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TOWARD A PHILOSOPHY OF SCHOLARSHIP

Even though surprising discoveries and turnabouts pepper their history, the exact sciences enjoy a distinction for producing accurate, reliable information. For several reasons, such certainty is not attainable outside the exact sciences because they cannot make complete (and in some cases, little or no) use of the scientific method; with the result that they must be classified as areas of study that are not strictly science. That is to say, results and conclusions from these latter areas are not repeatable or testable in the scientific sense; for example, perfidy on the part of a physicist can become apparent when other physicists perform the identical experiment with consistently different results.

History, for example, can never be repeated for those who are trying to establish the actual outcome of the great battle at Kadesh in the 13th century B.C. between Ramses II Setepenre and the Hittites under Muwatallis, for both claimed victory. In another instance, a scene in a temple of a 25th Dynasty pharaoh shows Libyan chiefs taken as prisoners, providing their names and even itemizing the cattle taken. Any historical validity for this scene was destroyed when it was discovered to be an exact copy of a scene found in the temple of a pharaoh, who lived ca. 1800 years earlier. Was this, then, the original? No. This earlier scene is itself a copy of one made yet two hundred years earlier. Was this one the original?

What is worse, is that in such disciplines as archaeology, the very existence of *any* kind of evidence becomes a vital concern, to say nothing about how it has been excavated,

cataloged, preserved, or displayed. Vast temporal hiatuses for which there is no evidence at all remain as thorny problems for the chronicler of the ancient past—in more ways than one. Unlike the exact sciences, in which an invalid theory or hypothesis can be controverted by additional testing, there is no way of verifying whether or not flying saucers zoomed to earth in the ancient past with their inmates revealing great secrets to mankind. Moreover, all too frequently students of the past approach their topic with an already-developed hypothesis, so they have a tendency to view evidence according to their supposition, which thus somehow "proves" it, ignoring evidence or trying to find ways to make unwanted evidence seem invalid.

This approach can be termed "inverse deductive reasoning", in which the conclusion precedes its premises (which are then accepted as valid *only* if they can be interpreted to completely support the conclusion). In this way, cherished religious, metaphysical, or other personal beliefs have been, are, and will be, promulgated as being in accordance with "scientific" findings. The primary drawback of this, unfortunately, widely-used methodology is that it only reinforces already-accepted tenants of true believers, instead of contributing towards more accurate knowledge (according) to which previous concepts may have to be rejected or greatly modified.

How can a discipline as young and full of challenges as North American petro-glyphology emerge from many of the

problems with which it has been fraught? First of all, because valid conclusions can never be made from data, which has been carelessly gathered, sorted, and prepared for study, a rigorous set of rules must be developed so that petroglyphologists from around the country (and world) can arrange their data in such a way for it to be accessible to all and so that all of the various features of petroglyphs will be consistently noted. (The only reason why some features may be "insignificant" to a particular researcher may be due to the fact that he does not understand them.) Secondly, it must become axiomatic that no hypothesis which ignores evidence can be regarded as valid, no matter how appealing it may be. And lastly, wherever possible, the scientific approach *must* be followed; i.e., "the rigorous, systematic application of cogent inductive reasoning from what has been observed ... to expectations ... that can be and are checked up on" (Kahane 1980:20).

Even so, it must never be forgotten that: "In human affairs every solution serves only to sharpen the problem, to show us more clearly what we are up against. There are no final solutions" (Hoffer 1982:11).

REFERENCES CITED

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