



मिळुंचार
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Souvenir 2002

Kashmiri Pandits' Association, Mumbai (INDIA)

The Ultimate Reality

President's Message

Namaskar! It gives me immense pleasure to welcome you all on the eve of our Annual Cultural Program. Over the years, this event has become the main focus of our interaction, second only to our Annual Hawan. May be this yearlong wait for the program enhances its appeal, but the fact is that the program caters to our longing for the cultural vacuum which envelopes us in the concrete jungle of Mumbai. This two hours capsule of variety entertainment in true Kashmiri ambience takes us on a nostalgic journey to our motherland 'Kasheer'.

This year, I am happy to announce, we have invited a celebrated Kashmiri singer from Delhi Shri Rajinder Kachru who hardly needs any introduction to our Biradari. Enough it would be to say that he is the epitome of the finest threads in the fabric of music. We are grateful to Shri Kachru for having accepted our invitation to perform for the Kashmiri Pandits' Association on its Annual function. We extend to him a warm welcome.

Talking about the other items of the variety program, I would, without mentioning names, like to thank the enthusiastic members of the youth, who have, as usual, come forward voluntarily to put up their show and I would also thank all the Biradari members who have worked behind the scene to conceptualize and execute the task which has taken the shape of the "Entertainment Nite."

The prestigious "Life-Time Contribution Award" of the Kashmiri Pandits' Association for the year 2001-2002, I am happy to declare, has been conferred upon Shri Jawahir Lal Kasid, who has worked silently but ceaselessly for the welfare of the community for decades. The Kashmiri Pandits' Association coffers would receive quite a boost by his fund collection drive. The B.O.T. and the entire Biradari joins me in congratulating Shri Kasid for this rare honour.

Mohan Lal Aima Music Award

The Award, as you are all aware, enters the fourth year. Though the basic idea of taking initiative of inculcating interest in Kashmiri language through music, has been appreciated by the community throughout the country, even our community members living abroad have applauded the idea. But, somehow, we have realized that the time for the assessment of the contest is not opportune, as most of the could-be-participants are bogged down in their exams, hence low participation. We shall in future shift the "assessment date" to more favourable time.

However, this year the Ist Award of cash prize of Rs.2000/- in the male category goes to Master Vivek Wali and the IInd of Rs.500/- has been won by Master Sidharth Wali. The Award in the female category has been bagged jointly by Ms. Niyati Kaul and Ms. Urshila Kaul and the second prize goes to Ms. Shagun.

Project ZAAN

From this year the "Quiz Contest Awards" under the project ZAAN - a joint venture of the Kashmiri Pandits' Association and the Lalla-Ded Educational & Welfare Trust would form a part of the Annual Cultural Program. The various programs stipulated under the Project ZAAN have been well received nationally and internationally. All the programs under the project have been inducted into a website floated by Shri Sunil Fotedar of Texas, U.S.A. for the larger interested netizens. The U.K. Kashmiri Sabha has ordered another 100 copies of all the publications produced under this project, for, they have found the publication not only informative but also enlightening.

I take this opportunity to thank all the advertisers who have generously contributed to our Souvenir and helped the Association to raise funds to meet its obligations.

I shall be failing in my duty if I would not express my gratitude to the Biradari members who have put in their best to obtain advertisements for the Souvenir which was a real tough job in the present day financial scene.

During my tenure as the President, I have always found our Biradari cooperative and rising upto any challenges whenever time demands. Ours is a vibrant community in general and our Mumbai Biradari is always throbbing and pulsating in particular. May our youngsters take a cue from their seniors and may they not only rival their elders but excel them in the welfare of community tasks. I wish you all the luck on the ensuing `Navreh."

The Ultimate Reality
- Why should a scientist investigate it?

By: Dr. C. L. Bhat



Dr. C. L. Bhat

[Kashmiri Pandits' Association has, over the years, been incorporating some extracts from our holy Scriptures for the benefit of the Biradari in the Souvenirs released on our Annual Cultural shows. This year we found a lucid and an illuminating exposition of certain truths of a great metaphysical and spiritual import contributed by late Dr. C. L. Bhat of BARC published in a periodical Shuddhavidya of Bhagvaan Gopinathji Trust, New Delhi in December 2001-May 2002 issue. We thought, apart from paying our homage to great Dr. Bhat who passed away recently in a tragic accident, the article would enhance the 'intellectual inquisitiveness' which according to Mahamahopadhyaya Dr. Gopinath Kaviraj is 'a pre-requisite for spiritual enlightenment'.]

Some Questions : This article addresses a question which needs to be pondered over by every serious student of science. The question is closely connected with the fundamental query: Is our universe a mere chance, occurrence or does it have a Primary cause, which, figuratively speaking, has laid out the blueprint for its overall evolution and is keeping it ticking? This hypothesized Prime Mover is popularly known as God, a term which we shall use here in its broadest conceivable connotation. Surely, in anticipation of the genuine concerns of the scientific community - the primary target audience for this article - we are talking here about the rather naive idea of God as a SOMEBODY watching us earthlings from above the

clouds and scrupulously pursuing a carrot-and-stick dispensation policy, but SOMETHING subtler, SOMETHING more sophisticated conceptually. So wide-spread and all encompassing has been the impact of modern science and related technological developments in various compartments of human activity that quite justifiably, the present age is referred to as the era of science. Naturally, therefore, there is a strong sentiment of scientism in the air and a scientist today is being viewed as a role model, particularly so in high-visibility, trend-setting sections of the contemporary society. The considered answer that the scientist gives to this core-question, therefore, would have a significant bearing on whether the human society will consolidate or lose its spiritual moorings with the passage of time.

His answer can be, " Yes, based on my understanding of modern science and spirituality, it makes sense to believe in God, or, that it does not, or yet again, quite simply the chosen parameter-space of my specialization is too restrictive to qualify me to answer this profound question." But, he must take a clear stand with regard to this crucial matter. The famous Buddha ambivalence, which the bulk of scientific community maintains at present, would not do, for, this silence can be (and is being) misinterpreted by impressionable sections of society as a negation of God, the Ultimate Reality, with potential for serious, long-term social anomalies and, even civilizational distortions. A helpless victim of thus-corrupted moral and ethical value systems, such a disoriented man may exploit technology and other by-products of scientific advancement, in a manner as to tarnish the fair names of, both, science and human civilization.

Even in its own right, this postulated Fundamental Cause should be investigated by the scientist more earnestly than by anybody else, for, is it not his avowed creed to go to the bottom of things and try to know the whole truth? If such an Ultimate Reality indeed exists, how can he afford to side-step it, as he has been, by and large, doing so far? Traditionally, the scientist has essentially confined himself to knowing the 'how' of things, but not the 'why' of things. It is now being increasingly realised in knowledgeable scientific circles that this piecemeal approach has its inherent limitations and must be supplemented, even superseded, by a holistic approach in order to have a total perspective and fuller comprehension of various dimensions of the Reality. In science, more often than elsewhere, we are reminded not to be guided by surface appearances alone, but to probe deeper and go to the fact(s) lurking behind the facade. Equally importantly, nor is the scientist advised to selectively ignore such observations and results as apparently go against the 'tide of conventional opinion,' for, in doing so, he may miss a golden opportunity for discovering another dimension and another paradigm. In view of this rich scientific culture, it would not be desirable for a scientist to be dismissive about the profound content in the spiritual messages of various master mystics; he should instead, take seriously the Reality underlying these messages.

Why has the mainstream scientist, then, been following a seemingly 'parochial' route being fully aware that it may help him to understand only the 'how' of things but not the equally important, 'why' of things? The main reason is that he prefers to confine his investigations to the external world of 'tangible' matter and draw inferences based on inputs received by his mind, directly or indirectly, through his external sense organs. This route takes him far indeed, as is attested by an impressive array of outstanding discoveries made by modern science in its various disciplines, but not far enough to have a 'tete-a-tete' with the Prime Mover, believed to be at the end of it all. According to the mystic, who has travelled that extra mile and claims to have attained God-experience, the reason for this 'impasse' is the

essential nature of the Ultimate Reality. The 'creator' of the universe of matter, the Primary Cause, transcends matter and belongs to the hyper-plane of Consciousness. It cannot, therefore, be accessed by the matter route and the sense tools, with which the modern scientist is familiar and which he has exclusively depended on so far, for quite understandable reasons.

Direct Experience : In principle, the scientist cannot find fault with this note of caution from the spiritualist, for, he appreciates that it is typical case of limitation of the 'probing technique', a situation that scientist is quite familiar with, in his own arena. For example, the latter knows that, because of their different nature, sound waves can be heard directly from relatively short distances only, while after being peggy-backed to radio and TV waves, the same sound waves can bring his favourite music programme or chat show to his drawing room from all over the world. Similarly, while visible light can make him see only the surface of various objects, the more penetrating X-rays can help him to 'see' inside an object. So, the spiritualist urges his scientist-friend, "If you desire to realise the Ultimate Reality, from which this universal manifold of the living and the non-living has flowered, de-link from the distractionary outside world and focus inside yourself, using various techniques of mind control, like meditation, and you will verily see this Reality, imaged in the mirror of your still mind." Elaborating further, the yogi presents another startling dimension of this Reality, "In this mental reflection, you will recognize ATMAN, your real self, indistinguishably merged in the Paramatman, the Universal Self, the all pervading substratum of the nature of Consciousness".

Some of the phraseology used by the spiritualist in describing his "detection technique" rings a bell in the scientist, for he can note several examples of striking parallelism in it with his own physical world. For example, the scientist knows that he can see a faithful reflection of his physical body in a metallic mirror only if its surface is perfectly smooth and clean. He also realizes that, to achieve the required degree for surface smoothness, the metal surface has to be repeatedly polished in a controlled way with a diamond-tool, just like a spiritualist smoothens his mental mirror (mind) with the tool of his mantra, repeatedly recited in a regulated way during the meditation exercise. Being all too familiar with the ubiquitous reality of the phenomenon of resonance in nuclear physics, optics and acoustics, the physical scientist can also appreciate by analogy why some spiritual formulae (mantras), like the primordial sound OM, may produce a strong resonant effect and thus help to effect a transition from the plane of ordinary consciousness to that of super-consciousness, leading eventually to the Ultimate Experience.

A knowledgeable scientist surely understands the above mentioned thrust of the spiritualist's message and may not contest this prescription for getting a direct experience. His main problem is that underlying all this, there is a need for a change of track, which the scientist is loathe to make. He would naturally be happier if he can learn to directly 'fold' in consciousness in his equations and thus possibly get a direct vision of the postulated Reality through the methodology that he is more at ease with. For this effort to succeed, he acknowledges that he has to first understand the true nature of consciousness, an attribute he has so far been treating perfunctorily as some vague, emergent property of the organic brain. Today, there is wider recognition in scientific circles that consciousness is at least as fundamental as matter and that a holistic approach is required to get a meaningful answer to the most fundamental question of all, "Who am I?" first posed by young Nachekatta in the Upanishadic era and vigorously re-emphasised by Ramana Maharishi in more recent times.

Inferential Evidence: Pending this direct experience, can a scientist build a convincing case for or against the Ultimate Reality on what, in judicial parlance, is called 'circumstantial' evidence, or, what in the present context may better be referred to as 'inferential' evidence? For example, although no scientist has as such seen an elementary particle, like an electron or a proton, yet he knows that it is there because we can perceive its presence through its various effects. Not only that, we have even found various applications for these 'ghost' Quantum entities in a variety of fields, including advanced medical diagnostics based on Electron Spin Resonance and Nuclear Magnetic Resonance. Does a scientist, then have some such evidence at his disposal for answering the above query? A lot indeed, provided he chooses to look around with his well-trained scientific gaze. In an excellent article on this subject, published in the prestigious magazine, Reader's Digest, a couple of years ago, A.C.Morrison, an internationally-acclaimed scientist and a former President of the New York Academy of Sciences, has listed 'seven reasons why a scientist believes in God'. One of his well articulated arguments is that one notes too many coincidences to allow us to draw the sweeping, yet fashionable, conclusion that life on earth has had an accidental origin. There is a crucial but mysterious 'honing' in the values of the thickness of the earth's mantle, the relative tilt of its rotational axis and its distance from the sun. Even a little variation in any of these values and life on this earth, as we know it today, would have been impossible! "The expert hand of a Master architect-builder-engineer, all combined in one, is thus suggested," concludes Morrison.

As another example of how Providence reveals its dexterous, though subtle, hand, Morrison narrates the incredible stories of the "salmon and the eel". At maturity, these amazing little creatures work against literally impossible odds and manage to navigate their way upstream from the wilderness of high seas and rivers to the very spot where they were born years ago. There they produce their soon-to-be-orphaned offsprings, which, mysteriously, again on their own, migrate to the same geographic locations where their respective parents spent their adolescent years! So much so that the offsprings of an European eel always end so in Europe and never stray to America, nor do the little ones of an American eel ever migrate to Europe! The corresponding saga of a mother wasp is even more breath taking. As if anticipating the dead meat would be fatal for yet-to-be hatched offspring, she stings a captive grasshopper in a manner as not to kill the victim but only render it unconscious. After hatching her eggs, the mother wasp flies away and dies, leaving her little ones to nibble at and feed on thus well preserved meat during the vulnerable infant phase of their lives! "What guides the instincts of these otherwise helpless creatures when they perform these heroic acts, literally, near miracles which leave us, the most evolved life species, gaping with wonder?" Morrison asks. (The full list of Morrison's seven reasons appears elsewhere in this article along with explanatory notes).

Tapping other Horizons: One can significantly broaden this list of 'God's handiworks' by drawing from the kaleidoscopic mosaic of parallel examples in other fields. To illustrate, we first discuss a couple of such cases from the biological world: Consider the amazingly fine tuned sequence and elaborate pre-planning on the part of some unknown Provident which is evident during the conception of a baby as a zygote, with exactly 23 chromosome pairs characterizing homo-sapiens, the infection free growth and nourishment of the foetus in the mother's womb and the precautions that the nature takes to provide immunity to the otherwise vulnerable, newly born baby from infections and to ensure a proper supply of iron and other vital minerals to it at the suckling stage itself. Another example : we know today that, to a large measure, what we are hereditarily, anatomically and psychologically is decided by

the genetic code which is cleverly compacted in the DNA molecules of our cells. But, we have no intelligent clues about the wonderful process of embryo genesis and what causes the same cellular base material to become the robust muscles of the heart, a miracle pump, in one case and the grey material of the human brain, the most ingenious computer built so far, in the other case. Although we have learnt that it is all decided by the encoded blueprint carried by the DNA molecules, we are unaware about Who has put this complex intelligent code there in the first place? Simple mathematics shows that Dame Chance has no chance whatsoever of generating these meaningful molecular patterns even in the case of the single celled E-coli bacterium in the 4.5 billion years lifetime of our planet, not to speak of the highly complex machine represented by the homo-sapiens. Consider another illustrative example: Most of the vital operations taking place inside the human body and the functioning of its organs are involuntary, and, even if we want, we have no right to intervene. Yet these organs go on, generally speaking, performing their pre-designated functions with a perfect mutual co-ordination and clock work precision! How does it happen and what agency is working behind the scenes almost on a round-the-clock basis? What has been instrumental in bringing about the wonderful process of homeostasis in man, a useful natural process which requires only a small portion of his brain to be dedicated for automatic stabilization of body temperature, while leaving the major part of his brain free for higher-end activities - a pivotal contributor to man's phenomenal progress compared with other animal species.

Turning now to the world of physical sciences, researchers from this field have discovered a string of physical constants with extremely precise values, which hold for all parts of the observable universe and for all previous and future epochs. That is why they are called physical constants. Surprisingly, interesting hierarchical relations have been discovered in expressions using various combinations of these constants. Even if one of these quantities had a slightly different value, these relationships would not have survived and this, only one universe of ours, and the things which populate it, would have had a significantly different evolutionary history, with unpredictable consequences. Who has 'decreed' what these values should be, either now or in the past, both here and far-away? Going further afield and enlarging our perspective to the cosmic-scale, in our quest for God's elusive hand at work, there is a general belief among astrophysicists and cosmologists that this universe was triggered off by a unique 'big-bang' explosion, nearly 15-20 billion years ago. The characteristics of this explosion, as are evident today, including its spatial homogeneity and angular isotropy, the expansion-rate of the explosion volume, and so on, need fine-tuning of related parameters to an amazingly exceptional order. To put things in a proper perspective, it may be noted that when the universe was in its ultra-nascent stage, the nature of the related particle interaction (super-force) ensured that for every 1 billion anti-protons, there was one extra proton present. With time, all present protons and antiprotons annihilated themselves into pure radiation. The only matter left behind was the primordial proton excess and it is of this relic or fossil matter that our universe (including man) is composed! Cosmologists generally believe that they can explain it by what has become famous recently as the inflationary model. According to this scenario, the size of the universe swelled up at an unprecedentedly high rate due to the presence of a negative pressure which became operative just for the right length of time. The energy liberated thus caused the big-bang explosion of this very early universe. What controlled the crucial time-scales so very precisely and in the right sequence? "Surely, the nature of the associated processes and the interaction laws," one would be tempted to reply promptly! But, on introspection, this seemingly self-satisfying answer begs another question: What agency decides this nature and regulates the sequences so very

precisely? Just the minutest imaginable fraction of time here or there by way of a false move, we would not have the only universe we have inherited so far! Somebody has to incorporate the right number and sequence of locks and interlocks to ensure that no computer hacker can introduce computer viruses and make our orderly evolution go haywire! Indeed, there is a coincidence galore everywhere, reminding us, time and again, that there is master architect and engineer behind it all, One who has planned and executed successfully the most cost effective solution to the creation of the Universe.

Anthropic Argument and New Physics : While finally acknowledging the merit in the claim that our Universe cannot be due to the pure chance out and out 'playing dice', but must involve a directed effort which is working as per a well laid-out action plan, some 'enterprising' scientists attempt to turn the argument around by claiming that this universe is there because man is there! At best, this so called anthropic theory of the origin of the universe seems like a desperate attempt to give to Peter what rightfully belongs to Paul and at worst, a belated second attempt to arrogate to man a central place in the scheme of things in the universe. The amusing thing is that, in doing so, this band of scientists is unwittingly trying to do what was being done earlier by the Christian theologians for diametrically opposite reasons: while the man of church was driven by his over-zeal to proclaim man as the chosen favourite of God, this band of scientists does it to show to God His irrelevant place in their priority scheme! While on this subject, it may be noted that a Vedantist can beat the theophobic scientist at his own game by simply advancing the following rejoinder : Your man is my God, for, I believe in "Tat Tvam asi - Thou art That!"

Why this self-serving shrug-of-shoulders attitude? Why this attempt at sweeping under the carpet the large mass of inferential evidence pointing towards a well planned and immaculately-executed scheme by a Master Architect? Part of the reason for this restricted world view lies in history and the confrontationist path on which modern science and religion started in the West. There was a time, not too distant in the past, when modern science was in its infant stage and rather innocently simplistic, if one may say so. So was also the world vision of religion as understood then in the West. This encouraged some scientist at that time to seriously hope that their equations would tell them precisely all that there is worth knowing about the world, without the need for invoking any extraneous agency (read God). This mood of the bygone 'innocent' times is vividly encapsulated in the following famous quotation from the great mathematician, Laplace: "I have no need for this (God) hypothesis!" This succinct but weighty remark was made by Laplace in retort to his emperor, Napoleon's mild admonition that his (Laplace's) then newly proposed mathematical treatise did not contain any reference to God! As is well known, for no fault of His, God has earned a 'bad name' then in the eyes of the scientists, thanks to the rigid historically wrong stands taken then by Western theologians on matters pertaining to the position of the earth in the universe and the role of man in it. The witch hunting exercises and pilloring 'pogroms', so determinedly carried out by the self-proclaimed defenders of faith against several illustrious scientific explorers, including Galelio, have taken their toll in the past. They should be viewed today as the price that had to be paid for the ignorance on the part of some obdurate and self righteous sections of the Church and may be forgotten in the forgiving spirit of Christ who, while being carried for his crucifixion, said "Forgive them Lord, they know not what they are doing!" Both science and religion in the West have moved a long distance since to assume more matured position on these fundamental issues of concern to man. (Fortunately, oriental views

have always been ahead of times on science and spiritualism and their synergetic co-existence).

Developments in Physics during the last 100 years, particularly those related to Quantum Mechanics and Relativity Theory, have overturned the apple cart of purely deterministic Newtonian Physics and have underlined the participator-role of observer (consciousness) in any act of measurement in the quantum world. Thus, attempts by the classical physicist to keep out man from his experiment and related measurements, have also come to naught in the face of this new evidence. Given, therefore, the above referred pile of circumstantial evidence favouring participation of God in the creation and sustenance of the world and the experimental evidence from Modern Physics emphasising man's role in interpreting the reality of this world, it stands to reason that a modern scientist must include both of them in his investigations and seek their interconnections, as stressed by various religions, particularly those of the East. It seems neither prudent nor scientific to decry attempts by some visionary and knowledgeable scientists at seeking a fusion between the ancient spiritualism and the modern science. They should not be thoughtlessly viewed as acts of anachronism by everybody else, without due introspection and research, lest the world of the morrow should hold us guilty of not drawing the right lessons from the Aesopian fable of the "Emperor who wore new (read, no) clothes"!

Genuine Concerns : We shall now examine critically some spiritual practices which, on the face of it, appear to be inconsistent with accepted scientific traditions and may thus come in the way of a scientist-sadhaka's unreserved allegiance to the cause of synthesis between science and spiritualism : The first and foremost matter of possible concern is that religion demands of us to have an unswerving faith in God. This much maligned phrase 'unreserved faith', is misunderstood, surely so, at least, in the case of Eastern mystical philosophies of Vedanta and Buddhism. It is not to be mistaken for 'blind faith' but as 'Shraddha', i.e., a conviction based on a sound and rationale premise. In his characteristic style, Paramhansa Ramakrishna has graphically illustrated this state of mind with the parable of a man who goes out to a lake for fishing. Despite meeting with failure in the first few attempts, he perseveres and finally succeeds in catching fish. His guiding logic, according to Ramakrishna, is the positive attitude that his chosen lake provides the right environment for fish breeding, which gets reinforced as a conviction by the experiences of other explorers who have previously reported rich hauls of fish. Now, no scientist can question this fundamentally-sound approach for a meaningful exploration, for, this is precisely the methodology he also follows in effectively addressing the call of his own professional duties. Once he is convinced that a research problem in hand merits investigation, he sets up an appropriate experiment or theoretical framework and follows the resulting trail of investigation with determination and, while remaining ever-vigilant, does not let any unwarranted doubts thwart his attempts at reaching a proper conclusion. Vedanta exhorts us not to go by other peoples' description of God but have God-experience ourselves, directly. Where we are called upon to have 'shraddha' is in the worthiness of the underlying mission and our own ability to accomplish it successfully - a working philosophy in complete consonance with scientific temper and tradition!

Another point of contention can be the subjectiveness of spiritual experiences, which it has to be so, because of the very nature of mystical explorations. Now that we know that science too has its share of subjective experiences, as for example, in the field of Quantum Physics, we can for once afford to take a more relaxed view of this 'Subjectiveness syndrome' so shunned by the earlier generation of physicists. We

should learn to deal with it appropriately so that the essence of scientific and spiritual truths retains its universal appeal. To ensure this, we should learn to separate grain from the chaff and accept only in-depth experiences of established masters in the field of spirituality as representing the core message. It is reassuring to note in this direction that, despite the implied subjectiveness, all these mystics, belonging to different faiths, lands and eras and having followed different routes during their respective spiritual quests, have realized and reported the same truth, the same essential characteristics of the Ultimate Reality. While on this subject, it is also worth noting that spiritual giants like Ramakrishna and Ramana Mahrishi, in recent times, like the Vedantic mystics and seers of the hoary past, without the benefit of any formal education, (*apara vidya*), have expressed gems of spiritual wisdom which have a universal appeal and a profound meaning. Evidently, their separate journeys along the path of mysticism have led them to the same fountain-head of perennial knowledge (*para vidya*) which they were able to tap so effectively for the benefit of society at large.

Yet another source of understandable discomfiture for a scientist is that he cannot see God in an image or an idol. No serious student of spirituality will per se find fault with this line of argument. A mystic too knows that God, by His very nature, has to be more abstract and conceptually 'sophisticated'. Yet, he accepts this image or idol concept of God in the case of spiritual novice or a common man in the same spirit as a physicist accepts the use of Bohr atom model at the undergraduate physics level. Quantum Mechanics has abstracted an atom to a set of matrix elements. Although we know today how far removed from the reality is this, readily-visualizable, solar-system-like atomic model from Bohr, yet we allow it to be around to facilitate comprehension at the beginner's level. In the same way, an image or idol concept of God is tolerated to aid concentration of the mind. We have a clear endorsement in this regard from the personal experience of no less a spiritual authority than Paramahansa Ramakrishna himself : Only after following the advice of Totapuri, his teacher in the Advaita school of spiritualism, and symbolically erasing his favourite Kali image from his mental eye, he was able to get into the Nirvakalpa Samadhi and get the Ultimate Experience! There is, therefore, indeed no room for quibbling over the inherently sound point of view of the scientist.

On the other hand, while talking about the abstract concept of God, a sceptic may point out, with a good measure of justification, that this concept has meant different, even seemingly contradictory, things to different spiritual luminaries, like Ghautam Buddha and Adi Shankaracharya. Thus, finding the Buddha on his death bed, his devoted disciple Anand once again questioned him about the nature of the Ultimate Reality. The Enlightened One, famous for his evasion on this issue, once again skirted around the matter and asked Anand the counter-question: "While coming across a bird who has been struck down by a hunter's arrow and is writhing in pain, would you first relieve the poor bird of his pain or mount a hunt for nabbing the erring hunter?" Indeed, a master stroke at equivocation! For reasons that will become clear as we go along, this reply is commonly misinterpreted as the Enlightened One's denial of the existence of God. Actually, the closest the Buddhist philosophers have come to describing the Reality is by referring to it as a Void - an attributeless entity. Shankaracharya, on the other hand, names the Reality as Brahman. But, when asked to describe it, he comes out with his famous 'neti-neti - not this, not this' theory. On a closer examination, one finds that both Buddhism and Advaita Vedanta acknowledge the Reality as a Void, something indescribable and defying to be placed within the constraints of man-conceived parameter space. Only Shankara calls it full (with Brahman) and, apart from thus ending up on a

reassuringly more optimistic note, avoids the logical mistake of calling something (Reality) as nothing - the common meaning of a void! While Shankara's Advaita philosophy has, therefore, to invoke the Ishwara concept of God and the inscrutable Maya to create the universe, we are nevertheless facing a piquant situation - we are dealing with God, an attributeless entity which transcends time, space and causality and on its own is not actively engaged in the 'world affairs', if one may say so. Hence the reticence on the part of the great Buddha!

And, it needed Chandralekha, a court dancer in the novel bearing the same name, to remind us about this unenviable situation!: After watching for days the then intellectual giants of her land debating endlessly on who God is, and what He stands for, she politely reminded them about the futility of this entire exercise. She quipped, " How can one describe something which by its own nature is indescribable? If we do, we are surely pulling God down from that unique niche and making Him stand alongside us mortals!" Two things which we scientists need to remind ourselves about in the present context : One, the fact that we have two rival theories - the Big Bang and the Steady-state models - to describe the origin of the universe (just like we have two, seemingly contradictory, Buddhist and Advaita viewpoints for the Ultimate Reality), does not mean that the universe (God) does not exist, even though only one or neither theory turns out to be correct eventually. Second, there is no need to feel uncomfortable with God, who though real, is beyond description. After all, we deal with a similar situation in Physics in the form of singularities and infinities. They are there, even though we are not aware of the right mathematical treatment to deal with them in practice. In Mathematics, similarly, we have the celebrated Goedel's theorem which loosely paraphrased, posits that it is not possible to prove the truth of everything, even though the reality of its existence is self-evident and, mind you, here we are dealing with more 'down to earth' things which have attributes and thus can be properly defined, unlike the characteristics-sans God! So, why shy away from more abstract God, just because of our own limitation of description. The wise thing under the circumstances to do would be to get away from this convoluted intellectual debate at some point by acknowledging its inherent limitation and go beyond, unto the path of self-realization and self-experience of this Reality. For as Swami Vivekananda has so convincingly stated, " What you only grasp intellectually may be overthrown by a new argument, but what you realize is yours for ever. Experience is the only source of knowledge."

Another area of difficulty for a physical scientist may be that his professional duties require him to wear one hat and use one set of tools, as it were, while his spiritual meandering would need him to work on a different plane and engage himself in a different set of mind control practices, like meditation, japa-tapa and austerities, etc -terms conspicuous by their absence from the lexicon of modern science. On a dispassionate examination, it is found that no compromise is involved either way and it is a perfectly legitimate and understandable transition between the activities of different natures and immediate end-goals. After all, is it not expected that the same person can be father to his children, a husband to his wife and an employee in his office, and so on requiring him to play different characters at different times on the world stage? Indeed, it would be a total chaos if he does not engage himself in a multiactivity mode in this multifaceted practical world. In a way, adopting a complementary rather than an exclusive approach is taught to a modern physicist by the Quantum theory itself, which underlines that the correct picture is one which reconciles the wave and particle aspects of a quantum object as complementary and not mutually exclusive.

A really thorny issue which perplexes a scientist is how to deal with the plethora of abnormal, paranormal and supernatural phenomena and belief-systems which rightly or wrongly seek and secure a religious platform for their expression and sustenance. They include obvious oddities and 'religious parasites' such as superstitions and astrology (in all their myriad denominations), and more tricky matters such as psychokinesis (which deals with the supposed force applied by the human mind on distant things), faith healing miracles; clairvoyance, Extra-Sensory Perception (ESP). If only on the basis of a vaguely made, fallacious claim that planetary aspects and positions (including those of fictitious 'astral bodies' such as 'Rahu' and 'Ketu') can affect life on earth, astrology can be readily declared as yet one more superstition and given a prompt burial along with other superstitions. A scientist, like a true spiritualist, would have nothing to do with these irrational notions, for, they do not stand up to the test of reason. Astrological predictions and other related matters, even if true, will need to find a different rationale for their explanation than those advanced by astrologers and other pseudo-spiritualists. On the other hand, the present day scientific evidence for the phenomenon of psychokinesis, claimed by some non-spiritual individuals, can be regarded as inconclusive at this stage: Thus, while the non-spiritualist Gray Glamour has not been able to demonstrate convincingly his claimed powers of bending metal spoons by the mental force, the phenomenon of self levitation and other such powers exhibited by accomplished yogis merit serious attention and detailed follow-up scientific studies.

As for supernatural phenomena and related processes, like miracles, clairvoyance and ESP, the fountain-head of these powers is claimed to be God Himself. Thus, it is conceivable that, although He generally plays the game strictly as per Self-devised rules, which we call natural laws. He reserves the right of transcending them as and when He so pleases. In principle, it can be further agreed, that He may manifest these powers through His chosen few, leading to these spiritually elevated souls demonstrating super natural powers, like miracles, clairvoyance and the ESP. Unfortunately, a lot of charlatans, pseudo-spiritualists and rank opportunists have jumped in here to waylay the gullible and thus tarnish the fair name of God! While one has to be extremely wary about such characters, the best way to deal with tricky issues like miracles is to render them redundant. For example, in the rare situation when a genuine spiritualist or mystic performs a miracle, his consideration may be to turn the common people Godward. A scientist can decide these matters on the basis of his better-trained intellectual faculties and does not need the crutches of miracles to support his belief-system. He should turn towards divinity because he is satisfied with the basic strength of the argument that it is his right and duty to seek the Ultimate Reality and not because somebody has conjured up a miracle! It is remarkable that, despite having a strong collective appeal and thus potential for 'wholesale spiritualization' of the common mass of people, an overwhelming majority of spiritual leaders and mystics have resisted the temptation of performing miracles publicly; in fact, some of them have denounced such trends, calling them 'cheap magic and attempts at vulgarization of religion.' The only religious miracle that these masters have owned and eulogized is the one leading to the 'awakening of the innate divinity in a man,' as Sri Guruji has referred to it in his inimitable style!

On the other hand, the paranormal experience of telepathy (or its generic variants, including the ESP and clairvoyance), stands apart as a class in its own right as much as that it is getting a full-throated recognition as genuine by all spiritualist of high veracity and integrity. For example, Swami Vivekananda has endorsed telepathy by providing the following rational explanation :

"In telepathy it is direct. There is a continuity of mind. Your mind, my mind, all these minds are fragments of the Universal Mind, little waves in the ocean. And, on account of this continuity, we can convey our thoughts directly to one another."

What is equally interesting in this regard is that a telepathy-like experience should follow as an important corollary of Bell's Theorem, which is rated as one of the most profound discoveries of science. According to this theorem, the universe is either fundamentally lawless or fundamentally inseparable and, at a deep and fundamental level separate parts of the universe are connected in an intimate and immediate way. These new developments in modern physics have led to the emergence of the new field of quantum information with such exotic themes as teleportation and quantum computation. An experimental proof of the existence of such an intrinsic coupling between physically-separated quantum systems has been demonstrated at the level of the photons through the famous EPR experiment. In view of this mutually corroborative evidence, coming from two extreme ends of human experience - spiritual and scientific - it stands to reason to believe that a spiritually advanced soul can indeed acquire the power of telepathy and get direct access to another mind in the universe, thereby transcending the barrier of physical separation.

Unwarranted Reservations : The following question is often asked in the intellectual circles : Is it not enough if we remain good individuals who are duly sensitized to our responsibilities unto our family and human society at large? Why do we need to bring in God explicitly in our scheme of things and in our daily routine? Surely, He can do without us. Thus goes the argument. The answer to these queries has two parts: One, which concerns the scientist as an individual and, the other, which relates to him by virtue of his profession. Being a member of the human society and the world as a whole, the scientist as an individual is subject to pressures and counter pressures and other ups and downs from without, from which he cannot readily insulate himself. Even if he tries to keep on the right side of the road, as it were, others may try to trip on his toe and cause him anguish and suffering because of their own short sightedness and selfish interests. On such occasions, a scientist, as an individual, needs the support of a solid sheet anchor to reassure himself that he is right when the rest of the society around him seems to have gone berserk! He needs to catch on to the Divine straw to keep himself afloat and not let adversity take the better of his morality-correct stand. Now, how does this change of perspective provide a more stable platform to stand on than the one provided by altruism, ethics and morality alone? This is so because, in the former case, one sees one's image in everybody else and doing good to these 'others' becomes both natural and logical. Similarly, when hurt by the 'others' one does not feel the sting as intensely. In the latter case, on the other hand, the world manifolds do not dissolve and 'You-I' dichotomy persists. The motivation for doing good unto others need not then remain as strong, nor the tendency to forgive and forget acts of omission and commission by them!

As for the above referred second reason as a scientist, his creed and passion should be to search for the Truth. If God is indeed there as Ultimate Reality, what bigger discovery can a scientist make than realize this Reality and convince himself about God being the Prime Mover of this Universe. While spirituality holds that this should be the life's mission for everybody, for a true scientist, an answer to this Ultimate Question has the added motivation of having a direct bearing on his very creed. In this context, the following message from Sri Guruji holds a special appeal: "Why not be satisfied with eating, drinking and doing a little good to society?... The expressed

world is only a part of the unexpressed. The sense universe is only a part of the infinite spiritual universe projected on this plane, of sense-consciousness. How can this little bit of projection be explained without knowing that which lies beyond?"

An important supplementary query for a scientist (and his counterparts in the other departments of human activity) concerns the right time for him to turn his attention Godwards. Left to his own volition, he may readily give in to procrastination. He may genuinely, though erroneously, feel that it is a matter which he need turn to only in the evening of his life! This attitude is based on the common perception that the youth is meant for fun and frolic and why spoil the show by taking on such weighty and intangible matters as God and related 'restrictive' religious practices! We can jolly well postpone addressing these issues till the 'fire' in the body is gone; so we tell ourselves! In taking such an immature stand, it is obvious that we are missing the main point about why we should turn towards the Divine path. Those with genuine faith in God will need Him always, never mind what stage of their life they are in. From day one, they will need spiritual food for their overall evolution, like they will have to partake of secular food for their physical growth. For the scientist who is also a believer and a genuine Truth-seeker, there is no room for putting off his search for God till the uncertain tomorrow!

Expected Gains : A synergy between spiritualism and science promises to yield all-round, beneficial results which are substantially more than what would be expected by pursuing either route separately. Accelerated and balanced progress of human civilization will result and peace and harmony prevail amongst peoples of the world. A quantitative endorsement of some of the beneficial effects of this synergetic approach is already available from various areas of medical sciences where positive therapeutic effects and other health improvement signatures have been registered through the supplementary roles of yoga, prayers and meditation. As we stand today on the threshold of the next millennium. it would be of great interest to see if the physical sciences, particularly modern physics, will see second major revolution through this synergetic approach. A particularly fascinating development to watch in this context would be to see the velocity-of-light barrier being shattered by pursuing this dual track, holistic approach. Taking a cue from the experiences of his mystic counterpart, a spiritually evolved scientist, while keeping himself pegged at a point in the physical space, may be able to 'expand his mind infinitely on the consciousness plane and overlap and interpenetrate all other minds in the universe, despite physical separation. In such paradigm-shift eventuality, he can effectively transcend the distance-hurdle and the implied velocity of light barrier and have direct and on-the-spot access to information about events and things in the universe. In such a super-conscious mind, it may be noted that time loses its conventional meaning past, present and future become redundant terms. What a fantastic freedom of action will this unconventional approach provide to the physical scientist to probe the mysteries of the universe, including prospects for extraterrestrial life, and have better insights into the cosmic jigsaw puzzle!

Pursuing this synergetic approach has assumed a particularly urgent ring with the realization that future progress in science can be accelerated by following the holistic rather than reductionist approach. Holism is the new temper in science. It is realized that the traditionalist strategy of understanding a complex system by breaking it up into parts and studying each part separately, in isolation, amounts to over-simplification and may not lead to a correct and complete picture always. Astoundingly new properties are acquired when parts combine, like for example, nitrogen and hydrogen combine to give ammonia, or hydrogen and oxygen combine

to give water, two products so crucial for our survival on earth. The new temper in modern science and spirituality is not to treat brain (matter) and mind separately but look at their synthetic picture by following a holistic approach. By studying the mind-brain interaction from both spiritual and scientific sides, it is hoped that we will have a better appreciation of concepts like consciousness and self awareness. This should yield deeper insights into the ultimate question "Who am I?" which the celebrated Quantum Physicist, Schrodinger, considers as "a task of science which alone counts". Other important spin offs from a spiritual-cum-scientific study of the mind-brain interaction would be the important light it is likely to shed on the interesting phenomena of thought generation and transmission and of controlling thought noise for optimizing human creativity. The techniques of meditation, pranayama etc. will need to be studied using appropriate scientific quantification techniques. An important starting point in these investigations can be the recognition of the interesting fact that, like quantum phenomena in modern science, thought formation is also as discrete and discontinuous and thus displays an apparent quantum behavior. Another area of extensive investigation of a medical scientist and his spiritual counterpart can be a detailed analysis of the therapeutic and psychological effects of psychosomatic medicines. Yet another important case of investigation for a spiritually-oriented scientist can be Jung's synchronicity phenomenon, i.e., occurrence of meaningful coincidences of events, witnessed so often in our lives, but where origin or cause is not only unknown but is not even conceivable in intellectual terms, according to Prof. D.S. Kothari, former Chairman of the University Grants Commission and a physicist of high international repute.

A graceful acceptance of god as the Primary Cause of the universe will provide a sensible solution to several burning questions which confront a scientist today where he is in the unenviable position of being at the end of the road with no clear leads ahead! All the physical laws will remain the same; only the scientists will acknowledge them as God's laws and not use the evidently obfuscating term 'nature's laws' for describing them. A better appreciation of the mind-brain interaction will immediately open new vistas for more meaningful explorations of the world within and the world without, leading to in-depth knowledge about ourselves and the universe around us. Moderation and optimization would be the key words for guidance and over-exploitation of the earth's precious resources would be curbed. Over technology and materialization-at-any-cost would be shunned and a just and fair world order would prevail. Atom for peace and not for war, would be the battle cry of a spiritually guided world order.

Now, let us turn to the other important matters which, while allowing a scientist to grow spiritually, will also help him in better discharging his professional duties as a research worker and a science manager, on one hand, and in meeting his social responsibilities and family obligations, on the other. To advance on the spiritual path, a God seeker is enjoined to cultivate various qualities of head and heart like a self-sacrificing spirit, goodwill and concern for other people, truthfulness and dutifulness, visionary leadership and fearlessness. He is also enjoined to seek freedom from morally debilitating weaknesses, like anger, jealousy, caprice, egotism and lust. He is expected to act on the world-stage as an actor, who allows himself to get involved emotionally so much with the ebb and the flow of his lines that he can send his audiences into raptures in one instant and plunge them into depths of melancholy in the next. But, while doing so, he does not forget even once what his real identity is and, therefore, is not distracted by the audience-response of appreciation. He imbibes the clinically detached yet dedicated spirit of a Karam Yogi who does what he does because it is his duty to do so, unmindful of the consequences and the

results. No praise can turn his head and no censure put him off. He views himself as an actor as well as he can and pack up and go as soon as the drama is over. He practices devotedly the technique of mind control, with its all-round beneficial spin-offs for himself, his family and the society at large.

There is obviously nothing in this spiritual prescription which a scientist can find unacceptable and against his work-culture. In fact, far from it, this sagaciously made list of do's and don'ts would help him become a better scientist and a successful science manager. By working with this attitudes, he will stop worrying only about self acclaim - a strong weakness of a scientist, if one may say so - and instead learn to readily share the fruits of his investigations with all his collaborators. He will have a better appreciation of his duties towards his profession, his institution and his country and will sincerely attempt to contribute his mite in these directions. He will get out of this rather primitive mindset of 'only me and nobody else matters'. Egged on by the latter impulse, our children leave us today for foreign shores and richer lands, unmindful of their duties towards their parents, society and the country, just like fledglings who leave their parent birds as soon as they get their wings! Scientific merit, not money, will be the scientists guiding star, pursuing pure science for excellence and exploration of new vistas of knowledge and technology utilization relevant for economic emancipation of people would be his milestones. Training our children in pure sciences would automatically give them a spiritual-orientation, a badly felt need of the present day educational policy in the country.

Another important benefit of the scientist unequivocally standing by God would be that religion would be freed from the clutches of the outdated and quaint practices, superstitious beliefs and obscurantism. Blind faith will pave the way for the true faith and shradha. Science will gain in turn, for it, will get a platform wherefrom it would not only be able to call a rose red or blue, but also beautiful and fragrant. It would appreciate the meaningful logic behind the apparent paradoxes of multiplying through division and gaining through losing - ideas which have a meaning primarily in the realms of spiritualism and altruism. By restoring God to his rightful place in the world scheme of things, even though belatedly, the scientist will be doing himself and his fellow world citizens a lot of service and will pave the way for ushering in new, healthy world-order where, to quote Einstein, the 'blind (religion) would carry the lame (science) on his shoulders and both would reach their ultimate destination of communion with God through self-realization slowly, but surely!'

Goal Ahead: Having thus surveyed some key parts of the spiritual landscape in the course of this whirlwind tour, it seems fair to draw the conclusion that, intrinsically, there is no major inconsistency in a scientist's performing his professional duties and simultaneously, searching for higher values in life, hopefully culminating in the realization of the Ultimate Reality. If anything, an open minded attitude to spiritual values and an assiduous cultivation of the implied altruistic value system will help him in better fulfilling his overall obligations towards his profession, family and society at large. Given this multidimensional promising motivation, it would be unwise, why, even unscientific, on the part of the scientist to develop a closed mind attitude towards religion and not heed Swami Vivekanand's clarion call for shaking hands with the spiritualist.

A special responsibility devolves on the Indian scientist in this respect, since he is heir to a treasure-trove of spiritual wisdom bequeathed to him by his Vedantic forefathers. This perennial knowledge has been acquired inand gelled by them using scientifically legitimate criteria of investigation and verification with an attitude of open mindedness. Let us all not fall victims to the bandwagon effect and get

misguided by our Western scientific peers, who have not naturally inherited the unique, spiritually charged atmosphere to which the Indian scientist is automatically exposed from his birth. In fact, a galaxy of distinguished Western scientists, philosophers and other intellectuals, who have made the admirable extra effort of getting to know the Eastern Spiritualism and religious philosophies, have already starting commenting with gushing praises about the astute far sight and deep perception of our blessed forefathers. Let it not happen that we miss the bus irretrievably and our own religious thought and practice one repackaged back to us eventually from the West carrying their brand-label! There cannot be a bigger disservice that we can do to God gifted seers and sages of this ancient land! Let us therefore, press ahead with urgent task of unraveling the Ultimate Reality, what Prof. N.C.Panda expressively refers to as the Hidden Constant behind this ever changing phenomenal world and 'stop not till this final goal is reached', using the synergetic route provided by essentially overlapping philosophies of Vedanta and modern physics.

Given the aura of inscrutability and indescribability characterizing the Ultimate reality, inevitably, there will be some grey areas on the spiritual landscape (as they are in the scientific field) in accepting which a scientist, doubling up as a spiritualist aspirant, may have genuine difficulties, at least in the beginning. But that should not deter him from trying to scale the Divine summit, for unlike its terrestrial analogue, this peak is unique and can accommodate everybody, never mind what their beliefs and convictions, as long as they are genuine and come from the heart. Has Lord Krishna not himself assured us in this respect in the Gita "I love both a believer and an agnostic as long as they sincerely believe in what they say; my difficulty is only with hypocrite!" So, we should seek to attain this summit by being true Karam Yogis and discharging our duties sincerely and with dedication. I, for one, have decided to hitch my life's bandwagon to the Divine star and discharge my enjoined duties as a scientist, householder and a citizen while cultivating a firm faith in Him. No doubt, I am starting on this journey with a bagful of mixed luggage. Only God and time ahead will tell where the journey would lead me and what would be my destination. I fervently pray to Sri Guruji to lead this lone ranger to wisdom and let me properly appreciate the meaning of the paradoxical albeit profound statement "What is, is not and what is not, is!" In the unlikely event of the future showing that I have erred in following this path, I will still have no regrets, since, I believe that it makes more sense to err on the side of rare wisdom than mere knowledge! Has not Prof. J.B.S.Haldane concluded that "a wise man regulates his conduct by the theories of both religion and science", and the great 20th century philosopher Bertrand Russel cautioned : "We are in the middle of a race between human skill as a means and human folly as to ends unless we increase in wisdom, as much as in knowledge, increase of knowledge will be increase of sorrow!"

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