

On Superstition and Scientific Temper

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1 Introduction

We Indians born and brought up in our traditional rural villages, but educated in colleges and universities along the lines chartered by our erstwhile colonial masters, are often torn between these two pulls in opposite directions. Is all that is traditional and Indian stupidity and superstition? Is all that is taught in our modern colleges and universities in accordance with the best scientific tradition?

Let us take a typical case and examine what we shall do in our best interest. Let us imagine there is a snake bite in the family (God forbid!): a six year old boy is bitten by a snake. There is a primary health centre about 3 km away in one direction, and a traditional *viṣahārī* at about the same distance, but in the opposite direction. There are no vehicles available. We really do not know how good the *viṣahārī* is, nor if the traditional kind of treatment for snake-bite is effective at all in the first place. On the other hand, the primary health centre is most unlikely to have anti-venom serum, or any medicine at all for that matter. To make matters worse, time is running out. What is the head of the family expected to do?

This is not arm-chair philosophy; this is life. The child's helpless mother is pleading in supplication to the unknown powers that be to spare her child's life. Our scientific temper glorified as 'the right course' of thought and action does not really come to the rescue of the confused father as the responsible head of the family.

2 A Few Questions, a Lot of Confusion and Indecision

This is hardly the time for an academic debate. Our decisions are governed by factors not all scientific or logical. An examination of the various issues involved in the backdrop of a sense of utter helplessness and consequent

humility would perhaps give us an appreciation of where we stand in the face of such hard facts of life. What in such situations is our best bet?

Many, perhaps most, of us would pray, irrespective of whether or not we are believers. Most of us are probably believers, though only nominal ones. We grew up as believers and continued to be so, nothing having happened to force us to take a different position. We may even be driven by the thought that it does not hurt to pray.

At school our science education hardly helps us to take a wise mature decision.

3 Quiet Reflection

Science is traditionally made much of; it is given a larger than life image. It is hailed to be the key to the understanding of universal truths. However, on closer scrutiny one cannot help concluding that science, at any rate the kind that we are exposed to at school, hardly addresses such issues at all. Physical sciences take no notice of basic questions about life and death. Love, fear, hatred — emotions that we know not only exist but are often the driving forces in life — do not seem to fall in its domain. Even life sciences do not hold that elusive entity called life as the focus of their attention. Is science entirely objective? Is objectivity an essential aspect of science? What is so admirable in objectivity and so despicable in subjectivity?

Would somebody help us to analyse and settle difficult questions such as these? A careful examination free from prejudices would lead us to conclude that in such matters science can lay no greater claim than other areas of knowledge such as poetry, music, philosophy and religion. Why should we hold on to our opinion obstinately? After all an opinion is only a point of view, even if it is yours. We have no intentions of thrusting our views on others. This quiet reflection is only for our own clarity and edification. The question of overriding importance is: does science or the so-called scientific temper help us live a healthy and fulfilling life? Does it help us to be cheerful, can we smile on life, even in the face of adversity?

4 Role and Domain of Science

Perhaps science helps us to make a living¹; it hardly teaches us how to live². If we spend more time on such matters, it becomes evident that many great scientists also had contemplated on such aspects of science. For example, the famous Nobel Laureate Max Born had openly confessed that his earlier view of the superiority of science to unravel mysteries of Nature was only because of his youthful exuberance, and that really it is no better in this regard than other areas such as art, poetry and philosophy.

When we examine the role and domain of science, perhaps we should distinguish between pure and applied science. The proclaimed role or objective of science is to understand Nature and the various phenomena. An equally important by-product is the intellectual pleasure associated with the pursuit of science. This is a tall claim. However lofty this claim is, in practice science had often degenerated to finding means of developing weaponry for mass destruction.

Apart from such serious aberrations, even in its noblest aspect, science is developed on the basis of certain premises — call them assumptions, hypotheses, starting points, models, whatever — whose truths are not self-evident or obvious. The conclusions are only as good as the assumptions, or the models on which the scientific theories are built. An ‘experimental verification’ is really no proof that the modelling is correct. All that can be accepted at best is that the experimental finding is consistent with the modelling. The real truth out there is elusive. Can it be encapsulated in a scientific theory even if there are very many integrals and impressive differential equations?

There are no such fundamental philosophical issues for applied science. Here we desire a certain output and we design a device to achieve it. If we desire a fan to rotate faster, we can do whatever is needed in the electrical circuitry to accomplish it.

4.1 Limitations of Science

Science has limitations; scientists are well aware of them. To drive home the point strongly, let us consider a common practice of avoiding the so-called

¹*Mata Amritandamayi Devi* often says that there are two kinds of education; one that helps us earn a living, and the other that teaches us how to live.

²A relative of mine, a cancer research scientist working in the US, once remarked: “it is true that many people die of cancer, but many more people make a living out of it.”

rāhu kālām for performing an auspicious ceremony. Is this against scientific temper to follow such a practice? We may submit to *rāhu kālām* restrictions not necessarily because we truly believe that some misfortune would befall if we fail to observe such practices. This may only be a tradition, and traditions are sometimes part of our society and culture. Traditions can be, and often are, beautiful. We can see such traditions being followed in many countries and cultures. Science has nothing to tell us, either in support or against such observances. On occasion, it may cause great inconvenience and hardship if we follow them. Then there is a case to spurn the habit, but we do not have to do this every time, just because hardened pseudo-scientists disapprove of such observances.

5 Pseudo-scientists

Pseudo-scientists are the General Manager of the universe. They know everything. They can attack anything that they like, nay, dislike. They are perfectly well qualified to pronounce judgments; no one shall ever question them. Arrogance coupled with ignorance and a mulish unwillingness to examine other points of view, and lack of humility are the defining features of distinguished pseudo-scientists. They are the sole custodians of science and the only officially qualified spokesmen of science. Western science such as we teach in our colleges, Physics, Chemistry, Life Science, etc. are the only bodies of knowledge that are eligible for the honorable title of science. Thus, Sanskrit grammar, for example, will not qualify for such an honorable place, no matter how logical, profound and incisive its analysis is.

Sometimes we may not know the scientific basis of some of the common observances. For example, when we eat, we do not touch anything else with the same hand. We observe *echil* and avoid it. We always wash our hands before we touch anything else with the same hand. Westerners do not follow such a practice because in their culture there is no such concept as *echil*. They do not have anything like *pula* or *vālāyama* either when a close relative passes away. Does that necessarily mean that it is unscientific to follow such observances? The fact may be that, when judged from the point of view of science, it has no scientific basis, or that its scientific basis is not known.

Three statements are given below.

- (i) There is no scientific basis for, say, *āyurveda*.

- (ii) The scientific basis of *āyurveda* is not known.
- (iii) The scientific basis of *āyurveda* is not known to me.

It appears that one ought to be humble and state (iii) to be charitable to a large body of literature and practice, but pseudo-scientists end up declaring (i) instead.

Can we say that, just because *āyurveda* does not state its foundations in terms of modern chemistry, pharmacology, etc. using their terminologies palatable and familiar to the pseudo-scientist, *āyurveda* is pure superstition? *Āyurveda* developed in a different cultural and educational background, and naturally enough that would be based on premises and concepts that may look strange to us now because we are far removed from those cultural moorings.

It is considered fashionable to attack lock, stock and barrel anything truly Indian. It is perfectly legitimate to use all foul tricks: brahminical culture, *vedas* are deliberately employed to keep large sections of the population illiterate and suppressed, Sanskrit has done tremendous harm to India, etc.

Some people are so much against homeopathy that they do not even use words like *homeomorphism*³!

5.1 Premises

The entire exercise is based on a few premises. Some of them are identified below.

- (i) Indians are all idiotic and superstitious. White men are all paragons of virtue and fully enlightened; they cannot make any mistake. Infallibility is the hallmark of white men.
- (ii) A person with a name like Frederick J. Jones, Jr. is any day more trustworthy than another with a name like Kunhambu Kurup.
- (iii) Astrology is superstition. Astronomy, the western version, is science, while Indian astronomy or Hindu astronomy is superstition. It is necessary to emphasise this, because Indian astronomy is written largely

³We have probably heard it said that at one time there was so much of rivalry between *śaivites* and *vaiṣṇavites* that the latter would not use words like *śāthanī* — they call *amudu* for rice — to avoid the letter *śa*!

in Sanskrit. Furthermore, it would otherwise be embarrassing because several remarkable astronomers were also astrologers.

6 Conclusion

There can never be a conclusion. We do not know anything about the grand scheme of things. Puny little man is denied entry — why, even a peep — to the great big vast ocean of mystery. There cannot be a closure either; it is always a big open question. But fortunately when in doubt we can always ask the pseudo-scientist; he is never in doubt. He knows everything.

Perhaps even at the risk of disapproval of pseudo-scientists we may put aside our arrogance; a certain amount of humility will not hurt.