

## BOOK REVIEWS

SCIENCE AND THE SUPERNATURAL by John Taylor. New York: E. P. Dutton, 1980. Pp. 180. \$10.95, cloth.

This is the story of John Taylor's disenchantment with the paranormal. Taylor, who holds a Chair of Mathematics at King's College, London, is a physicist and mathematician of some repute, and his many technical papers cover an exceptionally wide range of topics from cosmology to brain research. He is also a broadcaster and popularizer of science and was a natural choice for the BBC when they invited him to be a witness at a demonstration on television which Uri Geller gave when he first arrived in Britain, to a fanfare of trumpets, in November 1973. The effect on Taylor was electric. "I felt," he later declared, "as if the whole framework with which I viewed the world had suddenly been destroyed." He thereupon decided to carry out his own tests in his own laboratory, not just on Geller himself, but on the various mini-Gellers that were then surfacing in Britain and on any other stray psychics that he could lay his hands upon. Unfortunately, he was so confident of his own competence that he disdained advice and help both from the conjuring fraternity and from the parapsychological community. The outcome was his controversial best-seller *Superminds* which appeared in 1975. By then he had few lingering doubts that the many phenomena he had investigated were indeed authentic, but he was hoping that he would eventually be able to offer an acceptable scientific explanation that would remove them from the category of the paranormal or inexplicable.

The present volume represents his recantation and his return to the safe haven of skepticism in which he dwelt before the fatal day when he met Uri Geller. The argument of this book can be stated quite simply in terms of the following four propositions:

1. There must be a physical explanation for everything that happens in the world, for to suppose otherwise would mean abandoning science for superstition and unreason.

2. The only physical explanation that is conceivable in the case of psi phenomena is one that would involve some form of electromagnetism. But

3. Calculations show that the electromagnetic energy which the human organism can utilize is too low by a factor of millions to

account for the phenomena in question, nor has the author been able to observe any appropriate radiations during supposedly paranormal performances. Hence:

4. There are no authentic psi phenomena and we must look elsewhere for an explanation of the facts in terms of fraud, mischief, credulity, or other sources of error. Readers of this journal will, no doubt, be interested to learn that: "*The paranormal is now totally normal. ESP is dead*" (p. 165, italics in original). "God is dead," said Nietzsche; "ESP is dead," says John Taylor.

Certainly, if propositions (1) through (3) are granted, the conclusion (4) must follow. I see no reason to query proposition (3) and, indeed, I consider that Taylor has performed a useful service in spelling out some of the reasons why the long-standing radio model of psi cannot work. The fallacy of the argument lies in propositions (1) and (2). First, to assume that there can be no limits to scientific explanation is to beg the very question that parapsychology poses in its most acute form. Secondly, it is sheer dogmatism to state in advance that no other hypothesis than the electromagnetic one is conceivable. Even Martin Gardner, that inveterate foe of parapsychology, while welcoming Taylor back to the ranks of the skeptics, felt constrained to remark that "his reasons are as shaky as those that converted him to the paranormal six years ago. The history of science swarms with observed phenomena that were genuine but had to wait for centuries until a good theory explained them." As the author of textbooks on quantum theory and on relativity, Taylor is entitled to his opinion that there is nothing in these disciplines that would give credence to the paranormal, but one would have expected him to say something at least about the so-called "observational theories" that have attracted so much attention in recent years among parapsychologists. Instead, they are not even mentioned, let alone refuted.

There is so much that is wrong with this book that it would be almost vindictive to catalog its faults. With the best of will it can hardly be considered a serious contribution either to parapsychology or the psychology of credulity. Its interest, and the only justification that I can offer for reviewing it at this length, is as a warning and as a case study of how one particular individual of undoubted scientific ability and the best of intentions could go so disastrously wrong in his attempts to get at the truth about the paranormal. Yet, having said as much, I am now obliged to back up this harsh judgment. Perhaps the most unsatisfactory feature of the book is the unresolved contradictions between the many cases which the author cites which, on the face of it, would suggest a paranormal interpretation, and the altogether feeble

and half-hearted attempts which the author makes to dispose of them and explain them away. Indeed, this disparity is so glaring that the impression one gets is of someone in a split state of mind, and one cannot help wondering whether the author is, after all, as skeptical as he now pretends.

The cases are a rag-bag assortment for which he has combed both the spontaneous and the experimental literature but without, so far as I could see, any discernible principle of selection. The reporting seemed accurate enough so far as I could tell but, since the author gives no references (only a list of "further reading" at the end of the book), there was no means of checking on this. This omission alone would disqualify the book as a serious work of scholarship. It is also most tantalizing for the reader. Thus he recounts a striking premonition which Winston Churchill is alleged to have had during the air raids on London which even saved his life—but, alas, no reference. In general, Taylor must be complimented on having read widely in the field over the past few years, but small inaccuracies with names and particulars reveal, not surprisingly, that his knowledge is thin and precarious. For example, Kate Fox is referred to as "Catherine" (a name by which she was never known); W. G. Roll is assigned to Chapel Hill; Professor Sidgwick is referred to as "she" (thereby conflating husband and wife), and so on. There is also a certain naiveté about some of his comments, as when he remarks: "It is hard to conceive of spirits in clothes," which reminded me of Jeremy Bentham's dictum: if ghosts have clothes then clothes must have ghosts! But these are minor blemishes.

What is shocking in a professor of mathematics is the author's failure to grasp the basic logic of a free-response ESP test. Thus, after correctly describing procedures used in the remote-viewing tests of Targ and Puthoff at S.R.I. and those used by Honorton at the Maimonides Laboratory, and after correctly reporting the highly significant results obtained with these procedures, he suggests that the fatal flaw in these experiments is the subjectivity of the judging procedure. But, of course, so long as the judging is done *blind* (and Taylor does not dispute that this was so) the significance still stands. Arbitrary judging can serve to obscure a genuine effect but it cannot artefactually augment its significance. For this reason, other methods of judging are being tried, such as the use of dichotomized criteria, etc. Taylor, however, misunderstanding all this, simply declares magisterially: "The ideal method would be to have a computer program designed to incorporate all reasonable criteria. Until that is done, odds of one in a thousand are meaningless" (p.76).

The most interesting part of the book, however, is not where the author discusses other people's investigations, when he merely betrays his own weakness and superficiality as a critic, but where he talks about his own work. He takes some pride in having discovered a normal explanation for what at first appeared a paranormal effect. Thus, in one instance, a straw floating on the water inside a sealed beaker rotated slowly when a thirteen-year-old girl gazed at it, an effect brought to his attention by John Hasted who had observed it with his own child subjects. Taylor, however, noticed a drop of condensation on one side of the glass and realized that it must have been caused by convection currents produced by an electric fire situated on the other side of the room and that these same currents were causing the rotation. Subsequent tests in a uniformly heated chamber confirmed this conjecture. All this shows admirable caution and ingenuity, but the clear implication, implicit in Taylor's dismissal of all PK and all RSPK phenomena, is that parapsychologists are simple enough to be taken in by such artefacts. And yet, can one imagine any experienced parapsychologist running a PK test of this sort without first making sure that the rotation be alternated as between clockwise and counterclockwise direction on the basis of some random target sequence? And if, then, rotation always occurred in the one direction, would not any parapsychologist worth his salt automatically suspect a normal physical cause? The trouble is that, with sublime self-assurance, Taylor operates on the convenient principle that any effect which he, or his faithful assistant, Dr. Balanovski, cannot reproduce cannot exist.

What, finally, has Taylor to say now about Uri Geller, that pied-piper who first led him a-dance? In his *Superminds*, Taylor describes in some detail one particular test which Geller underwent in his laboratory. A metal bar was affixed to a spring balance of the kind that is used to weigh letters, and the set-up was such that any pressure applied to the bar was automatically recorded. In the event, when Geller stroked the bar, the pressure never exceeded 20 grams, and yet the bar ended with a 10° bend and in the upward direction, that is, against the direction of stroking. I was hoping that Taylor was going to tell us how he thinks Geller got away with this trick which had so impressed him the first time around. Unfortunately he makes no mention of that original incident but instead describes an improved set-up which he has now rigged up on the advice of Randi with two video-tape recorders, one close up to record the movements of the dial, the other at some distance to record the movements of the subject. Geller was once again inveigled into the laboratory during

one of his visits to London, but this time was powerless to produce any effect in spite of what Taylor describes as "a very friendly atmosphere." One could think of a variety of reasons why this happened, not excluding the possibility that Geller has by now lost his PK ability. But, for Taylor, this was the final proof: "If he is not prepared to be tested under such conditions his powers cannot be authentic." To this, at least, many parapsychologists would, I think, assent. Certainly Geller has been afforded every opportunity to prove himself but has time and again evaded serious investigation. And yet, have we, I wonder, heard the last of Geller? Have we, for that matter, heard the last of the irrepressible John Taylor?

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IL GUARITORE (The Healer) by Piero Cassoli. Milan: Armenia Editore, 1979. Pp. 342. L. 6.000.

For quite some time, a model of "the man who heals" has been present in the human mind, along with the image of the physician, i.e., the man whose task is to cure. Academic science is still very much in doubt regarding the alleged healing capacity of some people, leaving aside the great amount of false pretense, major mistakes, desperate hopes and financial greediness that one can find in the field. Among those who admit that "something" is achieved by a few particular healers, opinions differ about the ways and means of such achievements. Is it only imagination, or suggestion? Does the healer emanate some force, or radiation, or "fluid" that has tangible and beneficial effects on the diseased person? Or would it not be preferable to leave aside hypotheses and theories and make more accurate studies of what actually happens, clinically and otherwise, when the healer does his job?

Dr. Piero Cassoli shares the latter view. He certainly knows and describes plenty about the history of healing through the ages, or the influence that some persons seem to have, not only upon other people, but also on seeds, plants, microbes, animals, photographic plates, or Kirlian equipment; but his main approach is that of the M.D. which he actually is. In fact, the most important and original part of *Il Guaritore* is where the author accurately reports some clinical