

near-sighted, have asthma, poison-ivy sensitivity, or even diabetes, and show other measurable parameters. In one or two seconds, another personality can be brought up and a wholly new set of characteristics appear! Eyesight may now be 20/120, allergies absent, and even blood chemistry different. Wouldn't we like to know how the mind can cure the body of diabetes or other ills in a second or two?

The report goes on to other provocative research and speculation. Physician Larry Dossey's discussion of the mind's role in healing, and Rubik's report on volitional effects of a bacterial system, working with the late healer Olga Worrall, are followed by Canadian physicist F. David Peat's discussion of *A Science of Harmony and Gentle Action*. Berkeley physicist Henry Stapp and Nobel prize-winner Brian Josephson of the famed Cavendish Laboratory each take a turn at examining the mind-matter problem from the standpoint of quantum physics. Indian philosopher Rajen Mishra and New York psychologist Steven Rosen examine the subject with the particular tools of their own profession, and German biophysicist Fritz-Albert Popp finishes up with a critical review of current theories of evolution and a suggestion as to how some of their inadequacies can be overcome.

The remarkable thing about these papers is that they are written by first-rate scientists, tackling a subject known to lead many serious minds into metaphysical swamps and semantic jungles, yet this particular group of authors has been able to contribute some solid scientific information and ideas into the field. This is what the SSE is all about, and I therefore recommend to the readers of this journal that they take the trouble to look up this report and other material issued by the Center for Frontier Sciences. The management of Temple University, and the foundation established by the late John Fetzer, deserve a great deal of credit for having the insight and the fortitude to support such important work.

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A History of Hypnotism by Alan Gauld. Cambridge University Press, 1992, 738 pp. \$140.

Alan Gauld's *History of Hypnotism* is what history of science—especially the scientific study of an anomalous or disputed phenomenon—should be. Many

recent historians writing about anomalous scientific phenomena (e.g., Cerullo, 1982; Oppenheim, 1985; Owen, 1989) purport to be unconcerned about the nature or even the reality of the phenomena, but claim instead to be concerned only to describe aspects of the social or cultural context in which the phenomena (or the study of the phenomena) developed and occur. Gauld, in contrast, is here primarily concerned to contribute to the scientific understanding of hypnosis by increasing our awareness of the broad range of phenomena and ideas associated with it that have arisen in the past two centuries. Science does not advance when ideas are simply "revived cyclically by persons seemingly unaware of the previous cycles" (xv); nor does it advance when those currently working on a problem have only a limited view of the phenomena relevant to it. In this book, Gauld seeks to remove both of these impediments to the study of hypnosis.

The phenomenon now known as hypnotism has had two major epochs in its history, during which, Gauld argues, two closely related—but not identical—movements have emerged. The first was known as animal magnetism or mesmerism, and it was characterized primarily by its theoretical grounding in the belief that disease is the result of the improper circulation of a particular physical force, or "magnetic fluid." The second was known as hypnotism and came to be characterized first by the rejection of the theory of a new physical force or fluid and later by the belief that the phenomena of hypnosis resulted from particular psychological conditions conducive to suggestion. Following this general division in the history of the phenomenon, Gauld has divided his book into two main sections, each with its own reference list. The first covers animal magnetism from Mesmer's arrival in Paris in 1778 until the mid-19th century; the second is on hypnotism, from the mid-19th century until World War I. In a long epilogue, Gauld then reviews and discusses the experimental and theoretical issues that have dominated the field of hypnotism since about 1960. Gauld has made his survey reasonably manageable by limiting it primarily to the scientific literature and to the literature of Europe (especially France, Germany, and Britain) and the United States. Even with these limitations, the volume is over 700 closely printed pages and includes over 90 pages of references, detailed notes at the end of each of the 27 chapters, and a comprehensive index.

In a short Prologue and the first three chapters, Gauld describes the growth of mesmerism in France during the decade before the French Revolution. He reviews the therapeutic practices, cures, other phenomena observed, and theoretical ideas described by Mesmer and his followers. He covers in detail the controversy that erupted between the animal magnetists and the medical establishment and that resulted in 1784 in two Royal Commission investigations and numerous pamphlets issued by partisans of both sides, as they argued about the existence of the magnetic fluid, about whether animal magnetism was in fact effective in treating disease, and about whether the cures that did apparently result from animal magnetism could instead be explained by the excited imagination or expectation of the patient. Gauld also raises here the the-

oretical complications introduced by Puységur when he began to induce in his patients an apparent state of trance or artificial somnambulism and, along with it, phenomena such as hallucinations, analgesia or anesthesia, blistering or other physiological changes, and clairvoyance.

. During the French Revolution, the practice of animal magnetism moved to German-speaking countries. In Chapters 4 and 5, Gauld discusses this expansion beyond the boundaries of France, concentrating primarily on the physician Weinhold's three-volume opus (which Gauld calls "in many ways the most impressive book in the whole literature of animal magnetism" [83]), on K. C. Wolfart's clinic in Berlin (at the time "the most notable center of animal magnetism in Europe" [89]), and on the surgeon Kluge's 1811 major volume ("one of the most useful books in the whole history of animal magnetism" [99]). Although physicians such as these managed to keep German mesmerism grounded in science, Gauld notes here the tendency (to become more pronounced later) for German mesmerists to indulge in speculation, systematization, and mystical ideas more than their French or British colleagues did (109).

For the next few decades, animal magnetism flourished among scientists and physicians, while also continuing to provoke controversy and resistance. In Chapters 6 and 7, Gauld describes the post-Revolutionary revival in France, sparked by Puységur's 1807 *Du magnétisme animal* and his increasing emphasis on the role of psychological factors in mesmerism, and then led by Deleuze, who downplayed theory and emphasized the importance of evaluating the claimed phenomena empirically. In Chapters 8 and 9, Gauld returns to the topic of the so-called "mystical" elements of animal magnetism, in Germany and to a lesser extent in France, as some scientists, influenced in part by romanticism and nature-philosophy, put less emphasis on the therapeutic aspects of animal magnetism and more on the theoretical, mystical, religious, and paranormal aspects. In Chapters 10-12, Gauld describes the spread of animal magnetism during the mid-19th century to Britain and the United States, where it became closely linked with and heavily influenced by such movements as spiritualism, electrobiology, and especially phrenology. As in Europe, controversy quickly erupted between medical practitioners of mesmerism such as Elliotson and Esdaile, who had effectively used it in surgical procedures and other therapeutic treatment, and the medical establishment, which for the most part simply dismissed the reported phenomena as "imposture." Esdaile's reports of 261 apparently painless operations using mesmerism were largely ignored; Elliotson, by nature a more combative person, resigned his posts rather than submit to orders to cease using mesmerism in his practice. Gauld observes that "the violent, almost hysterical, hostility of much of the medical establishment" was "enormously out of proportion" to the measured, well-intentioned approach of the scientifically qualified mesmerists; and he cites evidence suggesting that for many of these opponents to mesmerism, "investigation of the phenomena was acceptable only so long as those phenomena did not constitute a threat to the profession" (210-212; 233).

In the final chapter of Part I, Gauld presents his overall assessment of mesmerism, a main conclusion being that neither the reported cures nor the other phenomena associated with it can be adequately explained by the various hypotheses that were (and are) frequently proposed, including the "imagination" or placebo hypothesis that attributes the cures and other phenomena to the patient's expectations or beliefs. Mesmerism was *not* simply the product of particular socio-cultural influences or beliefs, which rapidly declined when these influences and beliefs changed, but it instead reflected some more basic characteristic "of man's psychological constitution" (245).

In Part II, "The Heyday of Hypnotism," Gauld turns to the next major epoch in hypnotism's history. As he points out, the decline of mesmerism was not sudden, but was the result of a growing dissatisfaction with its theoretical basis, which increased as knowledge about electricity, magnetism, and the nervous system increased (265-266). Likewise, the late-19th-century transition from mesmerism to hypnotism was also neither sudden nor clear-cut. The early hypnotists rejected old theories about a physical magnetic fluid, but they did not thereby leap to a primarily psychological explanation of the phenomena they observed; their approach was often a physiological, organic, and even "crudely materialistic" one (305), in keeping with the mid-19th-century "brash medical and scientific materialism" (297). On the other hand, scientists were also becoming more interested in the phenomenon as a theoretical problem for psychology, and not solely as a medical therapeutic tool. (This growing interest in hypnosis as a psychological problem was not incompatible with the above-mentioned materialism, since mid-19th-century psychology was itself strongly materialistic in orientation.)

In the first half of Part II, Gauld discusses in detail the work and ideas of the many individuals, on both sides of the Atlantic, who contributed to the development of hypnotism. He begins with a chapter on the mid-century precursors, such as Faria, Bertrand, and Braid; and then in Chapters 15-19 he concentrates on the last quarter of the 19th century, a truly golden age for hypnotism when interest in the phenomenon among medical and scientific investigators spread rapidly. There are detailed discussions on the ideas of men associated with both the Salpêtrière and the Nancy schools, on the methodological and theoretical controversies that developed between them, and on the rapid spread and ultimate dominance of the Nancy positions. Although the Salpêtrière-Nancy conflict is often depicted as a conflict between a physiological and a psychological approach to hypnotism, Gauld makes it clear that there was no such simple distinction between the two schools: the conflict was, instead, primarily over whether hypnotic susceptibility is necessarily a sign of pathology and over whether a hypnotized person goes through specific, fixed "stages" of hypnosis. Gauld then turns to what was then (and is still) a major problem, and that is to identify what the phenomena of hypnosis imply about the nature and structure of consciousness. In this context he devotes three chapters to individuals closely involved with this problem, including

Pierre Janet, Max Dessoir, Edmund Gurney, Frederic Myers, Boris Sidis, and Morton Prince.

In the next five chapters, Gauld provides a comprehensive overview of the scientific study of hypnotism as it stood at the turn of this century, using as his outline and point of departure L. Loewenfeld's 1901 survey of the field, *Der Hypnotismus*. Despite the interest in hypnosis as a theoretical problem for psychology, the literature was overwhelmingly clinical, with few experimental studies reported. Gauld begins with a review of then-current ideas on defining hypnosis and suggestion, on techniques of hypnotizing, and on hypnotic susceptibility. In two long chapters he describes the kinds of phenomena being observed and studied and the applications of hypnosis, such as medical applications. He then presents turn-of-the-century theoretical views: in Chapter 23 he describes the apparent relationship between hypnosis and other kinds of altered states, as seen by many hypnotists of the time; and in Chapter 24 he describes the various kinds of theories then being offered. He divides these into three main categories—the physiologically oriented ones, the psychologically oriented ones, and the ones that considered hypnosis to be a psychopathological phenomenon—and he then examines in detail a representative theoretical writer from each category (Oskar Vogt, H. Bernheim, and Jules Grasset). Gauld closes Part II with a chapter discussing the decline of interest in hypnotism after the turn of the century, and he argues that (as with mesmerism) the decline was not sudden, as many have assumed, but that it occurred as hypnotists increasingly followed Bernheim in his view that hypnosis is not a special, trance state, and also as opposition to the therapeutic effect of hypnotism—that is, the scene since 1960. Although clinical uses and studies of hypnosis are once again widespread, as they were a century ago, Gauld believes that they show no methodological improvement over those of the 19th century, and in his view the new golden age is distinguished primarily by its experimental studies. The bulk of the chapter, therefore, is devoted to detailed discussions of Barber's operationalistic approach, Hilgard's neo-dissociationistic approach, Spanos's social-psychological approach, and the issues and controversies arising in the context of these three main positions. Finally, Gauld offers his own "way of looking at hypnotic phenomena," in which he takes the intermediate position of suggesting that for practical purposes it may be useful to distinguish hypnosis as a special state different from normal ones, but that it is probably not theoretically useful to do so, since hypnosis is apparently not a special psychophysiological state, but the product of multiple factors that, when combined, enhance suggestibility.

Gauld's book serves two important functions, both of which contribute enormously to his stated purpose of providing a means for furthering our scientific understanding of mesmerism and hypnotism. First, one might say that Gauld has shown mesmerism-hypnotism to be more *simple* a phenomenon than one might assume from its long and complicated history: with his emphasis on describing in detail the phenomena that have been observed by two cen-

turies of investigators and the theoretical issues that those observations have raised, Gauld has shown that, despite the different phenomenological and theoretical emphases at different periods of time, the same basic kinds of phenomena and issues keep reappearing.

On the other hand, Gauld has in another sense shown the phenomenon (and its history) to be more *complicated* than is often assumed. Another of Gauld's stated purposes was to dispel some of the myths, assumptions, and oversimplifications that have arisen about mesmerism and hypnotism and their history; and no moderately attentive reader can come away from this book without a renewed (or new!) appreciation of how ignorant we still are about mesmerism and hypnotism. One of the great strengths of this book, therefore, is that throughout it Gauld tries to provide a more balanced assessment of the claimed phenomena than much of the literature he is reviewing has provided. For example, he is frequently critical of the inadequate detail given in many case reports, as well as the insufficient attention given to alternative explanations and the resulting failure to provide the means for readers to assess the likelihood of alternative explanations—which he calls "the weaknesses of much of the fringe literature of science" (108). Nevertheless, enough detail *has* been provided in some instances to require us to keep open the question of the reality and nature of certain reported phenomena. One of the myths he tries to dispel, therefore, is that there is no good evidence for any paranormal phenomena associated with mesmerism and hypnotism. Although he frequently points out the clear inadequacy of most reports of paranormal phenomena, he also concludes that there remain cases in which normal explanations are even more inadequate (239-240). He summarizes his assessment of these and most other disputed mesmeric or hypnotic phenomena as follows:

But one must not be misled into supposing that these shortcomings are in all cases sufficient to justify us in totally dismissing the claims of the enthusiasts. Often the enthusiasts are on to something, even if they haven't got it quite right. The animal magnetists were certainly on to something, and it is debatable whether the progress we have made in the intervening centuries is such as to justify us in being patronizing towards them. (108-109)

Among the numerous other misconceptions that Gauld tries to dispel is the belief that the diseases cured were not organic and that mesmerists were "ancestral psychiatrists, specializing in the treatment of mental disturbances"—a belief he calls "egregiously wrong" (247). Another "widely held oversimplification" is the belief that animal magnetists explained all phenomena in terms of a physical theory, with no awareness of the psychological (including unconscious) factors involved (e.g., 159, 266). Still another is the belief that mesmerism can be readily subsumed under, or equated to, hypnotism (266); they may instead be somewhat different manifestations of what is in fact a broader phenomenon.

By emphasizing throughout the volume that certain issues have continued to arise, from Mesmer's time to our own, Gauld also tries to dispel the idea that these issues have been adequately resolved and answered. Two important issues in particular repeatedly emerge. One is the adequacy of the "imagination hypothesis": ever since the earliest commissions evaluating Mesmer's claims, the medical or scientific establishment has insisted that the phenomena can be explained as the result of imagination, expectation, suggestion, the placebo effect, or some other such mechanism. The other issue concerns the nature of the mesmeric or hypnotic state: is it in some sense a "special" state, with its own unique, defining phenomena or psychophysiological conditions? How is it related to other similar phenomena, such as sleep, somnambulism, waking states of suggestibility, multiple personality, or shamanistic or mediumistic trances? Most contemporary experimentalists studying hypnosis believe that it is not a special "state" but simply one particular form of enhanced suggestibility.

Both of these issues, however, seem to me simply to converge on the one fundamental problem of how informative it is to say that hypnosis is basically a phenomenon of suggestibility. This is no explanation; it is simply a different description of the observed phenomena that gets us no closer to understanding *how* the phenomena occur. Have we really advanced in our understanding when we attribute cures by mesmeric passes (or by so-called faith healing) to the "placebo" effect, or when we attribute the hypnotic production of a blister (or the related phenomenon, stigmata) to "suggestion?" Gauld himself suggests that hypnosis is probably not a special psychophysiological state, but instead a "socially transmitted conceptual system" that, under certain psychological conditions, can engender hypnotic phenomena (618). But how does a "conceptual system" produce a blister—to say nothing of clairvoyant awareness of a distant event? As Andrew Lang reminded the scientists of nearly a century ago who were confident that many disputed phenomena had now been adequately "explained" as suggestion: "to 'explain the explanation' is a task for the future" (Lang, 1911, 546).

In my view, the history of hypnotism provides a cautionary, sobering example of what can happen in the relationship between the study of an anomalous phenomenon and mainstream science. Rejected for much of its history as occult nonsense, yet always attracting the attention and serious consideration of a few top scientists, hypnosis has now been more or less accepted, if not into the mainstream, at least into a main tributary of science. But if one asks why or how it has come to be accepted, the answer seems to be because most scientists now assume that hypnosis can be understood, at least in a general way, by a concept compatible with normal science—namely, the psychological phenomenon of suggestibility. The concept of suggestion and the associated concepts of placebo or expectation, however, seem to me to have little—if any—explanatory value: to attribute a phenomenon to "suggestion" tells us only that an idea introduced into a person's mind has subconsciously produced an observable physiological or behavioral effect; it has told us nothing about the mechanism

by which the idea that (say) one will feel no pain during surgery becomes so effective that major surgical wounds can be inflicted with no apparent discomfort to the patient. As Frederic Myers put it, the hypnotist's "command, 'Feel pain no more!' is no more a scientific instruction *how* not to feel pain than the prophet's 'Wash in Jordan and be clean!' was a pharmacopoeal prescription for leprosy" (Myers, 1892, 331-332). Such words as "suggestion" or "placebo" may help us describe better the conditions under which the phenomena occur, but they are in no way explanations; they are "mere names which disguise our ignorance" (Myers, 1903, I:153). Yet it seems to me a pyrrhic victory to be accepted by mainstream science if this means that the study of the phenomenon has been reduced from seeking an explanatory framework to simply finding a "better" descriptive framework. Contemporary arguments over whether or not hypnosis is a "special state" are secondary ones and remove scientists from the obligation to address the fundamental problem behind hypnosis—what is the nature of mind, or consciousness, and its relationship to the body with which it is associated? "Special state" arguments will surely lead to better descriptions of the physiological, psychological, or cultural conditions under which hypnotic phenomena occur; and fuller descriptions are obviously necessary for better understanding. But scientists studying anomalous or disputed phenomena such as hypnotism must be aware of—and resist—the temptation to "mainstream" the phenomena by marginalizing the fundamental, and controversial, questions behind them.

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