SCIENCE AS SĀKṢĪ BHĀVA

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SCIENCE AS SĀKṢI BHĀVA (WITNESSING AWARENESS)

This is an age of Science: scientific discoveries and scientists proliferate. Science budgets are substantial and science promises to make life on earth better through technology. Most of the scientists of the world are alive today; and science-based technology has brought about a revolution in our modes of communication and dissemination of information. The potential violence of nations and groups of individuals have also reached frightening levels. But above all, the body of scientific knowledge has grown indescribably.

The Practice of Science

But I wish to talk about the sādhana of science, the practice of science by people who have devoted much of their life in search of the laws of nature. Do scientists create science or do they discover science? Is there a logical sequence of steps which lead to new knowledge and, if so, could it be entrusted to artificial intelligence to make the discoveries?

Closely related are the questions of the possible limitations of science and what, if any, subjects are outside the purview of science. We could also enquire whether the sādhana is a part of the system being investigated or is he/she outside it?

Another kindred question is whether the discoveries are created or cognized. This becomes all the more important when one takes into account the uncanny sense of familiarity subsequent to insight. In what follows I give a personal account of being a scientist. I am a theoretical physicist and, as such, while mathematical tools are used, it is the physical models and physical concepts that are central in my discipline.

Anatomy of Insight

In a serious scientific pursuit one does not necessarily choose the problem but certain problems "get under your skin" and will not go away until they are resolved. There is the logical and systematic attempt to solve the problem at hand and often this leads to progress; in such cases the progress is in time and the road to the discovery has a history. We could retrace the logical steps by which the solution was obtained.

But this does not always obtain. The progress stops at a certain stage and there is no indication how to make further progress. One tries in many ways to advance but gets frustrated, dispirited and exhausted. All resources are exhausted and the problem defies solution. There is utter darkness. Then happens the miracle: the solution beckons you and comes and sits in your lap. You recognize it as the complete solution. It is familiar. You wonder why you ever had any problem. In fact, you can no longer explain to yourself what is it that you thought was the difficulty. Therefore there are no logical steps from ignorance to knowledge since ignorance is banished forever. There are no histories, no retracings. It was as if the knowledge was always there. Not only is the future changed but the past is altered.
Two Legends

The struggle, frustration, surrender and insight are well illustrated in the dance-drama *kīrāgarjyāvam*, the story of how Arjuna went to Kailāśa mountain to meditate on Śiva to ask for the boon of the powerful gift of pāśupata. No Śiva appears but a hunter of gruff and displeasing demeanor arrives on the scene who seems least bothered by Arjuna's entreaties, and demands alike to leave him alone. Words lead to threats and to a duel: but try as Arjuna does, he cannot defeat the hunter. Instead, the hunter gets Arjuna thrown on the ground on his back, too tired even to close his eyelids to shut out the world in his shame. It is thus that he comes to see the matted hair of the hunter adorned with the crescent moon: and Arjuna, recognizes the hunter to be none other than Śiva himself. He wins Śiva's blessing and the mighty pāśupata.

The insistence on fitting incidents of insight into a causal-chronological framework and its inappropriateness is illustrated in a gospel story from the life of Jesus. One day Jesus saw a blind beggar at the market place and, in response to a question from his disciples, decided to cure the man of his blindness. Jesus spat on the earth, made some mud which he applied to the blind man's eyelids, and then asked him to wash them in a nearby pond. He did and regained his eyesight. After repeated questioning about the steps in the miracle cure the exasperated blind man had to tell his interrogators: I was born blind and you have seen me to be blind all these years. Now I can see. That is all you need to know! All histories of insight are fictitious.

Hidden Connections or Unconscious Processes?

Could it be that the mind (or the brain?) was working furiously at a subconscious or unconscious level and developing logical connections which are hidden from us? Is it that since we are unaware of these hidden connections we see it as without a historical sequence? In what way could we assert that the texture in such insights different from the logical, sequential discovery? These are legitimate questions; and there are people who would like to restore causality to this realm by introducing hidden causes and unconscious mental processes. The framework of Freudian psychoanalysis with its role in therapy, explanation of wit and humor and in the psychoanalytic reinterpretation of literature come to our recall.

It seems to me that there are some characteristic differences of the two kinds of discoveries. (1) The witnessing awareness (sāksī bhāva) in which the ego is absent. (2) The total familiarity with the discovered insight. (3) The non-logical conviction that the discovery is complete, so much so that the past where the insight was not there is erased from your mind. (4) Most important of all, the sense of joy (not pride) and oneness, humility and timelessness. For a logical chronological discovery on the other hand, the ego is present and justifiably proud of a job well done; and one can trace the sequential steps to the discovery.

Geocentric and Heliocentric Systems

In days of old, it was the generally held view that the earth was the center with the heavens as concentric crystal spheres. This Ptolemaic geocentric system was convenient and appeared natural. The close observations of the motion of the heavenly bodies showed that while they moved in the same direction, rising in the east and setting in the west, there was a series of complicated motions with some retrograde motions along the way; these orbits were epicycles. It was postulated in the Copernican heliocentric system
that all the bodies including the earth moved around an almost fixed sun. It was soon shown by Kepler that the planetary orbits around the sun were confocal ellipses and that the sun-planet line sweeps out equal areas in equal times. Kepler's three laws of planetary motion were much simpler than the epicycles of the geocentric system; and, in turn, led to Newton’s discovery of the law of universal gravitation. This is a different world view in which the earth is deposed from a preeminent position and becomes just another planet. Anomalies and retrograde motions dissolve in the heliocentric system; and the epicycle is an elliptical orbit as seen from the earth which itself is pursuing an elliptical orbit.

But this view took time to get general acceptance. Galileo had to stand trial for this heretical view. People continued to use the geocentric system and talked about the sun and other planets rising and setting rather than think of it as the earth rotating around an axis daily. But now when we do this we are aware of the heliocentric system which brings about clarity and simplification; and use the geocentric system for everyday use.

Witnessing Awareness

Science as sākṣi bhāva removes the egocentric universe in which the individual person is making the discovery; and installs the principle of knowledge itself, the Self as the fiducial entity. We may refer to it as the Self-centered universe. In this, the role of the individual is as a witnessing awareness, very much in the spirit of the felicitous symbol of the two birds in harmony in Mundāka Upaniṣad "dvā suparṇa saṃjña sakāhyā...". The witnessing awareness, the onlooker bird, is the cognizer, and the individual rises to that level. There is no longer the fragmentation of awareness into a separated individual mind. This higher level of awareness may be called the Self or the Lord or the God as one’s personal preferences go. St. Paul would like to say that Saul is dead according to Law, but Christ speaks through Paul. Ramanuja and other theists would invoke the functioning of grace, Śrī, in insight. Sankara would identify the Self as the principle of knowledge as described so eloquently in Dāksīṇāmūrti stotra in the two stanzas beginning "viśvam darpaṇāmāna nagaratulyam..." and "bijasyāmkuri prāng nirvikalpo punar..." respectively. It seems to me that by and large this is a matter of terminology. But in all these versions the individual ego is no longer the center.

Concluding Remarks

Is it possible that we could have a mind or even a brain-centered theory of the witnessing awareness and of insight? It will make many people more comfortable. It would certainly be convenient to have a mind-centered theory of everyday activities including everyday science. This is similar to our use of the fixed earth as reference point and talk about sunrise and sunset and the sun moving along a zodiacal arc during the day. So also for most purposes we use a fragmented ego awareness as making discoveries and creating science; we can also talk of hidden connections and unconscious processes. But if we wish to deal with scientific insights in their simplest form, a Self-centered system is most appropriate. It is not for everyone and all the time, but only when it matters. Such an awareness is rare, as stated in the Bhagavad Gīta,

\[ \text{bhaḥūnām janmanāmante} \\
\text{jñānavān mām prapadyate} \\
\text{vāsudeva sarvam iti} \\
\text{sa mahātma sudurlabha.} \]