In it, the soul cannot exist without the body and in reverse the body cannot be body without its soul. In the Scriptural verse that "God breathed into his nostrils the breath of life; and the man became a living soul" (Genesis 2: 7), *nephesh* is used to stand for "a living soul". It stresses the wholeness of human body and soul: 'the living being,' then, is a body with a soul. When interpreting Genesis 2: 7, Walter Brueggemann, an eminent scholar of the Old Testament, asserts that:

> "The articulation of 'breathed on dust' in order to become a 'living being' precludes any dualism. It is unfortunate that 'living being' (*nephesh*) is commonly rendered 'soul', which in

> classical thought has made a contrast to the 'body', a distinction precluded in Israel's way of speaking. Thus the living being is a dependent, vitality-given unity, for which the term psychosomatic entity might be appropriate, if that phrasing did not itself reflect a legacy of dualism." (Brueggemann, 1997)

"It might be controversial whether *nephesh* should be translated as "soul" and whether the term "psychosomatic entity" is appropriate. However, Brueggemann holds that the Hebrew Genesis precludes dualism of man." (Rudavsky, 1967).

3.1 Dualism (of the soul) in some modern traditions

In contrast with the monism of living being in Judaism discussed above is the dualism in some philosophies. One of the characteristics of the dualism of living being is to consider the soul as, in essence, different from the body, the former is entirely spiritual or intellectual substance and the latter is the temporary house or grave. As found in Plato, the soul is from the world of Ideas. Before it entered the body, the soul lived in the world of Ideas, an absolute spiritual world. On entering the body, the soul became the master of the living being, as a steersman the master of a ship. As a well-known Platonic remark goes, "man is the soul which utilizes the body." This remark indicates the substantiality of soul and the insubstantiality of body. The soul is divided into three parts, that is, reason, passion and desire, among which reason is the most important and essential part of the soul. It is in a position to control and guide passion or desire. Once a living being's body perishes, his (the living being's) soul escapes from the body-grave and returns to the world of Ideas, waiting for another chance to reincarnate there. In Plato, the body may be ruined whereas the soul is immortal. Moreover the reincarnation of soul can repeat itself in endless cycles. Obviously Plato's doctrine of soul and body is dualistic.

Following Plato, Aristotle also divided the soul into three parts, i.e. the soul of plant, the soul of animal and the soul of reason. He believed that although all of the three parts could be found in human soul, the essence of man is his rational soul. In this sense, "man is a rational animal." He also interpreted human soul with his concepts of matter and form, maintaining that an individual is a union of a body and a soul. However, even here he could not eliminate the dualistic elements because the soul inheres in the union as an aspect conflicting with body. Therefore, the so-called union of body and soul is not an internal combination, nor a harmonious unity. Modern German theologian Rudolf Karisch sum up the dualistic tradition originated from Plato as follows: In Plato and Descartes, man is divided into body and soul. The soul lives in the body as if it were in a house or a prison. "Homo est anima utens corpore." (man is the soul using body). The two parts are mixed externally. “In all aspects they, from the dualistic viewpoint, think of the living being as a dual being.” (Maimonides, 1956).

During the formative period of theology, some church fathers opposed the Platonic dualism of the soul and the body. For instance, Tertullian (145-220 C.E) upheld the materiality of human soul, its co-existence and growth together with the body. But in the greatest theologians like Aurelius Augustine and Thomas Aquinas the dualism of body and soul won the advantage. In Augustine, for instance, the living being in essence is thought of as the rational soul that takes advantage of a destructible and worldly body, which is obviously from Plato. Unlike Plato, however, Augustine did not deny the body as a substantial entity. On the contrary, he held that the living being is a union of both substantial entities--the body and the soul: making Augustine’s position a version of substance dualism. But for him, different from the active and determining rational soul, the body is entirely passive and determined.

Thus the union of body and soul is in reality an "unmixed combination". Therefore it is still dualistic. Thomas Aquinas is more Aristotelian in his theory of man. He declared that man is a being composed of body and soul. The soul consists of the soul of reason, of animal, of plant and of things lower. The soul is filled in the whole body and functions in it. The soul may produce outer sense and inner sense by cooperation with the body. However, the soul is basically independent. The rational soul as a "substantial form," is by nature independent of the body and takes action of intellect, reason and will without body." (Maimonides, 1956).

One can say, then, that like Aristotle, Aquinas stresses the soul of reason and its rational action and actually acknowledged dualism of body and soul. The dualistic theories of ‘the living being’ in Augustine and Aquinas exerted great influence upon modern philosophy and scholasticism and are still very influential in contemporary theology.

The monism of ‘the living being’ in Judaism is rooted in other traditions such as Israel's monotheist religion. The universe, according to monotheism, is a world full of variety of things such as living creatures and the lifeless. Each of the things, however, is from its own kind, not derived from the two great categories of mind or matter. The life and the lifeless, soul (mind) and physical entities are not treated as conflicting with each other. To sum up, In the Hebrew tradition, the universe is described as a whole, too. To divide spirit and matter or mind and body and to explore the first principle in the light of the division is the patent of the ancient Greeks; Plato, Augustine, etc.

The dualism of man in Plato and Aristotle is determined by the essence and goal of their philosophies. In ancient Greece, philosophy was defined as "the love of

wisdom". That is to say, philosophy is an epistemological action, the purpose of which is to obtain the knowledge of the world. One of the early Greek philosophers Herakleitos (Heraclitus) once said that to find an interpretation of a cause of a thing was better than to be the king of Persia. It adequately manifests the extremely important position of seeking knowledge in the Greek minds. It reminds one of the disputations of action and knowledge in the history of Chinese philosophy. This shows that the Greeks prefer knowledge. For the Greeks of antiquity, even "knowledge is virtue." This means, for the Greeks, that a wise man is also a good man. Thus the goal of Greek philosophy is to teach how to be a wise man. It is the word "knowledge" that determined the orientation of Greek philosophy and its later development and finally produced a unique type of philosophy and sciences in the West which have considerably changed the world. Because of the knowledge-oriented philosophy prevailed in ancient Greece, the philosophers like Plato and Aristotle defined man as a rational animal and the rational soul as substantial entity was essential and dominant in its union with the body, which leads to dualism. Of course, the dualism in Greek philosophy is also connected with the Oriental mystic religion Orphism that advocates a substantial soul and its immortality. Its influence can be found in Pythagoras, Plato, Descartes, Leibniz and others. However, this religious aspect is not prominent in Greek Philosophy. Therefore, the dualism is in the main a result of its intellectualism.

Theologians like Augustine and Aquinas succeeded the idea of Immortality of the soul mainly from the ancient Greek philosophers. On the basis of the Immortality, they developed the theology of soul and body with a clear dualistic characteristic. Theoretically this is why most traditions as discussed above advocate dualism of man and its inner logic of development.

Other traditions prefer to say that, while they cannot prove the non material and immortality of the soul, they can suggest reasons for believing in it. For instance, some of them say, science has discovered that the conservation of energy is a law of the universe. No energy is ever destroyed or annihilated. So the mental energy must persist. The soul must survive.

Energy is never annihilated, it is true, but energy is constantly changing its form, and when the energy is associated with a complex material structure, and that structure breaks up, it is bound to change its form very considerably. The law of the conservation of energy does not say that the energy is conserved in the same form.

An old automobile that is condemned to the scrap-heap does not continue to exist. It is broken into parts and is recycled.

The body goes on existing in some form, but its functions do not. The brain is merely the organ, the piano, the violin, the harp. The soul is the musician. A genius or an idiot is a man with an abnormal brain. The mind, a believer might say, can express itself only according to the quality of its organ or instrument. The spiritual and immortal soul was there all the time, but it could not express itself until the organ was perfectly developed.

It is conceivable that the soul is a spiritual artist using a material instrument. The soul may be the same, all the time, in everybody. It may be merely the brain that differs, from age to age, and in different individuals now.

This musical instrument idea assumes the point to be raised. That point is whether the mind (or the soul) is non material, and the action of the musician's mind on the piano does not help one in the least unless one supposes, to begin with, that it is

non material. If, as many hold, the mind is only a function of the brain, then it is a question of the action of matter (brain and muscle) on matter.

In most traditional terms, the soul or the mind does not play on the body. It is one with the body. There is not the least analogy with the musician, who can close his piano and leave it when he likes. The analogy is a superficial substitute for thought.

An insoluble problem in religious philosophy is how a soul (something non material) can act on or through matter. This is where contemporary dualists like John Eccles, Karl Popper, David Chalmers, among others believe it is possible. Their views will be considered painstakingly in the proceeding chapters.

Practically, most philosophers, especially most idealists and dualists, hold that the soul or the mind is non material. Why? Half these philosophers say that that which is ultimately real is not the natural world – the world of physical objects. And that what is ultimately real is the soul or the mind.

The modern tradition, especially from Descartes' time was clear enough on the point. Matter is extended or quantitative substance. It has dimensions. It consists of parts, and so it can be dissolved. The soul has no parts, no dimensions, no quantity, no extension. It has only qualities.

The body is quantitative, and can dissolve into its parts. The soul is not quantitative and so cannot dissolve into parts. Contemporary definitions of matter do not improve on this definition. It is generally said to be that which occupies space, which is the same thing. The soul is like a mathematical point. It has no magnitude. This means, scientifically, that, the soul is a scalar quantity – it does not have magnitude and size.

The Roman Catholic philosophy is very confident about the existence of the soul. One has ideas of things: pictures of them in one's mind. Granted, one has a mental picture of a beautiful woman; that one sees one (beautiful woman) before him (one). One is conscious of the picture as a whole. One may fasten one's attention on her hands, her feet, or her bosom, but one may also contemplate her as a whole. Now if consciousness is a function of the brain, how can one see such a picture as a whole? This view (the Roman Catholic philosophy) continues that each cell in the brain is composed of innumerable atoms, and each atom is composed of tens or hundreds of protons and electrons, at an appreciable distance from each other. Each atom, nay, each electron, ought to have its own fraction of the brain-picture, on the Materialist hypothesis. The unifying principle at the back of matter must, surely, be a non material substance, a soul, which has no atoms or parts.

Take a sleep-walker. He has, supposedly, no consciousness. On the non material hypothesis, his soul is switched off from his body. The soul, the supposed seat of consciousness, is switched off for the time being. The body acts mechanically and automatically. Yet objects are seen as a whole, as the conduct of the somnambulist shows. He avoids every obstacle. Put a table in his path, and he goes round it.

The fact is that, according to non-soul believers, those who use this and similar arguments are simply building on the temporary ignorance of science. Candidly, soul believers hold, humans do not know how they see objects as a whole. That is precisely why many philosophers deny the validity of the existence of immaterial objects. There are, they say, only images in the mind, and from these they

(humans) may more or less ‘riskly’ infer that there are objects corresponding to them outside the mind.

The whole mental world is still obscure in the last degree. Psychology is largely a matter of verbiage, and it declines entirely to speculate on the nature of mind or consciousness. The human brain is immeasurably the most complicated structure in the universe (as far as contemporary philosophy goes). It consists of hundreds of millions of cells put together in a structure which humans as yet very imperfectly understand.

Or take it this way. One sees a tree. Some sort of image of it is impressed on one’s retina by the waves of light. This is no more a picture of it than a phonograph record is a tune. Then this impression on the retina is converted into some kind of movement along one’s optic nerve. It is now still less like a picture of the tree. The nerve-movement is converted into something else in the optic center of the brain, and finally one sees a tree. To say that there is a little picture of a green tree with yellow oranges in one’s brain is quite difficult to analyze and makes it dusty.

Humans do not know what the machinery of perception is and cannot build any argument on it. Humans do not know where and how they are conscious of the objects they see. They know very, very little about mind!

It may be non material, though there is good reason for thinking it is not. But most soul believers believe it is non material. It may be merely a function of the brain, as scientific proof promises to offer in quantum physics.

A hundred things suggest it is merely a function of the brain. The mind varies with every minute alteration of the brain. A fever or an opiate speeds up the mental

activity. A heavy meal or a dose of alcohol benumbs it (the mind). During the First World War, the Germans gave their shock-troops a drug which made them giants in spirit. How a spirit can act on the brain is very difficult, if not impossible, to understand, but scientists assert that chemicals act on the mind easily.

Most idealists since Berkeley's time assume that the mind is non material because mind is so very different from matter. The force of the impression is powerful. But scientists and some naturalists believe that it is only the imagination that is impressed. The intellect waits upon the advance of science. Not in this time—not, possibly, for centuries—will science unravel the mysteries of mind and brain. Mind, according to science, ought to be far more wonderful than anything else in the universe. Its organ, the brain, is the most wonderfully intricate material structure that exists. When humans come to understand that structure, they shall know whether or not consciousness is merely a function of it. Until then there is no logic whatever in pretending to say what can, and what cannot, be a function of the brain. There is no force in saying that something must be non material until you know positively that it cannot be material.

The soul, most traditions hold, is a non material entity capable of perception and self-awareness. The soul, in almost all traditions as discussed above, is often believed to be immortal.

If ever there were an entity invented for human wish-fulfillment, the soul is that entity. As Thomas Hobbes pointed out in the modern period, the concept of a non-substantial substance is a contradiction. It is not possible to imagine a non-physical entity having life and perception. Even believers in soul always imagine it as being like human shaped clouds or fogs. It is a delusion to believe that the concept of

soul is conceivable. Yet, billions of people have believed in a non-spatial perceiver which can travel through space and perceive and interpret vibrations and waves in the air without any sense organs.

Work done by philosophers and psychologists, based on the assumption of a non material entity which somehow inhabits and interacts with the human body, has not increased human's understanding of the functions of the soul or the mind. Instead, it has increased superstition and ignorance while hindering the development of any real and useful knowledge about the human soul. More promising is the work of those who see consciousness in terms of brain functioning and who try to treat 'mental' illness as primarily a physical problem. Two vast industries have been made both possible and lucrative by this belief in a non-entity in need of treatment from experts in non-entities: religion and psychology. A third industry, philosophy, also flourishes in great part due to the concept of soul: a good many philosophers write books and articles based on the assumption of the existence of the soul, while a good many others make a living writing refutations and criticisms of those books and articles. It seems that the skeptic and the true believer need each other! It is in this strength that the traditional conceptions of the soul thrive.

3.2 THE NATURALISTIC/SCIENTIFIC CONCEPTION(S) OF THE SOUL

Naturalism, on the one hand, 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...[thus, there cannot] exist any entities or events which lie, in principle, beyond the scope of scientific explanation" (Danto, 1967)

"The view that nature is all there is and all basic truths are truths of nature" (Audi, 1984).

> "The twofold view that (1) everything is composed of natural entities--those studied in the sciences--whose properties determine all the properties of things, persons included, ...abstract entities... like possibilities...and mathematical objects...and (2) acceptable methods of justification and explanation are commensurable, in some sense, with those in science"(Post, 1995).

> "The view that everything is natural, that is, that everything there is belongs to the world of nature, and so can be studied by the methods appropriate for studying that world..."(Lacey, 1995).

> "The philosophical movement that "wishes to use the methods of science, evidence, and reason to understand nature and the place of human species within it"..."skeptical of the postulation of a transcendental realm beyond nature, or of the claim that nature can be understood without using the methods of reason and evidence"... and "the philosophical generalization of the methods and conclusions of the sciences" (Kurtz, 1990).

In my own definition, a synthesis of those above, naturalism is the philosophy that maintains that (1) nature is all there is and whatever exists or happens is natural; (2) nature (the universe or cosmos) consists only of natural elements, that is, of spatiotemporal material elements--matter and energy--and non-material elements--mind, ideas, values, logical relationships, etc.--that are either associated with the human brain or exist independently of the brain and are therefore somehow immanent in the structure of the universe; (3) nature works by natural processes that follow natural laws, and all can, in principle, be explained and understood by science and philosophy; and (4) the 'non material' does not exist, that is, only nature is real, therefore, the non material is non-real. Naturalism is therefore a metaphysical position

opposed mainly by immaterialism. It is not an ethical system, although a variety--pragmatic naturalism, a synthesis of pragmatism and naturalism - does develop ethical positions. Furthermore, naturalism is a subset of metaphysical realism.

Naturalism's truth would presumably depend on the existence of a non material realm. If there was empirical evidence for the non material or a logical reason to believe in it without such evidence, then naturalism would be false. If humans knew for certain that the non material did not exist, then naturalism would be true. But if there is no evidence for the non material and no reason to believe in it despite the lack of evidence (both of which are the case), the non material could still possibly exist without human knowledge of it. Such a lack of evidence and reason forces one to be agnostic about the existence of the non material and thus about the ultimate plausibility of naturalism. However, because of such lack of evidence and logical argument, naturalism asserts, it is most reasonable to disbelieve the non material and believe that naturalism is cogent.

Fortunately, whatever one thinks about the non material, one may agree that a natural world exists. Naturalism could be accepted as the most reasonably cogent philosophy by examining and justifying its statements as a scientist would examine and justify the statements of a scientific theory. In scientific terms, the truth of naturalism could be considered reliable knowledge, since naturalism's statements have a great amount of empirical evidence in support of them, it has a highly-reasoned logical structure, and the statements of this logical structure have been repeatedly tested and corroborated. Such a truth, however, as with all such scientific truths, must be treated skeptically and held tentatively, since it is only reliable knowledge, not absolute, ultimate truth (whatever that is). This idea of demonstrating the truth of a

philosophy by the same means one would use in the scientific method to investigate natural elements (examining empirical evidence, using logical reasoning, skeptically testing one's claims to achieve corroboration, etc.) seems reasonable. But it may not seem so to more skeptical philosophers. But naturalists believe that there may not be better justification for naturalism's truth than this scientific one.

Science, on the other hand, is a truth-seeking, problem-solving, method of inquiry. The reliability of its scientific method depends on the correctness of three ancient philosophies that science uses: empiricism, rationalism, and skepticism. This strange combination of epistemologies--for historically they were at odds with each other, and in extreme form remain so today--was used and molded by scientists through the centuries to construct modern science. Empirical evidence is used to propose hypotheses which logically explain natural causes by predicting natural effects; because explanations might be fallacious, hypotheses are skeptically tested by additional empirical observations or experiments to see if their predictions are fulfilled; if so, the corroborated hypotheses are used to construct logical theories that explain the universe. This one sentence describes a method so powerful that it has profoundly and irrevocably changed human society, culture, and philosophy.

Science and naturalism are not the same. Science is a way of knowing, a powerful method that uses three epistemologies in a unique and systematic way to discover the secrets of nature. Naturalism is a philosophy, a metaphysics or ontology that posits a particular picture of reality, being, and existence that excludes the immaterial or non material. What, then, is the origin of naturalism and its relationship to science and the study of the soul?

Naturalism did not exist as a philosophy before the nineteenth and twentieth centuries, but only as an occasionally adopted and non-rigorous method among natural philosophers. It is a unique philosophy in that it is not ancient or prior to science, and that it developed largely due to the influence of science. Naturalism begins with Galileo and Isaac Newton, who began to explain nature by theoretical and experimental descriptions of matter and their motions. The outstanding success of this method led others to emulate them, and a comprehensive understanding of the universe was initiated. Galileo and Newton were not naturalists; they did not hesitate to attribute non material causes to things that they thought could not be explained by natural causes. Until the late eighteenth century, most scientists agreed with them, but the influence of the Enlightenment led scientists, such as Antoine Laurent Lavoisier, Pierre Simon de Laplace, and James Hutton to abandon all non material explanations in favor of natural ones. Biology was the last science to be so treated, by Jean Baptiste Lamarck and Charles Darwin.

Under the influence of philosophers John Herschel and William Whewell, methodological naturalism was systematized and promulgated, so that, by the end of the nineteenth century, methodological naturalism was embedded in science. Naturalism as a necessary part of science thus developed gradually as science developed gradually with the practice and understanding of scientists. Appreciation of the hypothetico-deductive method and empirical-skeptical testing of hypotheses required naturalism, since legitimate, scientific non material predictions cannot be made or non material conjectures tested. Holdout scientists who persisted in using non material explanations were gradually abandoned intellectually by their students and colleagues, and they eventually died with no successors. There was never a single moment or event when immaterialism was evicted from the structure of science and

naturalism locked in. However, by the turn of the twentieth century, immaterialism had been methodologically eliminated and the scientific method came to be identified as naturalistic.

Naturalism is almost unique in that it would not exist as a philosophy without the prior existence of science. It shares this status with the philosophy of existentialism. Scientists first discovered the meaninglessness and purposelessness of the mind-external universe – the soul, and established this fact in the philosophy of naturalism. For example, a frequently quoted phrase describing the naturalistic view of existence is that of George Gaylord Simpson (1967, p. 345), one of the great paleontologists and evolutionary scientists of this century; he said, "Man is the result of a purposeless and natural process that did not have him in mind. He was not planned." This fact consequently forces humans, largely against their wills, to deal with their unplanned existence by creating meaning and purpose entirely within their own minds by their relations with other human minds, not a pleasant prospect or experience. Existentialism deals with human realization of the fact of natural meaninglessness and purposelessness, and the task of accepting and overcoming it, if possible. What, then, is the place of the soul in naturalism?

Canadian radio personality Peter Gzowski was interviewing two neuroscientist-philosophers, the Churchlands - Paul and Patricia. During their dialogue, the inextricable connection between mind and brain was explained. Sounding startled, Gzowski said: "Does that mean I have no soul?" Their answer, in short, was unfortunately not. The assumption was plain: they had proved traditional religion totally false. Paul offhandedly mentioned that this showed that there was no

God. "I like to go on long walks outdoors as my way of spirituality," said Patricia. Gzowski accepted this without much fuss and they moved on to other matters.

Had a thinking person who valued rationalism and idealism pursued this, they would have found that religion was not so easily silenced. Theologians, philosophers and scientists have long been considering the implications of contemporary neuroscience for traditional beliefs and have produced a number of totally orthodox views on the matter. A major strand has been the re-discovery of the Hebraic notion of psychosomatic unity, which is expressed in most traditions, and a questioning of the Hellenistic and Cartesian dualities that have marked some modern thoughts such as parallelism, epiphenomenalism, personal identity, consciousness, etc. Nevertheless, these scientists were sure they knew what these beliefs held, and they knew it was false. No questions asked.

One philosopher whose conception of the soul has gained much recognition is Joseph Priestley. In his view, there is no need to postulate any immaterial soul to account for human behaviour because the notion of an immaterial soul is scientifically useless. Priestley wrote as a critique to what he referred to as “the primitive Christians’ view on the soul”. He argues that, “the view of the primitive Christians on resurrection is not only, in the highest degree, improbable, but even actually impossible since, after the physical destruction, the body putrefies and the parts that composed it are dispersed, and form other bodies, which have an equal claim to the same resurrection” {165}.

One of the most painful circumstances of recent advances in science, according to Bertrand Russell, is that each one makes humans know less than they thought they did. Russell recounts that when he was young he thought he knew, that a

man consists of a soul and a body; that the body is in time and space, but the soul is in time only. Whether the soul survives after the physical destruction of the body was a matter as to which opinions might differ, but that there is a soul was thought to be indubitable. As for the body, he asserts, the plain man of course considered its existence self-evident, and so did the man of science, but the philosopher was apt to analyze it away after one fashion or another, reducing it usually to ideas in the mind of the man who had the body and anybody else who happened to notice him. The philosopher, however, was not taken seriously, and science remained comfortably materialistic, even in the hands of quite orthodox scientists.

Nowadays, Russell affirms, these fine old simplicities are lost: physicists assure humans that there is no such thing as matter, and psychologists assure humans that there is no such thing as mind.

> Again, according to Bertrand Russell, modern science gives no indication whatever of the existence of the soul or mind as an entity; indeed the reasons, he says, for disbelieving in it are very much of the same kind as the reasons for disbelieving in matter. Mind and matter were something like the lion and the unicorn fighting for the crown; the end of the battle is not the victory of one or the other, but the discovery that both are only heraldic inventions. The world consists of events, not of things that endure for a long time and have changing properties. Events can be collected into groups by their causal relations. If the causal relations are of one sort, the resulting group of events may be called a physical object, and if the causal relations are of another sort, the resulting group may be called a mind. Any event that

occurs inside a man's head will belong to groups of both kinds; Well, maybe not any event; to take drastic example, being shot in the head.

Considered as belonging to a group of one kind, it is a constituent of his brain, and considered as belonging to a group of the other kind, it is a constituent of his mind. Thus both mind and matter, Russell says, are merely convenient ways of organizing events. There can be no reason for supposing that either a piece of mind or a piece of matter is immortal. The sun is supposed to be losing matter at the rate of millions of tons a minute. The most essential characteristic of mind is memory, and there is no reason whatever to suppose that the memory associated with a given person survives that person's physical destruction. Indeed there is every reason to think the opposite, for memory is clearly connected with a certain kind of brain structure, and since this structure decays at some point in time, there is every reason to suppose that memory also must cease.

Two other, materialistically oriented contemporary movements in philosophy of mind can briefly be mentioned in support of what European philosophers – naturalists - in the twentieth century consider the soul to be. One is analytic behaviorism associated with Gilbert Ryle and to a certain extent, Ludwig Wittgenstein. The major principles of this movement are that mental faculties are reducible to dispositions to behave in certain ways in specific circumstances and that these dispositions are themselves based on the body's physical state. Moreover, references to the state of mind, to inner processes of thought, must be to publicly observable conditions or behaviour. The second movement is central state

physicalism, which emphasizes a neurological--and thus physical interpretation of mind. Physicalists recognize a distinction between dispositions (tendencies to behave, feel, or think in certain ways) and other mental activities, but believe all such mental states are states of the nervous system. Thus, any non material quality or uniquely mental faculty (or "ghost in the machine" to use Gilbert Ryle's term) is thereby exorcised.

After considering the history and nature of the classical body-mind (or body-soul) problem, John Dewey concludes that it is a pseudo-problem. What has happened is that the fact of organization has been misunderstood, and that the organization of some natural events has been hypostatized into an entity. "Organization is a fact, though it is not an original organizing ... special force or entity called life or soul." The term "psycho-physical" describes the connection more appropriately. If one accepts the common denotation of "physical" as coextensive with the inanimate, the prefix "psycho-" may be used to denote the fact that:

> "Physical activity has acquired additional properties, those of ability to procure a peculiar kind of interactive support of needs from surrounding media. Psycho-physical does not denote an abrogation of the physico-chemical; nor a peculiar mixture of something physical (as a centaur is half man and half horse); it denotes the possession of certain qualities and efficacies not displayed by the inanimate." (Dewey, 1949).

The classical soul-body problem, thus, according to Dewey, disappears. Organization replaces entelechy.

Even so, nowadays, according to John Searle, no one believes in the existence of immortal non material substances except on religious grounds. To Searle, there are no purely philosophical or scientific motivations for accepting the existence of

immortal mental substances. Among later naturalists and pragmatists are included the philosophers Ernest Nagel, Sidney Hook, W.V.O. Quine and Wilfrid Sellars, who, working in the mid-20th century, reimagined philosophy as a discipline continuous with the natural sciences. As suggested above, naturalism differs from traditional philosophy in denying that philosophy has a special method that stands outside of the sciences and thus can ground and interpret their success in producing knowledge. The success of science is nothing other than the fact that it unifies one's understanding of nature by supplying predictive, economical explanations that achieve broad consensus, and philosophers contribute mainly by clarifying one's concepts and by keeping one's assumptions, methods, and logic transparent.

Even so, such philosophers like Colin McGinn, Owen Flanagan among others disagree with Searle's assertion. Colin McGinn, for instance, asserts that many thinkers have supposed that such non material agencies (such as the soul) are essential to understanding the nature of consciousness, at least in the human case. The universe, McGinn holds, contains four basic kinds of entities: inanimate natural objects like rocks, planets, and clouds; living organisms like plants, worms, and bacteria; constructed artifacts like clocks, cars, and computers; and sentient or conscious beings like bats, apes, and humans. According to McGinn, it is when one considers deeply the origin of each of these entities that one comes to appreciate which of the entities can be assigned soul. There seem, therefore, to be at least two rival views running in twentieth century European philosophy (as a legacy bequeathed to it, the 20th century from the pre-Socratic period to the modern period) - one, naturalistic, and, the other, traditional. There is, thus, the need to make critical analyses between these two rival views, and this is exactly what the next chapter seeks to do.

CHAPTER FOUR

ANALYSES OF CONFLICT(S) ON THE SOUL DEBATE.

Philosophy of mind, where the soul debate features greatly in Philosophy, is the philosophical study of the nature of the mind, mental events, mental functions, mental properties, and consciousness, and of the nature of their relationship with the physical body: the 'so-called' *soul–body problem*, (Kim, 1995). So far in this essay, I have tried to trace the various conceptions of the soul from the pre-Socratic period to the modern period in philosophy. The aim of this chapter is to do critical analyses of the contacts and overlaps that exist among the various conceptions of the soul. Even so, the dominant conceptions of the soul that would be looked at in this chapter will all be linked to monism or dualism.

First, I would like to explain certain terminologies that would be used frequently in this chapter. *Dualism* and *monism* are two major schools of thought that attempt to resolve the soul–body problem. Dualism asserts the separate existence of soul and body, and can be traced back to Plato and Aristotle, (Robbinson, 1983) in the West and the sankhya school of Hindu philosophy in the East and was most precisely formulated in modern terms by René Descartes in the 17th century and the debate has been made alive in contemporary philosophy by such philosophers as David Chalmers, John Carew Eccles and Karl Popper among others. Monism, first proposed in the West by Parmenides and in modern times by Baruch Spinoza, maintains that there is only one substance; in the East, rough parallels might be the Hindu concept of Brahman or the Tao of Lao Tzu, (Spinoza, 1670).

Substance dualists argue that the soul is an independently existing substance, while *property dualists* maintain that the mind – the immaterial soul - is a jumble of

independent properties that emerge from the brain and cannot be reduced to it, but that it is not a distinct substance, (Hart, 1996). *Physicalists* argue that only the brain actually exists, *idealists* maintain that the mind, or the soul is all that actually exists, and *neutral monists* adhere to the position that there is some other, neutral substance and that both matter and mind are properties of this unknown substance. The most common monisms in the 20th century have all been variations of materialism (or physicalism), including behaviorism, the identity theory, and functionalism, (Kim, 1995).

Most 20th century philosophers of mind adopt either a *reductive* or *non-reductive physicalist* position, maintaining in their different ways that only the brain exists, (Churchland, 1986). Reductivists assert that all mental states and properties will eventually be explained by neuroscientific accounts of brain processes and states, (Churchland, 1981). Non-reductionists argue that though the brain is all there is, the predicates and vocabulary used in mental descriptions and explanations are indispensable and cannot be reduced to the language and lower-level explanations of physical science, (Smart, 1956). Advances in neuroscientific research has helped to clarify some of these issues, but they are far from having been resolved, and contemporary philosophers of mind continue to ask, "How can the subjective qualities and the intentionality (aboutness) of mental states and properties be explained in naturalistic terms?" (Davidson, 1980). Having explained these terms vividly, I will now try to state the soul-body (popularly referred to as the mind-body problem) cogently and show how the various schools of thought have tried to solve the problem and the progress that has been made so far.

4.1 The soul–body problem

The soul–body problem is essentially the problem of explaining the relationship between soul states, and bodily states or processes, (Putnam, 1967). Humans' perceptual experiences depend on stimuli which arrive at their various sensory organs from the external world and these stimuli cause changes in the states of their brain, ultimately causing them to feel a sensation which may be pleasant or unpleasant. Someone's desire for a slice of pizza will tend to cause that person to move their body in a certain manner in a certain direction in an effort to obtain what they want. But how is it possible that conscious experiences can arise out of an inert lump of gray matter endowed with electrochemical properties? How does someone's desire cause that individual's neurons to fire and his muscles to contract in exactly the right manner? These are some of the essential puzzles that have confronted philosophers of mind at least from the time of René Descartes to today.

4.2 Dualist solutions to the soul–body problem

Dualism is a set of views about the relationship between soul and matter (the immaterial and the material), which begin with the claim that mental phenomena are, in some respects, non-physical. One of the earliest known formulations of soul-body dualism existed in the eastern sankhya school of Hindu philosophy (c. 650 BCE) which divided the world into purusha (soul/mind/spirit) and prakrti (material substance/physical or perceptible objects). In the Western philosophical tradition, one first encounters similar ideas with the writings of Plato and Aristotle, who maintained, for different reasons, that man's "intelligence" (a faculty of the mind or soul) could not be identified with, or explained in terms of, his physical body.

However, the best-known version of dualism is due to René Descartes (1641), and holds that the soul is a non-physical substance. Descartes was the first to clearly identify the soul with consciousness and self-awareness and to distinguish this from the brain, which was the seat of intelligence. Hence, he was the first to formulate the soul–body problem in the form in which it still exists today.

The main argument in favour of dualism is simply that it appeals to the common-sense intuition of the vast majority of non-philosophically-trained people. If asked what the mind is, the average person will usually respond by identifying it with their self, their personality, their soul, or some other such entity, and they will almost certainly deny that the mind simply is the brain or vice-versa, finding the idea that there is just one ontological entity at play to be too mechanistic or simply unintelligible. The majority of contemporary philosophers – Daniel Dennett, The Churchlands etc. - of mind reject dualism, suggesting that these intuitions, like many others, are probably misleading. Humans should use their critical faculties, as well as empirical evidence from the sciences, to examine these assumptions and determine if there is any real basis to them – the soul and the body.

Another very important, more contemporary, argument in favour of dualism consists in the idea that the mental and the physical seem to have quite different and perhaps irreconcilable properties, (Searle, 2001). Mental events have a certain subjective quality to them, whereas physical events obviously do not. For example, what does a burned finger feel like? What does blue sky look like? What does nice music sound like? Philosophers of mind call the subjective aspects of mental events *qualia* (or *raw feels*), (Jackson, 1982). There is something *that it is like* to feel pain, to see a familiar shade of blue, and so on; there are qualia involved in these mental

events. And the claim is that qualia seem particularly difficult to reduce to anything physical, (Nagel, 1974). This explanation helps or, perhaps, will help one to appreciate the various schools of thought that try to deal with the soul-body problem.

To begin with, Interaction dualism, or simply interactionism, is the particular form of dualism first espoused by Descartes in the *Meditations*. In the 20th century, its major defenders have been Karl Popper and John Carew Eccles, (Popper and Eccles, 2002). It is the view that mental states, such as beliefs and desires, causally interact with physical states. The famous argument for this position can be summarized as follows: Fred has a clear and distinct idea of his mind as a thinking thing which has no spatial extension (that is, it cannot be measured in terms of length, weight, height, and so on) and he also has a clear and distinct idea of his body as something that is spatially extended, subject to quantification and not able to think. It follows that mind and soul are not identical because they have radically different properties, according to this argument.

At the same time, however, it is clear that Fred's mental states (desires, beliefs, etc.) have causal effects on his body and vice-versa: a child touches a hot stove (physical event) which causes pain (mental event) and makes him yell (physical event) which provokes a sense of fear and protectiveness in the mother (mental event) and so on.

This argument obviously depends on the crucial premise that what Fred believes to be "clear and distinct" ideas in his mind are necessarily true. Most philosophers doubt the validity of such an assumption, since it has been shown by Freud (a third-person psychologically-trained observer can understand a person's unconscious motivations better than he does), by Duhem (a third-person philosopher

of science can know a person's methods of discovery better than he does), by Malinowski (an anthropologist can know a person's customs and habits better than he does), and by theorists of perception (experiments can make one see things that are not there and scientists can describe a person's perceptions better than he can), that such an idea of privileged and perfect access to one's own ideas is dubious at best, (Agassi, 1997). Their objections will be logically analysed in the third-half of this chapter.

Other important forms of dualism which arose as reactions to, or attempts to salvage, the Cartesian version are:

1) Psycho-physical parallelism, or simply *parallelism*, is the view that mind and body, and here, soul and body, while having distinct ontological statuses, do not causally influence one another, but run along parallel paths (mind events coincide with mind events and brain events coincide with brain events) and only seem to influence each other, (Robbinson, 2003). This view was most prominently defended by Gottfried Leibniz. Although Leibniz was actually an ontological monist who believed that only one fundamental substance, monad, exists in the universe and everything else is reducible to it, he nonetheless maintained that there was an important distinction between "the mental" and "the physical" in terms of causation. He held that God had arranged things in advance so that souls and their bodies would be in harmony with each other. This is known as the doctrine of pre-established harmony, (Leibniz, 1714).

Occasionalism is the view espoused by Nicholas Malebranche which asserts that all supposedly causal relations between physical events or between physical and mental or non material events are not really causal at all. While body and soul are still different substances on this view, causes (whether mental or physical) are related to

their effects by an act of God's intervention on each specific occasion, (Schmaltz, 2002).

Epiphenomenalism is a doctrine first formulated by Thomas Henry Huxley, (Huxley, 1874). Fundamentally, it consists in the view that mental phenomena are causally inefficacious. Physical events can cause other physical events and physical events can cause mental events, but mental events cannot cause anything, since they are just causally inert by-products (that is *epiphenomena*) of the physical world. The view has been defended most strongly in recent times by Frank Jackson, (Jackson, 1986).

Property dualism asserts that when matter is organized in the appropriate way (that is, in the way that living human bodies are organized), immaterial properties emerge. Hence, it is a sub-branch of emergent materialism. These emergent properties have an independent ontological status and cannot be reduced to, or explained in terms of, the physical substrate from which they emerge. This position is espoused by David Chalmers and has undergone something of a renaissance in recent years, (Chalmers, 1997). The objections to these dualist conceptions of the soul (and, here, the mind), as aforesaid, will be looked at later in this chapter.

4.3 Monist solutions to the soul–body problem

In contrast to dualism, monism states that there is only one fundamental substance. Today the most common forms of monism in Western philosophy are physicalistic. Physicalistic monism asserts that the only existing substance is physical, in some sense of that term to be clarified by humans' best science, (Stoljar, 2005). However, a variety of formulations are possible. Another form of monism is that

which states that the only existing substance is mental or spiritual or immaterial. Such idealistic monism is currently somewhat uncommon in the West.

Phenomenalism, the theory that all that exists are the representations (or sense data) of external objects in the mind and not the objects themselves, was adopted by Bertrand Russell and many of the logical positivists during the early 20th century, (Russell, 1918). It lasted for only a very brief period of time. A third possibility is to accept the existence of a basic substance which is neither material nor immaterial. The mental and physical would both be properties of this neutral substance. Such a position was adopted by Baruch Spinoza and later popularized by Ernst Mach, (Mach, 1886). This neutral monism, as it is called, resembles property dualism. In the following discussion, only physicalistic monisms are considered.

Behaviourism dominated philosophy of mind for much of the 20th century, especially the first half. In psychology, behaviourism developed as a reaction to the inadequacies of introspectionism. Introspective reports on one's own interior mental life are not subject to careful examination for accuracy and are not generalizable. Without generalizability and the possibility of third-person examination, the behaviorists argued, science is simply not possible. The way out for psychology was to eliminate the idea of an interior mental life (and hence an ontologically independent immaterial substance or soul or mind) altogether and focus instead on the description of observable behaviour, (Skinner, 1972).

Parallel to these developments in psychology, a philosophical behaviorism (sometimes called *logical behaviorism*) was developed. This is characterized by a strong verificationism, which generally considers unverifiable statements about interior mental life senseless. But what are mental states if they are not interior states

on which one can make introspective reports? The answer of the behaviorist is that mental states do not exist but are actually just descriptions of behaviour and/or dispositions to behave made by external third parties in order to explain and predict others' behaviour, (Ryle, 1949).

Philosophical behaviourism is considered by most philosophers of mind to be outdated. Apart from other problems, behaviourism implausibly maintains, for example, that someone is talking about behaviour if she reports that she has a wracking headache.

Type physicalism (or type-identity theory) was developed by John Smart, (Place, 1956) and Ullin Place, (Smart, 2002), as a direct reaction to the failure of behaviourism. These philosophers reasoned that, if mental states are something material, but not behaviour, then mental states are probably identical to internal states of the brain. In very simplified terms: a mental state *M* is nothing other than brain state *B*. The mental state "desire for a cup of coffee" would thus be nothing more than the "firing of certain neurons in certain brain regions"(Davidson, 2001).

The classic Identity theory and Anomalous Monism contrast - for the Identity theory, every token instantiation of a single mental type corresponds to a physical token of a single physical type. For anomalous monism, the token-token correspondences can fall outside of the type-type correspondences. The result is token identity.

Despite a certain initial plausibility, the identity theory faces at least one heavy challenge in the form of the thesis of multiple realizability, which was first formulated by Hilary Putnam, (Putnam, 2000). It seems clear that not only humans, but also

amphibians, for example, can experience pain. On the other hand, it seems very improbable that all of these diverse organisms with the same pain are in the same identical brain state. If this is not the case however, then pain cannot be identical to a certain brain state. Thus the identity theory is empirically questionable.

But even if this is the case, it does not follow that identity theories of all types must be abandoned. According to *token identity* theories, the fact that a certain brain state is connected with only one "mental" state of a person does not have to mean that there is an absolute correlation between *types* of non material states and *types* of physical or material states. The *type-token distinction* can be illustrated by a simple example: the word "green" contains four types of letters (g, r, e, n) with two tokens (occurrences) of the letter *e* along with one each of the others. The idea of *token identity* is that only particular *occurrences* of mental events are identical with particular *occurrences* or tokenings of physical events, (Hacker, 2003). Anomalous monism and most other *non-reductive physicalisms* are token-identity theories, (Wittgenstein, 1954). Despite the problems faced by the type identity theory, however, there is a renewed interest in it these days, primarily due to the influence of Jaegwon Kim.

Functionalism was formulated by Hilary Putnam and Jerry Fodor as a reaction to the inadequacies of the identity theory. Putnam and Fodor saw mental states in terms of an empirical computational theory of the mind, (Fodor, 1993). At about the same time or slightly after, D.M. Armstrong and David Kellogg Lewis formulated a version of functionalism which analyzed the mental concepts of folk psychology in terms of functional roles, (Pinker, 1997). Finally, Wittgenstein's idea of meaning as

used led to a version of functionalism as a theory of meaning, further developed by Wilfrid Sellars and Gilbert Harman.

What all these different varieties of functionalism share in common is the thesis that mental states are essentially characterized by their causal relations with other mental states and with sensory inputs and behavioural outputs. That is, functionalism quantifies over, or abstracts away from, the details of the physical implementation of a mental state by characterizing it in terms of non-mental functional properties. For example, a kidney is characterized scientifically by its functional role in filtering blood and maintaining certain chemical balances. From this point of view, it does not really matter whether the kidney be made up of organic tissue, plastic nanotubes or silicon chips: it is the role that it plays and its relations to other organs that define it as a kidney, (Bear, 1995). It is thus, according to functionalism, the role that the soul (and here, the mind) plays that defines it as a mind or a soul.

Even so, many philosophers hold firmly to two essential convictions with regard to soul–body relations:

1. Physicalism is cogent and mental states must be physical states.

2. All reductionist proposals are unsatisfactory: mental states cannot be reduced to behaviour, brain states or functional states.

Hence, the question arises whether there can still be a non-reductive physicalism. Donald Davidson's anomalous monism is an attempt to formulate such a physicalism.

The idea is often formulated in terms of the thesis of supervenience: non material or immaterial states supervene on physical states, but are not reducible to them. "Supervenience" therefore describes a functional dependence: there can be no change in the immaterial without some change in the physical, (Pinel, 1997).

If one is a materialist but believes that all reductive efforts have failed and that a non-reductive materialism is incoherent, then one can adopt a final, more radical position: eliminative materialism. Eliminative materialists maintain that mental states or immaterial or soul states are fictitious entities introduced by everyday "folk psychology". Should "folk psychology", which eliminativists view as a quasi-scientific theory, be proven wrong in the course of scientific development, then philosophers must also abolish all of the entities postulated by it.

Eliminativists such as Patricia and Paul Churchland often invoke the fate of other, popular theories and ontologies which have arisen in the course of history to appraise their position.

For example, the belief in witchcraft as a cause of people's problems turned out to be wrong and the consequence is that most people no longer believe in the existence of witches. Witchcraft is not explained in terms of some other phenomenon, but rather eliminated from the discourse. This is where eliminativists have tried to eliminate the concept of the soul by making it lose its original meaning – the life force. The idea of the soul, thus can be eliminated, according to these eliminativists, if all things, events, occurrences, etc. are reduced to matter. Even so, the worth of this assertion will be assessed later.

4.4 Linguistic criticism of the soul–body problem

Each attempt to answer the soul–body problem encounters substantial problems. Some philosophers argue that this is because there is an underlying conceptual confusion, (Roth, 2001). Such philosophers reject the soul–body problem as an illusory problem. Such a position is represented in analytic philosophy these days, for the most part, by the followers of Ludwig Wittgenstein and the Wittgensteinian tradition of linguistic criticism. The exponents of this position explain that it is an error to ask how mental and biological states fit together. Rather it should simply be accepted that humans can be described in different ways - for instance, in a mental and in a biological vocabulary. Illusory problems arise if one tries to describe the one in terms of the other's vocabulary or if the mental vocabulary is used in the wrong contexts. This is the case for instance, if one searches for mental states of the brain. The brain is simply the wrong context for the use of mental vocabulary - the search for mental states of the brain is therefore a category error or a pure conceptual confusion, (Sipser, 2000).

Today, such a position is often adopted by interpreters of Wittgenstein such as Peter Hacker. However, Hilary Putnam, the inventor of functionalism, has also adopted the position that the soul–body problem is an illusory problem which should be dissolved according to the manner of Wittgenstein, (Searle, 1980).

The thesis of physicalism is that the immaterial is part of the material (or *physical*) world. Such a position faces the fundamental problem that the immaterial has certain properties that no material thing possesses. Physicalism must therefore explain how it is possible that these properties can emerge from a material thing nevertheless. The project of providing such an explanation is often referred to as the

"naturalization of the immaterial." What are the crucial problems that this project must attempt to resolve? The most well-known are probably qualia and intentionality.

Many immaterial states have the property of being experienced subjectively in different ways by different individuals. For example, it is characteristic of the immaterial state of *pain* that it hurts. Moreover, one's sensation of pain may not be identical with another's, since they have no way of measuring how much something hurts or describing exactly *how it feels to hurt*. Where does such an experience (quale) come from? Nothing indicates that a neural or functional state can be accompanied by such a pain experience. Often the point is formulated as follows: the existence of cerebral events, in and of themselves, cannot explain why they are accompanied by these corresponding qualitative experiences. Why do many cerebral processes occur with an accompanying experiential aspect in consciousness? It seems impossible to explain.

Yet it also seems to many that science will eventually have to explain such experiences. This follows from the logic of reductive explanations. If one tries to explain a phenomenon reductively (e.g., water), one also has to explain why the phenomenon has all of the properties that it has (e.g., fluidity, transparency). In the case of immaterial or mental states, this means that there needs to be an explanation of why they have the property of being experienced in a certain way.

John Searle - one of the most influential philosophers of mind, proponent of biological naturalism – is a leading proponent of intentionality. Intentionality is the capacity of mental states to be directed towards (*about*) or be in relation with something in the external world. This property of mental states entails that they have contents and semantic referents and can therefore be assigned truth values. When one

tries to reduce these states to natural processes, there arises a problem: natural processes are not true or false, they simply happen, (Turing, 1950). It would not make any sense to say that a natural process is true or false. But mental ideas or judgments are true or false, so how then can mental states (ideas or judgments) be natural processes? The possibility of assigning semantic value to ideas must mean that such ideas are about facts. Thus, for example, the idea that Herodotus was a historian refers to Herodotus and to the fact that he was an historian. If the fact is true, then the idea is true; otherwise, it is false. But where does this relation come from? In the brain, there are only electrochemical processes and these seem not to have anything to do with Herodotus. The position of intentionality, therefore, makes the idea of the soul or mind acceptable on the basis that something must not be true only when it is empirical.

However, in science, humans are said to be corporeal beings and, as such, they are subject to examination and description by the natural sciences. Since mental processes are not independent of bodily processes, the descriptions that the natural sciences furnish human beings play an important role in the philosophy of mind. There are many scientific disciplines that study processes related to the mental. The list of such sciences includes: biology, computer science, cognitive science, cybernetics, linguistics, medicine, pharmacology, psychology, etc.

The theoretical background of biology, as is the case with contemporary natural sciences in general, is fundamentally materialistic. The objects of study are, in the first place, physical processes, which are considered to be the foundations of mental activity and behaviour. The increasing success of biology in the explanation of mental phenomena can be seen by the absence of any empirical refutation of its

fundamental presupposition: "there can be no change in the mental states of a person without a change in brain states, (Russell, 1995).

Within the field of neurobiology, there are many subdisciplines which are concerned with the relations between non physical and physical states and processes:

Sensory neurophysiology investigates the relation between the processes of perception and stimulation.

Cognitive neuroscience studies the correlations between mental processes and neural processes.

Neuropsychology describes the dependence of mental faculties on specific anatomical regions of the brain.

Lastly, evolutionary biology studies the origins and development of the human nervous system and, in as much as this is the basis of the mind, also describes the ontogenetic and phylogenetic development of mental phenomena beginning from their most primitive stages, (Dummett, 2001).

Since the 1980's, sophisticated neuroimaging procedures, have furnished increasing knowledge about the workings of the human brain, shedding light on ancient philosophical problems.

The methodological breakthroughs of the neurosciences, in particular the introduction of high-tech neuroimaging procedures, have propelled scientists toward the elaboration of increasingly ambitious research programs: one of the main goals is to describe and comprehend the neural processes which correspond to mental functions (neural correlate). A very small number of neurobiologists, such as Emil du

Bois-Reymond and John Eccles have denied the possibility of a "reduction" of mental or phenomena to cerebral processes, partly for religious reasons and partly for reasons that no matter how science tries to explain mental phenomena, they will, perhaps, forever remain mysterious. According to Eccles and Popper, it is when the concept of the soul is considered on this ground that it becomes more plausible to accept that the soul is as real as the body, than to reject it. However, the contemporary neurobiologist and philosopher Gerhard Roth continues to defend a form of "non-reductive materialism."

Nonetheless, Computer science – an aspect of developments in contemporary science - concerns itself with the automatic processing of information (or at least with physical systems of symbols to which information is assigned) by means of such things as computers. From the beginning, computer programmers have been able to develop programs which permit computers to carry out tasks for which organic beings need a *mind*. A simple example is multiplication. But it is clear that computers do not use a mind to multiply. Could they, someday, come to have what is called a mind? This question has been propelled into the forefront of much philosophical debate because of investigations in the field of artificial intelligence ("AI").

Within AI, it is common to distinguish between a modest research program and a more ambitious one: this distinction was coined by John Searle in terms of a weak AI and a strong AI. The exclusive objective of "weak AI", according to Searle, is the successful simulation of mental states, with no attempt to make computers become conscious or aware, etc. The objective of strong AI, on the contrary, is a computer with consciousness similar to that of human beings. The program of strong AI goes back to one of the pioneers of computation Alan Turing. As an answer to the

question "Can computers think?" He formulated the famous Turing test. Turing believed that a computer could be said to "think" when, if placed in a room by itself next to another room which contained a human being and with the same questions being asked of both the computer and the human being by a third party human being, the computer's responses turned out to be indistinguishable from those of the human. Essentially, Turing's view of machine intelligence followed the behaviourist model of the mind - intelligence is as intelligence does. The Turing test has received many criticisms, among which the most famous is probably the Chinese room thought experiment formulated by Searle.

The question about the possible sensitivity (qualia) of computers or robots still remains open. Some computer scientists believe that the specialty of AI can still make new contributions to the resolution of the "soul - body problem". They (the computer scientists) suggest that based on the reciprocal influences between software and hardware that takes place in all computers, it is possible that someday theories can be discovered that help humans to understand the reciprocal influences between the physical and the non physical states (wetware) – between the body and the soul (or the mind).

Another area of science that also tries to contribute to the concept of the soul is psychology. Psychology is the science that investigates mental states directly. It uses generally empirical methods to investigate concrete mental states like joy, fear or obsessions. Psychology investigates the laws that bind these immaterial states to each other or with inputs and outputs to the human organism. An example of this is the psychology of perception. Scientists working in this field have discovered general principles of the perception of forms. A law of the psychology of forms says that

objects that move in the same direction are perceived as related to each other. This law describes a relation between visual input and mental perceptual states. However, it does not suggest anything about the nature of perceptual states. The laws discovered by psychology are compatible with all the answers to the soul–body problem already described, such as those in intentionality and, therefore, also tries to assert that the existence of the soul can be accepted based on thesis of visual input and mental input.

4.5 Evaluation of the various conceptions of the soul

Even though naturalism has two primary sources in philosophy, "materialism in metaphysics and empiricism [and skepticism] in epistemology" (Kurtz, 1990, p. 12), naturalism does not necessitate a commitment to materialism, a philosophy with which it is often confused. Materialism recognizes the existence of non-material elements, but claims that they are unconditionally produced by or associated with material elements, that is, the non-material elements would not exist if the material elements did not exist. Most philosophical naturalists today are materialists, and methodological materialism is probably universally adopted among scientists today, but idealism and dualism could be cogent and naturalism would still be viable. Furthermore, the relation or association of non-material elements (such as the mind and, or, the soul) with the material world (such as the brain) is still problematical and a concern of both scientific investigation and philosophical analysis (e.g., Dennett, 1991, 1996). Here Daniel Dennett, a noted philosopher, is mentioned to show that the overwhelming belief among scientists that mind is a function of matter, the brain, is still legitimately the subject of philosophic analysis, even though Dennett uses humans' scientific knowledge of brain and consciousness to ultimately defend an entirely naturalistic and materialistic interpretation.

The above authors agree, somewhat, that naturalism is much broader in scope than materialism, and could entertain a wide diversity of metaphysical positions, such as idealism or materialism, monism or dualism, atheism, and even theism, since a natural deity could be conceived as one immanent in the universe (pantheism) or contained in the self. Idealism, dualism, and theism are therefore legitimate stances within naturalism but, for a number of reasons, are not very popular. Individuals who would normally believe such things are usually already immaterialists, and so don't care about these subcategories of naturalism. Metaphysics in this context is important, and rejects the positivist idea that metaphysics is cognitively meaningless and that science alone provides genuine knowledge, since science itself is based on a number of highly-developed philosophies (epistemologies).

immaterialism, the antithesis of naturalism, includes belief in non material beings (gods, goddesses, lesser deities, angels, devils, fairies, trolls, leprechauns, ghosts, wood nymphs, etc.), their activities (miracles, raising from the dead, faith healing, virgin birth, life after death, communication between living and dead, communication between human and god, ritual symbolic cannibalism of the avatar, etc.), their realms (heaven, hell, spirit worlds, etc.), and their concerns (transcendence, sanctification, salvation, sin, immortal souls, spirits, etc.) - in short, belief in superstition from the highest to the lowest. Since, at least, ‘everyone’ agrees that the natural exists, it is the responsibility of the immaterialists to demonstrate the existence of the non material. This is what makes such conceptions, like that of the soul problematic.

Although some may disagree to this, it is, at least, clear that there is no empirical evidence for non material elements and this makes it difficult to believe in

them despite the lack of evidence, but their overwhelming popularity makes naturalism a distinctly minority philosophy among popular philosophies today. Belief by wishful, hopeful, and emotional faith is the most common way belief in the non material is promoted, but that is not the issue here. Humans are concerned with the relationship of science and naturalism, whether science assumes or necessitates methodological or ontological naturalism or both, and whether immaterialism can or should be a part of science.

Science does give reliable knowledge about the material universe, that is, about everything in the universe that is matter or energy. Reliable knowledge, or justified true belief, is knowledge that has a high probability of being true because it has been justified by a reliable method. Furthermore, science is not just the best method - it is the method that most humans possess (at least, the best one discovered so far) that provides such reliable knowledge about the material world. Other ways of knowing about the material world give humans knowledge of nature, certainly, but that knowledge is not reliable, for it may be true or false and one cannot be sure which. Non-scientific methods, therefore, do not even come close to science as a method of understanding and explaining the cosmos. Since humans are themselves somehow material, inhabit a material world, and depend on this material world for their existence, sustenance, and survival, it seems to most philosophers that the discipline that allows them (humans) to reliably understand and control the material world must be much the most valuable part of human learning (that is material) - but not the only part.

Developments in science such as discussed in neurobiology, computer science (leading to AI), etc. become less reliable if humans examine more difficult questions

about the relationship of the material world to the immaterial world or the conscious mind: the world of thoughts, ideas, beliefs, dreams, truths, values, morals, meanings, purposes, intentions, reasons, logical relationships, imagination, free will, and self-awareness. All of these things are undoubtedly part of the natural world, and science certainly helps to investigate them and provides reliable knowledge to help humans understand them, but, on its own, it has not provided reliable answers to questions about them, and one is not sure that, in principle, it can. Philosophy is required along with science in humans' investigation of the immaterial world, although their combined reliability is no sure thing, either. The immaterial world includes, of course, the nature of truth and knowledge, and therefore the ultimate reliability, certainty, and objectivity of scientific knowledge. Thus the need to acknowledge the vital importance of philosophy in the effort to explain how science works is worth mentioning. This helps emphasize that science and philosophy are both involved in understanding and explaining all non-material aspects of nature. Furthermore, it helps emphasize that philosophy of science explains how science works - it does not and should not tell scientists how to work.

One turns now to the really difficult, perhaps intractable, questions about the immaterial world. Do ideas, truths, logical relationships, etc., exist independently of a conscious mind? One cannot tell. If materialism is cogent, a mind does not exist independently of a brain, so humans would at least have to have a material world to have an immaterial world. This explanation seems most likely and has the most evidence in support of it. If one is a dualist, then soul exists independently of the material world, but there is little support for that philosophy today; in fact, Daniel Dennett (1996, p. 24) says that dualism has "been relegated to the trash heap of history," so this pretty well decides that question. The next question must be: Does an

immaterial world - with its ideas, truths, morals, etc. - exist independently of matter and energy? This is the philosophy of idealism, which can be relegated in the same way as dualism, says Dennett. But the ultimate question must be this: Does yet a third, transcendent world exist independently of both the material and immaterial natural worlds? An affirmative answer to this question requires belief in immaterialism, so the answer is probably no.

Immaterialists identify – or, perhaps, misidentify - the immaterial world of the mind with the transcendental world of their non material beliefs. This practice is so pervasive that it should be discussed here. Suppose humans name and classify the three philosophical worlds and their elements: First, the material and physical world of nature that includes matter and energy; second, the immaterial world of nature that includes mind, ideas, values, imagination, logical relationships, etc.; third, the transcendental world of non material that includes spirits, souls, etc. Belief in the first world with denial of the independence of the second constitutes materialism, belief in worlds one and two constitutes naturalism, while belief in all three worlds constitutes dualism. While the identification of brain with conscious mind is relatively easy, immaterialists identify conscious mind with soul. Similarly, naturalists identify brain with imagination and emotion, but immaterialists identify imagination and emotion as transcendence. Similarly, brain is self becomes spirit; brain is dream (or psychosis) becomes revelation; brain is imagined all-loving, all-powerful authority figure becomes a deity; an unexplained natural phenomenon is a mystery becomes a miracle; a wrongful act is an immoral act becomes a sin. In short, immaterialists are exploiting the uncertainty and ignorance of science regarding the second world of non material elements to create and justify belief in a third world. Materialists would object to this

analysis, one can be sure, but it explains why immaterialists can continue to hold their beliefs, in such things like the soul, without empirical evidence.

One can now turn to the other major topic of this paper, the claim by scientific creationists, theologians, and philosophers who believe in theism and metaphysical immaterialism that (1) immaterialistic explanations are preferable to some scientific naturalistic explanations, particularly concerning questions of origins, and that (2) scientists can and should explain some natural phenomena by using immaterialistic hypotheses within science (Thaxton, Bradley, and Olsen, 1984; Geisler and Anderson, 1987; Johnson, 1990, 1991, 1994a, 1994b, 1995; Davis and Kenyon, 1993; Moreland, 1994; Behe, 1996). Although, on their face, these suggestions sound preposterous, nevertheless they are serious suggestions from authors who are able to make their cases with greater or lesser cogency, so they deserve a serious analysis.

The method of critical inquiry (critical thinking, scientific thinking, scientific method) can be viewed as the most reliable method of discovering truthful knowledge in any discipline, especially including science and philosophy. Critical inquiry is the best truth-seeking, problem-solving method humans have to examine scientific hypotheses and theories, evaluate competing truth claims, or establish the validity of a philosophy or philosophical position. The truth that critical inquiry produces is called reliable knowledge, knowledge that has a high probability of being true because it has been justified by a reliable method that uses empiricism, rationalism, and skepticism. Without going into a lengthy analysis here of an understanding of critical inquiry that many scientists and philosophers have shared for years, let me just refer readers to a recent book that exemplifies this method: *The New Skepticism: Inquiry and Reliable Knowledge*, by Paul Kurtz (1992). While the use of empiricism and rationalism in

science and philosophical inquiry have been around for years (centuries), participants in the contemporary skeptics movement, have increasingly emphasized the skeptical (tentative, fallibilist) aspects of critical inquiry, and the book by Kurtz presents a good summary of these ideas.

It is refreshing to state that, unlike theistic methodological naturalists, theistic metaphysical immaterialists who promote immaterialism within science or instead of science engage in no logical or moral errors in support of their beliefs: they unequivocally and explicitly support the action of immaterialism in both nature and the non material. What they wish to practice and promote, however, according to most scientists, is not science, but pseudoscience.

The boundary between science and pseudoscience is a problem for the philosophy of science, termed the "demarcation problem." The argument is as follows: there is a continuum from normal science to frontier science, fringe science, and pseudoscience, and the boundary between legitimate science and pseudoscience is not clearly known or defined. All three of these examples are legitimate demarcation problems between science and pseudoscience, falling as they do among the categories of frontier and fringe science.

But it could be maintained here that there is at least one criterion of legitimate science that correctly identifies scientific creationism and all forms of immaterial explanation in science as pseudoscience. This is the criterion of testability. It dates from the beginning of the nineteenth century to at least the first half of the twentieth century when scientists began to explicitly eschew immaterial explanations, and it was quickly recognized and identified in the work of the first philosopher of science, John Herschel, who is responsible for first explicating the hypothetico-deductive

method of science. It is now commonly accepted, for example, that Charles Darwin deliberately used Herschel's characterization of correct scientific method in his effort to establish the fact and his theory of evolution in 1859 (Ghiselin, 1969). In the twentieth century, Karl Popper championed and extended this same idea in his work on prediction, deduction, testing, and falsification in science. It is intriguing to note now that Popper's solution to the demarcation problem is, according to 20th century logical positivists, incomplete. (How would one apply it in the continuing controversy over the reality of ESP, for example, when it is the very predictions, tests, and statistical degree of falsification that is under controversy?) It could be maintained, however, that the criterion of testability or falsifiability is a necessary but not sufficient solution to the demarcation problem, and while one can admit it cannot distinguish science from pseudoscience in all areas of interest, the "necessity of being susceptible to falsification" criterion is quite capable of eliminating all immaterial explanations, such as creationism and intelligent design, from legitimate science - because such explanations cannot be falsified.

Pseudoscience is false science, an ideology masquerading as science. Often the ideology is religious, as is the case with religious fundamentalism, but sometimes it is political, such as is the case with Lysenkoism. There is a very fine line between religious and political ideologies, and each adopts many of the characteristics of the other. For example, scientific creationism can easily be considered a political movement, seeking, as it does, to gain intellectual respectability by holding conferences at respected secular universities and gain access to public school textbooks and classrooms through legislative efforts and the courts. For its case, Lysenkoism had the status of a cult within the religion of Soviet state communism. Pseudosciences cannot be falsified because they claim non material, preternatural, and

paranormal elements exist and that these interact with the natural world, and the existence of these elements and the nature of their interactions with the natural world cannot be investigated and tested by the naturalistic methods of science. There are many other criteria that prove scientific creationism to be a pseudoscience. For the purposes of this paper, however, I am only considering the failure of creationists to present a scientifically-acceptable theory of creation, which one can claim they have not done because it is impossible for them to do so within legitimate science. Their solution to their very real, implicitly recognized, problem is to attempt to change the definition of science to allow immaterial explanations. This reveals the tremendous irony of the current attempts by creationist and immaterialist philosophers to change the nature of science by forcing it to accept non material elements. The current effort is the implicit admission by creationists that scientific creationism or intelligent design requires immaterial explanations and that scientific creationism is not now part of science. The current effort would not have to be made if either (1) scientific creationism did not require immaterialism or (2) scientific creationism was currently part of science.

The scientific creationist political efforts to have people believe that immaterial religious beliefs are scientific is prompted by science's great intellectual legitimacy and prestige, brought about by its tremendous success. People will naturally be attracted to such a knowledge system and thus be exposed to its associated philosophy of methodological naturalism and the metaphysical consequences. Scientific creationism is a religio-political effort that tries to subvert science, to create a (mis)understanding in people's minds about the true nature of science. Scientific creationists accomplish this by telling people about how science works, the scientific method, the nature of scientific evidence, reasoning, and

skepticism, and the overwhelming evidence for evolution. Assaults on science textbooks, debates with scientists, creationist seminars and presentations, and most spectacularly, the attempts to pass balanced treatment laws - all are aimed at reducing scientific literacy among the lay public by promoting pseudoscience.

Scientific creationists in particular and scientific immaterialists in general claim, of course, that the new non material science they propose does make predictive immaterial explanations based on good evidence, that these explanations are legitimate scientific hypotheses that can be tested and falsified, and therefore the conclusions they reach that invoke the immaterial can and should be considered legitimately scientific. This is the primary thesis of the books cited above, and the explicit thesis in some of them, such as Moreland (1994). One may strongly disagree with this claim. Contrary to Larry Laudan, one may not consider scientific creationism to be merely "bad science"; parapsychology, cold fusion, and many other topics are bad science - creationism is pseudoscience.

Larry Laudan has contempt for the testability criterion, claiming that many pseudosciences would be scientific under this criterion because they are, in principle, falsifiable, and their claims have been falsified. He puts scientific creationism in this category. One is not sure if Laudan is as familiar with the creationist literature as Michael Ruse. One may agree with Laudan that when pseudosciences like scientific creationism make statements about the natural realm, such as a 6000-year old Earth or a specific fossil sequence, the predictions are easily falsified. This is also true for the many other pseudosciences that Laudan identifies. If they restricted their predictive "hypotheses" to the natural realm, used valid arguments, accepted empirical evidence to the contrary as valid, and agreed that they would change their views if conflicting

evidence was present, all of these pseudosciences would long ago have disappeared because they would have been falsified. The reason they haven't vanished is because their proponents invariably make claims that have non material, preternatural, and paranormal elements, and these elements cannot be tested and falsified, so pseudosciences can persist just as Popper claimed.

Michael Ruse (1996b) uses a similar argument in his reply to Laudan; he quotes Duane Gish (1979) and Henry Morris (1966) to the effect that the Creator used processes that "are not now operating anywhere in the natural universe," that humans "cannot discover by scientific investigations anything about the creative processes used by the Creator," and "it is...quite impossible to determine anything about Creation through a study of present processes..." One would agree with these refreshingly candid, clear, but old statements; times change, and now the authors of *The Creation Hypothesis* and *Of Pandas and People* insist that humans can use the intelligent design hypothesis in science to accept, cogently, the existence of the soul.

Christians (who are greatly creationists) believe in "God the Father, Almighty, Maker of heaven and earth", whom, they assert, brought all things into being out of nothingness.This means, then, that for Christians the universe is readable. It may be terrifyingly vast. It may be incredibly complex. It may even be subject to a large degree of chance and random circumstance. It will however, be intelligible, and rational minds, given enough time and information, will be able to discern its patterns. And, though, this kind of knowledge would be termed privilege knowledge, it must still be recognized, since privilege knowledge is recognized in philosophy. These patterns will not be figments of the perceiving minds. These are present in the universe itself, because it is the creation of a rational intelligence, and because it has

existence independent of perceiving minds. (If a tree falls in the forest and there's no-one around, does it make a sound? Yes.) Further, God (Christians assert) is not the universe. The universe is not God. While God's sustaining power is necessary for its existence, it is distinct and separate from Him.

These beliefs constitute one of Christianity's great intellectual strengths - its cosmology and philosophy of nature. Modern science, as seen in chapter three, was born and raised primarily in Western Christendom precisely because of these ideas. Other cultures and systems of thought certainly contributed to the emergence of science, and had their own discoveries in mathematics or astronomy, but it was only in the intellectual matrix of Christianity that empirical and experimental science was established.

So religion and science should be, theoretically at least, fairly compatible. However, there is a price to be paid. The corollary of believing in an intelligible universe, a rational Creator, and claiming to love truth is this: humans must accept the results of unbiased scientific investigation, whether or not they fit their prejudices and particular theological presuppositions. This is where the problems begin.

All too often, Christians act as if humans have a "get-out-of-jail-free card" when it comes to the natural sciences. Humans refuse to accept findings that perturb their neat and tidy interpretations of their idiosyncrasy, dogma and doctrine and wave away things that make them uncomfortable. Ideas that would force them to return to the sources and develop a new understanding are pushed away with a "No, I don't believe in that, I believe in the Bible." This conveniently ignores the fact that scripture doesn't pretend to be a science textbook. "I believe in the Bible", in this context, often

means things like "I believe in Milton's interpretations of scripture", "I believe in twentieth century popular theology" or "I don't feel like thinking about this."

To be fair, all worldviews find certain facts difficult to work into their system. All belief systems encourage people to sweep things that don't fit under the carpet. Religion includes within itself a self-critical truth-seeking imperative.

4.6 Contemporary Secular Accounts On The Soul

From a broader perspective, however, the point about the interpreted nature of empiricism is of significance. Contemporary science, particularly disciplines like neurobiology and evolutionary psychology, is in the process of jettisoning the entire ancient interpretive apparatus in favour of a radically new model of soul, and is making some powerful empirical arguments to justify its creative demolition.

It could once be claimed that materialists denied the existence of a soul. This is no longer strictly true. For a host of reasons, scientific materialists have postulated a soul, but they have reinterpreted soul in some different ways (different from the original Greek meaning, that the soul is the living element – the breath – in everything that exists, as seen in chapter two) in order to solve some very specific problems. This essay looks at two such problems: (1) the apparent lack of a centre or Cartesian theatre in the brain; and (2) the need to posit a universal human nature. The first problem relates to neurobiology; the second to evolutionary psychology.

Since the 1970s, studies in neurobiology, particularly of the brain's visual system, have completely undermined the notion that there is a Cartesian theatre in the brain that interprets received sensory content. Writing in the September 1992 issue of *Scientific American*, Semir Zeki, professor of neurobiology at University College,

London, describes four systems which, operating together, produce humans' experience of unified vision. One system is for motion, one for colour, and two for form. One of these systems for envisioning form is interlinked with the system for seeing colour, the other is independent, (Zeki, 1992). Zeki also notes that there is no single master area where all of these processes interconnect. Instead there is a vast complex of anatomic links that brings the functioning systems together, either directly or via other systems, (Zeki, 1992). This suggests, according to Francis Crick and Christof Koch, that consciousness is a process that is distributed over the neocortex, (Zeki, 1992). If this model of consciousness is correct, its implications to humans' understanding of the soul are revolutionary. Philosophers like John R. Searle, David J. Chalmers, and Daniel C. Dennett have found this scientific model very intriguing. For the sake of brevity, this essay will consider Dennett as representative of the group. However, the ideas of these men differ in such marked ways that they disagree, often emphatically with each other, (Zeki, 1992).

Dennett's *Consciousness Explained* is the culmination of a lifetime spent reflecting on the puzzle of what it means to be aware. His startling conclusion is that qualitative, private, subjective experiences or "*qualia*" do not exist. Rather humans' inner mental state is the result of a mistake in judgment as outer stimulation triggers an inner reaction, (Searle, 1997). In an analysis obviously influenced by behaviorism, Dennett argues that humans' ability to discriminate among stimuli is based on various information states that exist simultaneously and, in their mutual interaction, create what they (humans) perceive as consciousness. One experience Dennett uses to illustrate what he means is humans' experience of a unified reality. Experiments have shown that consciousness is not unified. It is a patchy affair whose unity appears as the brain fills in the blanks created by the incomplete nature of the stimuli humans

receive. It is a whole stitched together from many parts, and its very wholeness is part of its illusion. This wholeness, according to Dennett, is what humans experience as a soul, but that soul is not what Gilbert Ryle would dismissively call "the ghost in the machine." Soul according to Dennett is the accidental, emergent creation of the complex interaction of myriad subprocesses, a swarming insectile thing that he compares to the organization of a termite colony. In one of his arguments, Dennett quoted an Italian journalist's description of his position: "Yes, humans have a soul. But it's made of lots of tiny robots."(Dennett, 1995). Dennett claims humans are descendants of robots, (Dennett, 1995) and as such are little more than robots, (Searle, 1980).

To fully appreciate Dennett's claim that Darwinism reduces humans to the level of robots, one should remember that evolution itself has no particular implications for the existence of soul. For example, Alfred Russel Wallace, who is recognized along with Darwin as the co-originator of current evolutionary thought, was a convinced immaterialist. Darwinian evolution with its materialist implications presents the real challenge. If that challenge is apparent when Darwinian thinking is applied to the realm of neurobiology as Dennett has done, it is equally apparent when applied to the field of psychology. Here scholars like Steven Pinker are breaking new ground and drawing some intriguing conclusions.

Pinker refers to the soul as the "traditional explanation of intelligence" and, parodying Ryle, calls it "the spook in the machine."(Pinker, 1997). Theories of the soul, Pinker writes, confront theorizers with two problems: (1) How does this spook, "an ethereal nothing," interact with "solid matter?" and (2) What are those who defend the concept of a soul to make of "the overwhelming evidence that the mind is the

activity of the brain"?(Pinker, 1997). He associates soul with part of that "technique for success" called religion. Religion, he holds, "is a desperate measure that people resort to when the stakes are high and they have exhausted the usual techniques for the causation of success."(Pinker, 1997). Religious beliefs, noted for their lack of imagination, (Pinker, 1997), are not worth knowing for they merely pile enigmas upon enigmas. (Pinker, 1997). In this regard, a spirit or soul is simply a cognitive module subject to most natural laws but exempted from others, (Pinker, 1997). Such entities are nothing more than "piecemeal revisions of ordinary things." (Pinker, 1997). In fact, Pinker opts for a Kantian solution to both religion and philosophy: Because the mind is a product of natural selection, it is best at solving practical problems rather than more transcendental ones, (Pinker, 1997). The mental equipment necessary to resolve such questions simply failed to evolve, (Pinker, 1997).

Although Pinker does not give philosophers an example of such "piecemeal revisions," Jan Bremmer, quoting the Swedish anthropologist A. Hultkrantz, offers one. Noting the early connection between breath and soul, Hultkrantz observes that both are simultaneously material and immaterial, connected to the body but freed from it. He goes on to suggest that the idea expressed in this trope can be imposed over the memory-image of a dead person, thus producing an immaterial reality, (Bremmer, 1980).

Pinker's ridicule of traditional ideas of the soul is rooted in his contempt for religion, but his philosophical stance is firmly grounded in his rejection of essentialism. He points out that "the driving intuition behind natural kinds is a hidden essence," (Pinker, 1997), that Darwinism is anti-essentialist, and that "in the sciences, essentialism is tantamount to creationism" (Pinker, 1997). Yet essentialism, as he

points out, seems to be an inborn human attribute, (Pinker, 1997). Humans are, he says, born with "an intuitive physics relevant to their middle-sized world," a physics that accepts matter as enduring and motion as regular, (Pinker, 1997). This is because the human mind evolved not as an instrument for metaphysical contemplation, but as a tool for solving practical survival problems in an environment where there was greater benefit in the ability to generalize risk than to be precise about it. However, it also evolved in tandem with the lifestyle that human ancestors pursued. Though all creatures are related, they are related indirectly in a great bush rather than a great chain, and each species maintains its distinct habits. This means that efforts to rank the intellect of animals are problematic because such efforts assume a general standard when there is no such standard, (Pinker, 1997). Just because humans evolved from apes, he says, does not mean they have the minds of apes, (Pinker, 1997). Paul MacLean's theory of a Triune brain, that is, a three-layered brain reflecting humans' evolution from reptile to primitive mammal to modern mammal, is incoherent. The human cerebral cortex works in tandem with the limbic system rather than riding piggy-back on it, (Pinker, 1997).

Although Pinker has been influenced by Dennett and peppers his work with references to the philosopher, he is not a behaviorist. Indeed, he specifically states that behaviorists are wrong, (Pinker, 1997). Pinker argues that humans do not need "spirits, or occult forces to explain intelligence," but neither do they (humans) need to "claim that human beings are bundles of conditioned associations" (Pinker, 1997). Instead he uses a computational model of the mind to unravel the mysteries of consciousness by wedding it to the theory of the natural selection of replicators, (Pinker, 1997), and it is that model of reality which eliminates the need to appeal to a soul. Pinker believes that information is the real juice of the psyche and that emotions

are adaptations engineered by genes to work in harmony with the intellect, (Pinker, 1997). Thus the major human emotions - his examples are anger and fear (this last he argues is a combination of several emotions) (Pinker, 1997). - have evolved from precursors like fighting and fleeing, (Pinker, 1997). However, he argues that consciousness, which he defines as "being alive and awake and aware," (Pinker, 1997) is essential to moral reasoning, (Pinker, 1997); all of which means that Pinker does accept the reality of human universals. The ability to recognize pictures as depictions, (Pinker, 1997), the ability to make and recognize facial expressions, (Pinker, 1997), and the desire to avoid incest, (Pinker, 1997), are among his examples of such universals. Basing his arguments on the clear results of studies conducted on "thousands of people in many countries," Pinker concludes that human behaviour is firmly rooted in genetics and that about fifty percent of the variations in that behaviour have genetic causes, (Pinker, 1997). In his opinion, a recognizable human mind expresses a combination of intellect and emotion, but it is a creation of genes rather than a creation of God. It is this mind that he has identified with earlier concepts of the soul. Thus, Pinker implicitly leaves room for a soul but redefines it, perhaps, in some very radical ways.

4.7 CONCLUSION

To this point, this chapter has investigated different ideas as to what constitutes a soul (or a mind, for that matter). What can one, thus, conclude from this investigation?

First, it seems significant that universally, and for as far back as can be traced, soul and consciousness have been closely associated, so much so that consciousness might be described as the central manifestation or function of soul (this idea will be

explored a little further in the next chapter – which will serve as the final appraisal to this work). Also, from the beginning, consciousness has been ascribed to animals as well as humans, to the degree that animals (or some animals) were believed to possess souls that were, if not divine or semi-divine, then on a par with human souls. The degrading of animal souls is a late development, and one that seems suspiciously tied to the kind of rationalism that would eventually lead philosophers like Dennett to the conclusion that human consciousness is an illusion generated by their robot ancestors as they evolved ever more complex mental machinery. Such a conclusion, counter-intuitive and method-bound as it is, might be grounds for doubting the method that produced it. It seems fair to suggest that a rationalistic approach to understanding the soul, particularly when that approach is based on a mechanistic agenda emphasizing secondary causality, might be wrongheaded. If humans are willing to assume with Pinker, Eccles, Chalmers, among others that there are questions with which they (humans) are ill-suited to grapple, then it is hard to see why a judgment that questions an approach to a problem by pointing out that the conclusions generated by that approach are absurd should not be taken seriously. Rather than analyzing soul too closely, perhaps humans should be content to allow some ambiguity in their conception of it, and to admit that attempts to explain soul as a materialistic interplay of cause and effect are doomed to failure.

In this regard, one might have seen that the definition of soul is fluid, so fluid that it can borrow its meaning from a wide variety of sources and still be used with some degree of intelligibility. This chapter has argued that the nature of the soul as conceived in any given discipline reflects that discipline's basic assumptions about the nature of the world. One of the ways such assumptions were described was to call

them theory-bound. This observation is unsurprising and may be made of many metaphysical entities.

One might have also seen that the soul can be conceived as unitary or plural, and this chapter has suggested that soul as plural may have historical precedent to soul as unitary. Though this chapter does not go so far as Jaynes or even Bremmer and argue that centred consciousness is a late social creation, it does seem arguable from such evidence that soul eventually became a synonym for humans' experience of centred consciousness. However, given what humans know from the Hebraic tradition and the thin evidence from other traditions, one can suspect that theories which explain why this happened (if it did) express little more than humans' own social presuppositions. It is certainly significant that despite the various conceptions of the soul, all peoples (one knows of) seem to have a firm awareness of their own centres of being. Just because people do not have a single word for a thing does not mean they have no conception of that thing.

One also notes in this chapter that old ideas about the soul's plurality survived for many centuries - although in a different form in humans' own tradition - despite that tradition's basic agreement that the soul was one thing and that individuals were a complex of two things: a soul and a body. In fact, the idea of the soul as unitary seems to have become dominant through a process of reductionism. The questions that gave credence to the idea that a soul was plural eventually ceased to be asked, and the unitary nature of soul was assumed by default. It is interesting to remember that the Hebrews (in chapter three), who viewed humans as holistic beings, were not given to analytical ontological speculation. Perhaps humans' own analytical approach to

metaphysical questions is as wrongheaded as philosophers like Kant or psychologists like Pinker have suggested.

Concerning the question of reductionism as applied to the soul, it is interesting to note that materialists are monists of a sort. They believe that all is reducible to some kind of stuff. Therefore, it is unsurprising that materialists like Dennett and Pinker are highly critical of dualism and reject the traditional concepts of soul expressed by dualism. However, a dualism latent in materialism drives them toward affirming some kind of soul. In Dennett's case, soul is generated by the body, a position reminiscent of Aquinas' position concerning the souls of animals: they, too, were generated by the body. Ironically Dennett finds himself affirming a position firmly secured in a long dualistic tradition. Pinker fares little better. On the one hand, he wants to reject essentialism, yet, on the other hand, for moral reasons must affirm some universal human distinctives that separate humans in quite radical ways from the apes. After ridiculing the enigmas inherent in theology, Pinker ends by constructing a justification for the enigmas that crop up in his own system, a justification with philosophical roots going back at least to Peter Abelard. Their solutions to the dilemmas confronting them suggest that perhaps dualism is not quite as defunct a tradition as Dennett and Pinker pretend. It is in this light that the final chapter of this essay puts dualism ahead of monism (not idealism) in the idea of the soul. For, in that chapter, I have stated that based on the analyses made so far, it is logically coherent to accept how dualists like Popper, Eccles, Chalmers, etc. have defended their position than how monists such as Ryle, Dennett, the Churchlands, etc. have rejected it.

4.8 Non-Western Concepts of the Soul

In *The Golden Bough,* Frazer, (Frazer, 1951), acknowledges this theory laden aspect of the soul and notes:

> As the savage commonly explains the process of inanimate nature by supposing that they are produced by living beings working in or behind the phenomena, so he explains the phenomena of life itself. If an animal lives and moves, it can only be, he thinks, because there is a little animal inside which moves it: if a man lives and moves, it can only be because he has a little man or animal inside who moves him. The animal inside the animal, the man inside the man, is the soul, (Frazer, 1951).

But a soul does not necessarily exist only within oneself. In some cultures one's shadow or reflection is regarded as one's soul, (Frazer, 1951).

Nor is the belief in the unity of one's soul necessary or universal. Frazer writes:

> The divisibility of life, or, to put it otherwise, the plurality of souls, is an idea suggested by many familiar facts, and has commended itself to philosophers like Plato, as well as to savages. It is only when the notion of a soul, from being a quasi-scientific hypothesis, becomes a theological dogma that its unity and indivisibility are insisted upon as essential. The savage, unshackled by dogma, is free to explain the facts of life by the assumption of as many souls as he thinks necessary, (Frazer, 1951).

Frazer goes on to describe how in different cultures various phenomena are explained by inferring the existence of several souls in each person.

In fact, much of Frazer's argument is based on his observation that across history and around the world, conceptions of the soul, its composition, and its powers are myriad. For example, it is believed in many cultures that not only do humans and animals have comparable souls, but that a soul can depart the body under certain circumstances and enter other bodies. As a result, ceremonies are sometimes contrived to facilitate the transfer of souls between humans and totem animals so that a member of the Wolf clan, let us say, may believe that after undergoing an initiation ritual, the wolf's soul dwells in him and his soul dwells in the wolf, (Frazer, 1951). This desire to share or exchange souls with animals is evidence of the profound religious significance animals have for many peoples.

Henri Frankfort notes that animals are conscious entities very different from human beings. As such they express an enduring distinctive reality that remains unchanged despite the birth and death of individual members within a given order. Such predestined living patterns appeared to ancient Egyptians to be a manifestation of the divine. Thus Egyptian gods were portrayed as animals, (Frankfort, 1961).

Eliade, investigating shamanism, has also commented on the religious significance animals have among many peoples. Animals, he says, possibly have much richer immaterial lives than humans have. Shamanism believes that animals have language and know the secrets of life and nature. Thus, the shaman, in an effort to access such knowledge, seeks friendship with animals and imitates their behaviour or cries, (Eliade, 1975). Clearly such conceits, which assume a high level of rationality among animals, require a view of the soul markedly different from the one described in Scripture or posited by most Hellenistic philosophers and, perhaps, twentieth century European philosophers.

In the Modern West, one tends to imagine a union between body and soul so absolute that it can only be severed by death, but, as the above examples illustrate, not all cultural complexes make such an assumption. Frazer relates how some people interpret dreams as instances when a soul leaves the body and actually engages in the actions of the dream, (Frazer, 1951). But a soul may not only decamp during sleep, it may also get away during waking hours, perhaps escaping from one's mouth while one is eating or drinking, (Frazer, 1951). Sickness or insanity may be interpreted as evidence of such a disaster, (Frazer, 1951).

The living dead are of central significance in many cultures and are often the focus of a very complex metaphysic. Frankfort, writing about ancient Egypt, asserts that the ancient Egyptians imagined life as a vital force or *Ka*, which persisted after death and which always, required sustenance. Therefore, food for the Egyptians had a spiritual dimension, and *Ka* could refer to both the vital principle of life and, when used in its plural form, to that which sustained life, (Frankfort, 1991). The *Ba*, on the other hand, though it is sometimes translated as soul, is more accurately rendered as "animation" or "manifestation." It refers not to a part of the living person but to the whole person when he or she appears after death, (Frankfort, 1991).

While few cultures become embodiments of the living dead in the way ancient Egyptian culture did, many ascribe a high level of importance to "ancestors." Traditional African societies believe that their ancestors continue to be interested in the affairs of the tribe and can be consulted, generally via spiritual possession. Indeed, such consultations are probably the single, most important reason for invoking a possessed state. Chinese culture even today honours their ancestors with gifts of food

and money, and one finds similar beliefs in many other parts of Asia. Here one may have to look at a specific example to illustrate one form assumed by such beliefs.

In 1968 Robert Gardner and Karl G. Heider published an account of how the Dani in the Grand Valley of Baliem in the Central Highlands of western New Guinea experienced ghosts as an immediate, continual, and essential - though sometimes bothersome--reality. The Dani believe that all creatures except insects and reptiles possess *etai-eken* ("seeds of singing"). These "seeds of singing," roughly analogous to humans' concept of soul or personality, are the most significant elements in human beings. They first appear near a child's spinal column about six months after birth. They remain there until the child begins to speak, at which point they move toward the solar plexus where they will take up permanent residence, (Gardner and Heider, 1968). At death the *etai-eken* are released by shooting an arrow through a small bundle of grass held above the body before it is cremated, (Gardner and Heider, 1968). In this way, an *etai-eken* becomes a ghost. The Dani believe their world is controlled in part by ghosts who afflict them with sickness, bad weather, and spiritual malaise. Thus their religion is concerned primarily with controlling these ghosts, (Gardner and Heider, 1968). Protecting themselves by magic ritual, the Dani seek to confine ghosts to places called *mokat ai*, usually located about one-half mile from the village. It is important for the Dani to do this since ghosts, refined by death, are imagined as more demanding, more meddlesome, more inquisitive, more vindictive, and hungrier than they were prior to death, (Gardner and Heider, 1968).

One of the most striking things about such accounts is the intimacy they reveal between the living and their ancestors. In these traditions, the ancestors are experienced frequently and directly, so much so that they can become a problem.

Clearly those who have these sorts of beliefs consider them to be empirically based. They believe from hard experience that the ancestors are real. Of course, one might argue that they know nothing of the sort, that their "hard experiences" are highly interpreted judgments based upon a metaphysic which in turn validates itself via these judgments. But the objection misses the point, in part because it could be mounted against almost any empirical datum. One, perhaps, knows that world views are interpretive and are held by those who, for whatever reason, find them credible. Even beasts seem to have the power of imagination.

CHAPTER FIVE

Lessons and the Direction of European Worldview of the Soul

Rapid developments in neuroscience over the past four decades continue to receive wide attention. Each new reported advance points to ever tightening links between the material and the non material. For many centuries, what is today called 'mind-talk' was familiar as 'soul-talk'. Since, for some, the possession of a soul is what makes humans, the challenges of cognitive neuroscience directly address this. This chapter affords the non-specialist a brief overview of some of the scientific evidence in recent times pointing to the ever tightening of the mind-brain links and explores its wider implications for the understanding of human nature. In particular it brings together the findings from so-called bottom-up research, in which one observes changes in behaviour and cognition resulting from experimental interventions in neural processes, with top-down research where one tracks changes in neural substrates accompanying habitual modes of cognition or behaviour. Further reflection alerts one to a summary of how the dualist views widely held by New Agers, some humanists among others discussed in this work, contrast with the views of philosophers, and other scholars, who agree in emphasizing the unity of the person.

Let me begin this summary by some odd questions. What color is a thought? How much does a thought weigh? How tall or short or how fat or skinny is a thought? Precisely where in space and time are thoughts located? What is the temperature of a thought? What is the speed of a thought?

Indeed these are very odd sorts of questions. The oddity itself is revealing: Thoughts do not seem to belong to the class of things that can submit to such

questions or provide their answers. Thoughts do not seem to have size, shape, weight, color, velocity, mass, temperature, or location. Sometimes, of course, a thought can be described as "heavy" or "weighty," as in a philosophical discussion that considers such profound thoughts as "Is there a God?" and "Does my life have an objective meaning?" Thoughts can also be described as "dark," as in the statement, "The psychotic mind engages in dark thoughts such as murder and suicide." And people can speak of a "hot" idea, as in the slogan, "Wireless computers are now a hot idea." But these are all metaphorical uses of language. These statements do not literally mean that thoughts can have weight, color, or temperature. In short, the very nature of thought itself raises some serious questions.

Thought, or consciousness itself, does not seem to easily fit into the world of physical nature. In nature, people constantly encounter things with physical characteristics—trees, animals, automobiles, rocks, and other objects, all of which have physical properties such as weight, shape, and color. The human body, too, seems to belong to this world of nature, for it has size, weight, mass, and color. However, physical characteristics do not seem to be appropriate when discussing mental realities such as thoughts or consciousness in general. Does this mean that the mental world is somehow different from the physical? Does this mean that there are at least two separate realities or substances in the world: souls or minds and bodies?

Dualism, as has been discussed earlier in this work, is the view that there are, indeed, at least two kinds of realities: the physical - characterized by measurable properties such as weight, location, size, and color; and the mental - characterized by nonphysical and immeasurable qualities such as immateriality. Dualism is a very old tradition, having many proponents. Some scholars claim that Plato (428–348 B.C.E.)

was the first to make a sharp distinction between the soul and the body. However, other scholars argue the tradition of dualism did not begin with Plato. Perhaps the first philosopher to offer this position was Pythagoras (6th century B.C.E.). Pythagoras believed in the transmigration of the soul—the view that the soul is immortal and is bound up with the divine soul, to which it may return when "purified" after its separation from its temporary physical house (the body). Presumably there are large numbers of transmigrations of the same soul, as taught in the doctrine of reincarnation in religions like Hinduism as seen in chapter three of this work.

Although Plato is not the "father" of dualism, certainly he provided a far more extended treatment and defense of the doctrine than anyone who came before him. The Platonic dualism had great influence on Christian thinking, though it could not be made perfectly consistent with scriptural views since Plato shared the Pythagorean belief in transmigration of the soul. The greatest of the early Medieval thinkers was Augustine (354–430) who held, “Man is not a body alone, nor a soul alone, but a being composed of the soul is not the whole man but the better part of man; the body is not the whole but the inferior part of man and when both are joined they received the name of man.”

One can say that religion, for most part, adopted a form of Platonic dualism as its official view, which went more or less unchallenged until Aquinas (1225–1274) who followed Aristotle's line of thinking on the mind-body (or soul–body) relationship. Aristotle (384–322 B.C.E.) disagreed with Plato, his mentor and teacher, and provided a closer relationship between the mind and the body, claiming that the soul is the "form" of the body.

In modern philosophy it is René Descartes (1596–1650) who is most associated with dualism. Descartes's philosophy radically separates the mental and the physical, by claiming that they are, indeed, two very different kinds of substances. In his *Meditations,* he writes:

> There is a great difference between the mind and the body, inasmuch as the body is by its very nature always divisible, while the mind is utterly indivisible. For when I consider the mind, or myself in so far as I am a thinking thing, I am unable to distinguish any parts within myself. . . . By contrast, there is no corporeal or extended thing that I cannot think of which in my thought I cannot easily divide into parts; and this very fact makes me understand that it is divisible. This one argument would be enough to show me that the mind (or the soul) is completely different from the body, even if I did not already know as much from other considerations *(Cottingham, 1966).*

But Cartesian dualism suffered from the beginning under the criticism of the "interaction problem." Namely, if mind and body are radically distinct substances, how is it that the mind and body can interact at all, as they, obviously, do?

Dualism has been under severe attack in the twentieth century, especially since Gilbert Ryle's book *The Concept of Mind* (1949). Some support for dualism, however, can be found in works such as Arthur Koestler's *The Ghost in the Machine* (1967); Karl Popper and Sir John Eccles's *The Self and Its Brain* (1977); and Zeno Vendler's *Res Cogitans* (1972) and *The Matter of Minds* (1984).

Today, scientists hardly talk about the soul or the mind. They just talk about the brain. There are over a billion neurons in the brain and each of these little brain

cells, according to scientists, discharge electrical impulses which send out particular kinds of signals. So, scientists are conceiving of mapping which parts of the brain control cognitive functions, like thinking, memory, motor responses, sensory impressions, etc. Then they hope to stimulate artificially the activity of specific neuron cells with chemicals or electrical shock to negate those neurons that affect one's feelings of anxiety or depression, or similar unwanted feelings. In this way, one could simply take a chemical in order to feel a particular feeling: thus making the presence of any soul or mind implausible. This is based on the Western concept that the mind is the self and is not separate from the brain, but is a part of it.

The basis of this kind of contemporary research of the mind or the soul was set by the British biologist T. H. Huxley. He said that all states of consciousness are caused by molecular changes of the brain. In other words, this is all that causes changes of mood or the way humans feel when experiencing any kind of event: good or bad events, in their life. On the basis of this theory, the mind is merely a by-product of a properly functioning brain, and the mind can be controlled simply by adjusting the brain in various ways.

There are, however, a few who do not agree with this. The Australian neurophysiologist (and Nobel laureate), Sir John Eccles, thinks that mind or consciousness is separate from the brain. While performing experiments on the cerebral cortex, which controls movements in humans' bodies by sending appropriate signals to various muscles, he has noted that before any voluntary act is performed, the fifty million or so neurons of the supplementary motor area (SMA) within the cortex begin to act. Thus, the SMA acts before the cerebral cortex sends the necessary signals to the muscles needed to perform the desired activity. Eccles concludes that

conscious will, separate from the brain, must first be there before the chain of neurological events begin. Therefore, the mind controls matter rather than matter (the brain) controlling the mind. In this way, one can begin to understand that, as Sir Karl Popper, a philosopher of science, describes, the mind and brain exist in two separate realities. The brain is a functioning material organ of the body, and the mind or consciousness is the immaterial symptom of the living entity or soul which motivates the body. Thus, as explained in the Vedic literature, the two work together like a driver seated in a car.

The Vedic literature gives detailed descriptions of the self. The *Chandogya Upanishad* (6.10.3) begins explaining that the subtle essence in all that exists is the self. It is the true and thou art it.

In the Twelfth and Thirteenth Khandas of the *Chandogya Upanishad*, it gives further examples in which it states that a tall tree has its essence, the self, originally in the small seed from which it grew. Yet to break a seed open will reveal no such potency for it to grow into such a huge plant. But the power is there. Likewise, to take salt and mix it with water renders the salt invisible; yet, by tasting the water, we can know the salt is there. Similarly, in the material body, the self exists, though we do not directly perceive it. However, *Bhagavad-gita* (13.34) explains: "O son of Bharata, as the sun alone illuminates all this universe, so does the living entity, one within the body, illuminate the entire body by consciousness." Therefore, just as one cannot perceive the salt mixed in the water except by taste, one also cannot see the soul in the body except by recognizing the symptom, which to many scholars, is consciousness. Most philosophers today, therefore, define the soul in terms of consciousness. Before

I attempt an explanation of consciousness, let me first explore an experiment that may help explain it.

Consciousness can be recognized easily by performing a small experiment. Pinch part of your body and you will feel pain. This is a sign of consciousness, not only in humans but also in cats, dogs, or other animals. In any type of species of life, there are two types of bodies; the body which is alive, and the body which is dead and deteriorating. The live body is pervaded and illuminated by the consciousness of the self. The *Mundaka Upanishad* (3.1.9) says: "The soul is atomic in size and can be perceived by perfect intelligence. This atomic soul is floating in the five kinds of air (*prana, apana, vyana, samana*, and *udana*), is situated within the heart, and spreads its influence all over the body of the embodied living entities. When the soul is purified from the contamination of the five kinds of material air, its immaterial influence is exhibited."

Thus, the self is the motivating factor within the body, and when it leaves, the body breaks down and slowly disintegrates. Therefore, the *Brihadaranyaka Upanishad* (2.4.3-5) points out that whomever is dear to us, whether it be our wives, husbands, sons, daughters, teachers, guardians, etc., they are dear to us only due to the presence of the self within the body, who in reality is what is dear to us. Once the self leaves the body, the body becomes unattractive to us because it rapidly gets cold, stiff, and begins to decompose. Therefore, the body is not man's real identity, but man is the self within.

But what is consciousness? How does the understanding of consciousness help one to appreciate the direction of 20th century European thought on the soul? Scientists have long considered the nature of consciousness without producing a fully

satisfactory definition. In the early 20th century, American philosopher and psychologist, William James suggested that consciousness is a mental process involving both attention to external stimuli and short-term memory. Later scientific explorations of consciousness mostly expanded upon James's work. In this article "*The Problem of Consciousness*" from a 1997 special issue of *Scientific American*, Nobel laureate Francis Crick, who helped determine the structure of DNA, and fellow biophysicist Christof Koch explain how experiments on vision might deepen our understanding of consciousness.

The overwhelming question in neurobiology today is the relation between the mind and the brain. Everyone agrees that what we know as mind is closely related to certain aspects of the behavior of the brain, not to the heart, as Aristotle thought. Its most mysterious aspect is consciousness or awareness, which can take many forms, from the experience of pain to self-consciousness. In the past the mind (or soul) was often regarded, as it was by Descartes, as something immaterial, separate from the brain but interacting with it in some way. A few neuroscientists, such as Sir John Eccles, still assert that the soul is distinct from the body. But most neuroscientists now believe that all aspects of mind, including its most puzzling attribute—consciousness or awareness—are likely to be explainable in a more materialistic way as the behavior of large sets of interacting neurons. As William James, the father of American Psychology said a century ago, consciousness is not a thing but a process.

Exactly what the process is, however, has yet to be discovered. For many years after James penned *The Principles of Psychology,* consciousness was a taboo concept in American psychology because of the dominance of the behaviorist movement. With the advent of cognitive science in the mid-1950s, it became possible

once more for psychologists to consider mental processes as opposed to merely observing behavior. In spite of these changes, until recently most cognitive scientists ignored consciousness, as did almost all neuroscientists. The problem was felt to be either purely 'philosophical' or too elusive to study experimentally.

There are many possible approaches to the problem of consciousness. Some psychologists feel that any satisfactory theory should try to explain as many aspects of consciousness as possible, including emotion, imagination, dreams, mystical experiences and so on. Such an all-embracing theory, according to these psychologists, will be necessary in the long run. One may start with an explanation of visual consciousness.

Visual theorists agree that the problem of visual consciousness is ill posed. The mathematical term 'ill posed' means that additional constraints are needed to solve the problem. Although the main function of the visual system is to perceive objects and events in the world around us, the information available to our eyes is not sufficient by itself to provide the brain with its unique interpretation of the visual world. The brain must use past experience to help interpret the information coming into it – the brain. An example would be the derivation of the three-dimensional representation of the world from the two-dimensional signals falling onto the retinas of our two eyes or even onto one of them.

Visual theorists also would agree that seeing is a constructive process, one in which the brain has to carry out complex activities (sometimes called computations) in order to decide which interpretation to adopt of the ambiguous visual input. 'Computation' implies that the brain acts to form a symbolic representation of the

visual world, with a mapping (in the mathematical sense) of certain aspects of that world onto elements in the brain.

Ray Jackendoff of Brandeis University postulates, as do most cognitive scientists, that the computations carried out by the brain are largely unconscious and that what we become aware of is the result of these computations. But while the customary view is that this awareness occurs at the highest levels of the computational system, Jackendoff has proposed an intermediate-level theory of consciousness.

What is seen, Jackendoff suggests, relates to a representation of surfaces that are directly visible to us, together with their outline, orientation, color, texture and movement. (This idea has similarities to what the late David C. Marr of the Massachusetts Institute of Technology called a '2 1/2-dimensional sketch.' It is more than a two-dimensional sketch because it conveys the orientation of the visible surfaces. It is less than three-dimensional because depth information is not explicitly represented.) In the next stage this sketch is processed by the brain to produce a three-dimensional representation. Jackendoff argues that we are not visually aware of this three-dimensional representation.

An example may make this process clearer. If you look at a person whose back is turned to you, you can see the back of the head but not the face. Nevertheless, your brain infers that the person has a face. We can deduce as much because if that person turned around and had no face, you would be very surprised.

The viewer-centered representation that corresponds to the visible back of the head is what you are vividly aware of. What your brain infers about the front would

come from some kind of three-dimensional representation. This does not mean that information flows only from the surface representation to the three-dimensional one; it almost certainly flows in both directions. When you imagine the front of the face, what you are aware of is a surface representation generated by information from the three-dimensional model.

It is important to distinguish between an explicit and an implicit representation. An explicit representation is something that is symbolized without further processing. An implicit representation contains the same information but requires further processing to make it explicit. The pattern of colored dots on a television screen, for example, contains an implicit representation of objects (say, a person's face), but only the dots and their locations are explicit. When you see a face on the screen, there must be neurons in your brain whose firing, in some sense, symbolizes that face.

This pattern of firing neurons is called an active representation. A latent representation of a face must also be stored in the brain, probably as a special pattern of synaptic connections between neurons. For example, you probably have a representation of the Statue of Liberty in your brain, a representation that usually is inactive. If you do think about the Statue, the representation becomes active, with the relevant neurons firing away.

An object, incidentally, may be represented in more than one way—as a visual image, as a set of words and their related sounds, or even as a touch or a smell. These different representations are likely to interact with one another. The representation is likely to be distributed over many neurons, both locally and more globally. Such a representation may not be as simple and straightforward as uncritical introspection

might indicate. There is suggestive evidence, partly from studying how neurons fire in various parts of a monkey's brain and partly from examining the effects of certain types of brain damage in humans, that different aspects of a face—and of the implications of a face—may be represented in different parts of the brain.

First, there is the representation of a face as a face: two eyes, a nose, a mouth and so on. The neurons involved are usually not too fussy about the exact size or position of this face in the visual field, nor are they very sensitive to small changes in its orientation. In monkeys, there are neurons that respond best when the face is turning in a particular direction, while others seem to be more concerned with the direction in which the eyes are gazing.

Then there are representations of the parts of a face, as separate from those for the face as a whole. Further, the implications of seeing a face, such as that person's sex, the facial expression, the familiarity or unfamiliarity of the face, and in particular whose face it is, may each be correlated with neurons firing in other places.

What one is aware of at any moment, in one sense or another, is not a simple matter. It has been suggested that there may be a very transient form of fleeting awareness that represents only rather simple features and does not require an ‘attentional’ mechanism. From this brief awareness the brain constructs a viewer-centered representation—what is seen vividly and clearly—that does require attention. This in turn probably leads to three-dimensional object representations and thence to more cognitive ones.

Representations corresponding to vivid consciousness are likely to have special properties. William James thought that consciousness involved both attention

and short-term memory. Most psychologists today would agree with this view. Jackendoff writes that consciousness is 'enriched' by attention, implying that whereas attention may not be essential for certain limited types of consciousness, it is necessary for full consciousness. Yet it is not clear exactly which forms of memory are involved. Is long-term memory needed? Some forms of acquired knowledge are so embedded in the machinery of neural processing that they are almost certainly used in becoming aware of something. On the other hand, there is evidence from studies of brain-damaged patients that the ability to lay down new long-term episodic memories is not essential for consciousness to be experienced.

It is difficult to imagine that anyone could be conscious if he or she had no memory whatsoever of what had just happened, even an extremely short one. Visual psychologists talk of iconic memory, which lasts for a fraction of a second, and working memory (such as that used to remember a new telephone number) that lasts for only a few seconds unless it is rehearsed. It is not clear whether both of these are essential for consciousness. In any case, the division of short-term memory into these two categories may be too crude.

If these complex processes of visual awareness are localized in parts of the brain, which processes are likely to be where? Many regions of the brain may be involved, but it is almost certain that the cerebral neocortex plays a dominant role. Visual information from the retina reaches the neocortex mainly by way of a part of the thalamus (the lateral geniculate nucleus); another significant visual pathway from the retina is to the superior colliculus, at the top of the brain stem.

The cortex in humans consists of two intricately folded sheets of nerve tissue, one on each side of the head. These sheets are connected by a large tract of about half

a billion axons called the corpus callosum. It is well known that if the corpus callosum is cut, as is done for certain cases of intractable epilepsy, one side of the brain is not aware of what the other side is seeing. In particular, the left side of the brain (in a right-handed person) appears not to be aware of visual information received exclusively by the right side. This shows that none of the information required for visual awareness can reach the other side of the brain by traveling down to the brain stem and, from there, back up. In a normal person, such information can get to the other side only by using the axons in the corpus callosum.

A different part of the brain—the hippocampal system—is involved in one-shot, or episodic, memories that, over weeks and months, it passes on to the neocortex. This system is so placed that it receives inputs from, and projects to, many parts of the brain. Thus, one might suspect that the hippocampal system is the essential seat of consciousness. This is not the case: evidence from studies of patients with damaged brains shows that this system is not essential for visual awareness, although naturally a patient lacking one is severely handicapped in everyday life because he cannot remember anything that took place more than a minute or so in the past.

In broad terms, the neocortex of alert animals probably acts in two ways. By building on crude and somewhat redundant wiring, produced by genes and by embryonic processes, the neocortex draws on visual and other experience to slowly 'rewire' itself to create categories (or 'features') it can respond to. A new category is not fully created in the neocortex after exposure to only one example of it, although some small modifications of the neural connections may be made.

The second function of the neocortex (at least of the visual part of it) is to respond extremely rapidly to incoming signals. To do so, it uses the categories it has learned and tries to find the combinations of active neurons that, on the basis of its past experience, are most likely to represent the relevant objects and events in the visual world at that moment. The formation of such coalitions of active neurons may also be influenced by biases coming from other parts of the brain: for example, signals telling it what best to attend to or high-level expectations about the nature of the stimulus.

Consciousness, as James noted, is always changing. These rapidly formed coalitions occur at different levels and interact to form even broader coalitions. They are transient, lasting usually for only a fraction of a second. Because coalitions in the visual system are the basis of what is seen, evolution has seen to it that they form as fast as possible; otherwise, no animal could survive. The brain is handicapped in forming neuronal coalitions rapidly because, by computer standards, neurons act very slowly. The brain compensates for this relative slowness partly by using very many neurons, simultaneously and in parallel, and partly by arranging the system in a roughly hierarchical manner.

If visual awareness at any moment corresponds to sets of neurons firing, then the obvious question is: Where are these neurons located in the brain, and in what way are they firing? Visual awareness is highly unlikely to occupy all the neurons in the neocortex that are firing above their background rate at a particular moment. It would be expected that, theoretically, at least some of these neurons would be involved in doing computations—trying to arrive at the best coalitions—whereas others would express the results of these computations, in other words, what we see.

Fortunately, some experimental evidence can be found to back up this theoretical conclusion. A phenomenon called binocular rivalry may help identify the neurons whose firing symbolizes awareness. This phenomenon can be seen in dramatic form in an exhibit prepared by Sally Duensing and Bob Miller.

Conflicting Inputs

Binocular rivalry occurs when each eye has a different visual input relating to the same part of the visual field. The early visual system on the left side of the brain receives an input from both eyes but sees only the part of the visual field to the right of the fixation point. The converse is true for the right side. If these two conflicting inputs are rivalrous, one sees not the two inputs superimposed but first one input, then the other, and so on in alternation.

In the exhibit, called 'The Cheshire Cat,' viewers put their heads in a fixed place and are told to keep the gaze fixed. By means of a suitably placed mirror, one of the eyes can look at another person's face, directly in front, while the other eye sees a blank white screen to the side. If the viewer waves a hand in front of this plain screen at the same location in his or her visual field occupied by the face, the face is wiped out. The movement of the hand, being visually very salient, has captured the brain's attention. Without attention the face cannot be seen. If the viewer moves the eyes, the face reappears.

In some cases, only part of the face disappears. Sometimes, for example, one eye, or both eyes, will remain. If the viewer looks at the smile on the person's face, the face may disappear, leaving only the smile. For this reason, the effect has been called

the Cheshire Cat effect, after the cat in Lewis Carroll's *Alice's Adventures in Wonderland.*

Although it is very difficult to record activity in individual neurons in a human brain, such studies can be done in monkeys. A simple example of binocular rivalry has been studied in a monkey by Nikos K. Logothetis and Jeffrey D. Schall. They trained a macaque to keep its eyes still and to signal whether it is seeing upward or downward movement of a horizontal grating. To produce rivalry, upward movement is projected into one of the monkey's eyes and downward movement into the other, so that the two images overlap in the visual field. The monkey signals that it sees up and down movements alternatively, just as humans would. Even though the motion stimulus coming into the monkey's eyes is always the same, the monkey's perception changes every second or so.

Cortical area MT (which some researchers prefer to label V5) is an area mainly concerned with movement. What do the neurons in MT do when the monkey's perception is sometimes up and sometimes down? (The researchers studied only the monkey's first response.) The simplified answer—the actual data are rather more messy—is that whereas the firing of some of the neurons correlates with the changes in the perception, for others the average firing rate is relatively unchanged and independent of which direction of movement the monkey is seeing at that moment. Thus, it is unlikely that the firing of all the neurons in the visual neocortex at one particular moment corresponds to the monkey's visual awareness. Exactly which neurons do correspond to awareness remains to be discovered.

I have postulated that when one clearly sees something, there must be neurons actively firing that stand for what one sees. This might be called the activity principle. Here, too, there is some experimental evidence. One example is the firing of neurons

in a specific cortical visual area in response to illusory contours. Another and perhaps more striking case is the filling in of the blind spot. The blind spot in each eye is caused by the lack of photoreceptors in the area of the retina where the optic nerve leaves the retina and projects to the brain. Its location is about 15 degrees from the fovea (the visual center of the eye). Yet if you close one eye, you do not see a hole in your visual field.

Philosopher Daniel C. Dennett of Tufts University is unusual among philosophers in that he is interested both in psychology and in the brain. This interest is much to be welcomed. In a recent book, *Consciousness Explained,* he has argued that it is wrong to talk about filling in. He concludes, that 'an absence of information is not the same as information about an absence.' From this general principle he argues that the brain does not fill in the blind spot but rather ignores it.

Dennett's argument by itself, however, does not establish that filling in does not occur; it only suggests that it might not. Dennett also states that 'your brain has no machinery for [filling in] at this location.' This statement is problematic. The primary visual cortex lacks a direct input from one eye, but normal 'machinery' is there to deal with the input from the other eye. Ricardo Gattass and his colleagues at the Federal University of Rio de Janeiro have shown that in the macaque some of the neurons in the blind-spot area of the primary visual cortex do respond to input from both eyes, probably assisted by inputs from other parts of the cortex. Moreover, in the case of simple filling in, some of the neurons in that region respond as if they were actively filling in.

Thus, Dennett's claim about blind spots is problematic or, perhaps, incorrect. In addition, psychological experiments by Vilayanur S. Ramachandran [In 'Blind Spots,' SCIENTIFIC AMERICAN, May 1992] have shown that what is filled in can be quite

complex depending on the overall context of the visual scene. How, he argues, can your brain be ignoring something that is in fact commanding attention?

Filling in, therefore, is not to be dismissed as nonexistent or unusual. It probably represents a basic interpolation process that can occur at many levels in the neocortex. It is, incidentally, a good example of what is meant by a constructive process. How can one discover the neurons whose firing symbolizes a particular percept? William T. Newsome and his colleagues at Stanford University have done a series of experiments on neurons in cortical area MT of the macaque's brain. By studying a neuron in area MT, one may discover that it responds best to very specific visual features having to do with motion. A neuron, for instance, might fire strongly in response to the movement of a bar in a particular place in the visual field, but only when the bar is oriented at a certain angle, moving in one of the two directions perpendicular to its length within a certain range of speed.

It is technically difficult to excite just a single neuron, but it is known that neurons that respond to roughly the same position, orientation and direction of movement of a bar tend to be located near one another in the cortical sheet. The experimenters taught the monkey a simple task in movement discrimination using a mixture of dots, some moving randomly, the rest all in one direction. They showed that electrical stimulation of a small region in the right place in cortical area MT would bias the monkey's motion discrimination, almost always in the expected direction.

Thus, the stimulation of these neurons can influence the monkey's behaviour and probably its visual percept. Such experiments do not, however, show decisively that the firing of such neurons is the exact neural correlate of the percept. The correlate could be only a subset of the neurons being activated. Or perhaps the real

correlate is the firing of neurons in another part of the visual hierarchy that are strongly influenced by the neurons activated in area MT.

These same reservations apply also to cases of binocular rivalry. Clearly, the problem of finding the neurons whose firing symbolizes a particular percept is not going to be easy. It will take many careful experiments to track them down even for one kind of percept.

It seems obvious that the purpose of vivid visual awareness is to feed into the cortical areas concerned with the implications of what is seen; from there the information shuttles on the one hand to the hippocampal system, to be encoded (temporarily) into long-term episodic memory, and on the other to the planning levels of the motor system. But is it possible to go from a visual input to a behavioral output without any relevant visual awareness?

That such a process can happen is demonstrated by the remarkable class of patients with 'blindsight.' These patients, all of whom have suffered damage to their visual cortex, can point with fair accuracy at visual targets or track them with their eyes while vigorously denying seeing anything. In fact, these patients are as surprised as their doctors by their abilities. The amount of information that 'gets through,' however, is limited: blindsight patients have some ability to respond to wavelength, orientation and motion, yet they cannot distinguish a triangle from a square.

It is naturally of great interest to know which neural pathways are being used in these patients. Investigators originally suspected that the pathway ran through the superior colliculus. Recent experiments suggest that a direct albeit weak connection may be involved between the lateral geniculate nucleus and other visual areas in the cortex. It is unclear whether an intact primary visual cortex region is essential for immediate visual awareness. Conceivably the visual signal in blindsight is so weak

that the neural activity cannot produce awareness, although it remains strong enough to get through to the motor system.

Normal-seeing people regularly respond to visual signals without being fully aware of them. In automatic actions, such as swimming or driving a car, complex but stereotypical actions occur with little, if any, associated visual awareness. In other cases, the information conveyed is either very limited or very attenuated. Thus, while one can function without visual awareness, one's behaviour without it is rather restricted.

Clearly, it takes a certain amount of time to experience a conscious percept. It is difficult to determine just how much time is needed for an episode of visual awareness, but one aspect of the problem that can be demonstrated experimentally is that signals received close together in time are treated by the brain as simultaneous.

A disk of red light is flashed for, say, 20 milliseconds, followed immediately by a 20-millisecond flash of green light in the same place. The subject reports that he did not see a red light followed by a green light. Instead he saw a yellow light, just as he would have if the red and the green light had been flashed simultaneously. Yet the subject could not have experienced yellow until after the information from the green flash had been processed and integrated with the preceding red one.

Experiments of this type led psychologist Robert Efron, of the University of California at Davis, to conclude that the processing period for perception is about 60 to 70 milliseconds. Similar periods are found in experiments with tones in the auditory system. It is always possible, however, that the processing times may be different in higher parts of the visual hierarchy and in other parts of the brain. Processing is also more rapid in trained, compared with naive, observers.

Because it appears to be involved in some forms of visual awareness, it would help if one could discover the neural basis of attention. Eye movement is a form of attention, since the area of the visual field in which one sees with high resolution is remarkably small, roughly the area of the thumbnail at arm's length. Thus, one moves one's eyes to gaze directly at an object in order to see it more clearly. Our eyes usually move three or four times a second. Psychologists have shown, however, that there appears to be a faster form of attention that moves around, in some sense, when our eyes are stationary.

The exact psychological nature of this faster attentional mechanism is at present controversial. Several neuroscientists, however, including Robert Desimone and his colleagues at the National Institute of Mental Health, have shown that the rate of firing of certain neurons in the macaque's visual system depends on what the monkey is attending to in the visual field. Thus, attention is not solely a psychological concept; it also has neural correlates that can be observed. A number of researchers have found that the pulvinar, a region of the thalamus, appears to be involved in visual attention. One may like to believe that the thalamus deserves to be called 'the organ of attention,' but this status has yet to be established.

Attention and Awareness

The major problem is to find what activity in the brain corresponds directly to visual awareness. It has been speculated that each cortical area produces awareness of only those visual features that are 'columnar,' or arranged in the stack or column of neurons perpendicular to the cortical surface. Thus, the primary visual cortex could code for orientation and area MT for motion. So far experimentalists have not found one particular region in the brain where all the information needed for visual

awareness appears to come together. Dennett has dubbed such a hypothetical place 'The Cartesian Theater.' He argues on theoretical grounds that it does not exist.

Awareness seems to be distributed not just on a local scale, but more widely over the neocortex. Vivid visual awareness is unlikely to be distributed over every cortical area because some areas show no response to visual signals. Awareness might, for example, be associated with only those areas that connect back directly to the primary visual cortex or alternatively with those areas that project into one another's layer 4. (The latter areas are always at the same level in the visual hierarchy.)

The key issue, then, is how the brain forms its global representations from visual signals. If attention is indeed crucial for visual awareness, the brain could form representations by attending to just one object at a time, rapidly moving from one object to the next. For example, the neurons representing all the different aspects of the attended object could all fire together very rapidly for a short period, possibly in rapid bursts.

This fast, simultaneous firing might not only excite those neurons that symbolized the implications of that object but also temporarily strengthen the relevant synapses so that this particular pattern of firing could be quickly recalled—a form of short-term memory. If only one representation needs to be held in short-term memory, as in remembering a single task, the neurons involved may continue to fire for a period.

A problem arises if it is necessary to be aware of more than one object at exactly the same time. If all the attributes of two or more objects were represented by neurons firing rapidly, their attributes might be confused. The color of one might become attached to the shape of another. This happens sometimes in very brief presentations.

Some time ago Christoph von der Malsburg, at the Ruhr-Universität Bochum, suggested that this difficulty would be circumvented if the neurons associated with any one object all fired in synchrony (that is, if their times of firing were correlated) but out of synchrony with those representing other objects. Recently two groups in Germany reported that there does appear to be correlated firing between neurons in the visual cortex of the cat, often in a rhythmic manner, with a frequency in the 35- to 75-hertz range, sometimes called 40-hertz, or g, oscillation.

Von der Malsburg's proposal prompts one to suggest that this rhythmic and synchronized firing might be the neural correlate of awareness and that it might serve to bind together activity concerning the same object in different cortical areas. The matter is still undecided, but at present the fragmentary experimental evidence does rather little to support such an idea. Another possibility is that the 40-hertz oscillations may help distinguish figure from ground or assist the mechanism of attention.

Correlates of Consciousness

Are there some particular types of neurons, distributed over the visual neocortex, whose firing directly symbolizes the content of visual awareness? One very simplistic hypothesis is that the activities in the upper layers of the cortex are largely unconscious ones, whereas the activities in the lower layers (layers 5 and 6) mostly correlate with consciousness. One wonders whether the pyramidal neurons in layer 5 of the neocortex, especially the larger ones, might play this latter role.

These are the only cortical neurons that project right out of the cortical system (that is, not to the neocortex, the thalamus or the claustrum). If visual awareness represents the results of neural computations in the cortex, one might expect that what the cortex sends elsewhere would symbolize those results. Moreover, the neurons in

layer 5 show a rather unusual propensity to fire in bursts. The idea that layer 5 neurons may directly symbolize visual awareness is attractive, but it still is too early to tell whether there is anything in it.

Visual awareness is clearly a difficult problem. More work is needed on the psychological and neural basis of both attention and very short-term memory. Studying the neurons when a percept changes, even though the visual input is constant, should be a powerful experimental paradigm - One needs to construct neurobiological theories of visual awareness and test them using a combination of molecular, neurobiological and clinical imaging studies.

I believe that once one has mastered the secret of this simple form of awareness, one may be close to understanding a central mystery of human life: how the physical events occurring in our brains while we think and act in the world relate to our subjective sensations—that is, how the brain relates to the mind or the soul.

There have been several relevant developments in recent times on the soul debate. It now seems likely that there are rapid 'on-line' systems for stereotyped motor responses such as hand or eye movement. These systems are unconscious and lack memory. Conscious seeing, on the other hand, seems to be slower and more subject to visual illusions. The brain needs to form a conscious representation of the visual scene that it then can use for many different actions or thoughts. Exactly how all these pathways work and how they interact is far from clear.

There have been more experiments on the behavior of neurons that respond to bistable visual percepts, such as binocular rivalry, but it is probably too early to draw firm conclusions from them about the exact neural correlates of visual consciousness. I may suggest on theoretical grounds based on the neuroanatomy of the macaque monkey that primates are not directly aware of what is happening in the primary

visual cortex, even though most of the visual information flows through it. This hypothesis is supported by some experimental evidence, but it is still controversial.

Human consciousness, the human soul, the human mind, human subjective feelings have been a matter of concern, not only for philosophers and theologians, but recently also for neuroscientists, physicists and others. One's approach to understanding this problem is based on the fact that even the simplest brain functions depend on the activity of an enormous number of neurons, on their synaptic (synapse - junction of two nerve-cells) connections and on associated ionic and electrical events. The synaptic delay in each of those synapses is at least 0.5 ms and therefore the parallel and serial interactions between millions of neurons would take a very long time, too long for the individual's adequate interaction with the environment. Therefore, there must be some other mechanism governing the interactions of large numbers of neurons, located even in remote parts of the brain.

There are several definitions of consciousness, which usually depend on the philosophical views of their authors. Let us use a simple definition of consciousness, as found in the Oxford Students Dictionary of English that it is*, the state of being conscious; knowledge of one's own existence, sensations, mental operations, acts, etc. Consciousness is thus, on the one hand, the recognition of the mind or ego, of its acts and affections; - in other words, the self-affirmation that certain modifications are mine.*

Describing the mechanisms which cause certain events in the brain to be subjectively perceived is the hard problem of neuroscience. Consciousness cannot be reduced to neuronal firing and neuronal interactions. On the one hand, there are brain activities that can be objectively observed, recorded and measured by an external

investigator. On the other hand, there exists private, subjective perception of some of these events. Consciousness is primary reality; through it, one perceives oneself and one's environment; one plans and accomplishes one's actions, evaluates them, thinks about them, and records them. Some believe that consciousness is an emergent property of brain activity. Others assume that there is a duality of matter and spirit, and that there exists an immaterial principle, a homunculus, controlling brain functions. But there might be some other possibilities as well.

The human brain is composed of billions of neurons and glia cells. There is an extracellular space between them, filled with fluid. This space is rather minimal, comprising about 5% of brain volume. The neurons communicate one with another through at least nine mechanisms:

1. classical synaptic transmission, when the nerve impulse passes between neurons through synapses, with a synaptic delay of at least 0.5 ms;
2. diffusion of neurotransmitters and neuropeptides from nerve endings and from axonal varicosities into the extracellular space, where these substances may influence a larger number of neurons and glia cells at once;
3. neuromodulation, where neuropeptides influence synaptic transmission generated by neurotransmitters;
4. hormones produced elsewhere in the body, which influence target cells that possess the corresponding hormonal receptors;
5. transneuronally transmitted proteins responsible for trophic interactions;
6. ionic changes in the extracellular space;

7. ephaptic transmission, accomplished by the direct injection of electrical current from one cell into another;

8. spreading of small electrical fields around the excited neurons;

9. automatic excitation of the pacemaker neurons by metabolic processes.

All these are local phenomena belonging in the area of classical physics and its ramifications. The result of neuronal activation is an action potential generated by movements of electrons and ions, e.g. of potassium, calcium and sodium. A neuron producing an action potential usually requires at least ten synaptic inputs from other neurons to reach its firing level. Therefore, the function of the central nervous system depends on many serial and parallel interactions of masses of individual neurons. Each neuron is connected to hundreds and thousands of other neurons. In the brain, one may observe convergence and divergence, feedbacks and circulating nerve impulses. The reverberating neuronal circuits may be rather long, lasting up to one second (Reinis, 1997). All these events slow down the functioning of neuronal networks containing millions of neurons, so such sequences of neuronal firing cannot accomplish the function of more complex neuronal systems that are expected to respond in a real, sufficiently short time.

Despite these imperfections, the human brain is a uniquely complex system of electrochemical activities unlike anything in the known universe. Is there another type of signal transmission in the brain? As a synaptic transmission takes at least 0.5 ms, transmission across thousands of synapses may take hundreds or thousands of milliseconds. The transmission of nerve impulses along an axon is also relatively slow, between 0.5 m/sec and 120 m/sec. As an example, more than fifty percent of

nerve fibers in the corpus callosum are unmyelinated slow fibers with a transmission speed of 0.5 m/sec.

For this reason, one must, perhaps, search for another, more rapid mechanism of neuronal interactions to explain the speed of some fast reactions in the nervous system. Synaptic transmission and axonal transfer of nerve impulses are too slow to organize coordinated activity in large areas of the central nervous system. Numerous observations confirm this view.

For example, the analysis of visual input is rather complicated and time-demanding. The visual pathway begins in the retina, where the first analysis of the visual image is accomplished. Nerve impulses pass through approximately two million parallel nerve fibers for the most part into the lateral geniculate body and then into the primary visual cortex. This transmission is a speedy one, taking just a few milliseconds. However, a considerable portion of the cerebral cortex, millions of synapses, is involved in the further analysis of the visual image. The shape, color, and position of the object and the speed of its movement are evaluated separately and finally, these attributes of the image are combined and integrated into the mental image of the observed object. The appearance of the observed object is compared with memory traces, emotions and past experience. The object's meaning is recognized in the inferotemporal cortex. This whole procedure could not be handled without rapid coordination far exceeding the speed of multiple synaptic transmissions. Otherwise, the time for this analysis would make the visual input useless. Consider an ice hockey or a baseball player who, in a fraction of a second, realizes the presence of a puck or a baseball, analyzes its position, its speed and the direction it is moving, and responds to it and to the presence of other players by a complex body movement. That would

be impossible without some acceleration of the interneuronal connections. With accumulated synaptic delays, there would be no interesting game to watch.

In the auditory system, there are a number of examples as well. Libermann in 1970 wrote that the understanding of human speech and its formation is simply not possible, because neuronal mechanisms are too slow for this process. The auditory pathway passes from the inner ear through the fibers of the spiral ganglion into the nucleus acousticus in the medulla, into the colliculus inferior, into the medial geniculate body, into the primary and secondary auditory cortices and finally into the higher analytical cortical centers. At each of these levels, the incoming sound is analyzed again and again by systems of neuronal interactions, neuronal loops and feedbacks. The auditory brain stem potentials are still very fast, below ten milliseconds. Ultimately, the auditory input reaches the Wernicke area of the cerebral cortex which is scanned for memories of word sounds and for the meaning of the words, where each letter sound and each syllable is detected and a definite meaning attached to it. The limbic system provides emotional content to the perceived speech, and a response is determined in the context of stored memories and ideas. This response is then transferred to the Broca area of speech, to the several other cortical motor centers, to the respiratory centers and to the muscles of the mouth, pharynx and larynx. All this is a very complex process which could not be handled without the speedy communication and correlation of various brain functions. Lacking extremely rapid communication between neurons, this process could not be accomplished in real time.

There are some other functions of the auditory system which cannot be explained by straightforward synaptic transmission. The auditory system is able to

determine the direction from which a sound is coming by comparing the arrival of the sound into both ears. But, if one calculates the distance between the ears and the speed of sound, then it is obvious that one ear gets the sound only microseconds earlier than the other. Klumpp and Eady, showed that at the frequency of 1 kHz (kilohertz), (the time difference which gives a reasonable impression of the direction of the sound source is eleven microseconds), even with the use of place and volley principles, it is impossible to explain how this difference is distinguished when the known synaptic delay is at least 500 microseconds. The human ear is also able to recognize frequencies to 16 to 20 kHz. That corresponds to a wavelength of 50 microseconds. The volley principle plays a certain role here again, but still, the synaptic delay precludes a fine arrangement of nerve impulses. There are animal species which hear frequencies of up to 120 kHz and here, the explanation that each wave corresponds to one neuronal spike does not make a complete sense.

This paradox is even more apparent in some species of bats, whose analysis of sound requires equally short time intervals. Searching for insects flying in the dark by echolocation, these bats can discriminate intervals in the range of microseconds and even less. They are able to distinguish the size of their prey which might be only 3 mm. This corresponds to a time interval of about one microsecond (Saillant et al., 1993). A specialized area of the cerebral cortex, the Doppler Shifted Constant Frequency Area (DSCF), analyzes small deviations in the frequency of originally emitted sound. Once more, this analysis is too quick to be easily explained by synaptic transmission.

These are some specific examples of a general rule stating that under normal conditions, there is only one stream of consciousness despite the involvement of a

number of parallel neuronal systems. Subjectively, one receives many sensory inputs at once: visual, auditory, tactile, thermic, olfactory. All these inputs are analyzed at different time intervals and in different locations in the brain and yet they interact and one perceives them as simultaneous events. These systems communicate one with another, although they are located in many areas of the brain, primarily in the neocortex and also in the subcortical areas, and this communication must be very rapid, despite their relative distances one from another. The state of consciousness is accompanied by waves of electrical activity with a frequency of about 40 cycles per second which travel from the occipital areas forward. Such waves involve large numbers of neurons and even larger numbers of neuronal connections. They must be organized in a meaningful way, and undoubtedly comprise a huge number of serial and parallel transmissions, feedbacks and complicated circuits, containing tens and hundreds of millions of neurons.

Some events in the brain have been observed that seem to shift the times and succession of certain events. Thus, Kornhuber and his group (Deecke et al., 1970) found that voluntary flexing of a finger is preceded by a cortical readiness potential in the cerebral cortex. This readiness potential comes one or two seconds before the muscle contraction. This time interval is obviously not sufficient for the control of fast and efficient movement. If each muscle contractions were preceded by such a long interval of movement preparation, no complex movements would be possible in real time.

Benjamin Libet's experiments followed Kornhuber's studies. (Libet 1978, Libet et al., 1979, Libet et al., 1983). In one typical experiment, Libet observed a delay in a cortical readiness potential, indicating the time of decision to make a

movement. This time was longer than the time of onset of the actual accomplished movement. Subjects were told to flex their wrist at any time they chose, but to record the point at which they decided to do so by noticing the position of a dot on a clock face. Libet was able to record readiness potentials which occurred in the supplementary motor area. He showed that they occurred about 550 ms after the stimulus, while the movement itself occurred earlier, within 200 ms. Thus, there was a time difference of about 350 ms between the act itself, which occurred first, and the conscious intention to do it, which occurred later. In another study, he showed that if subjects have to record the position of a moving dot when they are given a skin stimulus, they actually recorded the sensation before it had actually happened by tens of milliseconds. Discussions concerning these papers imply that consciousness somehow manipulates the time base of the brain functions (e.g. Dennett and Kinsbourne, 1992). This antedating cannot be explained by any known neural mechanism.

Another similar case is the Color Phi phenomenon. The Phi phenomenon means that if two points in the visual field are illuminated successively within a time interval of less than 100 ms, there is an impression of movement. Television or motion pictures serve as an example. When these two points have a different color, red and green for instance, then the color changes in the middle between two points, that is, before the second point is shown (Kolers and von Gr|nau, 1976). This observation is present even during the first exposure, which means that the color change is predicted, and not a matter of learning. Van der Waals and Roelofs (1931) proposed that some sensory activities involve a backward projection of time.

There may be other examples, Rabbit jumps, described by Geldard and Sherrick (1972) and the theory of equipotentiality of the cerebral cortex by Lashley may also eventually be considered an indication of fast non-synaptic connectivity in the brain. According to Lashley, memories are widely distributed across the brain. Therefore, they must communicate one with all the others very quickly. Lashley's theory of equipotentiality is not widely accepted any more and therefore, it is mentioned here only as a possibility.

In the literature on quantum mechanics, one may find a number of interesting, but somewhat differing, views in this respect. Werner Heisenberg wrote in 1971:

The same organizing forces which gave a form to nature in all its forms are also responsible for the structure of the mind (or the soul).

Erwin Schroedinger went even further (1967):

"It is very difficult for us to take stock of the fact that the localization of the personality, of the conscious mind, inside the body is only symbolic, just an aid for practical use."

Schroedinger is probably 'not correct' in his belief that consciousness is located outside the brain, somewhere in the universe. It is, I believe, the human (and perhaps some other as well) brain that produces it, and the contents of conscious activities, thoughts, memories and intentions depend on sensory input and a large number of coordinated neuronal interactions as seen above. Consciousness cannot be reduced to neuronal activity, the functions of neurotransmitters and neuronal spikes. It is, however, influenced by mutual neuronal interactions mediated by synaptic and non-synaptic interactions. Is there any explanation for these phenomena?

Besides those nine possible ways of interaction between individual neurons and neuronal groups listed earlier, one has to hypothesize that there exist some additional, faster types of interaction. The most obvious might be electromagnetic interactions, electrical currents passing through the brain tissue. This possibility is not very acceptable. The brain is an organ formed by large numbers of cell membranes with high impedance and a small amount of extracellular fluid in between. Electrical potentials produced by neurons and also glia must pass through high-impedance cell membranes and hence cannot get too far. For instance, the electrical potentials recorded in an electroencephalogram originate in the most superficial layers of the cerebral cortex. Potentials from deeper structures can be recorded only after numerous repetitions of the sweeps and their averaging, as seen in the recording of auditory brainstem potentials. Also, when one records the unit activity extracellularly, one finds it difficult to extract a signal from the noise at a distance larger than 100 microns.

There must be something occurring in the brain that is faster than synaptic transmission. As the most likely possibility we must consider submicroscopic interactions at a quantum level. This problem is also associated with human consciousness. As stated by Stapp, the problem of consciousness cannot be solved without considering quantum mechanics. The question is, how to use it, what kind of dynamics is suitable for this task.

There are three advantages to this quantum approach: First, that the temporary connection of various systems might be sufficiently fast; second, that the connections may be quickly terminated; and third, that quantum interactions may also help to explain subjective consciousness.

Submicroscopic particles may penetrate seemingly solid matter. They may pass at a supraluminal speed and their movement may be subject to non-locality as described by David Bohm. This process may also take place in the brain. It is based on this that contemporary dualists argue that this faster than light 'object' should be something immaterial since a material or a physical object cannot have this faster than light property. And this immaterial object to them, is the mind or the soul.

How do the neurons function? Each neuron is composed of the nerve cell body, perikaryon, with the attached axon with its branches, telodendria, and with the dendrites. Synapses at the end of telodendria connect them with dendrites, perikarya or axons of other neurons. Several synapses must usually be activated to achieve production of a nerve impulse in the axon hillock. When a nerve impulse reaches the nerve ending, calcium ions enter the synaptic knob and elicit the release of synaptic vesicles containing a neurotransmitter. The released neurotransmitter activates the postsynaptic membrane and elicits the formation of other neurons. These electrical waves spread over the surface membrane of the neuron decrementally. When they reach the axon hillock, they may produce a nerve impulse which moves along the axon, using circulating currents stimulating the axon toward its end, the synaptic knob. Each neuron is therefore a sufficient source of moving electrons which, as quantum particles fill the space, may interact with other electrons. The neuronal role as a generator of particles changes each nanosecond. There are at least ten billion neurons in the brain, all of them producing scores of particles.

All electrical phenomena in the neuron must be considered, those taking place on the surface of the brain cells, in the cell membrane, but also inside, in microtubules and mitochondria, those involved in the conformation of protein molecules etc. All of

them together represent a powerful source of subatomic particles contacting, on a quantum level, particles generated by other neurons.

This conglomerate is called the RHS, Real Human Soul. The reason for this name is that this is the highest-level controlling system of the brain, analogous to the human soul. The RHS activity ends when the neurons end their functions. It is not a homunculus controlling brain function from the outside, it is the highest-level system produced by the brain function itself. It is real, not mystical. It is not identical with conscious mental field, as Libet describes it, because some parts of it are probably unconscious.

But the RHS does perform certain functions which are attributed by Eccles, Libet and others to soul in general. Libet claims that in one of his experiments he stimulated the human supplementary motor cortex first, for at least 500 ms - which means that this stimulation was subjectively perceived by the experimental subject - and only then electrically stimulated the peripheral nerve. Subjective perception of the electric shock however came first, and the perception of the cortical stimulation followed. That means that the flow of subjective perception was changed. He is talking about time reversal, or effect of the soul.

If one accepts the existence of the RHS complex, then one may hypothesize that this complex is not conscious, but is able to organize neuronal activity according to certain rules, rearrange the sequence of perceived events, make a decision when brain activity becomes conscious so that perception of peripheral stimulation comes first, as it is supposed to come in normal life, and cortical stimulation later, as it is supposed to be. The entry into consciousness may be also postponed or advanced. The motor action, as shown in the example of car driving or sport activity, may come first,

and conscious subjective perception later. Libet speaks about the modulation of conscious experience, and it is believed that this is one function of the RHS. Conscious perception is not part of the RHS complex, conscious perception comes after a longer action of RHS. Libet estimates that it takes at least 500 ms to activate consciousness.

This explanation does not postulate time reversal, which is a weird notion I did not feel very comfortable with. Nor does it eliminate free will but rather situates it into the RHS. From what is believed, it may be concluded that the RHS receives not only events taking place in the present, but also events in the recent past, compares them and achieves the continuity of perception. An example comes from Erwin Husserl, who wrote that in consciousness, the .present time, perception of precious moment, as they call it, lasts several seconds and gradually fades away. Therefore, one is able to perceive a melody as a whole, a spoken sentence as whole. The recent past is still present as a set of virtual, electrons in the RHS, compared with the present and analyzed together.

The human brain is enormously complex. It is the most complex structure known (known is used in the ordinary sense). The RHS is also enormously complex. It is formed by all moving electrons together. It unifies the actions of all neurons. It is, on the other hand, also able to select individual neurons and induce their firing. This firing causes a new change in the system, selecting new neurons, inducing their functional changes and using electrons produced to its own new change. Ideally, it would be possible to assemble Markov mapping of the groups of neurons.

The RHS is a basic mechanism of brain function. It is, perhaps, a non-local phenomenon where all moving electrons interact. It forms a powerful, perpetually

changing but more or less unified system. It is necessary to note that the brain is a warm and large physical object and the interactions of quantum particles arising from the electrophysiological activities in it are extremely short. This may be an advantage, since brain activity changes very quickly. One anticipates that such an enormous collection of quantum events does not have a homogeneous structure. There may be partitions specifying close connections. However, whatever happens in any part of this conglomerate is reflected in other parts of it. This choice may play a decisive role in the functioning of the RHS.

The movements of electrons are also elicited by molecular synthetic and catabolic actions. This complicates the situation tremendously, because they all produce quasi-particles of a quantum character, with similar characteristics. However, one assumes that these metabolically created and utilized particles form some continuous noise which does not substantially influence the neural processes.

The target of the quasi-particles may be electrically stimulated ionic channels, which then increase the efficiency of synapses. These channels may be in the postsynaptic membranes and increase the amplitudes of neurons by the passage of sodium and potassium ions through the membrane. Or, they may be in the presynaptic membranes, increase the activity of calcium channels and therefore increase a release of synaptic vesicles and thus, the amplitude of the postsynaptic potentials. A minute quantum action may be sufficient to trigger the whole process. Quantum processes regulating the transport through the biological membranes were observed in photosynthetic bacteria.

How do all these relate to consciousness and, therefore, to the mind or the soul?

Non-synaptic transmission is (probably) also connected with the appearance of consciousness. It has been observed by scientists that in the brain are areas involved in increased attention, the rate of neuronal firing increases. The amplitude of cortical evoked potentials also increases when influenced by conscious attention. This increased activation is accompanied by increased blood flow detectable by functional neuroimaging such as positron emission tomography, magnetic response imaging (Rees, Kreiman and Koch, 2002) or even by a simple measurement of temperature in the active area or of blood coming from that area.

It is difficult to believe that human consciousness appeared in evolution all of a sudden, without any simpler precursors. Something similar but simple must exist in nature. The brain utilizes many known physical and chemical mechanisms. It also utilizes the mechanisms of the submicroscopic quantum world. Is there something simple in nature that could be used for the formation of human consciousness?

There might be. Particles communicate with one another and with the environment, e.g. in the presence or absence of the second slit in the two-slit experiment. The particles know, feel, and according to some theoreticians even remember. Of course, this description is metaphoric. The particles do not know anything in a human, psychological sense. They are not conscious as humans understand it. Their interaction is physical, not a psychological event. But this physical property may be the elementary function on which the human consciousness is based.

Is this then a very elementary kind of consciousness, some kind of proto-consciousness? Subatomic particles may also be influenced by human conscious events, (as seen, e.g., in some modifications of the two-slit experiment). This is

possible because they share something, they have something in common. It may be assumed that this proto-consciousness could be a simple building block of actual human consciousness.

Of course, individual human consciousness is much more complicated than the proto-consciousness connecting two electrons. Human consciousness contains and handles information. The contents of subjective human consciousness are determined by the neuronal mechanisms of sensation, perception, association, memory etc. The state of consciousness itself may be related to the proto-consciousness of elementary particles, which may give objective brain events their subjectivity. Consciousness, probably, depends on the RHS. Its appearance probably depends on the mass of neurons involved and duration of the involvement.

It is also possible that there are areas in the brain which are suitable for the production and perception of conscious experience. The RHS involves all the movements of electrons in the brain, and therefore, the entire brain function. Under certain conditions, duration of the contact, power of the contact, anatomical arrangement, the RHS creates consciousness. This appearance may be only temporary and volatile. Real reasoning, most activities of the mind, are unconscious and the results may become a component of the consciousness.

There are therefore several characteristics of the RHS which may be deduced from known data:

- The unification of all brain functions.

- Certain continuity, when a momentary state of the RHS is influenced by the immediately previous states of RHS. It is the precious moment of William James and Edmund Husserl.
- Uncertainty and the statistical nature of brain functions derived from the general statistical character of quantum mechanics. Not everything is evaluated in the same way.
- It is localized in the brain but possibly, probably, not exclusively. A number of observations indicate that the RHS influences the functions of the body, but that vegetative functions influence the RHS as well. There are also a number of reliable observations showing that the RHS influences other subjects (Harris et al., 1999, Wackermann et al., 2003). In relation to quantum mechanics, it may function as an external observer. The question therefore is whether the role of the RHS ends at the boundaries of the brain. It may influence the whole body, forming a psychosomatic network (Dreher, 2003) or even other brains. It becomes clearer, though quite difficult to understand, base on this experiments that the immaterial, the mind, perhaps, exists in the brain.

Even so, as seen in chapter three of this work, monism holds that there is only one ultimate reality, and that soul and body are essentially reducible to it. The oldest tradition within this view is known as materialism, which states that the ultimate reality is physical or material, and all that is or ever was arises out of and is ultimately reducible to matter. Perhaps the first real materialism is the view of atomism as proposed by Leucippus (c. fifth century B.C.E.) and Democritus (c. 460–360 B.C.E.). According to this view, all things are composed of indivisible particles of matter (atomoi). The human soul, too, is composed of "soul-atoms" which may be different

from others in being smooth and spherical, but they are atoms nonetheless. Epicurus (342–270 B.C.E.) later adopted the Democritean materialism to argue that death is nothing to be feared since it is simply the dissolution of the soul into its original atoms. The Roman philosopher-poet Lucretius (c. 95–55 B.C.E.) also developed materialism as an attempt to rid human beings from religious fears by arguing against any nonphysical soul, and therefore proposing the mortality of all human beings.

The most important materialist in the modern period is the English philosopher Thomas Hobbes (1588–1679), who was greatly impressed by the progress during his day within science and mathematics. Galileo and Johannes Kepler, in particular, had shown the importance of using mathematics with careful observation of moving bodies in space. True knowledge, Hobbes felt, seeks to observe and understand true reality, which for him, is made up simply of "bodies in motion." For Hobbes, all reality and substance is corporeal or material. He firmly believed that someday science would be able to offer a full account of all reality based on a materialistic model, without recourse to a transcendent, incorporeal soul. Nearly two centuries after Hobbes's death, Charles Darwin's *Origin of Species* (1859) and Thomas Henry Huxley's *Man's Place in Nature* (1863) provided scientific support for just such a materialistic explanation for the origins and development of life, without resort to any outside immaterial agency.

In contemporary times, science has made some progress in showing that life itself may be understandable in terms of biological and biochemical terms. Much of the focus in the twentieth century has centered on the question whether the soul or the mind can be completely reduced to materialistic and mechanistic functions. Many philosophers, beginning with the analytic thinkers, began to hold to a materialist or

"physicalist" position. A variety of more or less materialistic views have emerged. One of the most popular theories to emerge since the 1950s is the "mind-brain identity theory," developed by Herbert Feigl, U. T. Place and J. J. C. Smart, which holds that "mental states are quite literally identical with brain states" (Borst 1970, p. 13). Other forms of materialism contend that mental states are reducible to "statements about behaviour" and is therefore referred to as "behaviorism" (p. 15).

Perhaps the most famous philosophical behaviorist is Gilbert Ryle. His book, *The Concept of Mind* (1949), has had a major impact for many in discrediting dualism. Ryle refers to the concept of dualism as "Descartes' Myth" and as "the dogma of the Ghost in the Machine." The myth of dualism, he contends, is the result of a type of mistaken thinking which he calls a "category mistake." The example Ryle uses illustrates it best. Imagine someone on a campus visit of a university. He receives a full tour of the university, visiting the classroom buildings, the library, and the dormitories. At the end of the tour, the visitor then asks, "But where is the university?" He has mistakenly assumed that the university is some separate entity existing apart from all of its constituents. He has mentally placed "university" in the same category as "classroom buildings," "library," and "dormitories." But the university is not some separately existing entity alongside of the buildings that make it up; rather it stands for the entire collection. So, too, Ryle contends, the “soul” or “mind” should not be thought of as some separate entity in the same category as "body" (or brain).

Partly because of Ryle's arguments, many philosophers – David Chalmers, John Eccles etc. - have ceased to talk about "the mind" as a separate category in twentieth century philosophy. The focus since the 1970s has been on mental activity

or consciousness in general. Perhaps the most audacious work comes in Daniel Dennett's *Conciousness Explained* (1991), which provides more attacks on dualism, but attempts to explain consciousness in terms of brain events has not avoided its critics either. Dennett himself agrees the task is difficult: "Scientists and philosophers may have achieved a consensus of sorts in favour of materialism, [but] getting rid of the old dualistic visions is harder than contemporary materialists have thought. Thinkers who have provided serious obstacles to any simple materialism include Jerry Fodor's *A Theory of Content and Other Essays* (1990), Roger Penrose's *The Emperor's New Mind* (1989), and John Searle's *Intentionality: An Essay in the Philosophy of Mind* (1983).

But is there something like a mental death as well, which is totally separate from physical death? Consider such medical cases as Karen Ann Quinlan and Nancy Cruzan, where the brain is still functioning, but where the forebrain—the most human part of the brain—is destroyed. Both cases were famous U.S. euthanasia cases and each had their forebrains destroyed through illness. Cruzan's case (request for euthanasia by family) went to the U.S. Supreme Court (1989). Some scientists, along with the Quinlan and Cruzan families, argued that the patients in those cases (referring to the person as identified with some qualitative, human, mental life) were already dead; that is, Quinlan and Cruzan, as the persons the families knew before their accidents, were already gone. Keeping their bodies alive was, they argued, a grotesque injustice.

The dualist would seem supportive of this recognition that mental death may occur before and apart from physical death, because it does not identify the person with brain functioning. The mind-body debate, therefore, has relevance for a number

of issues concerning the possibility of mental death and moral issues such as euthanasia. To this end, one may have to, based on the analyses made so far, accept either a monist or a dualist conception of the soul or mind.

Chapter Six

Conclusion

This essay has purported to explore the various ways that philosophers attempt to explain the concept of the soul. A wide range of arguments for and against the various conceptions of the soul have been provided.

So far, one of the main problems of the soul that this paper has tried to discuss is a working definition of the soul, that will embody all the supposed qualities of it, and that will differentiate it from such immaterial substances as the mind. Even so, as might have been seen in this essay, the soul has mostly, in philosophy of mind, been identified with the mind. This, perhaps, tells one that the concept of the soul is either losing its value, or the value that has been placed on it (that it is the source of life) shouldn't have been the case after all.

Now while Descartes assimilates all mental occurrences to the category *thinking*, it is worth noting that some mental events have a feature that others don't. Let us consider for starters that class of mental episodes we call "beliefs." One distinctive feature of beliefs is that they are about something. Our beliefs have a content, we might say, a subject matter. In contemporary terms, this is the *intentionality* (raised in Chapter Four) of beliefs. Some of our mental occurrences are about something: they refer to something beyond themselves. We have beliefs about tables, about distant stars, about abstract states of affairs, and so on. In fact we might say, as some have, that the very mark of the mental is this intentionality. A theory of soul must, it seems, explain this intentionality. Let us henceforth reserve the term "thoughts" for that class of mental episodes which, like beliefs, have this property of *intentionality*. In that category of thoughts we can now include beliefs, but also

wishes, hopes, judgments, and in general, anything mental that it makes sense to append with a that-clause. (For example, we believe *that 2+2=4*; we hope *that it doesn't rain*; we think *that summer is too short*.) How is such intentionality possible?

Historically, some have taken this special property of the mental, intentionality, to be another reason to invoke a non material substance into our worldview. Tables and chairs, it seems, can't be said to be about anything. They don't refer to anything. Nor does it seem that anything physical could be up to the job in a fundamental, non-derivative manner, as that just doesn't seem like the right type of stuff. A philosophy of mind that seeks to be compatible with the dictates of science about the nature of reality will have to explain the intentionality of the mental, but again without reliance on something unscientific. This forms another part of the background of the concept of the soul.

Another feature of the soul that philosophers have focused on, something that has tempted philosophers to think of the non material realm as something importantly distinct from the physical realm, is the nature of conscious experience itself, discussed in chapter five. So far I have focused on what we can do with our minds, (it should be noted that, as I have stated before in this essay, the soul is identical with the mind) our ability to think. But we are also subjects of rich experiences. We are conscious beings, and while that sometimes involves our reasoning, judging, believing, and the like, other times we simply take in the robust experiences we have. We listen to a poignant piece of music, we gaze upon a beautiful sunset, we savour a good drink. When we attend to these experiences, we find they have a unique, intrinsic character or quality. There is something it is like to hear a violin, a quality that isn't present when we are

just, say, thinking of how lovely a violin is. A theory of soul, it seems, must find a way to account for the existence and nature of these subjective, rich experiences.

Putting this all together, we might summarize as follows: a theory of soul should explain the existence of a broad class of episodes, ones we can lump together under the broad heading *mental episodes*. These seem to come in two types, what I have called *cognitive* and *experiential*. Cognitive mental episodes include believing(s), hoping(s), wishing(s), and so on. A mark of this class is their intentionality. Experiential mental episodes, on the other hand, include a sensation of warmth, a feeling of sadness, an experience of a blue patch. They have instead a qualitative character and dimension in a way that the cognitive episodes do not. Both cognitive and experiential mental episodes occupy a special place in (our) cognitive lives. In addition to the more obvious ways we care about their existence, many of them can be objects of immediate knowledge or awareness. Many of our thoughts and experiences are knowable in a direct, immediate manner, without reliance on inference, just as Descartes held. Let us call this immediate knowledge of mental episodes "non-inferential knowledge," distinguishing such potential knowledge of mental episodes from the type of knowledge we have, for instance, about how things are on the far side of the moon. That is, our knowledge of these inner episodes often doesn't have to be the product of any reasoning or inference. It is often just direct and immediate. And as we have seen, such episodes may also be the objects of First Person Authority. We seem to be in a position to somehow know our own better than others can. (Descartes goes even further, claiming that these episodes are incorrigible—our knowledge of them is so certain that we can't even doubt their existence. But that is an extra step, one we need not take, even if we agree with Descartes on other points.)

One point is worth highlighting now. That we have divided these mental episodes into two types, cognitive and experiential, signals an important rejection of Descartes already. As mentioned, Descartes considers all mental occurrences to be thoughts, while others like Sellars, in contrast, believes it essential to distinguish these episodes. In short, while Descartes speaks of the problem of the soul, other philosophers seek to solve problems; one concerning the nature of the soul, the other concerning the nature of sensing or experiencing.

We've noted that mental episodes are traditionally thought of as best known by the person who has them: they are private and known directly. Other people, in contrast it seems, can have at best indirect knowledge of our own. Why? Because traditionally conceived, such mental episodes exist within the private, inner realm of one's non material state and are only sometimes the cause of publicly observable behaviour. I might grimace when my foot hurts, thereby giving evidence to others that I am in pain. But I might also stoically bear the pain. In this case I would be well aware of the inner episode of pain, but others may not be at all. This can generate skepticism about the existence of non material states, and of minds altogether. One radical solution to these skeptical worries was to simply equate the mental states with the behaviour itself (as we saw in behaviourism). In this way we need not worry, it was argued, about knowing someone's non material states, for the non material states just are the various behaviours and dispositions to behave. On that view, to be in pain just is to grimace and yelp (and to have the disposition to do so, which sometimes might not be actualized). Importantly, some philosophers reject this strategy. In contrast, they hold that it is possible in principle to maintain the privacy of non material states, but in a way that doesn't generate the skepticism that motivates the draconian behaviourism. Showing how this is possible is one of the difficulties

discussed in this essay. However, the problem of knowing soul states, even our own, is actually more complicated than we have seen so far. For we need to bring in other elements, ones which both make knowledge of our own non material episodes more complicated but which also invite distinctive solution(s). Along the way we have discovered dualism as the theory that discusses this problem and offers a better option than the others discussed in this essay – materialism, idealism, naturalism, etc.

The additional complications and complexity arise when we consider another role non material or mental episodes were traditionally called on to play. I have stressed Descartes' view that the non material is better known than the material. By implication, Descartes holds that what we are actually in primary cognitive contact with is only our own inner states, our thoughts, feelings, beliefs, sensations, and so on. We have direct, immediate knowledge of these thoughts, and only of these thoughts. Our knowledge of the external, physical world, in contrast, is only by inference. For Descartes, our inferentially based knowledge of the material world is secured only if there exists a benevolent God who doesn't allow certain of our thoughts, our clear and distinct ideas, to be in error. And although subsequent philosophers ceased to follow this theological grounding of the beliefs in the external, physical world, many did follow Descartes in holding that it is our private thoughts and sensations that are the only objects of direct, immediate knowledge. Our knowledge of the physical world, in contrast, is derived or inferentially dependent upon our more basic knowledge of these inner states.

Following Descartes, philosophers often speak of the "structure of knowledge": highly theoretical knowledge is seen as resting on the (justified) foundation of more basic knowledge, and that on even more basic knowledge, and so

on. But empirical knowledge is possible only if there is ultimately a stratum of most basic knowledge, which in some way involves our making cognitive contact with the world. It is natural to think that this most basic contact with the world involves our having sensory experiences. We can know the world, ultimately, because in some manner the world reveals itself to us through sensation. Or better yet, the world gives itself to us, in a form we can understand. If it didn't, it would be hard to understand how we ever know anything. For Descartes, and for centuries of philosophers since, the basic knowledge which forms the foundation of knowledge is just the knowledge of our own inner states, our own thoughts, feelings, and sensations that we have from being in sensory contact with the world.

As for these inner states themselves, we both have them and also know them just by being in sensory contact with the world. In short, sensing the world was held, from Descartes on, to be sufficient for the production of inner states which is in turn know about just *because* of that sensory contact. For instance, simply sensing a red patch would be sufficient for *knowing that we are sensing a red patch*. We may doubt whether there really is a red patch there (maybe it is blue and the lighting misleads us), but our knowledge of the sensation of a red patch itself is immediate, direct, and a result simply of that sensing. The knowledge that we gain is, again, knowledge of our own sensations or thoughts.

What then is required for knowledge of our own inner, private episodes, say knowledge that I'm having a sensation of a red triangle, if it isn't just that I *am* sensing a red triangle? What else is required besides the actual sensation? In short, knowledge requires concepts, and since concepts are linguistic entities, we can say that knowledge requires a language. To know something as simple as that the patch is

red requires an ability to classify that patch, and this is where the language to fully classify and appreciate the concept of the soul is paramount. We don't even know our own sensations just by having them. We need a language for any awareness, including our own sensations.

Importantly, I have argued the dualists position of the soul as more appealing than that of the monists. For, the inner is assumed first, and is the starting point for any knowledge of the outer, the physical world. I have argued, in essence, that our ability to be aware of the inner in fact requires an antecedent command of the language of public states of affairs. A subject must be able to speak of red *objects* before speaking of red sensations; more generally, a subject must have command of the public language before being able to report on her own inner events. Crucially, though, I have given this account without sacrificing the inner. We can still talk meaningfully about how things are within us (our thoughts and sensations) and we can still have the direct, unmediated knowledge dualists and other philosophers speak of, but without violating any strictures on the public character of concepts and knowledge. To summarize all this into something 'tidy,' we might say that dualists hold the inner to be knowable better and prior to the outer, though, they are not able to tell us precisely, what this inner, 'the soul' designates. To this point, one may take a dualist position, a monist position or some neutral monist position of the mind.

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