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*The Idea of God*

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NATIONAL INSTITUTE OF ADVANCED STUDIES

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As ideas go, the idea of God is perhaps one of the oldest to have caught the imagination of humanity. When I say God, I refer also to spirituality in all its manifestations. So powerful has been the hold of this idea on the minds of people that in spite of millennia having passed, it has continued to occupy a permanent place in our lives. The idea has inspired the highest in various forms of human endeavor – poetry, sculpture, philosophy – as well as the lowest – wars, domination, slavery and all forms of aggression. And as we all know, it continues to do so to the present day.

At the end of the 19<sup>th</sup> century, there was this opinion that with the continued advancement of science, the idea would weaken. Nietzsche (1954), amongst others, had

announced the death of God only to be challenged by the following graffiti:

“God is dead”

– Nietzsche

"Nietzsche is dead"

– God

Freud believed that God was an illusion created by the human mind to invoke a father figure who would hold our hands as we face nature's capriciousness. He hoped that through education – he called it education to reality – man would become mature enough to forgo this idea (Freud, 1985).

Nothing like that has happened. Materialist philosophies denying the existence of God have appeared in all cultures and civilizations – for example the philosophy of Ajivikas and Lokayatas in ancient India (Basham 1971) and communism in the modern world – but they have disappeared leaving behind only tiny groups of adherents.

A Gallup poll conducted amongst adult Americans and published in a January 1996 issue of *The Wall Street Journal* (Gallup *et al* 1996) showed that 96 per cent believed in God, 90 per cent in heaven, 79 per cent in miracles and 73 per cent in hell. It is not only the lay people who continue to believe in God. A study conducted by *Nature* magazine in 1997 (Larson *et al* 1997) amongst a random sample of 1000 American men and women in science revealed that 40 per cent believed in a personal

God. Mathematicians came up as top believers with a figure of 45 per cent. I could not lay my hands on any similar survey carried out in India, but in a study on Scientific Creativity conducted by me along with Dr Susmita Subramanyam (1999) we asked questions about belief in God and spirituality. The sample was very small – only 20 – but for whatever it is worth, 10 out of 20 senior scientists from the Indian Institute of Science, a major science establishment in the country, believed in God or at least a superior force which *directs* the happenings in the world.

When people are asked why they believe in God, the most common answer is that there seems to be a design in this universe as well as life in it – and if there is a design there must be a designer. Since laws govern the universe, there must be a lawgiver. The body parts of a living being are so perfectly attuned to the function they perform that they must have been created by a superior intelligence.

Reputed scientists have themselves contributed to the strengthening of such beliefs by making statements, which are taken as supportive proofs by the ID community (i.e. people who believe in an intelligent designer). For example Freeman Dyson (1979) says:

As we look out into the universe and identify the many accidents of physics and astronomy that have worked to our benefit, it almost seems as if the universe must in some sense have known that we were coming.

Stephen Hawking (1996) says:

Why is the universe so close to the dividing line between collapsing again and expanding indefinitely? In order to be as close as we are now, the rate of expansion early on had to be chosen fantastically accurately. If the rate of expansion one second after the big bang had been less by one part in  $10^{10}$ , the universe would have collapsed after a few million years. If it had been greater by one part in  $10^{10}$ , the universe would have been essentially empty after a few million years. In neither case would it have lasted long enough for life to develop. Thus one either has to appeal to the anthropic principle or find some physical explanation of why the universe is the way it is.

Let me paraphrase something said by the physicist Frank Tipler (1994) who is a member of the anthropic community, i.e., the group of people who believe that the Universe is adapted to man. According to him, intelligent life which has come upon the earth has already learnt something about the laws of the universe, and as a result can control some phenomenon. It will keep growing more and more, learning more and more and becoming able to control more and more, till it knows and can control everything there is to know and control. This, according to him, is the *omega* point, the all-knowing and all-powerful being. This being will then have the power to resurrect all there was before. By implication, this powerful being will

then be able to start the universe all over again. I wonder why he hesitates to call this being God.

Biologists who cannot fathom how evolution could have produced such wonderful life forms through the blind process of natural selection also mount the argument for design. They talk of irreducible complexity (Behe 1996) in life forms, by which they mean a compound of several matched interacting parts, all of which contribute to the basic function. According to them any removal or change in any one part will cause the system to effectively cease functioning. The common example they give is of the human eye. Everything in the eye is so perfectly matched so as to facilitate vision. "How could natural selection create the human eye when none of the individual parts has by itself any adaptive significance?" they ask.

Those who do not believe in the anthropic principle have of course challenged all these arguments. If we can think of uncountable atoms, uncountable planets and uncountable stars, why not think of uncountable universes, one of which might just have the necessary preconditions for life? Alternatively, why not accept Hawking's own model of the universe (1988) in which time and space form a closed surface with no beginning and no end? The universe never started; it always was and is. The argument for an irreducible complexity of life forms has also been challenged. There is a well-described evolutionary path from eyespot to deep recessed eyespot, to pin hole camera to lens eye and finally the complex human eye. Further,

why believe that the human eye is so well designed? The light sensitive cells sit behind amacrine cells, which sit behind ganglion cells, which sit behind blood vessels. This is inefficient, to say the least (Shermer 2000). Any designer with any sense would have put the light sensitive cells right behind the lens.

Stephen Jay Gould further challenges the argument for the anthropic principle by invoking the historical laws of contingency (Gould 1989). According to him, evolution occurs through an unpredictable sequence of antecedent states, where any major change in any step or sequence would alter the final result. If the tape of life is wound back and replayed, there is very little chance of human beings, as we know them, being evolved.

The debate is still going on.

In my opinion, the real mistake the new cosmologists and the new creationists, as well as those who oppose them are making is in seeking scientific support for something which is a matter of belief and faith. Science is a process of inquiry aimed at building a testable body of knowledge constantly open to rejection and confirmation. Religion and faith are sets of belief, which provide meaning to life, whose truths are final and confirmed by faith.

The question we should really be asking goes like this, "What are the mechanisms which install and sustain belief systems in the absence of corroborating facts?" To understand these mechanisms and their relationship to God and religion we need to take cues from the science of

psychology and the new advances in our understanding of the brain function. From this body of knowledge, I shall now selectively pick out such features which are relevant to our discussion.

It is now believed that the brain makes sense of the environment through certain collective functions, which have been called cognitive operators (Newberg *et al* 2001).

These are:

- A. Holistic Operator: This allows the world to be seen as a whole.
- B. Reductionist Operator: This is the antithesis of the holistic operator and enables the mind to see the whole broken into its parts.
- C. Abstractive Operator: This helps in arriving at general concepts from perception of individual facts.
- D. Quantitative Operator: This permits abstraction of quantity from perception of various elements.
- E. Causal Operator: This helps to interpret all reality as a sequence of specific causes and effects. This is the basis of how and why questions.
- F. Binary Operator: This helps the mind to make sense of things by reducing the most complicated relationships of space and time to simple pairs of opposites, e.g. Up vs. down, left vs. right, before vs. after and so on.
- G. Existential Operator: This operator assigns the sense of reality to the sensory information processed by brain. This tells us what is possible and what is impossible.

H. Emotional Value Operator: This provides emotional value to the elements of perception and cognition.

These operators are standard equipment in all human brains and help us to understand and respond to the environment in essential human ways. So effective are these in adaptation and survival that there is a biological compulsion to use them. There is what can be called a cognitive imperative, which operates all the time. We cannot stop it. We must find meaning in our experiences. If we close our minds and try not to imagine where we are sitting or what is going on around us, we simply cannot do it.

The operator which perhaps leads us to 'God' most powerfully is the causal operator. What is the cause of X? If the cause is given as Y then what is the cause of Y? And so on, ad infinitum, till one has to stop somewhere. For most people the stoppage point is God or some variant of God.

Newberg and his colleagues (2000) give the following illustration to understand the cognitive imperative:

Think of a hunter in the midst of a forest. As he is moving towards his target (let us say, a deer) he hears a sound behind him. What is it? Is it a footstep? Is it a twig breaking? Who broke the twig? Is it just a breeze? Is it a deer? Is it a tiger? He looks back, but there is no tiger. The memory of the times when he saw a tiger jumps up in his mind. There is a mental scanning of various possibilities. As the cognitive operators are helping him analyze the

situation, the emotional evaluator is giving negative signals, Finally the moment comes when the hunter runs away even when there is no sensory evidence of tiger. The hunter does not know – does not have to know whether there was a real tiger lurking behind. It was enough that he believed it. Believing has survival value. The cognitive imperative forces a belief in the absence of knowledge.

This was a small example to illustrate how beliefs are formed. But there are larger questions in human life than the presence or absence of a tiger. For example, human beings must have come across death very early in their evolution. What is death? What happens after death? Where did I come from? Where will I go? Who made this universe? These are metaphysical questions which the cognitive operators, especially the causal operator, forces on us. Material environment fails to provide answers. Cognitive operators must find answers, otherwise tension will build up.

The answers come from conjectures, which become beliefs. Beliefs coalesce to form belief systems. Belief systems are elaborated by our story-telling propensity to become myths. Myths are powerful things – the power coming from their emotional charge. The emotions are of three kinds. Firstly, there is the emotion of satisfaction and joy at having found an answer. Secondly, there is an emotion of awe at the sheer daring of imagination, which produced the answers. Thirdly, there is the emotion of inspiration arising out of the metaphorical language in

which myths are pronounced. Myths when shared by a community become religions. Myths are a part of human legacy. The fact that Neanderthal graves show the presence of tools, clothing and essential supplies alongside the skeletal remains demonstrates that even at that early state in his evolution, man had some myths to explain what happens after death.

In course of time, religions proceed beyond their mythical origins and develop logical systems, vocabulary, rules and customs. They also provide guidelines for ethical and moral interpersonal behavior. Philosophers have worried for generations about the logical basis of morality. Sociologists have argued that unselfish behavior is necessary for the growth of civilizations. Biologists have entered the foray by proposing that altruistic behavior helps in the preservation of species. All of them give rational arguments, but in my opinion, rationality cannot make for a strong and permanent basis for morality. What can be argued in, can be argued out. Moral values prevail when they in fact arise out of faith, which as we understand is irrational.

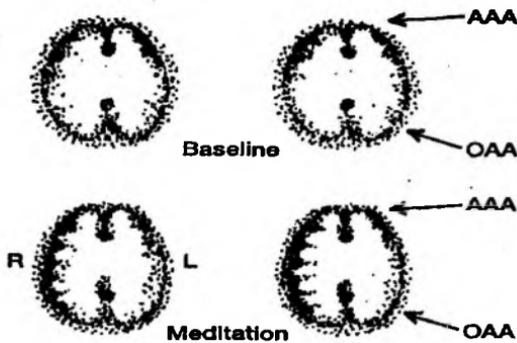
It must be understood that logic, vocabulary, rules and customs, which are necessary for social intercourse, do not provide sustenance to religions. Once the allegorical power of Abraham talking to God, Christ dying for humanity, Gabriel exhorting Mohammed to recite the *Suras*, *Tat Tvam Asi* or the stories of *Dashavtaras* is lost, the religions die, only to give place to others which answer the existential questions in a more attractive emotional packaging.

I have described one route to God and religion but there is another equally important route. This is the route of mystical experience. A mystical experience (James 1963) may be defined as an intuition of a person's numerical oneness with a larger consciousness, an intuition called God by one, *Brahman* by the other, *Sunyata* by the third and so on. The important thing is that it is an experience which cannot be described in terms of something familiar to ordinary consciousness. People who have gone through this experience have tried to talk about it and the wonderful thing is that whatever the description, from whichever culture, there is almost a monotonous similarity in what is said.

The descriptions go like this: "I felt one with the whole universe. I lost sense of myself. I lost my Will. I was in the hands of a superior power. There were no time and space. I was ecstatic. I would love to have the experience again". People who have had such experiences also describe having seen visions and these visions often seen more real than what they perceive in the ordinary consciousness.

All of us have had a taste of mystical experience at one time or the other, for example, when watching a beautiful sunrise, looking at the face of a child, seeing a beautiful painting, listening to music or having a joyful sexual experience with a lover. All these situations have the potential for arousing feelings of the loss of a sense of self and the experience of oneness. And of course there are formal meditative techniques during which every one can experience this oneness. All this and the fact that all

descriptions of the state are essentially similar, makes one suspect that there must be an underlying neuro-physiological basis to the phenomenon. Neurosurgeons Ramchandran and Blakelee (1998) have shown that the temporal lobe might be important to such an experience. More recently a group of neurologists (Newberg et al 2001) have taken pictures of brains in the meditative state using single photon emission computed topography (SPECT). The following is a diagrammatic representation of what they found:



The picture shows that there is a decrease in neuron activity in the left posterior superior parietal lobe or the orientation association area (OAA). This area normally gives us the sense of our body image, that is boundaries of our body in space. It would be obvious that the knowledge of our body boundaries is very important to us. Without this we cannot separate ourselves from others. Indeed, we cannot even walk about. The experiment suggests that in a deep meditative state there are brain changes which are probably the basis of the 'oneness' experience.

Whatever the neurological correlates, there is no denying the fact that human beings have the capacity to have mystical experiences. What is the survival value of this function? Nothing very obvious comes to mind but let me hypothesize. I think the survival value is the sense of comfort of knowing that we are a part of something bigger, which has no beginning or end in space and time. This experience counters the fear of death. One may want to ask, "Supposing there was indeed a *reality* larger than the reality of ordinary consciousness, how would one distinguish the experience from that produced by just the play of the neurons?" This is in fact a deep philosophical question. How do I know that what I see is really real or just a play of my neurons? Supposing a higher *reality* really existed it would still have to be experienced through the neuronal channels!

There is a third psychological issue, which we must consider. Life is difficult and frightening. It would be wonderful if there was a father or mother figure that will take us into their arms and make these difficulties and fears go away. This need stimulates beliefs about a caring and loving higher being. The fact that many of us, when in distress, immediately set to pray to such a being is due to conditioning which occurs in childhood under the influence of family members who react the same way.

It is my thesis that the idea of God in all its variations is the result of the interplay between all these psychological factors – the capacity to make myths, the capacity to

experience altered states of consciousness, and finally the need to love and be loved.

If we look through the history of religions, we find that all these psychological factors have played their part in their development, with one or the other playing a more prominent role. Not being a historian of religion, I am unable to take you through the chronological trajectories of various faiths and creeds, but even from my rather limited understanding I find that man, over the centuries, has mixed these three ingredients to conceive of every form of God and spirituality which the brain is capable of conjuring up. Further, though one religion has taken one or the other road, it has tested conceptual bye-lanes – little streets which connect up to the roads which other religions have taken. We know that every religion, however clear its tenets, does have minority groups who have a slightly different conception of spirituality than that held by the mainstream followers. And how can it be not so? Brain mechanisms being the same across cultures will, over the course of time, provide stimuli for alternative beliefs.

Let us now see how the religions developed.

All religions, in their early phases, start by positing spirits as the cause of the awe-inspiring elements and phenomenon of nature. All cultures have a history of appeasing these spirits with sacrifices. As the particular civilizations grew, these spirits also grew. They acquired character, personality and life stories. The spirits become minor gods – *Indra, Varuna* in Hindu mythology. *Apsu,*

*Mummu, Marduk, Tiamat and Baal* in the Middle Eastern mythology. These minor gods had human characteristics; they could be capricious, shy, angry or friendly depending on how the humans related to them. Once their friendship was inculcated they became part of the family and would offer advice or rebukes. They would utilise their superior powers to do things for the people. I found it very fascinating that in the Sumerian mythology architects used to come from heaven to build palaces and cities of the people below, just like Vishwakarma did for the kings in the Indian epics.

As the civilizations matured further these gods did not seem satisfactory any more. The existential questions become more important and man got the courage to openly ask those questions. The Creation hymn in the Rig Veda puts these existence questions most poignantly (Wendy O'Flaherty 1981): "There was neither existence nor non-existence, neither death nor immortality then. What stirred? WHO REALLY KNOWS? Gods came afterwards. Who knows whence it (universe) has arisen? Perhaps it formed itself. Perhaps it did not. The one who looks down upon it from the highest heaven – Only he knows. OR PERHAPS EVEN HE DOES NOT". These are big questions.

Big questions deserve big answers. For the early Aryans on the Indian subcontinent, the answer came in the form of *Brahman*. "All is one. Everything is *Brahman*. *Atman* and *Brahman* are one. *Brahman* defies description. It has no qualities. It cannot be the subject of any adjectives

– *Neti Neti*". Obviously, this conception comes from the mystical route.

This was a grand vision but there was the problem of explaining how something, which had no qualities, could then give rise to the universe, which obviously has qualities. It therefore became necessary to conceive of Brahman with 'form' and powers (*Eshwara, Paramatma*) which could then give birth to various concrete entities in the universe. How *Eshwara* or *Paramatman* then created the universe and what was their relationship with *Atman* then became the subject matter of further religious developments on this soil.

In another culture a completely different route was followed, obviously prompted by the causal operator described earlier. "What is the cause of this universe?" "The cause is God, one God, the final God, higher than other gods". This was the Yahweh of the Jews. Yahweh took the pledge from Abraham and Moses that they will not put any other God before him. "If you agree I shall protect you, otherwise I shall bring my wrath upon you", he said. Jewish history is replete with incidents when Yahweh got angry – brought storms, fires and rain of stones when he suspected that his followers were not keeping the pact. Slowly, as the conception of one God settled in the consciousness of people, the angry God became more compassionate, gave the people a set of rules (Torah) and governed from a distance.

What was the relationship of this God with human beings? Some people were not satisfied with a distant God and thus came the conception of a loving God, who incarnated itself in human form. This God gave his son, Christ, to people and Christ not only conveyed the message of God's love but also sacrificed himself for them. Thus was born the religion of Christianity. Not everyone was comfortable with the conception of God's son in human form and the Christian philosophers are still engaged in the battle, "Is Christ God? Is he the son of God? Is he an emanation of God?" There are different sects to sanctify all these possibilities.

A new development occurred in monotheism when an illiterate Arab merchant, Mohammed, could not accept that God could ever have any human qualities. Giving God a human form, or, for that matter, any form, was for him blasphemy. "One can only get an understanding of God through his works, which were visible in nature", he said. Mohammad asked people to have a direct intuitive relationship with God and thank Him for his bounty by praying five times a day. Mohammad also taught his followers to live as brothers and not allow tribal and national boundaries to come in the way. He gave precise instructions on how to lead the right kind of life based on the principle that Christ had enunciated earlier, i.e., to treat others as they would have others treat them. Thus was born Islam, the most egalitarian of all religions. It was perhaps its egalitarianism which was the factor behind its fast spread across continents.

Let us take a step back to the concept of *Brahman*. This was perhaps best crystallized on the Indian subcontinent but it would be wrong to believe that it is something exclusive to the Indian Aryans and their progeny. This conception appeared in other cultures also.

Let me quote from Plotinus, a seer of early Christianity:

The ultimate reality is a primal unity. All things owe their existence to this reality. Because this is simplicity itself there is nothing to say about it. It has no qualities distinct from its essence. We cannot even say it exists, since as Being itself it is not a thing but is distinct from all things.

Or from the Sufis of Islam:

I am He whom I love and He whom I love is I  
We are two spirits in one body  
If thou sees me thou sees Him  
And if thou sees Him thou sees us both.

Or from the Jews:

'Everything is in Thee and thou art in everything. Thou were in everything before everything was created". (Armstrong 1999).

We have mentioned earlier that various strategies were adopted by the inhabitants of India to explain how *Brahman*, which has no qualities, could then give rise to the

universe, which obviously does have qualities. There were those however who would not accept these strategies, seeing them as fantasies. These were the Jains and the Buddhists. While the Jains declared themselves as complete atheists, Buddha refused to take positions. He refused to discuss *atman* and *paramatman*, exhorting his followers to concentrate on how to live sensibly and ethically in this world rather than waste their time on idle speculations. Buddhists and the Jains not only anticipated Islam in conceiving of egalitarianism but went beyond Islam in giving equal sanctity to all forms of life.

This more or less covers the story of all major religions, but till now we have not referred sufficiently to the third psychological factor behind the idea of God, that is to say, the need for 'loving and being loved'. All religions in course of time attended to this need through the rise of sects which gave importance to the emotional relationship with God. But perhaps later-day Hinduism stands out in this regard, creating *Avataras*, the incarnations of Godhead in human form who could then be loved in human ways. No religion abounds in love poetry addressed to the incarnations of God to the extent that Hinduism does. Perhaps it is the influence of the soil! Even the followers of Buddhism could not resist this powerful psychological need and started building statues of Buddha who could be loved and worshipped!

The time has come to end my talk, but before I do that, let me share with you what my position is with respect to the idea of God and the issues of spirituality.

I am afraid I am not religious. Eysenek, a famous British psychologist, is supposed to have once said, "I am sure there must be a gene for religiosity and I am sorry I do not have it". I feel the same. I do not find it difficult to say 'I do not know'. It is not that the existential questions do not bother me. They trouble me as much as they trouble any one, perhaps more. I have spent the last 20 years chasing *Sadhus* and *Sanyasis*, trying to understand what lies behind their inalienable belief in God. I admire them for their conviction but I am unable to share their beliefs. My ability to say, "I do not know", gives me freedom; freedom to think for myself and to take responsibility for my actions. As Shermer (2000) says: "The universe takes on a whole new meaning when you know your place in it was not preordained. It was not designed for us – indeed it was not designed at all." I end my talk with a quotation from this author:

To share in the sublimity of knowledge generated by other human minds, and perhaps even to make a tiny contribution toward that body of knowledge that will be passed down through the ages – part of the cumulative wisdom of a single species on a tiny planet orbiting an ordinary star on the remote edge of a not-so-unusual galaxy, itself a member of a cluster of galaxies billions of light years from nowhere, is sublime beyond words.

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