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Forms and Symbols: The Roots of Behavior

DRAFT - 9/15/85

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WHAT IS SCIENCE THAT THOU ART MINDFUL OF HER?

by

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The Fourteenth International Conference on the Unity of the Sciences
Houston, Texas November 28-December 1, 1985

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Many years ago, while on a walk with my daughter who was then only eight, I was a little startled by her somewhat unexpected and sudden announcement that now she knew who created the world. She proceeded to declare that it was not God who created the world, but Science. She, like every other young child, was naturally interested in the mysteries of the cosmos, and also, like other children, rather quick to accept the received opinion. Having tried to guard her from a sectarian view of religion, we could expect her not to have a narrow view of God, a view which essentially portrays God in the image of man, but we had not expected her to raise science to the level of divinity. But such is the strong cultural force, particularly in the schools and the universities, that it is very difficult for anyone, and especially the young, to resist the apotheosis of science and the scientific method. Science is for us moderns the epitome of what is true, good and beautiful ;it has become for a great many people a dogmatic kind of religion, beyond question and with an absolute faith in its own methods and procedures. To be sure, the greatest scientists, in all ages, have been aware of the limitations of science; this was as true of Newton as of Einstein. But the average scientists, and the non-scientists even more, have an unbounded faith that science will somehow do it all, and do it alone. They might have doubts about themselves

personally being able to do it all, so it is not a question of a personal vanity, but when it comes to science they have no doubt that all problems will sooner or later be conquered by science. To a very large extent, the attitude is the same as in an earlier time in Europe about Christianity: any individual faithful may have some doubts about himself being constantly in the grace of God, but when it comes to the salvific ability and uniqueness of the church, no doubts can be entertained, at least not in public. There is as much a fear of heresy with respect to science as it used to be with respect to the church.

For centuries now, and largely owing to the amazing successes of science in the exploitation of nature, the modern human being is in general devoid of any natural sense of the presence of the transpersonal intelligence in his life. For him, there is nothing higher with respect to which his being can be measured, and in obedience to whose will and purpose his existence may have any meaning. Whenever the ancient man was struck by the majesty of the heavens, for him the question was inevitably raised about his own place in this grand scheme which was naturally accepted to be permeated with the presence of divinity. We see this, for example, in the psalms of David in the Old Testament or in the hymns of the Rig Veda. We can take a well-known psalm, Psalm 8, as an illustration:

When I consider thy heavens, the work of thy fingers,
the moon and the stars, which thou hast ordained;
What is man, that thou art mindful of him?

These days, we are also sometimes struck by the beauty

and the wonder of the heavens. However, as scientists, we in general ask different questions and express different attitudes. We are not convinced in a natural manner about the fact that the whole cosmos is pervaded by the grandeur and glory of divine presence. That is the very thing which is in question for us. This is not something which is a given for us and from where we start our scientific thinking and doing. For us, this sense of the divine presence is something which needs to be established by scientific methods. For us moderns, science is what is a given, and everything else is below that. As I suggested elsewhere, a contemporary, and scientific, rendering of the above psalm is likely to be

When I consider the heavens, the work of our equations,
the blackholes and the white dwarfs, which we have ordained;
What is God, that we are mindful of him?

Why are we so convinced about the ultimate validity of science, and of its cultural hegemony over everything else? What is science that we are mindful of her?

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R.Ravindra:"In the Beginning Is the Dance of Love"; an invited paper delivered at the symposium on "Origin and Evolution of the Universe: Evidence for Design?", sponsored by the Royal Society of Canada at McGill University, Montreal, May 30-June 1,1985.

The most important aspect of modern science is its very intimate correlation with power. It is a very ancient idea that knowledge is power. The awesomeness of this truth, however, could not be quite as readily appreciated until the explosion of the first atomic bomb in 1945. That event ushered a new level of realisation of the truth of this maxim, in all its nakedness and externality. Only external knowledge is science, and it can deliver raw, physical power with which one can conquer nature or another nation for exploitation and gratification of one's desires. The Faustian urge, inherent in all human beings, is now promised satisfaction by Mephistophlese with the instrument of science. "I shall give you dominion over the whole world, if you..." What are we promising in return in the face of this temptation in the wilderness of our soul?

Naturally, as has been said practically by all sages, the other side of the coin of this craving for dominion is fear. Fear of the other; fear of oneself; fear of being nothing and fear of being conquered. In this phantasmagoria of fear and craving enters science as a shield and as a weapon, bringing in its wake great wonders, marvellous spectacles, chemical ecstasy and plastic nymphs. Power of the nations and their wealth, and the fear in which they are held by others, depend rigorously on the development of science and technology in their domains. It should surprise no one that more than three quarters of all physical scientists in the world work for the military-industrial complex. We are rightly mindful of science because it is power. It may destroy our enemies or ourselves, or very likely, if

continued unleavened by wisdom and compassion, all of us in the ultimate nuclear lunacy. In its dedication to power and control over nature and, by fearful extension, over peoples and the heart and soul of man, science represents the very essence of black magic. It was the prophetic vision of this aspect of science which led William Blake to regard it as satanic, and to insist that "Reason and Newton are quite two things."

O Divine Spirit sustain me on thy wings!

That I may awake Albion from his long and cold repose.

For Bacon and Newton sheathed in dismal steel,

their terrors hang

Like iron scourges over Albion:Reasonings like vast Serpents
Infold around my limbs, bruising my minute articulations.

.....

In heavy wreaths folds over evry Nation; cruel Works

Of many wheels I view, wheel without wheel,with cogs
tyrannic

Moving by compulsion each other, not as those in Eden,which

Wheel within wheel, in freedom revolve in harmony and peace.

William Blake:Jerusalem 15:9-20

As in everything, so in science also there are many levels. To speak a little more precisely, there are many levels among scientists, and the motivations and attitudes which they bring to their scientific work. In an address given in honour of Max Planck, Albert Einstein said:

"In the temple of science are many mansions, and various indeed are they that dwell therein and the

motives that have led them thither. Many take to science out of a joyful sense of superior intellectual power; science is their own special sport to which they look for vivid experience and the satisfaction of ambition; many others are to be found in the temple who have offered the products of their brains on this altar for purely utilitarian purposes. Were an angel of the Lord to come and drive all the people belonging to these two categories out of the temple, it would be noticeably emptier, but there would still be some men, of both present and past times, left inside...if the types we have just expelled were the only types there were, the temple would never have existed, any more than one can have a wood consisting of nothing but creepers...Now let us have another look at those who found favour with the angel...What has brought them to the temple? That is a difficult question and no single answer will cover it. To begin with I believe with Schopenhauer that one of the strongest motives that lead men to art and science is escape from everyday life with its painful crudity and helpless dreariness, from the fetters of one's own ever shifting desires. A finely tempered nature longs to escape from the personal life into the world of objective perception and thought; this desire may be compared with the townsman's irresistible longing to escape from his noisy, cramped surroundings into the silence of high mountains, where the eye ranges freely

through the still, pure air and fondly traces out the restful contours apparently built for eternity..."⁺

Although these remarks were part of a tribute to Max Planck, still it is clear that Einstein here reveals his own motivation for his scientific work: a longing for freedom from the merely personal concerns, and a search for the world of objective perception and thought. For him, science had to concern itself not only with the nature of the physical world, but also with the fate of man, with existence and with reality. It was not just a workaday occupation, or something by which to fulfill one's ambitions and desires, or to try to protect oneself against fearful reality. For him science was a way to pursue transcendent aspirations, a way through which he sought to understand "the secrets of the Old One." There can hardly be any doubt that for Einstein science was a spiritual path, a form of yoga.[#] On one occasion he remarked:

"It is, of course, universally agreed that science has to establish connections between the facts of experience, of such a kind that we can predict further occurrences from those already experienced. Indeed, according to the opinion of many positivists the completest possible accomplishment of this task is the only end of science.

+ "Principles of Research", in Albert Einstein, Essays in Science (New York:Philosophical Library,1934),pp.1-2.

[#] In this connection see R.Ravindra:"Science as a Spiritual Path," Jour.Relig. Studies. vol. VII,1979,pp.78-85.

I do not believe, however, that so elementary an ideal could do much to kindle the investigator's passion from which really great achievements have arisen. Behind the tireless efforts of an investigator there lurks a stronger, more mysterious drive: it is existence and reality that one wishes to comprehend.*

Of Planck he said, "The state of mind that enables a man to do work of this kind is akin to that of the religious worshipper or the lover; the daily work comes from no deliberate intention or programme, but straight from the heart."@ On another occasion he said, "Certain it is that a conviction, akin to religious feeling, of the rationality or the intelligibility of the world lies behind all scientific work of a higher order."# It is clear that Einstein is not using the phrase religious feeling in any churchly or denominational sense; he means a feeling of awe, mystery, subtlety and vastness-- a feeling which in another context he called a "cosmic religious feeling", which is one of "rapturous amazement at the harmony of natural law, which reveals an intelligence of such superiority that, compared with it, all the systematic thinking and acting of human beings is an utterly insignificant reflection."

* Address at Columbia University, New York, January 15, no year given, in Essays in Science, pp. 112-3.

@ "Principles of Research", in Essays in Science, p.5.

"On Scientific Truth", in Essays in Science, p.11.

As far as Einstein is concerned , we can say with confidence that for him science was a spiritual path, a way to worship the divine. However, on any path--scientific, religious or artistic-- the vast majority are no doubt self-seekers, more or less driven by ambition, fear or craving. But, truly, one cannot have a wood consisting of nothing but creepers. "...Science can only be created by those who are thoroughly imbued with the aspiration toward truth and understanding. This source of feeling, however, springs from the sphere of religion. To this there also belongs the faith in the possibility that the regulations valid for the world of existence are rational, that is, comprehensible to reason. I cannot conceive of a genuine scientist without that profound faith. The situation may be expressed by an image: Science without religion is lame, religion without science is blind."

There are many levels among scientists, from black magicians to saints. As long as we do not make a distinction in the sort of science they produce, which we cannot do at present owing to a total neglect of the dimension of being in modern theories of knowledge purporting to be scientific, even the highest level of science will sooner or later be preseed in the service of power and greed. What is needed is a proper integration of the various parts of a scientist's soul, of his spiritual, intellectual and physical aspects. No sort of reconciliation of religion and science as abstractions will do;

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"Science and Religion", in Albert Einstein, Ideas and Opinions (New York:Crown Publishers, 1954), p.46.

for such always remain merely mental. A harmonization of the scientific and spiritual aspects in the same person is required. The more an individual is integrated in his various faculties, the wiser is he likely to be, in whatever speciality his own particular calling and capacities engage him.

Given the immense power inherently connected with science, and also given the ambitious and fearful nature of most of us who pursue science or use its results, we need to be circumspectly mindful of her. But also given the fact that science, among other ways and modes of knowing, engages seekers of objective truth and perception, we cannot but be reverently mindful of her.