

# EDITORIAL

## THE PERVASIVENESS OF THE PARADIGM

During the 18th century a number of museums of Europe discarded their meteorite specimens because they were considered to be relics from a superstitious past when people believed that rocks fell out of the sky. The embarrassment of being associated with such unscientific samples was more than some curators were willing to bear. At that time the scientific community, led by the French Academy of Sciences, had expressed its view against the existence of meteorites, and their opinion prevailed. Since then it has been well documented that rocks do fall out of the sky.

The loss of these rare specimens was serious, but much more important is the inadequacy of the patterns of human thought illustrated by these incidents. Prevailing opinion is too frequently equated with truth, and important decisions are made on this basis. The history of man's search for truth reveals a disturbing pattern. Often large groups of individuals adopt particular ideas, believing them to be true. These are later replaced by opposing views which in turn are replaced by others. This cycle has been repeated many times. Often each view has a large group of followers. This instability makes it proper to wonder if current opinions can have the certainty of truth that its adherents usually imply they have. Some also wonder if new ideas are better than old ones.

A number of students of the history and philosophy of science including Barber (1961), Kuhn (1970), Kearney (1971), and Brush (1974) have addressed themselves to these questions. Their opinions are not very encouraging and the latter three raise serious doubts regarding the prevailing idea that science is a steady advance towards truth. One of the more explicit accounts of the dilemma is given by Kuhn (1970) who proposes that ordinary science is the refining of broad universally accepted scientific concepts "that for a time provide model problems and solutions" (p. viii). He calls these broad concepts "paradigms." A change from one paradigm to another is referred to as a scientific revolution. Because paradigms are universally accepted, they are seldom questioned, even though science claims to actively oppose dogma (Brush 1974). Kuhn further emphasizes that if a scientist does not fit his queries into an accepted paradigm, these are likely to be rejected as metaphysical or too problematic. The longevity of the paradigm is enhanced by such an attitude as well as by the fact that one tends to feel more secure when one is on the side of prevailing opinion.

In view of this it may be well to remind ourselves of the incisive dictum that if we always go by the majority, there is little chance for progress.

The tendency for humans to group themselves under the protection of prevailing schools of thought, thus betraying a singular lack of independence, is in part what prompted T. H. Huxley to state: "'Authorities', 'disciples', and 'schools' are the curse of science; and do more to interfere with the work of the scientific spirit than all its enemies" (Bibby 1960, p 18). Man's efficiency as a seeker for truth is also questioned by Winston Churchill when he states: "Men occasionally stumble over the truth, but most of them pick themselves up and hurry off as if nothing happened." Since the paradigm has broad acceptance, it is less likely to be questioned than a concept that is considered equivocal, and the change from one paradigm to another is quite difficult since there is so much inertia to overcome (Barber 1961).

Recently it has been argued that such a paradigm change may not be generated by the greater problem-solving ability of the new paradigm. To put it more directly the new paradigm may have less data to support it than the old one. Philosophical arguments may be the primary motives for change. Kuhn (1970, p 151) labels the change as a "conversion experience." Brush (1974) and Kearney (1971) propose that a new paradigm may replace an old one even though it is not as good a scientific solution. Kuhn has the same reservations when he states: "We may, to be more precise, have to relinquish the notion, explicit or implicit, that changes of paradigm carry scientists and those who learn from them closer and closer to truth" (p 170).

It is obvious that the group-like behavior of the scientific community when it works within or shifts from one paradigm to another betrays a lack of independent thought and a lack of caution on the part of the individual scientists. It is also true that numerous examples of paradigm shifts toward what is now considered to be a more erroneous position can be cited. However we have confidence that what is called ultimate truth exists and that a pursuit which tries to bring agreement of concepts with the more factual data of nature, such as science does, should bring us closer to that truth. There may be many false paradigms along the way, but eventually we should get closer to our goal as more of this data of nature is incorporated into prevailing concepts.

The lesson for us now is that we should not be unduly influenced by prevailing paradigms; history suggests they will change, and because of this we should exhibit a greater degree of independent thought, basing our conclusions more on factual data than on generally accepted opinions. Specifically regarding the questions of special concern to this journal, those of origins, the paradigm of evolution (we are speaking of the general

theory of evolution) compared to creation should be evaluated in terms of the recent findings in nature more than in terms of the popularity of either idea. Since the recent discoveries in molecular biology have shown that the spontaneous origin of life and meaningful genetic changes are much more improbable than was previously believed, and since further search in the fossil record confirms the ubiquitous nature of the gaps between major kinds of organisms as would be expected for creation, we feel it is time that the scientific community give serious thought to questioning the paradigm of evolution. The new data demands it.

### **LITERATURE CITED**

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