

The Evolution of Consciousness

By Peter Russell

Before we can begin to consider the evolution of consciousness, we have to ask when consciousness first arose. Are human beings alone conscious, or are other creatures also conscious? Is an animal such as a dog, for example, conscious?

Dogs may not be aware of many of the things we are aware of. They are not conscious of much beyond their immediate world, the world defined by the span of their senses. They know nothing of lands beyond the oceans, or the space beyond the earth. Nor can dogs be aware of much beyond the present time. They know nothing of the course of history, or where it might be headed. They are not aware of their inevitable death in the same way that we are. They do not think to themselves in words, and they probably do not reason as we do. And they do not seem to have the self-awareness that we do; they certainly do not get caught up in concern for their own self-image, with all the strange behaviors that engenders. But this does not mean that dogs have no awareness at all.

Dogs experience the world of their senses. They see, hear, smell, and taste their world. They remember where they have been. They recognize sounds. They may like some people or things, and dislike others. Dogs sometimes show fear, and at other times excitement. When asleep, they appear to dream, feet and toes twitching as if on the scent of some fantasy rabbit. They clearly are not just a biological mechanism, devoid of any inner experience. To suggest that they are not conscious is absurd -- as absurd as suggesting that my neighbour across the street is not conscious.

Where dogs differ from us is not in their capacity for consciousness but in what they are conscious of. Dogs may not be self-aware, and may not think or reason as we do. In these respects they are less aware than we are. On the other hand, dogs can hear higher frequencies of sound than we do, and their sense of smell far surpasses our own. In terms of their sensory perception of the world around, dogs may be considered more aware than humans.

A useful analogy for understanding the nature of consciousness is that of a painting. The picture itself corresponds to the contents of consciousness; the canvas on which it is painted corresponds to the faculty of consciousness. An infinite variety of pictures can be painted on the canvas; but whatever the pictures, they all share the fact that they are painted on a canvas. Without the canvas there would be no painting.

The pictures that are painted on the canvas of consciousness take many forms. They include our perceptions of the world around, our thoughts, our ideas, our beliefs, our values, our feelings, our emotions, our hopes, our fears, our intuitions, our dreams and fantasies -- and more. But none of this would be possible if we did not in the first place possess the capacity for consciousness. Without it there would be no subjective experience of any kind.

Are All Creatures Conscious?

If dogs have the faculty of consciousness, then by the same argument so must cats, horses, deer, dolphins, whales, and other mammals. Why else would we require veterinarians to use anesthetics?

If mammals are conscious beings, then I see no reason to suppose birds are any different. Some parrots I have known seem as conscious as dogs. If birds have the capacity for consciousness, then it seems natural to assume that so do other vertebrates -- alligators, snakes, frogs, salmon, and sharks. What they are conscious of may vary considerably. Dolphins "see" the world with sonar; snakes sense infrared radiation; sharks feel with electric senses. The pictures that are painted in their minds may vary considerably; but, however varied their experiences, they all share the faculty of consciousness.

Where do we draw the line? At vertebrates? The nervous systems of insects may not be as complex as ours, and they probably do not have as rich an experience of the world as we do. They also have very different senses, so the picture that is painted in their minds may be totally unlike ours. But I see no reason to doubt that insects have inner experiences of some kind.

How far down do we go? It seems probable to me that any organism that is sensitive in some way to its environment has a degree of interior experience. Many single-celled organisms are sensitive to physical vibration, light intensity, or heat. Who are we to say they do not have a corresponding degree of consciousness?

Would the same apply to viruses and DNA? Even to crystals and atoms? The philosopher Alfred North Whitehead argued that consciousness goes all the way down. He saw it as an intrinsic property of creation.

Consciousness and Biological Evolution

If all creatures are conscious in some way or other, then consciousness is not something that evolved with human beings, or with primates, mammals or any other particular degree of biological evolution. It has always existed. What emerged over the course of evolution were the various qualities and dimensions of conscious experience -- the contents of consciousness.

The first simple organisms -- bacteria and algae -- having no senses, were aware in only the most rudimentary way: no form, no structure, just the vaguest glimmer of awareness. Their picture of the world is nothing but an extremely dim smudge of colour -- virtually nothing, compared to the richness and detail of human experience.

When multicellular organisms evolved, so did this sensing capacity. Cells emerged that specialized in sensing light, vibration, pressure, or changes in chemistry. These cells formed sensory organs, and as they developed, the ability to take in information increased. Eyes are not only sensitive to light; they react differently to different frequencies, and can tell from which direction the light is coming. The faintest smudge of the bacterium's experience had begun to take on different hues and shapes. Forms had begun to emerge on the canvas of consciousness.

Nervous systems evolved, processing this data and distributing it to other parts of the organism. Before long, the flow of information required a central processing system, and with it a more integrated picture of the world appeared. As brains evolved, new features were added to consciousness. With reptiles the limbic system appeared, an area of the brain associated with emotion. Feeling had been added.

In birds and mammals the nervous system grew yet more complex, developing a cortex around it. With the cortex came other new abilities. A dog chasing a cat around a corner holds some image in its mind of the cat it can no longer see. Creatures with a cortex have memory and recognition; they can pay attention and show intention.

With primates the cortex grew into the larger, more complex neo-cortex, adding yet more features to consciousness. The most significant of these was the ability to use symbols. Not only did this ability enable simple reasoning, it also led to a new form of communication -- symbolic language.

Chimpanzees and gorillas may not be able to speak as we do, but this is not because they lack something in their brains; they lack a voice. They have no larynx, or voice-box, and cannot move their tongues as freely as we can. But they can use other forms of symbolic language. When taught sign language, such as that used by the deaf, they show a remarkable ability to communicate. Coco, a

gorilla in California, now has a vocabulary of more than a thousand words, and composes sentences in sign language.

Language and Consciousness

For one reason or another, human beings evolved slightly differently. We have a well-developed voice-box, and after the first year of life the tongue frees up, permitting the complex sounds necessary for speech. With these two seemingly small advances, everything changed.

Being able to speak allows us to share our experiences with each other. Whereas a dog learns principally from its own experience, and builds up its knowledge of the world from scratch, we can learn from each other. We can build up a body of collective knowledge and pass it on from one generation to another -- the foundation of a cohesive society.

This new ability has expanded our consciousness in several ways. Our experience of space expanded as we learnt of events beyond our immediate sensory environment. And as we learnt of events that had happened before our own lives, our experience of time expanded.

As well as using speech to communicate with each other, we can also use it to communicate with ourselves, inside our own minds. We can think to ourselves in words. Of all the developments that came from language, this has probably been the most significant.

Thinking allows us to conjure up associations to past experiences. When we think of the word "tree", images of trees readily come to mind. Or if we think of a person's name, we may find ourselves remembering past experiences with that person. Other creatures may well experience associations to past experiences, but their associations are almost certainly determined by their immediate environment; what is out of sight is out of mind. Thought liberated human beings from this constraint. We can deliberately bring the past back to mind, independently of what is happening in the present.

In a similar way, thinking expanded our appreciation of the future. We can think about what might or might not happen, make plans and take decisions. A new inner freedom had been born -- the freedom to choose our future and so exercise a much greater influence over our lives.

Thinking in words opened our minds to reason. We could ask questions: Why do stars move? How do our bodies function? What is matter? A whole new dimension had been added to our consciousness -- understanding. We could form hypotheses and beliefs about the world in which we found ourselves.

We could also begin to understand ourselves. We could think about our own conscious experience. We became aware not only of the many aspects and qualities of our consciousness, but also of the faculty of consciousness. We are aware that we are aware -- conscious of the fact that we are conscious.

Consciousness could now reflect not only upon the nature of the world it experienced, but also on the nature of consciousness itself. Self-reflective consciousness had emerged.

Self-consciousness

As we reflect upon our own consciousness, it seems that there must be an experiencer -- an individual self that is having these experiences, making all these decisions, and thinking all these thoughts. But what is this self? What is it really like? What does it consist of?

Questions such as these have intrigued and puzzled philosophers for centuries. Some, like the Scottish philosopher David Hume, spent much time searching within their experience for something that

seemed to be the true self. But all they could find were various thoughts, sensations, images and feelings. However hard we look, we never seem to find the self itself.

Not finding an easily identifiable self at the core of our being, we look to other aspects of our lives for a sense of identity. We identify with our bodies, with how they look, how they are dressed, and how they are perceived by other people. We identify with what we do and what we have achieved; with our work, our social status, our academic qualifications, where we live and who we know. We derive a sense of who we are from what we think, our theories and beliefs, our personality and character.

There is, however, a severe drawback to such a sense of self. Being derived from what is happening in the world of experience, it is forever at the mercy of events. A person who draws a strong sense of identity from their work may, on hearing that their job is threatened, feel their sense of self is threatened. Someone else, who identifies with being fashionably dressed, may buy a new set of clothes every time the fashion changes, not because they need new clothes, but because their sense of self needs to be maintained. Or if we identify with our views and beliefs we may take a criticism of our ideas to be a criticism of our self.

Any threat to our sense of self triggers fear. Fear is of great value if our physical self is being threatened. Then we need to have our heart beat hard, our blood pressure rise, and our muscles tense. Our survival may depend on it. But this response is totally inappropriate when all that is being threatened is our psychological self.

Having our bodies repeatedly put on full alert is a principal cause of stress. We can easily end up in a permanent state of tension, opening us up to all manner of physical illnesses. Our emotional life may suffer, leading to anxiety or depression. Our thinking and decision making can likewise deteriorate.

Fear also leads to worry. We worry about what others might be thinking of us. We worry about what we have done or not done, and about what might or might not happen to us. When we worry like this, our attention is caught up in the past or the future. It is not experiencing the present moment.

Perhaps the saddest irony of all is that this worry prevents us from finding that which we are really seeking. The goal of every person is, in the final analysis, a comfortable state of mind. Quite naturally, we want to avoid pain and suffering, and feel more at peace. But a mind that is busy worrying cannot be a mind that is at peace.

Other animals, not having language, do not think to themselves in words, and do not experience many of the worries that we do. In particular, they do not experience all the worries that come from having a vulnerable sense of self. They are probably at peace much more of the time. Human beings may have made a great leap forward in consciousness, but at our present stage of development we are no happier for it -- quite the opposite.

Transcending Language

There is, it would appear, a downside to language. Language is invaluable for sharing knowledge and experience -- without it human culture would never have arisen. And thinking to ourselves in words can be very useful when we need to focus our attention, analyze a situation, or make plans. But much of the remainder of our thinking is totally unnecessary.

If half my attention is taken up with the voice in my head, that half is not available for noticing other things. I don't notice what is going on around me. I don't hear the sounds of birds, the wind, or creaking trees. I don't notice my emotions, or how my body feels. I am, in effect, only half-conscious.

Just because we have the gift of being able to think in words does not mean that we have to do it all the time. Many spiritual teachings seem to have recognized this. In Buddhism, for example, students

are often advised to sit with a quiet mind, experiencing "what is" without naming it in words or putting it into some category -- to see a daffodil as it is, without the labels "daffodil", "flower", "yellow" or "pretty". To see it with the mind in its natural state, before language was added to our consciousness.

Sat Chit Ananda

Returning the mind to this simple pre-linguistic state of consciousness is not easy. A lifetime of conditioning makes it hard to stop thinking and let go. This is why many spiritual teachings include practices of meditation designed to quieten the voice in the head, and bring us to a state of inner stillness. In Indian philosophy, this state is called samadhi, "still mind".

Furthermore, it is said that when the mind is still, then one knows the real self, and the nature of this self is, according to the ancient Vedic teachings, sat-chit-ananda.

It is sat -- "the truth, unchanging, eternal, being". It is always there, whatever our experience. It never changes. It is not a unique self; it has no personal qualities. It is the same for everyone. It is the one undeniable truth -- the fact that we are conscious.

It is chit -- "consciousness". It is not any particular form or mode of consciousness, but the faculty of consciousness. It is that which makes all experience possible.

And it is ananda -- "bliss". It is the peace that passeth all understanding, that lies beyond all thought. It is the state of grace to which we long to return; from which we fell when we began to fill our minds with words.

This is the self that we have been seeking all along. The reason we have had such difficulty finding it was that we have been looking in the wrong place. We have been looking for something that could be experienced -- a feeling, a sense, an idea. Yet the self cannot be an experience. It is, by definition, that which is experiencing. It is behind every experience, behind everything I see, think, and feel.

What the mystical traditions around the world seem to be saying is that the self, that sense of I-ness that we all feel, but which is so hard to pin down or define, is actually consciousness itself. The pure self is pure consciousness -- the faculty of awareness common to all sentient beings.

Moreover, when we come to know this to be our true essential nature, our search for identity ends. No longer is there any need to buy things we don't really need, say things we don't really mean, or engage in any other unnecessary and inappropriate activities in order to reinforce an artificially derived sense of self. Now we discover a deeper inner security, one that is independent of circumstances and events. Here is the peace we have long been seeking. It is right here inside us, at the heart of our being. But as with the self, we have been looking for it in the wrong place -- in the world around.

Our Evolutionary Imperative

With the advent of human beings, the awakening of consciousness took a huge leap forward. Consciousness began becoming aware of itself. But at present this leap is only partially complete. We may be self-aware, but we have not yet discovered the true nature and potential of consciousness. In this respect our inner evolution has some way to go.

Throughout history there have been those who have evolved inwardly to higher states of consciousness. They are the saints and mystics who have realized the true nature of the self. Such people are examples of what we each have the potential to become. There is nothing special about them in terms of their biology. They are human beings, just like you and me, with similar bodies and

similar nervous systems. The only difference is that they have liberated themselves from a limited, artificially derived sense of identity and discovered a greater peace and security within.

In the past the number of people who made this step was small, but the times we are living through make it imperative that many more of us now complete our inner evolutionary journey into full wakefulness.

The many crises that we see around us -- global warming, desertification, holes in the ozone layer, disappearing rainforests, polluted rivers, acid rain, dying dolphins, large-scale famine, a widening gap between the "haves" and the "have nots", nuclear proliferation, over-exploitation, and a host of other dangers -- all stem in one way or another from human self-centredness. Time and again we find decisions being made not according to the merits of the situation at hand, but according to the needs of the individual or special interest groups. Governments strive to hold on to power, businesses seek to maximize profit, leaders want to retain their status, and consumers around the world try to satisfy their own needs for identity and security. In the final analysis, it is our need to protect and reinforce an ever-faltering sense of self that leads us to consume more than we need, pollute the world around, abuse other peoples, and show a careless disregard for the many other species sharing our planetary home.

Even now, when we recognize that we are in great danger, we fail to take appropriate remedial action. We continue driving our cars, consuming dwindling resources, and throwing our waste into the sea because to do otherwise would inconvenience ourselves.

The global crisis now facing us is, at its root, a crisis of consciousness. The essence of any crisis, whether it be a personal crisis, a political crisis, or, as in this case, a global crisis, is that the old way of functioning is no longer working. Something new is being called for. In this case the old way that is no longer working is our mode of consciousness. The old mode is destroying the world around us, and threatening the survival of our species. The time has come to evolve into a new mode. We need to wake up to our true identity, to make the step that many saints and mystics have already made, and discover for ourselves the peace and security that lie at our core.

With the advent of human beings, evolution has ceased to be a blind affair governed by random genetic mutations. A new degree of freedom has appeared; we can think ahead and determine our own future. Our further evolution is now in our own hands -- or rather, in our own minds.

Our next step is to rise beyond the handicaps that came with the gift of language and discover who we really are. Then, free from the need to reinforce an artificially derived sense of identity, we will be able to act in accord with our true needs -- and with the needs of others and the needs of our environment.

Relieved of unnecessary fears, we will be in a much better state to cope with the many changes that we will undoubtedly see over the coming years. Liberated from unnecessary self-centredness, we will be free to care for each other, to offer others the love we so much want for ourselves. And we will be in a much better position to build a new world -- one that is not so driven by this halfway stage in the unfolding of self-consciousness.

Our task is to manifest this change on earth, now -- both for our own sakes and for the sake of every other creature.