

## REVIEWS

PHYSICAL PRINCIPLES OF RADIESTHESIA. By J. Cecil Maby. Privately published by the author. Birmingham, 1966. Unpaginated.

CONFessions OF A SENSITIVE. Ditto. viii + 22i pp.

THE PHYSICS OF THE DIVINING ROD. By J. Cecil Maby and T. Bedford Franklin. G. Bell & Sons Ltd., London, 1939. xv+ 452 pp.

The writer was asked to review the first two books. Reference is made in them so frequently to the third book, not previously reviewed by the Society, that it was found necessary to read it and the opportunity is taken to review it also. The author (J.C.M.) does not consider it to be out of date in substance even though he would like to rewrite it.

Most psychical researchers seem to me to lean towards the view that dowsing is probably 'psychic', that is, that information in cases of genuine dowsing is acquired by the unconscious mind and is signalled to the conscious mind by the 'dowsing reaction', whatever form that may take. Mr Maby's major contention concerning dowsing is that the faculty is firmly based On a foundation of genuine physical facts', and that 'the dowsing reactions are understandable in terms of normal physiological processes, resulting from definite physical stimuli'. He maintains that the subject has little to do with 'supposedly occult, magical or psychic practices'. It is of interest also to note that the British Society of Dowsers carried a resolution in 1941 (awarding the authors a grant) in which it was stated that The Physics of the Divining Rod (which I will refer to briefly as PDR) was 'a book of outstanding importance in the literature of Dowsing'.

Mr Maby claimed that PDR would 'add both accuracy and prestige' to the craft of dowsing and that concerning, for example, 'the estimation of magnitude, depth and yield (if a stream), the location of fresh water supplies, underground cavities and tunnels, lost pipe-lines, wells and cisterns . . . the whole affair has assumed a degree of certainty that would not have obtained had they [the authors] hurried into print with each fresh discovery'. He claimed further that the indications of his physical instruments 'concurred very nicely with similar estimates and locations made by our human subjects working physiologically. ... So that a brilliant confirmation of the dowser's art has been possible.' And again,

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'... there has not, so far, existed any accepted science of dowsing, nor any standard technique such as could be taught and learned.... But that undesirable state of affairs need no longer obtain.' \* . . We think we may claim incontrovertibly to have shown that the causes of the ordinary dowsing reflexes and rod reactions are to be found in certain penetrating electrically excitatory rays: one class—the more important of the two—consisting of short Hertzian waves of geophysical or cosmic origin. . . . Thus arise the dowser's field patterns.' [It is important to note that PDR is not concerned, the authors say, with the psychical faculty of divination, exercised when 'samples' are used, or in 'map dowsing' and other fields, such as in Abrams' diagnostic methods. They also do not deny that results similar to those they claim may sometimes be obtained by the exercise of a psychic faculty, and this practice they call 'divining'.]

If all this is true then certainly there should no longer be any doubt in anyone's mind that dowsing really works—especially if 'physical instruments' are used. Let us look at PDR first. We may reasonably expect fairly substantial evidence to support such claims.

PDR is in three parts. Part I is a long review of the history of the subject with descriptions of the use of the rod and other devices and a long list of 'instruments', based on electromagnetism, chemical analysis, photography, and other physical phenomena, which were 'tested' for the detection of 'vibrations', 'earth rays' and 'emanations', including Reichenbach's Odic force'. Insufficient details are given for comment here on these tests and on the other writers' observations, but the authors' conclusions are as follows : All matter would appear to be radioactive ; the radiation is probably diffused and corpuscular; the radiations are of two kinds, positive and negative, and mutually attractive when of unlike polarity but repulsive when of like polarity; different substances do not give off the same radiations ; the intensity of the radioactivity is increased by vibratory atomic or molecular agitation generally, whether instigated by thermal, chemical, mechanical, electrical or magnetic means; the discharges are concentrated around points, are polarized by magnetic fields, vary with the weather, and arouse sensations in human subjects. This reviewer confesses that he does not understand and is unable to find the evidence in the book. However, it all sounds most scientific, if unorthodox, so let us proceed.

The authors now describe experiments by many people, dealing with matters ranging from Professor F. Cazzamalli's 'ultra-short Hertzian waves from human subjects under emotional stress' to

their own 'vital radiations from the human hands, using a suitable ionization counter, after guarding against temperature effects.' [It must be right, if they 'guarded against temperature effects' !] It is not, therefore, preposterous to suppose hypothetically that such radiations may be responsible for the sort of reactions that have been repeatedly recorded by men such as Mesmer, Reichenbach, Maxwell. . . .' [I suppose it depends on your criteria of what is preposterous.] After mention at length of Abrams' work the following statement is made. 'Yet to-day the position seems to be that the existence of such rays and electromagnetic fields has been uncontestedly proved; that they are of an electric nature; that they cause reflex neuro-muscular reactions in some people; that they are partially corpuscular and partially etheric; and that some of the former (probably positive ones) are harmful and depressive to life, whereas others (probably the negative ones) are stimulating and excitatory, in small doses at least. The etheric rays may be similarly categorized.' If that 'seems to be' the position to the authors it certainly does not seem so to me, particularly in view of the 'evidence' they put forward in support, much of which is dubious in the extreme or, when it is reliable, may be more reasonably explained on the basis of other and well-known scientific facts.

The book goes on to review some of the many dowsing instruments described by dowsers of the last century and the present one. Many are merely in effect dressed-up hazel twigs; others are radio sets, magnetometers and the like. The descriptions of their use do not make sufficient sense to analyse here, and serve only as indications of how easily it is possible for the unscientific to mislead themselves and others. A good example of the latter is given in the section on 'magnitude or yield', in which 'D. Pericas, avoiding suggestion, found with another dowser that the amount of water flowing past a given point per minute in a concrete pipe line was proportional to the "pull" exerted upon the rod.' Graphs are given in which 'yield' in litres per second is plotted against 'dowsing reaction' in kilograms force. Maby 'has independently confirmed his results on a large number of water flows both in pipes and natural geological formations ; obtaining the same form of curves. . . .' No details are given of how Pericas 'avoided suggestion', nor of how the 'dowsing reaction' or the rates of flow were measured. All the graphs are smooth curves and no experimental points are given. One can only imagine the kind of spread of results that that writer must have obtained, and through which he drew his smooth curves. All these curves (stated by Maby to have been taken on different occasions) rise steeply at first and then

flatten off, that is, no matter how large the rate of flow of water, the force of the 'dowsing reaction in kilograms', whatever that may mean, reaches approximately a certain maximum. This might be expected, as the muscles responsible for the force clearly have a limit to their pull (however, this was measured). Maby instances this flattening of the curves as 'the tendency for the dowser's muscles to become electrically "saturated" when the field is above a certain strength'. A curve of a similar shape has been added to the others by Maby and was obtained 'by another method when field strength was of moderate intensity'. Again no details are given. The reader is asked to note the 'excellent agreement'. The reader's deductions from this may, of course, not be in agreement with the authors'.

The authors go on, at this point, to discuss how the depth of a flow of water is determined, and include observations on the investigations of a collaborator, Major R. Creyke. Insufficient detail is given to make any evaluation. However, Part I of the three-part book is continued by an outline of the possible sources of error in dowsing. The factors are health and fatigue, the weather, the state and nature of the ground, their clothes and personal accoutrements, the presence of onlookers ('with their electric fields and psychological influences'), trees, buildings, metallic objects, etc. There is plenty of scope here for explaining away points that do not fit smooth curves and for otherwise 'clarifying' a complicated subject.

Part I is completed by a summary of the observations with electroscopes and electrometers of a certain A. de Vita which, the authors say, 'are of fundamental importance in relation to our own independent discoveries . . . though his method was not quite the same, and certain important details had eluded him.' It is a happy thought that the important details did not elude our authors. A. de Vita found that:

(1) Electroscopes placed over underground streams discharged more rapidly than they did over normal ground of the same kind.  
[This would be expected—if everything else were the same—because there would probably be more dampness. However, no evidence is given to support the statement and to indicate that all other factors were the same.]

(2) Such areas shifted with the position of the sun, and with atmospheric conditions, and sometimes disappeared for considerable periods of time. Certain wind storms might also preclude reactivity. [Of course, the sun and wind dry out the soil and atmosphere.]

(3) Areas of ground giving rod and negative electroscopic

reactions often coincide [how often?] with galvanometric currents [what are they?] obtained between electrodes in the adjacent soil. [Adjacent to what? And if 'galvanometric currents' just means electric currents, they would depend on the chemicals in the ground and the materials of the electrodes—and on the presence of moisture. Of course the electroscope would discharge quicker over wet ground.] Relation to depth of the stream is also hinted at here. [This is a good example of the way in which, in this book, complicated situations have read into them what the authors have in mind. They do not appear to appreciate the need to control the enormous number of variables.]

(4) First readings in a given locality were best, and movements upset them. [In other words, if they checked nearby they got different answers. Why were the first sets best?] A rapid falling off of electric potential difference was the best condition for observations. [Potential difference in or of what? Why the best?]

(5) Observations made near electric power cables were confused by sudden changes of electric potential and ionization of the air. [Potential of what? Does he mean overhead lines rather than cables? If there were ionized air near an underground cable there would be something seriously wrong with it.]

(6) Electroscopes placed near to trees, houses, water supplies, etc., showed a more rapid drop of potential, by discharge due to ionization effects, than did those on open ground under similar conditions of soil and air. [How do they know it was 'ionization effects'? Were they really similar conditions? What was actually measured?]

'De Vita suggested that such ionization [if it is!] might be due to penetrating cosmic or radioactive emanations, or else to local terrestrial potentials and magnetic fields from chemical and soil activity, local mineral deposits, etc.' [Cosmic or radioactive emanations! Really! And the authors ask the reader to take this seriously!]

The chapter goes on along these lines. Here is another example. 'Testing for the effects of rapidly alternating currents in nearby cables on the improved electrometer, the same investigator found that : (a) There was a relation between the instability of the electrometer and the voltage and amperage of the current in question.' [What relation? What exactly was done? What does it all mean?]

There is little point in going further with Part I, bringing in, *inter alia*, the effects of the moon and other celestial bodies on plant growth which . . . 'may conceivably be attributable to changes of cosmic radiation and earth and air ionisation'. No

evidence whatsoever is given for such statements and it certainly cannot be taken for granted that any experiments under properly controlled conditions form the basis for them.

Let us now consider Part II of PDR entitled 'The Authors' Own Experimental Investigations'. Perhaps here we shall find the missing evidence. The part starts with more statements of this kind—listed in the authors' initial premises: 'That certain electromagnetic recording instruments such as Franklin's radio-receiver and Budgett's ionization apparatus, were able to detect bands of disturbance in the general electromagnetic and electrostatic field of the Earth in the neighbourhood of underground streams, etc., that seemed to concur with certain reaction bands found by dowsers with their rods and pendulums' and, again, 'That elongated conductors appeared to throw out some kind of field of force or "manifestation", possessing radiographie features.' ['Radiographie' means 'appertaining to an X-ray photograph'.]

Here are given several charts which purport to show such things as the mean diurnal cycle of variation of ionization rate over an underground stream and the cycle of variation of the strength of the horizontal component of the earth's magnetic field; also of the same quantities on adjoining R- and N-bands [reaction (of rod) and neutral (no reaction of rod) bands] near a stream. The authors state that 'minor variations' have been smoothed out; also the vertical axis of the graphs is usually plotted in 'arbitrary units', no actual readings or points are given, all detail of exactly what was done has been omitted. It is stated that 'suggestion' has been excluded, but it is not stated how this was done. How can any scientist take this seriously? There is given quite inadequate information on which to judge it.

Here is another example : 'That two ionization counters of the vsame type, but different detailed construction, that had been set to give the same mean rate of impulses (by voltage adjustment) at the same station, would behave coincidentally as long as they were thus set, and the two detector tubes in vertical juxtaposition ; but that as soon as one of them was moved laterally a few feet (off an R-band on to an N-zone, say), then they began to behave in a more or less *equally opposed* manner—thus proving that the distinctions referred to above were objective and not instrumental defects. Various other tests with such instruments also satisfied the writer that the ionization counters were behaving truthfully. Excellent correlation between the ionization, magnetic, electric, electromagnetic and physiological data at the same times and places also effectively disposes of such criticisms.' What does

'equally opposed' mean? The experimenter evidently suspected instrumental defects. He vaguely mentions Various other tests' which satisfied him, but as no details are given the reader must remain unsatisfied. 'Excellent correlation' is also mentioned and no detail given—therefore 'such criticisms' are most certainly not disposed of.

This chapter continues with references to work with Franklin's 'already perfected and portable wireless detector'. Some underground and one surface stream were 'tested'. 'The results were strikingly successful.' Again the evidence for this 'striking success' is a chart of 'radio reception signal strength'—again in 'arbitrary units'—plotted on a 'horizontal plan'. No points are given, 'averages' are vaguely referred to. Again, the reader is quite unable to judge whether the results are due to wishful thinking on the part of the authors, or to objective facts. It is well known that inexperienced experimenters—and sometimes more experienced ones, too—tend to see in a mass of vague results a picture which fits their hypothesis. There are well-known objective methods of dealing with such data, and checking the degree of correlation, but the authors do not appear to have heard of such methods.

Here is a little more about radio waves: ' . . . we believe that we are justified in assuming that the primary source of dowsing fields and dowsing reactions is a Hertzian radiation, probably originating in the upper atmosphere under excitation by cosmic rays and, perhaps, corpuscular bombardment from the Sun and the Moon, and of average wavelength 9 to 10 metres.' [All this seems extremely unlikely, but no evidence is given to support it.] 'In addition to such Hertzian radiations, there can be little doubt, we think, that very high-frequency electromagnetic radiations of the ultra-violet, X-ray, gamma-ray and (possibly) cosmic ray type also cause dowsing reactions; though such rays do not appear to be responsible for, or else capable of polarisation in the weak magnetic fields of, the primary dowsing fields hitherto discussed. Radioactive substances, such as radium and uranium ores and certain clays, undoubtedly can also create dowsing reactions. . . .' I liked that 'undoubtedly'—again, no evidence is given to support any of this, where it has any clear meaning.

'Most important of all, recent repetition of these tests (with oscillator and aerials) in conjunction with a dowser and his ordinary divining rod showed that the human muscles were equally capable of picking up the variations of field strength around such simple Hertzian oscillators. . . . Such experiments are highly significant, as they at once link artificial Hertzian fields

with the dowsing reactions and natural fields that mainly concern us.' If this is true it is of great importance and relevance, but again no information whatever of any value is given to support it.

A rather delightful piece runs as follows. 'Although dowsers who do not happen to have received a scientific training may find the present chapter difficult to follow in detail... we do earnestly recommend them to try to struggle through it, as it contains information of practical value...' Such dowsers who have difficulty are, we may assure them, not alone.

Part III of PDR is given the high-sounding title of Theoretical and Mathematico-Physical Section and is by T.B.F. It is based on the so-called evidence, referred to above, that the muscles of a dowser are affected by electromagnetic waves and that these waves are due to cosmic rays travelling through the ionized layers of the upper atmosphere, and that these waves cause electromagnetic waves of about 10 metres wavelength to be emitted from streams of water, etc. The mathematics is quite straightforward, except for errors (for example, the magnetic field pattern around a vertical cylindrical current-carrying conductor has, clearly, circular symmetry, and cannot show 'cardinal rays' as the authors call them). It is the evidence that the calculations have any relevance to dowsing which is missing. Chapter XIV is entitled 'Evidence in Favour of a Physical Cause of Certain Dowsing Phenomena\*' and in it a number of statements are made which, if they were proved, could be of great importance to dowsers. Again, no evidence whatever is actually given, despite the chapter heading, but it is merely stated that 'all the above can be verified by means of an ionisation counter and several other instruments including a metallic filings coherer. These phenomena, exhibiting as they do the well-known characteristics of a wave radiation, seem to prove beyond any reasonable doubt that some of the dowser's reactions are due to definite *physical* causes.'

There seems little purpose in proceeding further. PDR is a very large book and the rest is of much the same quality. Statements are made about all sorts of matters which the authors consider concern the 'dowsing reactions', but the evidence, where any is produced, is utterly unconvincing. However, to the non-scientist it all looks very scientific. The names of famous scientists are liberally scattered about. Tests are vaguely referred to, graphs with 'arbitrary units' are given, correlations between different sets of data are claimed but without meaningful figures being produced. Various confusing factors are referred to as having been avoided or eliminated but without any statement of how. It is very clear why a serious scientist, open minded though he

might be, would scarcely have the patience to wade through very much of this book.

So what should the authors have done and what should Mr Maby do now if he wants his claims to be taken seriously? First, he should clearly describe his theory of dowsing, and then provide evidence for its truth. If his experiments to date have not provided exactly repeatable results—and they evidently have not, the results of most vary with everything from the weather and sun spots to what the experimenter had for breakfast—then he should use experiments designed for a statistical analysis. He should describe precisely what is done so that anyone else can repeat it. And he should *never* 'smooth out' a curve or otherwise force facts into a preconceived framework.

An obvious and simple experiment would be to persuade dowsers to stand in turn near a radio transmitter producing 10-metre long electromagnetic waves and arrange for the transmitter to be switched on and off at random times, recorded on a paper strip. If this is done and the dowser's reactions are also automatically recorded on the same paper strip the degree of correlation could be simply checked.

Another experiment might be to direct a stream of water through a plastic or other non-electrically conducting pipe buried in an area of raked ground so that the position of the pipe is impossible to determine by superficial inspection. The dowsers should then each be asked separately by an experimenter to peg out the position of the pipe, the experimenter present *not being himself aware* of its position. If the results of this experiment are satisfactory, and the dowsers prove able reliably to determine the position of the pipe carrying the water, then the next stage could be carried out. The pipe would be moved to another position and the experiment repeated, but with each dowser (again working independently) inside a Faraday cage (a box of wire mesh, not permitting the ingress of electromagnetic waves). The cage carrying the dowser would be mounted on wheels and drawn across the plot. If the dowsers, having previously located the pipe correctly, could not then do so, it would be likely that their previous success was due to their sensitivity to electromagnetic waves. Positive results in properly conducted experiments of the kinds just suggested might put a different complexion on some of Mr Maby's claims. But this reviewer has perhaps been disappointed too many times: he feels that it will not be necessary to build a Faraday cage on wheels, as the first experiment would probably be the end of the series.

Let us now turn to the more recent book *Physical Principles of Radiesthesia*. The author considers this book to be in a 'logical sequence' to the earlier one, reviewed above, which he thinks is still valid as regards its conclusions. A letter by Franklin (now deceased) to the author is quoted as follows: that it is 'quite scandalous that "the red herring of psychism should once more be dragged across the physical trail" after all that has been achieved (physically) in recent years'. 'The whole entanglement does, however, require a deal of sorting out before much honest daylight can appear or any rationality.' There is another long list of 'teasing sources of variability' including 'emotional (psycho-radiant) output from nearby human beings in a state of mental or bodily stress or excitement. . . comparable with those due to atmospheric electrical disturbances, some powerful electromagnetic machinery, etc.'

At the end of his Introduction there is the following piece. 'Whether the outsider realises it or not, and regardless of those who either doubt all such "oddities" or else prefer metaphysical explanations in certain cases; there now exists a great body of scrupulous and reliable evidence relative to physical radiesthesia, at least ; inclusive of traditional field dowsing and some aspects of medical diagnosis and therapy. All that cannot any longer be derided or overlooked; and it is surely as ungracious and ungrateful as it is also illogical and unscientific of those in certain quarters who still talk and act as though no such work had yet been done and no such impressive data acquired.' One can only say why then not let the ungrateful scientists see this impressive data ? This reviewer has looked in vain for any evidence of this kind.

*Physical Principles of Radiesthesia* is a collection of papers, mostly by Maby and mostly from the *Journal of The British Society of Dowsers*. The papers have been photo-copied and have their original page numbering. The same material is repeated again and again. The book is, like the other, divided into three parts. Part I contains 'generalised papers', Part II is 'more technical; that is to say, mainly experimental, instrumental and theoretical', covering such matters as the 'flow field effect (as of running water, moving cloud masses . . .)' and hints as to 'getting fairly accurate radiological "fixes" or cross-bearings on isolated targets by means of dowsing principles; nor else the many promising automatic tape records we obtained in relation to various moving targets, by means of a kind of natural "radar", in the days before official Radar got into its stride'. In Part III 'certain aspects of radiesthetic and "radionic" electro-medical diagnosis and therapy are briefly outlined'.

The papers of Part I reiterate the material of PDR (again, without any convincing evidence, speaking often as though all the 'facts' were now perfectly well known after so many years and anyone who did not accept them was prejudiced. There is also material on radiesthesia such as the following (given to the *Journal of The British Society of Dowsers* in 1965). 'All things considered the e.m. [electromagnetic] wave hypothesis, with the fairly clear interpretations of the known phenomena over a wide range (even some laboratory or consulting room matters). . . still seems to me to hold pride of place in regard to Radiesthesia and Radionics. The linear-scale methods of some medical practitioners and the diagnostic machines of others also fit in here very plausibly—but on no other obvious account. For here we see not only 'wired-wireless' effects (Abrams, Starr White, Boyd, Regnault, Wright, Richards, Eeman, Drown, de la Warr, etc.) of the sort evident in L. E. Eeman's notable work, but also questions of specific frequencies (or 'rates'), inductive action, earthing and insulation, polarization and so forth, that are only comprehensible in e.m. or radiological terms. Likewise heterodyning and interference, or the reverse. And all this has been subjected to careful checking, in so far as practitioners have not subsequently 'run off the rails' in respect of psychological snags and 'mentalism'—as so many have done, alas, by trying to run before they have learnt to walk, or for mainly commercial ends. . . . Fundamental ray analysis, again, appears to be tied up with certain aspects of magnetism, causing deviation and dispersion in natural or artificial magnetic fields; and even intra-atomic electron spins, etc., may be involved as well. We are, here, in extremely deep waters that have so far flummoxed some of the best physicists who have been consulted. . . .'

'The best physicists' may have been 'flummoxed' perhaps because they had no experience in psychical research. I know of no evidence that these matters have anything to do with electromagnetic waves, even though their practitioners use the jargon of radio in this way, and the author again does not produce any. Regarding practitioners 'running off the rails', most patients get better anyhow, whether or not anything is done, orthodox or unorthodox.

The first paper in Part II of the book concerns a 'new radio-electrometer'. The 'radiometer' is, in its simplest form, a light paper cylinder balanced on a needle point on glass from a light horizontal bar across a diameter at its upper end. It is supposed to detect by rotation human bodily 'radiations'. Psychical researchers usually find that if all 'normal' reasons for rotation, such as air currents, electric charges, etc., have been removed, it does

not rotate. The author claims in the paper (*J.B.S.D.*, 1945-6) what other writers have also claimed, that (a) certain rays from the human body, distinct from heat rays, are capable of deflecting non-magnetic needles and rotating paper cylinders, vanes, etc., at a distance of a few inches, and (b) certain penetrating rays or fields of force not of biological origin, apparently, but constituting a cosmic, geophysical or else 'dowsing' field . . . might also make the needle deflect or the radiometer rotate spontaneously. He investigated this and 'the outcome has been eminently successful, and three new instruments are well on their way to being perfected for practical use by physiologists and radiesthetists ; one for field dowsing on flowing water; the second, for measurement of general "D field" (dowsing ray) intensity and weather forecasting; the third for physiological and general laboratory use'. Unfortunately (and as usual) 'details are too many and technical for publication in this short paper' but the 'more important discoveries and conclusions ... from the total work by early pioneers, Lord Dowding, A. H. Reeves and the present writer seem to be as follows'. There follows a long list stating, *inter alia*, that the motor force acting on such radiometers is 'the same as that underlying all ordinary (strictly physical) dowsing and radiesthetic phenomena'; the force is Of an electromagnetic and "etheric" wave type' of very high frequency ; it varies in intensity. The following are stated to be 'equivalents' in the dowsing or radiesthetic sense: i.e. to give similar radiometer rotations. Clockwise motion (+) : - electric pole, N magnetic pole, L hand, Dip of rod. Anti-clockwise motion (-): + electric pole, S magnetic pole, R hand, Rise of rod. This paper includes much more detail concerning such things as the variation with state of health of the energy output of body or limb, the transmission of the energy along wires, wooden rods, etc., in which gaps merely weaken it. This is all stated by the author, without a scrap of evidence of any kind, to give a 'tolerably reliable picture of the general situation'. He refers to 'many critical tests under all sorts of conditions' showing 'motive effect of radiation from the human body and the eyes especially, quite indisputable; acting over at least 100 ft., in fine weather from the human eyes.' It is really quite astonishing that someone who professes to follow the methods of science should expect all this to be accepted without any details whatsoever regarding the construction of his devices or the tests he carried out. Similar remarks apply to the author's statements about the 'fundamental rays', 'radionic people' talk so much about. These fundamental rays are 'sharp beams thrown out by small compact objects upon specific compass bearings, and which are detectable

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at short range by a sensitive dowser carrying corresponding "samples". Trinder and I, having satisfied ourselves that these are *objective* and repeatable (once an appropriate technique has been adopted and care taken to guard against the various sources of error mentioned elsewhere) and the relationship between position angle and chemical composition having been ascertained, I next proceed to their *instrumental confirmation*. The open-minded scientific reader now looks for the details. The next sentence reads : 'The latter is a long story that cannot be detailed here.' All we are given is a large number of records from a pen recorder which meant nothing, despite careful study, to this reviewer. Most of them are uncalibrated, and insufficient details are given for a proper assessment.

Part III of the book, on 'Medical Radiesthesia and Radionics {1}', is short. It contains many statements similar to those already quoted, with the usual addition that 'this is no place for a detailed exposition of such work'. The Drown method of medical diagnosis and Wigelsworth's Tathoclast' are the subjects of papers of similar type and the author firmly believes that the radiesthetists were right in their statements regarding 'the use of samples, specific frequency "tuning" and so forth'. Again, the evidence is conspicuous by its absence.

What can we say, in general, about material of the kind contained in the two books so far reviewed ? Clearly the author thinks it is good sound scientific work and is puzzled and hurt by the small notice which has been taken of it. He has evidently approached scientific people about it from time to time and, in their attempts to be polite, they have probably given him evasive replies. This has led him to suspect prejudice against the unorthodox, and perhaps he has met such prejudice. S.P.R. members are often accused of prejudice when they will not accept this or that astonishing occurrence at its face value without evidence for its truth. One of the hazards of psychical research is to be suspected of everything undesirable, when all that is desired is the truth, plain unvarnished and uninterpreted.

*Confessions of a Sensitive* is described by the author as 'A Critical Study of the Paranormal and of Occult Faculties in Man'. It starts off (after a page of laudatory statements selected from letters from pre-publication readers) with a long tirade against modern scientists. He considers the book to be 'among other things, a determined attack upon the citadel of scientific materialism in all its stark aspirituality'. The author has evidently had a number of unhappy experiences with scientists. He then pro-

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ceeds, with many biographical allusions, to give a long series of anecdotal accounts of personal experiences. In place of evidence there is given at the front a legal affidavit affirming the truth of the cases given and stating that the author is not mad.

A selection of examples of his experiences falling into various classes is given, and the author then interprets them in his own characteristic way. Written in a didactic manner and ponderous style and in the first person this reviewer found it somewhat difficult reading. And the deductions made seemed to be rather more than could reasonably be justified by the data of the experiences. However, no doubt everyone has his own point of view. But to put his forward in this way is surely not 'scientific' as the author seems to think and suggests at very frequent intervals.

Regarding examples, an experience of hypnagogic imagery he had while ill he interprets as a case of 'travelling clairvoyance'. He refers to 'the human "aura" which clairvoyants can even "see" as a surrounding field of energy in various colours, rays and zones' and states that 'a few modern electrical instruments can now demonstrate such fields objectively. They are, surely, perfectly *physical*, not in any sense "*psychic*", though affected by psychological and psychosomatic states in those creating them'. Again, the evidence is conspicuous by its absence and few psychical researchers could accept this without it—despite the affidavit in the front of the book. Much the same applies to many other statements in the book, for example, a psychokinesis experiment described vaguely, with passing reference to 'a well known professor of physics' and to G. N. M. Tyrrell, would be extremely interesting if it were demonstrably true. Another interesting experiment ends with the following: I may say that some of the electro-mechanics of all this, plus working hypotheses, routine procedures, etc., are already in hand ; only they cannot be detailed here.' Where can they then be 'detailed'—and if they never have been, why should they be taken seriously? This might serve as a comment upon a considerable part of Mr Maby's writings.

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