

ESSAY

Toward a “Science of the Subjective”: Reminiscences and Speculations in Memory and in Honor of Bob Jahn

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Abstract—To accommodate, explain, understand the range of phenomena often described as parapsychological or as anomalous human–machine interactions, Jahn and Dunne discussed the characteristics needed to establish a “science of the subjective,” capable of dealing with both subjective and objective information as well as transfer of information. It is suggested that work in history, or practices in the legal system, rather than the physical sciences, might offer a suitable role model; together with the substitution of Bayesian approaches for the commonly used frequentist methods of statistical analysis.

Keywords: science of the subjective—Bayesian statistical analysis

Reminiscences

In the 1970s I began to make the study of scientific anomalies my chief academic focus. Through Marcello Truzzi (who had been a reviewer of the manuscript of my book [Bauer 1984] about the Velikovsky Affair), I learned about the founding of the Society for Scientific Exploration and was able to become one of its first members. I learned a great deal over the years from many fellow members, from no one more than from Bob Jahn. I was perpetually astonished at his ability to fashion intriguing modes of description and analysis and to construct ingenious metaphors to serve as approaches toward understanding otherwise incomprehensible things. Bob Jahn gave me unceasingly fascinating food for thought.

Bob and I were, as far as I know, the only members of early SSE Councils who had also been deans in academe. The latter experience brings all sorts of insights into the behavior of human beings, especially perhaps those who work at intellectual matters. For one thing, how individually brilliant minds manage in committee-like settings to forsake the logical facilities displayed in their individual work and to succumb to unfocused irrelevancies, wishful thinking, and ignoring of empirical realities—as they

say, camels are horses designed by a committee; suggestions continually offered for “what ought to be done,” all too rarely joined to the speaker’s offer to actually do them. At any rate, among my many fond memories of Bob Jahn are the not-infrequent times in Council meetings when we would exchange brief glances of mildly amused frustration.

Above all, though, I feel it as a very great compliment that Bob Jahn accepted me as a friend and did me the honor on several occasions to solicit my opinion on aspects of his work. My appreciation of Bob, my gratitude for our association, is illustrated by that well-known quote from W. B. Yeats: *Think where man’s glory most begins and ends, and say my glory was I had such friends.*

When once I spoke about friendships with my daughters, I remarked that I had come to respect people from a very varied range of backgrounds, among them a Chinese ship’s steward, a British auto mechanic, an American distinguished professor of operational research, a Xerox service man . . . and what I had realized was that the decisive characteristic they all had was *integrity*. So with Bob Jahn. His work on human–machine anomalies brought less than approval from the administration of his university, as well as defamation from a variety of sources, but at all times it was clear that Bob Jahn was following the evidence and seeking the truth to the best of his abilities, with unquestionable integrity.

Speculations

In the course of working on my last book (Bauer 2017), some trains of thought had led me to re-read Bob and Brenda’s “Science of the Subjective” (Jahn & Dunne 1997). At one point they say, accurately,

most of the classical physical sciences . . . strive to embody precisely measurable, unambiguously quantifiable, and strictly replicable properties, with minimal statistical variance. In the quantum-based physical sciences, however, as well as the biological, medical, psychological, and social sciences, progressively more reliance has come to be placed upon statistical rather than uniquely deterministic measurables.

Indeed; and “strictly replicable” has come to be an almost universally accepted criterion for being credited with being scientific. But what is required if observations or measurements are to be reproducible?

Surely observations can be replicable only if the phenomenon being observed is reproducible. Now what is truly reproducible in the circumstances of a human being? (Or for that matter of any living thing.) We change instant by instant, not necessarily learning, perhaps, but certainly

experiencing and responding. I don't think one's physical, mental, and emotional state is reproducible, it is not precisely the same at different times.

That would seem to exclude the possibility of discovering direct cause-and-effect relationships. Those can be found in physical science because the studied objects do not change *inherently* over time; and, just as significant, the studied objects form a class of identical things—all electrons (of a given spin) are the same, all atoms of carbon-12 are the same, and so on.

All human beings are not the same, and they change over time. So in medicine and in social science, studies can yield only statistical information. That is a different kind of thing than a cause-and-effect relationship. Statistical correlations never establish causation.

So, it seems to me, any “science of the subjective” cannot take as its role model the physical sciences with their demand for replicable results. That a repetition of a “statistically significant” result might also yield a “statistically significant” result, even at the same level of significance, is not at all the same sort of thing as being able, say, to repeatedly precipitate silver chloride by adding sodium chloride to silver nitrate.

Statistical analyses offer us only probabilities, whereas through “science” we are seeking certainty.

Jahn and Dunne pointed out that the desired “science of the subjective” must somehow manage to include, to mesh, objective information and subjective information:

Inclusion of subjective information within the framework of science clearly constitutes a huge analytical challenge [calling for] a viable mechanics that can enable profitable dialogue between empirical experience and theoretical predictors.

Physical science is not an appropriate role model for this task. But other human ventures may be: the legal system (of most democratic nations), for example; and what historians do. In our legal system, tangible objective material plays an important role; but so too does the subjective input from eyewitnesses and the subjectively revealing process of cross-examination. Somehow the human judgment exercised by juries and judges effects a synthesis of objective and subjective information.



Robert G. Jahn

Similarly in the work of historians. Tangible evidence in the way of artefacts, their dating by physicochemical means, and evidence from archaeological digs are combined with subjective information from such human creations as writings and maps. Judgment is applied by the historian to forge a unified narrative relying on both objective and subjective information.

Those who cannot learn from history are doomed to repeat it, is an insight attributed to George Santayana, often quoted in various versions. But how can we learn from history? There is no overarching paradigm or theory of history; there are no “constants of Nature” pertaining to history; there are no universal laws applicable throughout history. And yet Santayana’s insight is widely acknowledged as valid.

On the whole, historians regard themselves as just that, historians, not “social scientists”; and they strive not for theory construction as, say, sociologists do, but rather they strive to accomplish “thick” descriptions of actual happenings: descriptions so rich in context and detail that readers can think themselves into that time and place and those actions. The richness of detail and context permits the making of connections by judging what is meaningfully similar in another time, another place, and other actions. So, for example, observers (though unfortunately not enough participants) were able to learn from the French experience in Vietnam what went wrong with the American intervention in Vietnam; and even to extrapolate meaningfully to American mis-steps in Iraq and Afghanistan.

Not everyone agrees about that, of course. But then not everyone agrees over all the things in the physical sciences either, even though “the scientific method” supposedly enables definitive “objective” conclusions. Over biological evolution, over origins of the universe and of life, even over quite specific matters like the Tunguska event or the nature of ball lightning, competent and informed experts disagree. In the physical sciences the shibboleth asserts that disputes can be settled, in principle and eventually, by sheer evidence, by *facts*. There is no corresponding claim in history, and yet we can and do learn from history in ways that facilitate often reliable projections, predictions, extrapolations.

This train of thought suggests that a “science of the subjective” might be constructed not on the “scientific” lines of experimental protocols but, as in historical studies, on the basis of thick descriptions of reported happenings. The interplay “between empirical experience and theoretical predictors” that Jahn and Dunne call for I would re-phrase as interplay between empirical experience and *understanding*, gaining sufficient insights into the contextual connections in and among the accumulated thick descriptions to allow reasonable projections of a range of likely future happenings. Or

more succinctly: Exercising judgment based on an understanding of past experience must and can, in studies where human activities are concerned, take the place of the cause-and-effect deterministic experimentation and observation that is possible with phenomena that involve only inanimate objects.

The absolute necessity of a “science of the subjective” follows, too, from the fact that what matters to human beings is *meaning*, and the physical-science approach cannot deliver that; as Steven Weinberg put it so neatly, “The more the universe seems comprehensible, the more it also seems pointless” (Rigden 1994). Objective knowledge, analogous to what maps can deliver, is devoid of human meaning; it is stories, tales, parables that convey meaningful human information about values, about how to behave (Bauer 1995).

Jahn and Dunne observe, accurately, that “more reliance has come to be placed upon statistical rather than uniquely deterministic measurables,” and statistical analysis of accumulated experiences is surely a useful adjunct to the exercise of human judgment. But I would enter a plea as to the nature of the appropriate statistical analysis.

In social science and medicine, and also in parapsychology and anomalistics, the commonly applied statistical analysis follows Fisherian, frequentist, lines with the calculation of “p values” as the most common procedure. A number of people have pointed out, however, that this approach is flawed, perhaps even fatally flawed when the quest is for something like causative relationships.

Gigerenzer (2004) has shown in considerable detail how misleading it can be to assert a statistical significance on the basis of p values. Most fundamentally, though, the trouble is that this approach estimates the likelihood that given effects are *not owing to chance*, which tells us nothing about the likelihood that any given explanation is valid (Matthews 1998). Bayesian statistical analysis, by contrast, affords a way of estimating directly the probability that a given hypothesis fits the bill (Sturrock 1994). Matthews (1999) has also pointed out how misleading p-value inferences can be by contrast to Bayesian approaches, in particular when a priori estimates of probability are very low, which is commonly the case with anomalies.

In this connection, I recommend an article by Jack Good (1980) on the paranormal and parascience. Good is often credited with the modern revival of interest in Bayesian statistics, but his intellectual interests ranged everywhere. In the cited article, he discusses, among other things, a priori estimates of the reality of spontaneous and of non-spontaneous “psychic” phenomena, and he tackles head-on the critical issue of coincidences,

not hesitating to recount a quite extraordinary “coincidence” he himself experienced. Good’s writings often make enjoyable reading also because of his gentle humor, as when he remarks that a full understanding of physics’ elementary particles has not been attained, “although it seems to be established that they are neither particles nor elementary” (Good 1966).

I regret deeply no longer being able to benefit from Bob Jahn’s discussions of such matters. Yet his writings continue to afford a treasure trove of food for thought. I—we all—have benefited immeasurably from knowing him and learning from him.

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