

themes by honestly discussing his own work.

Second, no one can match Medawar for verbal wit and dexterity; the *bon mot* on every second page compensates for any uninspired conventionality elsewhere. Where else can we learn so well about the dangers of Bible-reading for young children, the insipidity of American football or problems of defecation in a public school that instilled fortitude (and probably thought it inhibited homosexuality) by refusing to install doors in the lavatories: "This circumstance so offended the



From *Memoir of a Thinking Radish*

"Entire visual field is agreeably occupied" — Peter Medawar with his wife Jean in 1980.

Poet Laureate-to-be, John Betjeman, a Marlborough boy, that in his poem *Summoned by Bells* he implies that he had no bowel movement for three years".

Third, we find behind the witticisms, so well (and movingly) illustrated because implied rather than announced, that most rare and precious trait of courage, expressed, as an intellectual must, in word as well as deed. For more than a decade, Peter Medawar has worked, as productively as ever in his life, if not more so, under conditions of physical disadvantage (a major stroke and several aftermaths) that would have led most people to despair and resignation. Consider only his first words to his wife Jean, upon seeing her face after waking up from an operation (and fearing that a right-sided cerebral haemorrhage had destroyed vision in the left half of each eye): "My first words were 'Entire visual field is agreeably occupied.' I thought this remark apposite and well turned and it repudiated the case that my mind had deteriorated beyond hope of recovery".

The scientific autobiography is an irretrievably flawed literary genre, but when practised by the premier, the nonpareil, the numero uno, the top banana of the profession, it can be pretty darned good. □

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## Resonance through the editions

John Maddox

### A New Science of Life: The Hypothesis of Formative Causation (A New Edition).

By Rupert Sheldrake. *Anthony Blond, London: 1985. Pp. 278. Pbk £8.95.*

THOSE who review books are often faced with the task of dealing with books without merit; wise review editors advise that the appropriate treatment for them is no treatment at all, for even a scornful review of a second-rate work may seem like an advertisement for it. But what should be done about books that are worse than that, those that are perverse? Such documents are often designed to captivate opinion, and there is a case for denouncing them. But one should tread carefully. That, at least, is this journal's experience with Dr Rupert Sheldrake's book *A New Science of Life*, first published in 1981 and discussed in a leading article on 24 September of that year (*Nature* 293, 245; 1981) under the title "A book for burning?". What has happened now is that Sheldrake's book has been reissued in what is called a new edition, which differs most noticeably from the first in its bulky appendix filled with self-congratulatory references to the "controversy" following its first appearance.

Sheldrake, it may be recalled, is a biochemist turned metaphysicist who is the originator of the "hypothesis of formative causation", the assertion that the shapes of things, animate or inanimate, are determined by what are called "morphogenetic fields", by a process called "morphogenetic resonance". What seems to puzzle Sheldrake is that a journal such as this should be convinced that his book is a mischievous aberration. Here is an explanation, a routine argument so valuable in, for example, the return to their authors of manuscripts showing that special relativity is a pack of lies, or that quantum mechanics is mistaken, that it might be set up on a word processor for the more efficient conduct of editorial business.

The fact that there are unsolved problems within the framework of an existing theory does not of itself imply that the theory must be thrown away, or replaced by another; unsolved problems are the essence of science, the means by which theories are refined. Three centuries of physical science attest to that. In biology, the conventional theoretical framework is much younger; many would say that even Darwin's evolution became usable only in the 1920s, while molecular biology is just over 30 years old. Yet the Sheldrakes wring their hands about the puzzle that the difference between the genomes of differ-

ent species of *Drosophila* may be greater than that between the genome of human beings and the chimpanzee, shake their heads in disbelief at the prospect that the process of differentiation will ever be understood, assert (accurately, no doubt, but pointlessly) that there is no prospect of a "mechanistic" explanation of parapsychology — and plump instead for a theory which can account for everything, but at the cost of explaining nothing. So long as these morphogenetic fields have not been measured or otherwise described, their all-pervasive utility in the communication of form is merely a way of making accidents so generally reproducible that they become the rule.

This is elementary textbook stuff. Sheldrake's thesis as it stands is merely a simulacrum of a theory in the sense of an explanation, but for which Sheldrake claims support from Thomas Kuhn's innocent observation (in his valuable book *On Scientific Revolutions*) that people tend to resist the overthrowing of old "paradigms". Sheldrake takes this to be a licence for discarding any paradigm that comes to hand. His advocacy of his thesis is mischievous because it is overtly designed to give aid to that great company of people who think that the paranormal is the normal, that parapsychology is a more urgent problem for orthodox science than, say, that of differentiation in biology, and that Jung's collective unconscious is a fact of life.

Readers of this new edition will nevertheless observe that the past four years have not been conspicuously successful for formative causation. People have offered prizes for tests of the hypothesis, but the experiments seem to have been confined, for the time being, to the activities of television programmes. (A West German channel is said to be about to follow two British channels with a test of whether some people's knowledge of the hidden image in a puzzle picture will make it easier for others to tell the answer.) Lamely, the long appendix ends with the promise that "... other experiments ... are in progress in different parts of the world; and some of their results will probably be published within the next year or two".

The moral, for book reviewers, should by now be plain. Not all bad books should be censured, only those whose influence is so compelling, and so pernicious, that they must be resisted. Sheldrake's, which from the outset contained the ingredients of its own implausibility, should have been ignored. As things have turned out, the spurious controversy stirred in the appendix to this new edition gives the issue an air of durability it would otherwise have lacked. Presumably the appendix to the next edition will reprint this article, and so on.... □

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