

What is consciousness and has it evolved?

Albert Low LLD

Abstract

Research into consciousness has now become respectable and much has been written about it. Is consciousness the exclusive property of human beings, or can it be found also in animals? Can machines become conscious? Is consciousness an illusion, and are all mental states ultimately reducible to the movement of molecules? If consciousness is other than matter, what connection does it have with matter? These and others like them are now serious scientific questions in the West. This article discusses consciousness. This article discusses consciousness within the frame of three assertions: Consciousness has evolved from earlier states of awareness to be found in lower forms of life. The current scientific method is too restrictive for the study of conscience and its evolution. In particular classical logic leads scientists to ignore or reject consciousness as a legitimate field of study. Mind and matter-- generalized as knowing and being,-- have equal status.

How important is the study of consciousness?

In 1992, *The American Scientist*¹ issued a special edition called *Mind and Brain* and in July 2002 it issued another special edition called *The Hidden Mind*². In the first, John Horgan, at the time a senior writer of the journal, emphasized the importance of the problem of consciousness. After saying that consciousness is the most elusive and inescapable of all phenomena, he highlighted the real problem by saying that it so far “seems to have been ducked by most scientists who simply assume that mind is the outcome of complexity. The

¹ *The Scientific American* Special issue Sept. 1992

² *The Hidden Mind* The Scientific American Special Edition Aug 2002

alternative seems to be an unacceptable dualism in which the mind and matter are two different stuffs and therefore, presumably forever running parallel tracks.” Also emphasizing the importance of the problem, Francis Crick, a Nobel Prize winner, and Christof Koch, his co-author, said that the relationship of body and mind is the “overwhelming question in neurobiology today.”³ There has been no lack of seminars and conferences on consciousness and a plethora of articles and books have been written on this subject. Yet in spite of all the debate, very little progress seems to have been made. While advances have been made in psychology and neuroscience, the problem of consciousness is like a morass in which the more one struggles the deeper one sinks.

Crick and Koch give one important reason for such meager progress: “Until quite recently most cognitive scientists ignored consciousness, as did all neuro-scientists. The problem was felt to be either purely ‘philosophical’ or too elusive to study experimentally. It would not have been easy for a neuroscientist to get a grant just to study consciousness.”⁴

Perhaps our uncertainty that a problem indeed exists is the chief obstacle to be overcome. Is there is any consciousness to study? As I have said, many neuro-scientists believe that consciousness is at best an epiphenomenon of brain activity. The special editions of *The Scientific American* give a striking illustration of this. Of twelve articles on the mind/body relation in *Mind and Brain*, eleven took it for granted either that consciousness and the brain are generally synonymous terms or that consciousness is a product of the complexity of the brain. In the eleven articles in *The Hidden Mind*, ten either ignored consciousness altogether or else took it for granted that no difference exists between brain activity and consciousness.

Consciousness study can be divided roughly into four different trends. The first would have it that consciousness is a fiction without which we would be better off, and which science should ignore altogether. The second holds that consciousness is a product of the brain, yet nevertheless warrants some attention. A third school feels that consciousness deserves to be studied in its own right, but considers it to be an attribute of being human that does not exist in other life forms. A fourth school attributes consciousness to other life forms as well as to humans.

³ Crick, Francis and Koch, Christof (1992) *The Problem of Consciousness The Scientific American* Special issue Sept. 1992

⁴ *ibid*

Ironically, while most scientists are denying that even humans are conscious, an increasing number claims that machines, computers, either have or in the future will attain , consciousness. Not only this, many scientists who study quantum mechanics agree that without consciousness there would be no universe at all.

New concepts are needed

Crick and Koch⁵ say that “radically new” concepts may well be needed to resolve the body/mind problem. As an example of science having to yield to a new way of thinking, they cited the new concepts forced on us by quantum mechanics and which have profoundly modified scientific thinking. Quantum mechanics has even brought the universality of classical logic into question, and Neils Bohr has offered another “logic” that some physicists have called a logic of complementarity.⁶

The greatest obstacle to the scientific study of consciousness and of allied fields is the ruling paradigm that determines what is acceptable as a scientific enquiry and method. Of this is the demand for objectivity may be the worst offender, as, by this very demand, subjectivity, the essence of consciousness as it is generally understood, is ruled out. Is the scientific paradigm too restricted, and should a new paradigm, or a considerable enlargement of the existing one, be sought?

If the answer to both these questions is yes, then any innovation will probably have to come from outside the scientific community. Few scientists will be ready to risk their scientific reputation in such an unpopular and risky endeavor.

Does consciousness evolve?

Most researchers assume that consciousness somehow appears whole, in human beings (or, rarely, in both human beings and primates.) Although some headway has been made in granting consciousness to lower animals, it nevertheless remains fashionable to follow the lead of Descartes, who saw animals simply as machines. Without acknowledging that animals lower on the evolutionary scale have some form of consciousness, we can scarcely claim that consciousness has evolved, because it would have had no basis for that evolution. Some researchers admit that evolution has occurred, but they then assume this evolution to have

⁵ ibid

been solely due to the organism and its brain having become more complex. No consideration, except perhaps fleetingly in the work of Teilhard de Chardin, is given to the possibility that consciousness evolves according to the dictates of its own intrinsic nature.

Although my principle concern will be to lay a foundation for the study of human consciousness, nevertheless I will put forward the thesis that not only has consciousness evolved, but, also, at least in some rudimentary way, that it has been coextensive with matter throughout every stage of evolution, and has been an active agent in that evolution.

I take the categorical position that human beings are conscious. I will give reasons and explanations for saying this later. If we accept this fact for the sake of argument, and if we subscribe to the theory of evolution through natural selection, then some form of consciousness must have existed throughout all evolution. The alternative would be to say that at some stage it suddenly appeared. If this were so, one would expect to see some other radical differences between those with consciousness and those without. These would have shown up as differences in perception, intelligence, creativity, and communication. This sudden eruption of consciousness (and I shall show that consciousness is highly complex) would be a miracle and equivalent to the Catholic belief in the creation of the soul by God. Such differences do indeed exist between animals and humans, but, as I shall show, this difference is not due to a miracle but to consciousness having evolved from more primitive states of awareness.

The easy question and the hard question

The question, what is consciousness, has quite recently been divided into what could be called the *easy* question and the *hard* question. The easy question is concerned with the functioning of consciousness, including perception, memory, language and so on. The hard question concerns consciousness itself. Although this is a useful distinction, it can only be made in theory. Some Indian thinkers use the metaphor of a stone dog in order to show why this kind of distinction can be made, but only in theory and not in fact. If one considers the stone statue of a dog one can look at its form, that is its color shape, size, usefulness, who owns it, and so on. Or one can consider the stone of which it is made.

⁶ Nadeau, Robert and Kafatos, Menas (1999) *The Non-Local Universe* (Oxford University Press: New York)

The easy question would concern the first aspects, the formal aspects; the hard question concerns the ‘substance’ of which the dog is made. One can legitimately make this distinction, yet obviously one cannot have the dog without the stone and conversely. In what follows I shall be concerned with the hard question: the evolution of the ‘substance’ we call consciousness.

Interaction between body and mind

The substance of consciousness is obviously not the substance of the body. Indeed consciousness has no substance, but that does not make it illusory or an unnecessary postulate. (I shall justify saying this in a moment.) However, if this is so, how can consciousness and the body interact, when they are so different? This question has already been debated for years. Ever since Descartes separated the world into two fundamentally different ‘substances’ *res extensa* and a *res cogitans*, a matter substance and a mind substance, whether and how they interact have been questions that have haunted Western philosophy. I shall show how these questions have a very simple solution.

Is the current scientific method too restrictive for the study of consciousness?

The scientific method suffers from three important limitations and is therefore too restrictive for an adequate study of consciousness. The method demands objectivity, but by this demand it excludes the consciousness of the observer. Yet consciousness is the very subject of investigation.

The alternative is to ask the researcher to research the consciousness of another and he or she can only do this through the behavior, or the subjective reports, of the one observed. The first alternative leads back to behaviorism, and the second is excluded for the same reason that the subjective report of the researcher himself has been excluded.

Another limitation of the scientific paradigm is its insistence upon the analytical or reductive method. This method reduces a whole to constituent parts and then studies these parts in isolation. This is not a suitable method for the study of consciousness.

The third limitation is classical, dualistic logic. This logic is the very basis of scientific thinking, but it forces the investigator to make inappropriate choices.

Because of these limitations, and unless some considerable modifications are made, one must conclude that the scientific method as we know it today is an unsatisfactory method for studying consciousness. These same limitations have also been encountered in quantum physics, which is at the leading edge of the study of the physical world, and in this article we shall be benefiting from some of the modifications to the scientific method that physicists have made to overcome these limitations.

Part One

We can consider consciousness from four entirely different points of view. Classical logic insists that either one or another of these four points of view is the correct one, and the others must therefore be mistaken, or be subsumed under the correct viewpoint. Yet, each of these four is valid in its own right, and integrity should prevent us from choosing one and rejecting the rest. This means that we must first find a way to overcome the limitation that classical logic imposes. This way is the subject of the first part of the article.

First, however, let me give the four alternative viewpoints.

Four points of view of consciousness

Most often mind and matter are considered to be in opposition to one another, and on the one hand it is said that mind is a product of matter, and on the other that matter is the product of the mind. This opposition is made obvious by the two principle philosophies, the materialist and the idealist. Interestingly enough, the same opposition is often found in philosophy between *epistemologists* and *ontologists*, the first insisting that one must first decide how we can know, the second insisting that what one is, and what the world is, will determine how we know. In quantum mechanics as well, a similar opposition could be said to exist between the *realists* and the *antirealists*.

Let us stay with the materialist-idealist antinomy. The materialist believes that mind, at best, is a byproduct of matter, although many materialists prefer to dispense with 'mind' altogether. The idealist believes that matter is a product of mind, the world is my idea, or God's idea. Some physicists, including John Wheeler of Texas University, are of this opinion. Originally, the materialist view of the world was just that, a view. The materialist views the world

objectively ‘from outside,’ which is to say he views the world as a collection of objects or things, more recently as a collection of fields and forces. Idealism also is a view; the idealist views the world ‘from inside.’ These two views are somewhat analogous to seeing a house from outside and from inside. Anyone can view the world in these two ways. However, we have reified these two ways and we now no longer consider them to be the way things are viewed, but *the way things are*.

Many philosophers believe that Descartes created this mind/matter duality. However, he simply reformulated an age-old belief in a soul and body. Most religions promote the belief that human beings have spiritual and physical aspects. In the West philosophy and science have reduced the soul to ‘mind,’ and they have further reduced the mind to a ghost in the machine. Now they are expelling the ghost. Thus two of the points of view on consciousness are what could be called the matter only and the mind only points of view.

For Descartes the world was dualistic, and the two substances, *res extensa* and a *res cogitans*, had the same status. From this a third view of the world has grown up: the view that these two substances run on parallel but independent paths.

The fourth view is the ‘common sense view.’ Most people feel that they have, or are the mind, and have, or are the body, and that these two interact with each other. This is also a view held by the two well known neurologists, the late Wilder Penfield⁷, and Sir John Eccles⁸. They both believed that brain and mind interacted in some way.

The four viewpoints, then, are: materialism, idealism, parallelism and interactionism. Classical logic insists that only one of these can be correct and the other viewpoints should be discarded.

Knowing-Being

I have used the words “mind” and “matter,” but both these words are somewhat loaded and can be interpreted in a number of different ways. Therefore, instead of using the words ‘mind’ and ‘matter,’ I shall use the words ‘knowing’ and ‘being.’ What I mean by ‘knowing’ is illustrated by the following sentence “ I know the cat is sitting there.” I can emphasize the

⁷ Penfield, Wilder (1978) *The Mystery of Mind* (Princeton Paperbacks: Princeton)

⁸ Popper, Karl R. and Eccles, Sir John (1977) *The Self and its Brain An Argument for interactionism* (Routledge: London)

first part of the sentence -- “I *know* the cat is sitting there,” -- or the second part of the sentence: “I know *the cat is sitting there*.” The first sentence concerns “knowing”; the second concerns “what is known,” or “being.” In other words, we can make a clear distinction between *that* I know and *what* I know.

What I know depends upon the brain and the senses. That I know may not be so dependent. If I am a materialist I will say that I know is entirely dependent, either directly or indirectly, upon matter. However this statement is a purely philosophical or religious statement, and is based upon faith alone. If I say that I know is not dependent upon matter, this too is a philosophical or religious statement. It too calls on faith. It may be protested that when asleep, or unconscious, or under anesthetics, one does not know anything. This is so. But all that the protest shows is that *what* I know is dependent upon the brain or body in some way. In so far as that I know has no content, then no memory of it's having been can exist.

What I mean by “being” is essentially anything that in principle can be known. If I talk from a common sense point of view I first say, either explicitly or implicitly, that the world *is*, whatever else I say about it later.

Two different philosophies have developed around these: two knowing and being. They are Idealism and materialism. The debate between them has continued for centuries in many different forms in the West and in the East. When one reads this on-going debate one cannot help thinking of the judge who listened to the defense and said, “Yes, you are right.” He then listened to the prosecution and said, “Yes you are right.” The clerk of the court leapt up flustered and said, “But, my lord, they both can't be right.” The judge turned to him and said, “Yes, you are right” We must now accept that neither camp can be logically refuted. Each is a whole and self-consistent view of the world. An influence other than logical reason determines whether one is a materialist or idealist, and this ultimately is faith. One's has the faith either that being or else knowing is primary.

On subjective and objective

Knowing and being have equal status. By extension this means that the *subjective* and *objective* have equal status. I can imagine the shudder that must pass through the scientist who hears such heresy. I must therefore be quite clear in what I mean by the word “subjective.” Normally “subjective” means colored by my wishes, hopes, expectations, fixed

ideas, and so on. To be objective is to put aside these wishes and fixed ideas. I would like to widen the meaning of these two words. Objective will now mean the perception of Being, as well as to be free from the bias of emotion. Subjective will mean from the point of view of Knowing, as well as colored by emotional factors. Now it is obvious that I am using both objective and subjective in two quite different ways. I shall therefore use Objective when I mean from the point of view of being, and Subjective when I mean from the point of view of Knowing. I will reserve the lower case for objective and subjective when I want to use them in the way that they are normally used.

A metaphor

An illustration might be useful as a metaphor for this unending debate between materialists and idealists. It must be remembered that I use the illustration simply to help explain a point of view. I did not use it to develop that point of view.



Fig. 1

The illustration is of a young woman and an old woman. In order to understand the metaphor let us say that the old woman is a materialist and the young woman is an idealist. We can see that both materialism and idealism are self-consistent wholes and each is independent of the other. If I now ask, “Is materialism or idealism the correct interpretation of the illustration?” then you must choose, and logic *demand*s that you choose one or the other as the correct interpretation. Which one will you choose? R.D. Laing,⁹ the psychiatrist, commenting on this illustration, said, “the same thing, seen from different points of view, gives rise to two entirely different descriptions, and the descriptions give rise to two entirely different theories, and the theories result in two entirely different sets of action.” Later he says, “There is no dualism in

⁹ Laing, R.D. (1965) *The Divided Self*. (London: Pelican books) p. 20

the sense of the coexistence of two different essences or substances there in the object, psyche and soma [knowing and being (my insert auth)]: there are two different experiential Gestalts: person and organism.”

This same impasse has been encountered in quantum physics in which matter is seen to be simultaneously a wave and a particle. In a world that is ruled by the laws of classical logic this is impossible. Matter is either a wave or it is a particle, but experiments show matter to be now a wave, now a particle. We seem to have reached a complete impasse.

Alternatives to classical logic

The answer seems to be that we must find a more inclusive logic, one that does not force us to make impossible choices.

I would not be the first to suggest this. *Science and Sanity*,¹⁰ written in the 1930's by Alfred Korzybski thoroughly criticized the law of identity, the keystone of logic. Martin Heidegger was another, more sophisticated, critic of the principle of identity.¹¹ Stephane Lupasco also made a radical challenge to classical logic,¹² and so did André Lamouche,¹³ who suggested a logic of simplicity. He felt that simplicity was not only a principle of logic, but also a creative principle inherent in the world. Hegel offered a logic of the dialectic. He said that a thesis is always accompanied by an antithesis and demands a synthesis, which in turn becomes a new thesis calling for an antithesis and so on.

Niels Bohr, the physicist, suggested a principle of complementarity to supplement classical logic in order to account for the wave/particle duality of quantum mechanics. I shall say more about this principle in a moment. Before doing so, let me consider some possible objections to my introducing a new logic to resolve the contradictions that I have given in this chapter.

Should classical logic be superceded?

Christopher Norris,¹⁴ a Cardiff University professor, would certainly want to object to my suggesting that an alternative logic to classical logic should be found. He says, for example,

¹⁰ Korzybski, Alfred (1941) *Science and Sanity* (The International Non Aristotelian Library Publishing Co. Lancaster) In the 1950's *Science and Sanity* was listed as one of the most influential books of the 20th century by a survey of most of the prominent scientists of the day.

¹¹ Heidegger, Martin Tr Joan Stambaugh (1974) *Identity and Difference* (Harper Torchbooks: New York)

¹² Lupasco, Stéphane 1974) *L'Énergie et la matière psychique* (Editions du Rocher: Paris)

¹³ Lamouche, André *Le Principe de Simplicité Dans les Mathématiques et les Sciences* (Gautier Villiers: Paris)

¹⁴Norris, Christopher, (2000) *Quantum Theory and the flight from Realism*. (Routledge: London) P. 216

“If everything is called into question – from observational statements to logical ‘laws of thought’ – then nothing can any longer count as good reasons for rejecting this or that candidate hypothesis.” I am not, of course, questioning “everything” and in any case saying “from observational statements to logical laws of thought,” does not give a full range of “everything,” as Norris suggests. But, more importantly, Norris misses the point. Classical logic insists that either this or that candidate hypothesis must be rejected. Norris wants to ensure that this can continue to be done. But of two candidate hypotheses: matter is a wave, matter is a particle, which one are we going to reject? One of them, according to the logic supported by Norris must be rejected. The world is matter; the world is mind. Which one are we to reject?

Norris is concerned that if we change the rules that insist we reject one of two hypotheses we will then no longer have grounds for rejecting one of two hypotheses. The point that Norris misses is that the *evidence says that neither of the two hypotheses may be rejected*. Materialism rejects idealism and is applauded by classical logic for doing so. The materialists are playing by the rules. Knowing is an outcome of being. To object to that would, according to Norris, throw us into primordial chaos. Yet knowing has equal status to being. For me to say, “there is being,” I must first know that there is being. To use more familiar words to make the point: mind is as important as matter and cannot be reduced to matter. I regret that so many vested interests are devoted to maintaining the supremacy of matter, that indignation will replace reason in this discussion

W.V. Quine, the recently deceased Harvard philosopher, mathematician and logician, leads the way in the rejection by indignation when he denies that “*we could ever, in principle, have rational grounds for preferring such a drastic response in the face of recalcitrant (whether physical or verbal) evidence. Rather, we should suspect that there must be some problem with the evidence, some alternative (logic preserving) construal of it, or – rather in the case of communicative breakdowns – some localized semantic (rather than deep laid logical) mismatch between their understanding and our own.*”¹⁵ (my italics)

Bohr’s complementarity

None of the above objections seem to be valid. They all seem to derive from a prejudice in favor of keeping the rules whatever the cost. So let me develop a new logic and show how it

¹⁵ Norris op.cit 216

legitimately resolves issues that until now have been irresolvable. I shall call it a *logic of ambiguity*. *It is not meant to supplant classical logic*, but to show classical logic to be a subset of a more embracing logic. I shall use Bohr's principle of complementarity as both a springboard and a support for this endeavor.

Leon Rosenfeld, in answer to questions posed by David Peat and Paul Buckley, said that Bohr was always very much against the idea that quantum mechanics called for a new logic.¹⁶ Rosenfeld goes on to say by way of explanation, "In order to understand complementarity you must first put yourself at the starting point [which is pragmatism]: otherwise you miss the point. If you are a strict logician, you will say: if it is mutually exclusive, then one of the two is false, one is right. That is obviously not the case." In other words, Bohr is saying, let us use classical logic; but when on pragmatic grounds it is expedient, let us resort to complementarity.

Bohr used the principle of *complementarity* when faced with the contradictory nature of matter. In the same way that to make a complete statement about the illustration we must say it is both an old woman *and* a young woman, so, to make a complete statement we must say that matter is both wave and particle. This is so even though the conditions for observation or measurement do not allow both wave and particle to be used simultaneously. In a similar way, to make a complete statement we must say that both body and mind, or knowing and being are necessary.

But a critic could ask, quite justifiably that if, faced with a contradiction, we rely on pragmatic expediency alone to decide whether to use complementarity rather than classical logic, is not Norris's objections then sound? We need firmer ground than expediency on which to stand when devising a theory or making an argument. Nadeau and Kafatos, probably in order to avoid this difficulty with the apparent arbitrariness of its use, developed criteria that must be met if Bohr's principle of complementarity is to be both necessary and useful. These criteria are¹⁷ "(1) the theory consists of two individual and whole constructs (2) the constructs preclude one another in a description of the unique physical phenomenon to which they both apply (3) the complete situation cannot be reached through an addition of the two

¹⁶ Buckley Paul and Peat, F David (1979) *Conversations in Physics and Biology* (University of Toronto Press Toronto) P.2
15/6

¹⁷ *ibid.* p95

constructs.”¹⁸ With this the authors raised Bohr’s principle of complementarity to what they called a logic of Nature or Complementarity.

Unfortunately, these criteria show that Bohr’s I of complementarity, when elevated to a *logic* of complementarity, is no longer adequate to account for the wave/particle ambiguity, the very ambiguity it was devised to resolve. In order to show what I mean by this, I shall first have to develop the alternative logic of ambiguity. I shall then come back and compare Bohr’s “logic” with my new logic.

What do I mean by ambiguity?

A word of warning is in order. No doubt the reader will experience some difficulties when confronted by the logic of ambiguity. We have for so long taken classical logic for granted, we have for so long made the unwarranted assumption that it states how reality is rather than simply how we think about reality, that it will seem strange to find that another logic is not only in order, but sometimes more appropriate. It is like learning to type with one finger and then trying to touch type. One has to struggle to unlearn the old way before learning the new way of typing. Let me repeat. I do not intend to reject classical logic; I simply wish to show that classical logic is one aspect of a more embracing logic.

The etymology of the word *ambiguity* will point us in the right direction. *Ambi* means ‘two,’ as in *ambidextrous*, two handed, and *ambivalent*, two minded. I do not mean by the term “ambiguity” vague and ill-defined. On the contrary, ambiguity can be as reasonable, and as clearly stated as classical logic.

The gestalt illustration that I used above conforms to the criteria introduced by Nadeau and Kafatos: (1) the picture consists of two individual and whole constructs: the constructs are the young and the old woman (2) the constructs preclude one another in a description of the complete picture to which they both apply. When you see the old woman you do not see the young woman (3) the complete picture cannot be reached through an addition of the two constructs.

¹⁸ I have modified the third criterion slightly

Why the principle of complementarity is unsatisfactory.

Bohr's principle of complementarity, which Nadeau and Kafatos' raised to the level of a logic, does not meet any of their requirements. The Oxford English Dictionary defines "complement" as "something that completes, one of a pair, one of two things that go together." An example of a complementary relation would be a nut and bolt. The complete situation is a nut on a bolt. The nut is not 'whole' without the bolt: without the bolt, the nut cannot serve its purpose. The same is true of the bolt: without the nut, the bolt cannot serve its purpose either.

In the case of the nut and the bolt, neither is a whole situation. This means that that the logic of complementarity does not meet the first requirement: that the situation must consist of two individual, whole constructs. One does not say, "If a nut, not a bolt; if a bolt, not a nut" although in quantum mechanics, one does say, "If wave then not particle; if particle then not wave." The two ways of looking at subatomic objects are mutually exclusive, but equally valid; a nut and a bolt are not. This means that the kind of relation that they represent does not comply with the second requirement: that the two constructs preclude one another. The nut and bolt do not preclude one another; quite the contrary, as I have said, they demand one another. Complementary logic does not fulfill the third requirement either, which says that the complete situation cannot be reached by adding the two together, because, on the contrary, the nut and bolt *must* be added together to realize the complete situation.¹⁹

The subjective and objective views are ambiguous.

Just as we see the picture in two quite different ways, so the statement, "I know the cat is there" can be understood in two quite different ways. When we look at the world from an Objective, realist point of view, what is important is the fact that "the cat is there." That "I know" that it is there is irrelevant. When we look at the world from a Subjective idealist point of view I "*know*" the cat is there, and the knowing is important; what I know is incidental. Again using the criteria (1) Reality consists of two individual and whole interpretations: Objective and Subjective (realist and idealist) (2) The interpretations preclude one another in a description of reality to which they apply (3) Reality cannot be interpreted through an addition of the subjective and objective interpretations.

¹⁹ For a full discussion of the meaning of complementary relation see Archie J Bahm (1988) *Polarity, Dialectic and Organicity* (World Books: Albuquerque New Mexico) pp. 5 – 11

The fallacy of the misplaced concreteness

We have tended to give each of these ways, Subjective and Objective, or more generally mind and body, an absolute status. Instead of being simply ways of seeing or viewing, we consider them to exist in their own right. We say that the world exists as something, and I exist as something else. This is what the philosopher Alfred Whitehead called “the fallacy of the misplaced concreteness.” We then go further still into an illusory world by asking ourselves, “What is the relationship between these two absolutes: the Subjective and the Objective, or mind and body.

Two responses have been offered to this question. The first is that they do not interact but exist on parallel tracks. This is a solution suggested by Descartes and called “parallelism.” The second suggestion is that the mind influences the brain and the brain influences the mind through different mechanisms. Some suggest that these will be found at the quantum level.

Can we stop looking at ambiguity as a failure in seeking clarity? Is it possible that accepting ambiguity can make a substantial contribution to our understanding of life and consciousness? Of course ways out of the dilemma can be found. For example, someone may object and say that it is unnecessary to oppose mind and matter and that a gradient exists between the two. But this will reduce them to one substance and the question of whether that substance is material or mental remains unanswered. The physicist David Bohm suggested this solution once in a conversation with Renée Weber:²⁰ “Consciousness,” he surmised, “is possibly a more subtle form of matter and movement.”

On the other hand, we could alternate the two. This has been an objection raised to the illustration. The two pictures do not call for a change in logic because the rules of classical logic apply to them as well as to any other phenomenon. When you see the young woman you not see the old. In the realm of the subjective and objective we could act now as though the objective were all-important, and now as though the subjective were. In other words, we come back to our ordinary, every day point of view. However, this argument misses the point. The complete situation, the black and white field, should it be viewed as a young or old woman? Is the world basically mind or matter?

²⁰Weber, Renée (1986) *Dialogues with Scientists and Sages* (London: Arkana) p. 41

Unity and duality

The field out of which this ambiguity emerges is One, quite unambiguous. In the illustration that I am using the One is the field of black and white shapes. The one field both is and is not the young/old woman. This new ambiguity corresponds to the monism/dualism ambiguity that has dogged human thought through the ages. The black and white field constitutes unity; the young and old woman constitute duality. One example of the unity/duality ambiguity is One God alone exists and He is good: and yet we have good and bad. How does evil arise? Another example is that Buddha said we are whole and complete, one; yet he said that life is suffering, or *dukkha*, which means twoness, duality. Modern cosmology has a similar problem. Presumably, at the origin of the universe perfect symmetry reigned. How did asymmetry enter the picture?

The full ambiguity

Spelling out the full ambiguity we can now say that *there is an ambiguity, one face of which says there is no ambiguity, while the other face says there is ambiguity*. Let us call this the *logic of ambiguity* to distinguish it from classical logic and the logic of complementarity.

According to the logic of ambiguity, if we have two whole two situations, but which cannot be added together to make the complete situation, then we can infer that the complete situation is a unity that lies ‘beyond’ the two. This unity is neither one, nor the other, nor both, nor not both, just as the field of black and white is neither the young woman nor the old woman, nor both, nor not both.

If we accept the logic of ambiguity, then unity is a principle concern when trying to understand ourselves. The unity that “I am” is neither matter nor mind nor both, it is beyond them. The ‘problem,’ of how the mind and body interact, would no longer be a ‘problem’ but an ‘ambiguity.’ Using (/) to signify ambiguity we could simplify this and put it in this way: Unity/(Mind/matter). What we are therefore suggesting is that mind and matter are to Unity as the young and old woman are to the field of black and white shapes.

A similar thought was put forward by the Jesuit priest, Teilhard de Chardin who said,²¹ ‘Without the slightest doubt there is something through which material and spiritual energy

²¹ De Chardin, Teilhard (1959) *The Phenomenon of Man* (London: Collins Fount Paperbacks) p.69

hold together and are complementary. In the last analysis, somehow or other there must be a single energy operating in the world.” He said he was convinced that²² “the two points of view, the materialist and the idealist, will unite in a generalized physics in which the internal as well as the external aspects of the world will be taken into account.”

The psychologist, Carl G. Jung refers to this unity or oneness as the *unus mundus*. He says of this,²³ “The idea of unus mundus is founded on the assumption that the multiplicity of the empirical world rests upon an underlying unity, and that not two or more fundamentally different worlds exist side by side... causal connections exist between psyche and body which point to their underlying unitary nature.”

David Bohm²⁴ saw this unity as an implicit holomovement of which subjective and objective, mind and matter were explicit manifestations.

Unity can be viewed as mind or matter, two equally legitimate, but mutually exclusive ways. However, unity does not exist separate from these two in some higher space or dimension, although it must be distinguished from them. It is ‘beyond’ them. Let me be clear about what I mean by the word ‘beyond.’ When you go to the cinema, provided the film is a good one, you can become completely engrossed in it. War and love, struggle and reconciliation, love and hate, unfold and you live in the film completely. At the end of the film, all that is left is a white light shining on the screen and you say, “Let us go home.” Yet all the drama, tragedy, comedy, that you experienced was but variations of that white light. During the film you were completely unaware of it; the white light was “beyond” the film.

A complete definition of the logic of ambiguity

I can now complete the definition of the logic of ambiguity and by doing so will stress that unity is *dynamic* and at the same time “impossible.”

We are driven towards an all embracing unity, a whole, a *universe*. We perceive this unity of gestalt by intuition. Many people have had a peak experience in which the sense of unity and wholeness is paramount. The experience of unity is the drive behind religion and the drive

²² *ibid.* p 58

²³ Jung, C.G (1963). *Mysterium Coniunctionis* (Collected works of Jung Vol. 14 Bollingen series XX New York: Pantheon Books.) p. 536-7 dynamic

²⁴ Bohm, David, (1980) *Wholeness And The Implicate Order*, London, Routledge and Kegan Paul

towards the kind of unity sought by the scientist in his search for the theory of everything. It is an inclusive unity. But unity is itself ambiguous. ‘Unity’ refers not only to the original unity from which all arises, but also to the unity arrived at through classical logic with its formulation of the law of oneness or identity. $A=A$. This is why I said earlier that classical logic is not rejected or ignored by the logic of ambiguity, but is an essential part of it. The drive to unity that goes by way of classical logic goes by way of analysis, which means cutting up. This logic, particularly through “either this or that,” drives towards an exclusive approach. The search for the ‘atom²⁵,’ is the search for that one that cannot be divided and this atom perhaps can only be found in the dimensionless point.

Unity is therefore simultaneously inclusive and exclusive, centrifugal and centripetal. As inclusive unity it goes from the center out to the periphery; as exclusive unity it goes from the periphery to the center. In both cases we are talking about *the same Unity*, One; a one which is two. The Sufis refer to it as the *unoambus*.

As long as we deal conceptually with Unity, we have no difficulty with two unities -- an inclusive unity and an exclusive unity. However, if we deal with Unity as a reality we realize that two unities are impossible, one is one; it is not two. The jealousy of Jehovah, the voice of unity, is legendary. Within Unity therefore dwells a tension coming from the opposed tendencies, the centrifugal tendency, which gives rise to synthesis, and the centripetal tendency, which gives rise to analysis. This tension makes life and existence dynamic. The logic of ambiguity is then the logic of dynamic unity. Wholeness, unity, oneness, all of this implies indivisibility. Organism and individuality are words which also imply unity but imply also going towards unity. It is out of this ‘impossibility’ of divided unity that creation arises. As Simone Weil says, “All true good carries with it conditions which are contradictory and as a consequence is impossible. He who keeps his attention really fixed on this impossibility and acts will do what is good... In the same way all truth contains a contradiction.”²⁶

A complete statement of the logic of ambiguity now reads: *the logic of ambiguity has one face that is ambiguous in principle but unambiguous in expression; it has another face that is unambiguous in principle but ambiguous in expression.* However, as a whole, the logic is one

²⁵ The word atom I derived from the Greek *atomos* that which cannot be divided.

²⁶ Weil Simone, (1986) *An Anthology* (Virago; London) p. 260

ambiguity in principle but two in expression. Unity is therefore not simply a static container, or an abstract concept, but is intensely vibrant, dynamic and creative.

Bridging the gap between mind and matter, the resolution of the mind body problem

Oneness, knowing and being arise from three different ways of referring to a basic and inconceivable but real dynamism. These three stand in an ambiguous relation to each other and this can be expressed as One/(knowing /being)

How does knowing interact with being, or as the question is more frequently asked. how does mind interact with body? The way we normally think about this question is to see an unbridgeable gap between the mind and the body and then to ask how this gap can be bridged. David Chalmers, who advocates that we view consciousness as a reality and not as an epiphenomenon of matter, said that if one gives up trying to explain consciousness in terms of physical processes alone, “[One] will instead be relying on primitive bridging principles. One will have to infer these bridging principles from systematic regularities between physical processes and phenomenological data, where the latter play an ineliminable role. One will presumably want to systematize and simplify these bridging principles as much as possible.”²⁷ By ‘a bridging principle’ he no doubt means that on the one hand lies matter, on the other mind, and a bridge must be found that lies between the two. Both matter and mind are present and have equal status, and the bridging principle will, in some way, connect the two. However, we must ask the question, “Is the bridge of mind or of matter?” Is it an idea or energy? If it is an idea, we now need a bridge between that idea and matter. If it is energy, we now need a bridge between the energy and mind. In other words, there can be no bridging principle.

Using our metaphor and supposing that the young woman stands for knowing, or mind, and that the old woman stands for being or body, let us now ask “How do mind and matter interact?” or, to use Chalmer’s phrase, “What is the most primitive bridging principle?” If we look at the illustration we see the question is meaningless. There can be no interaction; no bridge is possible. When we see the old lady, the young lady is nowhere to be found. How can there be a bridging principle?

²⁷ David J. Chalmers *Moving Forward on the Problem of Consciousness* chalmers@paradox.ucsc.edu

Resonance

Is it possible that “matter” and “mind” interact through something similar to resonance and if so how can our illustration help us to understand this?

If one strikes the note C on the piano, the note C₁ an octave higher will resonate. Why is this so? Why does C₁ an octave higher, and some distance on the keyboard away from note C, resonate, while the note next to note C does not resonate with it? Note C₁ and note C are quite different. To get to note C₁ from note C one must pass through six other notes. Yet, C and C₁ are not different. Note C₁ and note C are the same, both are the note C, which is why they resonate. The strings of note C and C₁ an octave higher, vibrate in sympathy because they are One, they are both note C. They are the same, although they are different.

Note C and note C₁ are One, both are C

The note C is one note, the note C₁ is another; they are quite different.

However, because of the unity underlying C and C₁, resonance is possible between them. This means that a change in one is registered as a change in the other.

Let us use this as an analogy to show a similar kind of possibility first in the illustration of the young/old lady and then in the problem of mind and matter ‘interaction.’

The Young/old lady is one black and white field.

Young and old lady are quite different and self-consistent wholes.

However because of the unity underlying them, resonance is possible between them. This means a change in one is registered as a change in the other

Knowing/being is One: a quantum, {One/(knowing/being)}

Knowing/being are two; neither knowing nor being is subordinate to the other, nor do they interact.

However, because of the unity underlying knowing and being, resonance is possible. This means that a change in one is registered as a change in the other.

To illustrate this let us now refer to the illustration and make a change in the young woman (the equivalent to a change in knowing.) Let us give her a different necklace. We see that,

through resonance, the mouth of the old woman has changed (the equivalent to a change in being.)



Fig. 2

We now see that all four alternative ways of viewing the mind-body ‘problem’ are correct; we do not have to choose between them. The materialist is right. From this point of view there is no consciousness. That is, if we see the old woman, the young woman is nowhere in sight. The idealist is also right; from this point of view, matter is an illusion. If we see the young woman, the old woman exists only in our imagination. The parallelist is right, mind and matter are on different tracks. The interactionist is right; a change in one brings about a change in the other.

Part two

What is consciousness?

A definition of terms

Now let us turn to our first critical question: what is consciousness, and does it evolve? Let us remember that we are concerned with the ‘hard’ problem. To be able to tackle this question we must have some terms on which we can agree, and in the field of consciousness studies this is not at all easy. Even so and generally speaking, a distinction is made between ‘awareness’ and ‘consciousness.’ Sometimes awareness is said to be an outcome of consciousness, and sometimes the consciousness is said to be an outcome of the awareness. I shall use the first alternative and show that consciousness evolves out of awareness. Although arbitrary, nevertheless the etymology of the word “consciousness” does support my point of view.

Webster's dictionary tells us that the etymology of the word consciousness is *con* which means 'with,' 'together,' 'jointly,' and *scire*, meaning 'to know.' Furthermore, the word *scire* is based upon another word *skei* meaning to 'split,' 'to cut.' This leads us to believe that consciousness in some way puts together, through knowing, what was previously split. This idea of a split, or division, also appears in the Sanskrit word for consciousness, *vijnana*. This is composed of two words, *vi* meaning 'divided,' and *jnana* meaning 'primordial knowing,' or 'pure awareness.' I will show that consciousness is complex, whereas pure awareness is not, and that the complexity evolves out of the basic simplicity. By *pure* awareness is meant awareness without content or reflection, and I shall use the word 'awareness' as a synonym for 'knowing.'

I shall continue to use the word 'being' to cover all forms of matter, energy, fields and so on.

I have said that one is dynamic. It is as though a categorical imperative "let there be One!" underlies all.²⁸

The materialist does not need to say how knowing arises. From this point of view there is no knowing, so how could it arise. The idealist, for similar reasons, does not need to say how being arises. Furthermore in each case they take their own starting point, "being" for the materialist, "knowing" for the idealist, as given, which also does not need any explanation for its existence.

I have said that One, knowing and being are three aspects of an inconceivable source. These aspects are somewhat analogous to three aspects, or ways of looking at, a house: plan, side and front elevation. I, in turn, do not have to explain the 'origin' of this inconceivable source. Traditionally it is considered to be without beginning or end; it is without origin.

One further remark on terminology. I am developing a view of consciousness that is, as far as I know, different to any that exist in the West at the moment. This will mean that I shall have to use new terms. I have tried to reduce neologisms to a minimum, but occasionally it will be necessary to use awkward phraseology.

²⁸ André Lamouche develops a similar idea in his book *La Principe de Simplicité dans les Mathématiques et dans les Sciences Physiques* (Gauthier-Villars: Paris) He contends that simplicity is not simply theoretical, but is a principle in nature

Evolution from pure awareness to consciousness

The first step in this evolution is the apparent separation of knowing (awareness) from being. This step we shall refer to as *awareness as being*. I have said that the separation of knowing from being is ‘apparent’ because, here again, we are faced with an ambiguity: knowing both is and is not separate from being²⁹

One Westerner described ‘awareness-as’ in the following way.³⁰ She was standing at the edge of a low cliff overlooking the sea where birds were swooping in the sky when suddenly her mind switched gears. “I still saw the birds and everything around me but instead of standing looking at them, I was them and they were me. I was also the sea and the sound of the sea and the grass and the sky. Everything and I were the same, all one.”

At this level of awareness ‘I’ do not yet appear. Indeed, a pervasive Unity and the lack of the usual feeling of opposition that arises with the sense of ‘I,’ are hallmarks of awareness-as. However one must, for grammatical reasons, use it in a statement such as the above.

The next stage of evolution comes with the awakening of a *viewpoint*, which occurs because awareness is *focussed*; one pays *attention* or one *perceives*. This stage of evolution could be called *awareness-of*. ‘Awareness-of’ does not replace ‘awareness-as’, but arises in the midst of it. In a similar way, waves do not replace the sea but arise in the midst of it. One cannot therefore say [one is]³¹ aware of the world, but instead that [one is] aware of awareness as the world. Michael Polanyi and Harry Prosch make a very similar distinction between two types of awareness in their book *Meaning*³². The two kinds of awareness to which they refer are

The British Philosopher, F.H. Bradley, spoke of this step in the following quotation²⁹.

“We in short have experience in which there is no distinction between my awareness and that of which it is aware. There is an immediate feeling, *a knowing and being in one*, [my emphasis] with which knowledge begins; and though this in a manner is transcended, it nevertheless remains throughout as the present foundation of my known world. And if you remove this direct sense of my momentary contents and being, you bring down the whole of consciousness in one common wreck. For it is in the end ruin (as the history of philosophy has demonstrated) to divide experience into something on one side experienced as an object and on the other side something not experienced at all.”²⁹

³⁰ Maxwell, Meg and Tschudin, Verena (1990) *Seeing the Invisible* (Arkana: London) p 47n

³¹ I have put ‘one is’ in brackets because, at this stage of evolution of consciousness, there is no ‘one’ to be aware.

³² Polanyi Michael and Prosch Harry (1975) *Meaning* (Chicago: University of Chicago Press.) p.33 ‘A striking feature of knowing a skill is the presence of *two different kinds of awareness* of the things that we are skillfully handling. When I use a hammer to drive in a nail, I attend to both, but quite differently. I *watch* [am aware of] the effects of my strokes on the nail as I wield the hammer. I do not feel that its handle has struck my palm but that its head has struck the nail. In another sense of course I am highly alert to the feelings in my palm and fingers holding the hammer. [‘awareness-as’] They guide my handling it effectively, and the degree of attention I give to the nail is given to those fingers to the same extent. But in a different way. The difference may be stated by saying that these feelings are not watched *in themselves*, but that I watch something else by

from awareness, which is similar to ‘awareness as,’ and *focal awareness*, which is similar to ‘awareness of.’

‘Awareness-of’ is still firmly tied to being. This is so because it arises in the midst of ‘awareness-as.’ The metaphor of the sea and the wave can help one to understand what this means. Awareness-of is to awareness-as as the wave is to the sea. ‘Awareness-as’ is simply a modification of the basic knowing/being.’ However, the next step seems to break the tie of awareness with being and an ‘inner’ life arises. This stage occurs when ‘awareness-of’ is turned back on to itself. ‘Awareness-of’ is no longer aware of ‘awareness-as.’ Instead, it is ‘aware-of’ ‘awareness-of.’ This can develop into a vicious circle: ‘awareness-of awareness-of awareness-of...’ [In future I shall refer to this as *iterative awareness*] The feelings that we call emotions arise from this vicious circle.

We have now set the stage necessary to discuss the appearance of consciousness. Consciousness arises as a buffer against the horror of the vicious circle that arises from iterative awareness. I must elaborate on why I say this and why I say that emotions arise from out of the vortex. To do this we shall have to make a fairly long detour, but before making this detour let me sum up in a diagram where we have arrived so far.



These steps would be accompanied by a corresponding evolution in being: particle, atom, molecule and so on. However this cannot be pursued in this article.

being aware of them...I may say that I have a *subsidiary* awareness of the feelings in my hand which is merged into my *focal awareness* of my driving the nail.” I have added the notes in the square brackets.

Me-as-center me-as-periphery

I said earlier, using the Gestalt picture as metaphor, that the one black and white field/(young/old woman) is similar to One/(knowing/being). I pointed out that these three are aspects of what is inconceivable. I also said that when we see the young woman we do not see the old woman nor do we see the one black and white field. Although this is so, yet, when we do see the young woman, neither the old woman nor the black and white fields are absent³³. This means that it is as true to say the young woman *is* the black and white field, or the young woman *is* the old woman, as to say she is not. It is precisely this kind of ambiguity which, although we encounter it constantly, classical logic prevents us from recognizing. For example, a cell is, and is not, simply a collection of molecules. When we see the cell, we do not see the molecules and conversely. Classical logic cannot allow that a cell is and is not a collection of molecules. This leads the reductionist to say that a cell is only a collection of molecules, and a holist to say that it is not. While both are right, both are wrong.

Earlier, I pointed out that Unity is not unambiguous. Its ambiguity comes from its having, simultaneously, both centrifugal and centripetal tendencies. One way in which these tendencies are expressed is in our tendency to grasp wider and wider understanding within simpler formulations on the one hand, and, on the other, our tendency to seek a single element on which all is based. The intuition of the ‘whole,’ the ‘universe,’ is a manifestation of the centrifugal tendency within unity; the search for a *dynamic center*, is a manifestation of the centripetal tendency.

Knowing *is* Unity in the same way that the young lady *is* the black and white field. Awareness-of comes into being with the arising of a viewpoint within awareness-as. Any organism that can perceive has, or is, a viewpoint. This point of view comes out of the centripetal tendency within unity, that, as we said in the last paragraph, is expressed in the search for a dynamic center. The viewpoint arises before the emergence of language, but we usually call it “me,” when the viewpoint appears “me” arises as the center. Me-as-center corresponds to awareness-of awareness-as being. However, another step in the evolution of consciousness arises when awareness-of turns back on to itself. ‘Me’ is no longer the

³³ This is a fairly difficult point to explain. It is, however, the basis of the *Prajnaparamita* tradition. In the *Prajnaparamita Hridaya*, for example, it is said, “Form is only emptiness, emptiness only form.” Nevertheless form is form and emptiness is emptiness.

viewpoint simply as origin. It is now also the viewpoint as destination, and, at first, awareness of awareness arises and then, later, ‘self’ awareness³⁴ becomes possible. Let me explain.

Suppose one goes to a hotel and asks for a ‘room with a view.’ An ambiguity exists in that request. Does one want to ensure that one will be able to *see* the view, or does one want to be sure that there is *a view to be seen*? When awareness is turned back on itself, the viewpoint ‘me’ is simultaneously the seer and what is seen, the observer and the participant, the view and the view. One encounters the expression “the seer and the seen are one” in some spiritual traditions. What is often implied by this is that seer and seen are identical, or merge into one. However manifestly the seer and the seen are not identical. The seer and the seen always remain distinct. These two are quite different, yet they are the same me. Thus, a new ambiguity arises. ‘Me’ is *simultaneously* the center and the periphery, or *me-as-center/me-as-periphery*. The ancients were aware of this basis of consciousness and called it the *ouroboros*, the snake that swallows its own tail.

In the English language we speak of *awareness of awareness*, or *self-awareness*, as the basis of consciousness. For most people ‘awareness-of awareness’ is quite innocuous, but this is only so because the incipient menace of the ouroboros has been *buffered by consciousness and attenuated by the Other*

Me-as-center/me-as-periphery as the source of anxiety

Western psychology sees anxiety as the outcome of traumatic events in life. The implication is that if it were possible to eradicate the influence of all these events, then a person would be free from anxiety. Buddhism, however, says that ‘life is suffering.’ The Sanskrit word used is *duhkha* and *duhkha* not only means suffering, it also means duality. The word *duhkha* shows that suffering and duality are intimately linked³⁵. We suffer then, not because of what has happened to us, but because we are alive. This is so because the duality, out of which suffering arises, is the duality, or ambiguity, me-as-center/me-as-periphery. The ouroboros, in swallowing its own tail, is swallowing itself. Underlying suffering and anxiety is the threat of ‘me’ swallowing ‘me.’ The threat is of incipient horror and the dread of hell.

³⁴ This implies a gradient scale exists from ‘awareness-of-awareness’ that very primitive life forms may have, to the sophisticated ‘self awareness’ of primates.

³⁵ In Sanskrit the word ‘suffering’ is *duhkha*. *Duhkha* also means duality.

The threat is warded off in two ways. The first is through the appearance of the Other, which comes directly out of the ambiguity; the second is through the development of consciousness. Consciousness could be looked upon as a buffer, which mutes the threat. The appearance of the Other, because it comes directly out of me-as-center/me-as-periphery, precedes the development of consciousness. Consciousness, as we shall see, is dependent upon words and concepts. Because of this I shall have difficulty expressing the emergence of the Other and will have to use some awkward and therefore difficult phraseology, the most difficult and awkward of which is ‘me-as-center/me-as-periphery.’ I have hyphenated this phrase because at this level experience is not separated into subject and object, and I have joined the two halves of the statement by (/) to show the ambiguous nature of the relation. The word ‘me’ is used but ‘me’ is not dependant upon language for its existence; ‘I’, as we shall see, is so dependent on language. Sometimes, however, because of the demands of language, I shall regrettably have to use ‘I’ when I mean ‘me.’

Two emotional scales arise from the ouroboros. The first scale, which depends upon the strength of the buffer of consciousness, goes, as we shall see, from terror and horror at one end of the scale to peace and happiness on the other. Because the strength of the buffer of consciousness varies constantly, one’s position on this scale of emotions also varies accordingly. The second emotional scale, which depends upon one’s relation with the Other, goes from hatred at one end of the scale to unconditional love at the other. These two scales coexist although we can distinguish between them.

I shall first show how the Other appears, and then show what is meant by consciousness as a buffer.

Consciousness and the ‘Other’

A myth that is probably universal, is the myth of the *Evil Eye*.³⁶ The myth is based on the belief that a malevolent look can harm the one looked at. In a boxing match, when the opponents meet each other at the beginning of a bout of boxing, they will often look one another in the eye. That look can sometimes determine the outcome of the match. How one person looks into the eyes of another is regulated by ethics and sometimes by rules. For example, the inmates of a concentration camp were forbidden to look the camp guards in the

³⁶ Dundes, Alan *The Evil Eye* 1992 (The University of Wisconsin Press: Wisconsin)

eye. Nature uses the eye as a defense strategy, and some frogs, butterflies, insects, and fish have false eyes. From where does the eye get the power that is evident in all these accounts?

When one looks another in the eye a tension builds up, one is seen and is seeing simultaneously. This tension is the basis of stage fright and can be strong enough to paralyze one temporarily. However, stage fright is often most acute before the speaker addresses the audience. The explanation that is usually given is that the person *imagines* the audience and so is afraid. I suggest that the “look” is responsible for this malaise, just as the look causes the guard to prevent the inmate from looking at him? Why do macho men wear dark glasses, though the light may not be bright? A single explanation is possible for all these, and that explanation is not imagination.

The one who looks is at the center of power, and we have called this center of power, me-as-center. Me-as-center is the result of the centripetal tendency of Unity and so it is the direct emissary of the One, and has the power of the One. The one who is looked at is dependent upon, and at the mercy of, the one who looks. The one who looks dominates the one who is looked at. If you dominate me you are ‘me-as-center,’ I am ‘me-as-periphery.’ Furthermore, if you wear dark glasses you can look at me but I cannot look back at you in the eye and so regain the center of power. When two people of equal status look each other in the eye, the unspoken question arises, “Who is center?” in other words who is dominating whom. Until one or other blinks or looks away a tension arises between them, because only one center is possible.³⁷

Who is the other? Who are you?

When you look at me who is looking? For most people this question presents no problem. ‘You’ are the body in front of me. Yet it is possible for ‘you’ to be there without any physical presence. For example you phone the city hall and speak to a clerk there. You have never met the person before and all that you know of this person is the voice that comes from the telephone. To whom or to what are you talking. Or, consider a well known spiritual experience³⁸,

³⁷ I am referring to the dynamic center and not to the geographical. For more on the distinction between the two see Rudolph Arnheim (1982) *The Power of the Center: A Study of Composition in the Visual Arts* (University of California Press: Berkeley)

“It happened in my room in Peterhouse on the evening of February 1913, when I was an undergraduate at Cambridge. If I say that Christ came to me I should be using conventional words which would carry no precise meaning; for Christ comes to men and women in different ways. When I tried to record the experience at the time I used the imagery of the vision of the Holy Grail; it seemed to me to be like that. There was, however, no sensible vision. There was just the room, with its shabby furniture and the fire burning in the grate and the red-shaded lamp on the table. But the room was filled by a Presence, which in a strange way was both about me and within me, like light or warmth. I was overwhelmingly possessed by Someone who was not myself, and yet I felt I was more myself than I had ever been before. I was filled with an intense happiness, and almost unbearable joy, such as I had never known before and have never known since. And over all was a deep sense of peace and security and certainty.

This kind of visitation happens to us all, but in a much diminished way. When one was a child one might have been afraid of the ‘bogey man’ under the bed, or if one is in a strange house alone in the night one might well have the chilling feeling of a presence lurking. This kind of phenomenon possibly contributed to belief in the Gods that many primitive people have. Furthermore, the widespread belief in ghosts may also be based upon the bodiless Other. Further yet, wooden idols and even computers³⁹ have also had ‘you’ bestowed upon them. How is this possible? Who are you? Again let us dispense with the dreary belief that it is ‘all imagination.’ Undoubtedly, imagination plays a part in some experiences of the above, perhaps sometimes it is the sole cause. Another explanation is possible for the rest of these experiences, an explanation which lies entirely within the very simple schema that I am developing and which will answer the question “Where does the evil eye get its power from?”

It is quite evident from these examples in which you are present without a body, that ‘you’ that looks are not accessible to the senses; I cannot see *you*, although I can see your body. I cannot hear or touch you although I can hear your voice and touch your body. Even so, you have an indisputable reality. Indeed people in love, or people who have had a spiritual

³⁸ See for one example from many thousands Happold, F.C. *Mysticism, A Study and Anthropology* (Pelican Books: London) p 133

³⁹ Frank J. Tipler. (1994) *The Physics of Immortality: Modern Cosmology, God and the Resurrection of (Anchor Books: New York)*

‘encounter’ know that at these times you have a reality that is far more present than at normal times.

Martin Buber, the Jewish philosopher in his book *I and You*, says that there is no 'I,' but 'I' of the basic word 'I-You' and 'I' of the basic word 'I-It'⁴⁰ In other words ‘you’ and ‘me’ arise simultaneously. Buber says, “I require you to become; becoming I, I say You.”⁴¹ I have used the expression, ‘me-as-center/me-as-periphery,’ but, bearing in mind that Buber has just said that I and you are inseparable, I could just as well have used ‘you-as-center/me-as-periphery, or me-as-center/you-as-periphery. In other words me and you both arise out of the fundamental ambiguity that resides in “me” . Meister Eckhart put the matter succinctly when he said, “The eye, with which I see God, is the eye with which God sees me.”

Earlier I said, “If you dominate me, you are ‘me-as-center,’ I am ‘me-as-periphery.”” However, as I have said, this level is upstream of all language and thought. There is no ‘I,’ just ‘you-as-center/ me-as-periphery.’ To quote Buber again, “Nothing conceptual intervenes between I and You, no prior knowledge, no imagination.”⁴² Buber used ‘I-You’ as a primary word, meaning by this a primary condition. Because it is upstream of all words and ideas, ‘me-as-center/me-as-periphery’ is not simply a human condition but a potential condition of all life that can focus awareness and pay attention.

I have said that you are not the body. I cannot know you through any of the senses. I do however know you. You are not a product of my imagination, nor are you a projection. To understand the implications of this let us ask ourselves again why many life forms use staring eyes as a form of defense.⁴³ The eyes act as a trigger, the explosives lie in me-as-center/me-as-periphery and the potential this has to develop into a vicious cycle. When I look into the eyes of another I look and am looked at, center and periphery simultaneously. The ouroboros is aroused from its slumber and a vicious cycle threatens. This does not mean that you are the product of my imagination or mind. Let me repeat, you and I arise simultaneously. Just as my body and personality give expression to me, so your body and personality give expression to

⁴⁰ op cit. P. 54 At this level I would prefer to use the word ‘me’ rather than ‘I’. However it would make the whole thing impossibly difficult to read so I have used ‘I’ when language so demands.

⁴¹ ibid p. 62

⁴² ibid p. 62

⁴³ Fish, frogs, butterflies and insects all have species with ‘eyes’ as a form of protection. Statues with glaring eyes have also been used to protect temples from evil influences. One could use this fact to devise experiments to show the truth of what I am saying. The same experiments could help to determine the extent to which awareness of awareness and self awareness is present in life forms

you. However, neither you nor I am the body and personality any more than an artist is the work of art he creates.

‘Me-as-center/me-as-periphery’ can develop into a vicious circle. When it does so I feel threatened by anxiety, fear, dread terror and horror. It is as if a microphone were held up to a loud speaker, in which ‘me’ is both microphone (center) and loud speaker (periphery.) Anyone who has experienced panic knows what is meant by the vicious cycle. One is anxious, then one becomes anxious about being anxious, then one feels panic at being anxious then one panics because one is panicking. One feels literally in a whirl, or, as one says, one is *beside oneself* with terror. The same build up occurs with anger and other emotions. One is angry, then angry with being angry, then in a rage at being angry then in a rage at being in a rage. To check this build up we develop hatred as a barrier between you and me.

However, ‘me-as-center/me-as-periphery’ is not necessarily a negative cycle. Depending on the circumstances, it can also rise into a positive one. This means that instead of seeking to be the center, I yield the center. To put this in the wording that we have been using, me-as-**center** yields to me-as **periphery**. Here, the result is human and divine ecstatic love. The ‘mechanism’ underlying ecstasy and horror is the same. This is why, for example, St. Anthony would rise to divine contemplation and then fall to grappling with the devil. Love would be the other end of the scale to hatred.

You bear half of my burden as I bear half of yours.⁴⁴ Without you I have to carry the full burden of ‘me-as-center/me-as-periphery’ which, as we have seen, means that I am constantly faced with the threat of horror. This is one important reason why solitary confinement is such a painful experience. Our every day experience of the Other is expressed in the *conversation* in which for a time I⁴⁵ am center, you are periphery. Then, you are center and I am periphery. Conversation is like verbal tennis that we play constantly and in that way we maintain a balance between heaven and hell. We all know the comfort that the presence of others can sometimes bring. And we can also agree with Sartre that sometimes, “Hell is other people.”

⁴⁴ See Kaufman op cit., “The basic word I-You can be spoken only with one’s whole being. The concentration and fusion into a whole being can never be accomplished by me, can never be accomplished without me. I require you to become; becoming I, I say you. All actual life is encounter.” p 62

⁴⁵ ‘I’ is used instead of ‘me’ for grammatical reasons

Many religions that are devotional (or bhakti), among which are some forms of Christianity, have evolved to promote ‘Me-You’ awareness.⁴⁶ All these attest to the truth that this awareness is up-stream of consciousness. Rituals, ceremonies and practices have been developed to enhance awareness of the other as God or the Divine and to encourage humility, self-surrender and devotion by yielding to the sacred Other. However what I have said has deeper implications. The genesis of “me” and “you “ does not lie in being but knowing. Put in plainer words “me” and “you” are not products of matter but arise independently of matter. A very rough analogy might help understand this vital point. The genesis of the Mona Lisa was not in the canvas on which it appeared nor in the paint by which it appeared. However without the canvas and paint it could not have appeared.

Axis Mundi as a stable center.

I said that Me and you is one way that the menace lurking in me-as-centre/me-as-periphery is appeased. Another way is consciousness. Consciousness arises around a stable point which is fixed in place by language. We now call this stable point “I.”

Another Universal Myth, along with the Evil Eye, is the myth of the World Center or *axis mundi*. Possibly the most common of these World Centers was the Cosmic tree.⁴⁷ Mircea Eliade points out that the human being has always insisted on being somewhere for some reason.⁴⁸ The World Center gave the point of orientation. Because of the center one is “somewhere.”

The center not only gave a physical orientation but, and this was even more important, it gave a spiritual orientation also. The center is heaven , it is the most sacred. Eliade says that the nostalgia for paradise is “The desire to find oneself always and without effort in the Center of the World, at the heart of reality; and by a short cut in a natural manner to transcend the human condition, and to recover the divine condition - as Christians would say, the condition before the fall.”⁴⁹ He says, furthermore, “Every human being tends, even unconsciously, towards the Center, and towards his own center, where he can find integral reality -

⁴⁶ see Corbin, Henry, (1969) *Creative Imagination In The Sufism Of Ibn ‘Arabi* (Bollingen series: Princeton)

⁴⁷ “This symbol of a mountain, a tree or a Column situated at the Center of the World is extremely widely distributed.” *Images and Symbols* (1961) (Harvill Press: London)p.42

⁴⁸ A similar need seems to exist in some animals birds and fish . The territorial imperative possibly arises in order to provide a center, (the *noyau* of the territory) for the animal concerned. The experiment using ‘false eyes’ suggested above could be made more sophisticated if combined with territoriality

⁴⁹ *ibid* 55

sacredness. This desire, so deeply rooted in man, to find himself at the very heart of the real - at the center of the world, the place of communication with Heaven - explains the ubiquitous use of “Centers of the World.”⁵⁰

Yet, and by now this could be expected; we encounter yet another ambiguity. To quote Eliade again, “But is there not a certain contradiction here? A whole array of myths, symbols and rituals emphasize with one accord the difficulty of obtaining entry into a center; while on the other hand, another series of myths and rites lays it down that this center inaccessible... The Cosmic tree is, on the one hand, inaccessible; but on the other it may be found in any yourt “ The myths of the wandering Jew, the Holy Grail, Shangri-La, the crock at the end of the rainbow, all have to do with the mythic center, paradise, as well as with the enormous efforts necessary to arrive there. As me-as-center I am already at home, I am already the center. As me-as periphery I wander forever lost searching for the center.

The need for a stable center, or axis mundi is to be found not only in primitive people but in modern civilized people also. Just as awareness has evolved into consciousness, so consciousness itself has evolved. This evolution is marked by the steady introjection of the stable center. This center was originally given expression by a totem pole, a sacred tree, or an idol; now it is given expression by “I” the focal point of consciousness. It is around the focal point that experience is arranged something like iron filings are arranged around a magnetic pole. Language makes this possible, and with the emergence of language the final step to consciousness can be taken. Contentment and happiness arise when the center is stable. When the center loses its power and becomes unstable one is again open to the threat of the ouroborus and to the scale of emotions through depression anxiety, anger rage and boredom. Undoubtedly, the loss of the center can panic and terror and psychiatrists might well find this fact useful in dealing with psychoses, which are always accompanied by a loss of the center. In battles before the 20th Century the aim used to be to capture the standard or colors of the enemy. When the standard was lost the army was routed and fled in panic. The standard was the stable center for the army, when it was lost the army was thrown into disarray⁵¹.

Language

⁵⁰ ibid 54

⁵¹ It is worth pointing out that the standard is still made sacred in England by a ceremony called trooping the colors. This was a ceremony that Hitler adopted using the original flag that was carried during the abortive beer hall putsch as the original sacred center .

What I have just said brings us to the final step in the evolution from awareness to consciousness. Consciousness is the next step in evolution and as we have just said this is made possible by *language*. I distinguish *communication* from language. Probably all life forms communicate, but only humans have language. Communication may or may not be intentional; language is always intentional. Language is the expression of an idea⁵². This expression may be verbal as a spoken or sung word, but it may also be as a dance, a painting, music and so on. Furthermore, this expression may be communicated to another or others, but it need not be. The etymology of the word 'idea' is *idein* 'to see.' Because 'me' is the basis of seeing (awareness of) the first idea and therefore, the word first spoken could well have been the expression of an equivalent of 'me-you, or God-me-the world'⁵³ The effect of language is to *fix* an experience. The word 'fix' is used in a similar way to its use in photography. After one has developed a film one passes it through the chemical bath to 'fix' it, so that it no longer develops and remains at a given exposure. The effect of the primary word would have been to fix the 'me' of 'me-as-center/me-as-periphery.' From the original expression of 'me-you', the word would have evolved into I-It. The motivation for this evolution would have been to make the center increasingly stable, flexible and mobile.

I-It

Consciousness itself, once the first word had been spoken, evolved. As I said above this evolution is accompanied by the steady introjection of the world center as 'I' as well as the establishment of the center as 'it'. 'I-it' is the modern Western person's mythic center. The center, I-It is both subject and object. By this I mean that is we can look from inside. In this case a flag, another person, possessions, even an idea or ideology to be 'I.' Normally we express this by saying, 'my' flag, 'my' house, 'my leader' and so on. Or we can look from outside, in which case the world and everything that inhabits the world, including myself is an object, or "it".

Conclusion

I have now reached the furthest limits that I can go in exploring the 'hard' question of consciousness. We obviously cannot talk about consciousness in a meaningful way unless we can talk systematically about ambiguity. Furthermore, consciousness is not simple but complex and is but a step in the evolution of awareness. To answer the question, "what is

⁵² I make a distinction between idea and concept. Idea is the structuring principle and reveals relations between phenomena. For more on this see Albert Low (2002) *Creating Consciousness*. a study of consciousness, creativity, evolution and violence (The White Cloud Press: Oregon)

⁵³ It is possible, for reasons that are too complex to be given here, that, in the Indo-European languages, the first word spoken was Om. Please see *Creating Consciousness*

consciousness,” one must know the necessary steps leading up to its emergence. An organism can be looked upon as a hierarchy from particles, through atoms and then molecules, into cells and organs. This hierarchy also represents the steps in the evolution of an organism. In the same way consciousness can be seen as a hierarchy starting as knowing being, and progressing through the stages of evolution that I have outlined. Furthermore just as an organism can be modified by changes at any level in the hierarchy, so consciousness too can be influenced by changes that occur at any level. The steps in the evolution, which become levels in the hierarchy, constitute the complexity of consciousness and give it structure.

I have wanted to present a theory of consciousness, to describe the structure of consciousness. In doing this , I have sought at the same time, to clear the decks so that research can go forward unimpeded by the trammels of an inadequate paradigm.⁵⁴

⁵⁴ No doubt one criticism of this article will be that too many assumptions have been made without adequate follow up. I would recommend the critic to read three of my books *The Iron Cow of Zen (1991)* (Charles E. Tuttle: Tokyo), *The Butterfly's Dream, (1993)* (Charles E. Tuttle: Boston) *Creating Consciousness*

Author biography (some remarks):

My qualifications for writing on consciousness are the following. I have for about fifty years made an intense study, including more than thirty-five years practice, of Zen Buddhism. For the first fifteen years this was more or less a theoretical study. In 1966 I met a Japanese teacher Yasutani roshi, and worked with him and then with one of his chief disciples, Kapleau roshi of Rochester, for twenty years. This practice involved a regular practice of three hours each day, and intensive retreats of up to seven days duration. By 1986 this formal training with a teacher was complete. By that time I had already acted as a probationary teacher for seven years. Since 1986 I have continued to practice and teach, and have now taught Zen Buddhism for twenty years.

I have also made an extensive study of Western philosophy and psychology.

I mention these qualifications because most of the questions about consciousness, although new to the West, are very ancient in the East and have been asked for thousands of years. Practices and methods by which to face these questions have been well established there. Just in the same way that the East has learnt much from the West about technology and physical science, so the West is learning from the East about the mind and consciousness. I have therefore drawn on this Zen training to support what I have said.

Another equally important reason makes me mention these qualifications. Contrary to the way of western science I have not adopted, necessarily and as a procedure, an 'objective' point of view. Consciousness, as we have seen, is a last step in the evolution from an inconceivable. What is meant by an inconceivable cannot of course be described conceptually nor grasped objectively. In the Rinzai tradition of Zen Buddhism the fundamental question, "What is 'that' from which awareness arises?" is posed by *koans*. The most celebrated of these is "What is the sound of one hand clapping?" Another is "What is your face before your parents were born?" These two koans are not, strictly speaking, asking two different questions, but are two ways of asking the one question that, as I have already said, cannot be asked conceptually. The first koan could very roughly be said to be asking, "What is being?" in the Heideggerian meaning of this word, "What is the Being of beings?" The second, "What is knowing?" or, to put the question in terms of this article for the moment, what is consciousness? In the practice of Zen, *knowing* and *being* are not separated, and I have shown

what this means in the above. ‘*Knowing-being*’ is the meaning of a basic term in Buddhism, *Bodhisattva*. *Bodhi* means ‘knowing’ and *sattva* means ‘being.’ What knowing and being arise from is neither subjective nor objective. Western philosophy and science insist that all questions must be posed in clear and distinct concepts and so they approach this reality from outside, by induction and logic. For Zen this would give at best, half an answer, at worst a meaningless one

Some of the above, therefore, veering as it did between the subjective and objective extremes, might have been difficult to follow if one insists upon traditional Western philosophical and scientific modes of enquiry. The term ‘subjective’ has two different connotations. The first implies that the description is mixed with personal feelings and prejudices. The second implies a description from within and not from without. As far as possible the second of these two meanings is used when I say that some of the above veers between a subjective and objective description

Bibliography:

- Kaufmann, Walter, translator and editor, (1970) *I and You* (A Touchstone Book: New York)
 Polanyi Michael and Prosch Harry (1975) *Meaning* (Chicago: University of Chicago Press.)
 Bateson, Gregory, *Ecology Of Mind*, (1972) (New York: Ballantyne Books)
 Bradley F.H. (1914) *Essays on Truth and Reality* (Oxford: Clarendon press.)
 Corbin, Henry, (1969) *Creative Imagination In The Sufism Of Ibn ‘Arabi* (Bollingen series: Princeton)
 Eliade, Mircea *Images and Symbols* (1961) (Harvill Press: London)p.42 London)
 Low, Albert *Creating Consciousness* to be Published by White Cloud Press, Ashland, in the September of 2001
 Low, Albert *The Butterfly’s Dream*, (1993) (Charles E. Tuttle: Boston)
 Low, Albert *The Iron Cow of Zen* (1991) (Charles E. Tuttle: Tokyo),
 Sheldrake, Rupert (1988) *The Presence of the Past: Morphic Resonance and the Habits of Nature*. (Vintage : New York)

Glossary:

Ambiguity: From *ambi* meaning ‘two.’ The word is not used to denote confusion or vagueness. In the way that I am using it, it implies a *double bind*

Awareness: knowing that has the capacity to evolve. It is the basis of consciousness. In various forms it is coterminous with all of being

Consciousness: a complex involving ambiguity, awareness, a focal point and language; available to human beings only.

Double bind: An ambiguous condition in which two equally valid alternatives are offered, yet one must be chosen over the other.

Dynamic center: the center of a field of forces from which forces issue and toward which forces converge. Since every dynamic center has the tendency to distribute the forces of its field around itself, its location will be, or conceived to be, coincident with the geographical center.

Dynamic unity: the name given to an inherent dynamism. Although unity cannot be ambiguous, nevertheless this dynamism is made of a centripetal and centrifugal force. This 'impossibility' gives unity its dynamic character.

Hard question: research into consciousness asks two questions. What is consciousness and what are the contents of consciousness? The first has been called the 'hard' question, the second the 'easy' question.'

I: the name given to the dynamic center of consciousness, which holds the center stable.

Knowing: cannot be defined but with unity and being is one of the dimensions of an inconceivable

Logic of ambiguity: A logic which incorporates, but goes beyond, classical logic and Bohr's logic of nature. It states that there is an ambiguity one face of which says there is an ambiguity, the other face says there is not. The face that says there is not an ambiguity is itself ambiguous. The logic of ambiguity could be called the logic of life.

Me: a name given to the viewpoint which is inherent in any organism capable of giving attention and perception. It is upstream of language and so therefore the name is an expediency, whereas the name 'I' is intrinsic to consciousness.

Me-as-center/me-as-periphery: the potentiality for the viewpoint to reflect back on itself as awareness-of awareness and, in primates and humans, as self awareness. It would seem to be present in fish, birds, and animals.

Viewpoint: a point of origin, of attention and perception. It arises from the ambiguity of One/ knowing

You: a name given to the ambiguous viewpoint me-as-center/me-as-periphery or me/you. Like the name 'me' the name 'you' is used as an expediency. Animals, fish and birds would know 'you.'

Zen: a school of Buddhism which had its origins in China in 500 CE. The word means both contemplation and samadhi, a state beyond the dualism of mind-matter, me-you.

Albert Low LLD

Director and teacher

The Montreal Zen Center

824 Park Staley

H2C 1A2

www.zenmontreal.c a\zenlow@aei.ca

(514) 388 4518