

JOURNAL
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BRITISH SOCIETY OF
DOWSERS



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NOTICES

Lectures were given at the Rooms of the Royal Asiatic Society on December 16th by Dr. Hector Munro on "Diagnosis by Dowsing," when Mrs. Barraclough and Dr. Braun also spoke, and on January 18th by Major C. A. Pogson on "Prospecting for Oil."

* * * * *

We have been informed that the International Congress of Radiesthésie to be held in connection with the Exposition Internationale de l'Eau at Liège (already referred to on page 209 of *B.S.D.J.*, 21) will take place from July 7th to July 10th.

It will be subdivided into several sections, notably:—

- (1) Biology and medical radiesthésie.
- (2) Mineralogy, geology and hydrology.
- (3) Agriculture, bee- and pigeon-culture.
- (4) Radiesthésie in general, dowsing on plans and at a distance.

The organiser, M. Paul Dallemagne, hopes that a delegation from the B.S.D. will attend the Congress, and would like to have particulars of all English members who propose to be present and who would undertake to read papers either in French or English.

* * * * *

Mumetal rods can now be obtained through the Editor at the reduced price of £1 10s. An article on the use of the mumetal rod for depth finding, which was discovered by the late Major Ralph Creyke, has been reprinted in this Journal.

* * * * *

Several members have asked the Editor for back numbers of the Journal. The Editor would be greatly obliged if members who do not require their old Journals would return them to him.

* * * * *

Angle rods with swivel handle can be obtained from Messrs. Windley Bros., Crown Works, Chelmsford, for 6s. 6d., post free to any address in England.

* * * * *

Messrs. Devine and Co., St. Stephen's Road, Old Ford, London, E.3, supply pendulums of whale ivory, with central suspension

and cavity for sample, at the price of 6s., and other dowsing instruments.

They also supply whalebone for rods cut to size.

Pendulums of rosewood can be obtained from the Hon. Secretary at 3s. each, and the Society's badges at 1s.

Communications for the Editor, and inquiries, should be sent to Colonel A. H. Bell, York House, Portugal Street, London, W.C.2.

THE POINT DEPTH METHOD

By ELVAN

[REPRINTED FROM *B.S.D.J.*, VOL. II., 16.]

It seems essential for progress that successful new methods which have been sufficiently developed and tested should be published so that other dowzers may try them.

Nearly five years ago it appeared to the writer that two things were badly needed—a simple and accurate technique for measuring the depth of fissure streams, which did not require long experience or cumbrous apparatus—and a sound method of gauging the rate of flow in gallons per minute along the fissure. The technique developed for the latter, though reasonably reliable for flows up to a certain volume, has an unsolved pressure complication, and is not ready. But the depth method seems to have reached a satisfactory stage. Except for two improvements in the special tool employed, there has been no material development for three years. It is now giving results roughly to tape accuracy for several dowzers, some of whom, though sound performers, have no great length of experience behind them.

That a metal rod stuck vertically into the ground acted as a "radiating point" for what might be below it was discovered at the end of 1930. This system of measuring depth has been gradually evolved from that discovery. A great deal of experimental work has been done, and quite a number of different metal "points" tried.

The well-known "insulated wire" technique, which M. Viré attributes to M. Probst, presents no difficulty to any dowser, and is perhaps the most reliable of published methods; but it involves the transport and setting up of much clumsy apparatus (a drum of wire alone is not very portable), sufficient space at right angles to the stream line, and is very slow. With the majority of methods normally used, considerable skill and experience are essential for any kind of accuracy; quite a large

margin is usually allowed, and the "off day" is always possible; while a number appear to be purely psychic.

The "point" method needs space, but not necessarily at right angles to the stream line. It is very quick, and the "point" is little trouble to carry. During selection, rough pacing is good enough; when the choice has been made and real accuracy is wanted, marking out with the rod often takes less time than measuring up with the tape.

The Point now used is a cylindrical rod of Mumetal, about half-an-inch in diameter. For convenience it can be made up as a walking stick, with a crook at one end and a slightly sharpened point at the other. Mumetal is an induction melted nickel iron alloy of extremely high permeability, as its name implies. After it has been worked or bent it must be heat treated to restore its full magnetic properties.

The Technique.—The "point" is stuck vertically into the ground (as a rule 6 in. is enough to hold it), just inside the "stream band"—*i.e.*, the band of radiation directly over the stream. The dowser stands with the "point" immediately behind him, holding his rod and water sample. He then walks straight out from it. At a certain distance the rod will lift sharply; a couple of feet or more beyond, the lift will fade out, and the counter pressure applied to the rod will make it flip down. The spots where these reactions occur should be carefully marked, and their distances from the "point" measured with a tape. Suppose these measurements are 57ft. and 60ft.; the former is the depth of the top of the stream below the "point," the latter the depth of its base.

It is unnecessary to walk out at right angles to the stream line, the "depth band" lies round the "point" in a wide arc on both sides of the stream, fully 50 degrees on either side of the right angle. This is useful, as a line of sufficient length, free from obstacles or excessive slope, can usually be found within a reasonable angle to the perpendicular on at least one side of the stream.

While the point is in position, radiations from other objects will not be felt by the dowser walking out from it. Last year I depthed two big streams of about equal size, flowing roughly parallel in the bedding at c. 150ft. down. In each case on the line taken, the "stream band" of the other stream was crossed before the "depth band" was reached; in neither case was it felt.

If the "stream band" is narrow and the "depth band" wide, the flow is along a steeply inclined fissure; a narrow "depth band" indicates a flat flow. Examination of the two bands thus provides useful information. For example, where a small flat flow is spread out sidely, the pump will not draw it well;

and where a fissure is almost vertical and really deep, it offers a narrow target for a borehole.

The inside edge of the depth band can sometimes be fixed more sharply by re-crossing the band towards the point; the drop is often cleaner than the lift; but the best way to get the exact position of the edges is to turn sideways over them.

Occasionally there may be more than one stream below the point. I once examined a case where a minor flow at a shallower depth had been mistaken for the main stream. This minor flow had been cut by the borehole at about the depth given; the main stream was much deeper. If there is a single flow below the point, the lifts over the stream and depth bands are roughly equal in strength. If there are two flows at different levels there will be two depth bands; the relative importance of the streams they represent can be judged by comparing the intensity of the reactions over them.

During the summer of 1933 I showed this technique to one of the most experienced and successful professional dowsers, whom I will call "X." Some months later I discovered he had adopted it, having found it simpler and more accurate than any method he had used during over 30 years of professional dowsing.

At this stage a copper point was used. With copper there was a gentle lift at once; perhaps half-way out this began to increase in strength; so, though the final drop was good, it was by no means easy to judge just where the true lift came, especially if one was tired and touch had become a little dulled. In the spring of 1934 I tried a point of Low Moor soft iron. With this the preliminary lift did not occur, the true lift was sharp, and the whole action cleaner cut and stronger. This suggested that permeability might be the governing factor, so a Mumetal point was ordered.

Before it arrived, I saw "X" again and showed him the soft iron point. At first he was loath to leave it, saying he could not get his "current." Eventually he walked out protesting, he could feel nothing, and so forth; suddenly he got a strong lift and stopped dead: his expression of delighted astonishment was most eloquent. The Mumetal point was a further improvement both in sharpness and strength, but the change from copper to soft iron was the real step forward.

Examples.—In 1933 "A" asked me to test him. I found he was a very good natural dowser, and gave him a number of lessons. During the summer of 1934 he did his first three wells. The first was in Hampshire chalk; being his initial attempt, he summoned an experienced local professional to assist. They found a good fissure stream, which the expert said was about 50ft.; using the copper point, "A" made it 45ft. The borehole

cut the fissure at 45ft., the water rose up it to 13ft., and the supply proved more than ample.

The other two were in slate (Macduff group, Highland schists). The first taped 35ft., which proved correct. The second, two miles N. and 300ft. lower, was sited on a steep slope. Accurate measurements proved impossible; it was judged to be 39ft.; the fissure was cut at 36ft.

Early in 1935 "B," whom I had coached in September, was asked by an engineer friend to find a water supply for a farm and three cottages: his first independent attempt. The existing supply came from three shallow wells in boulder clay on andesite. Before their covers were removed or any information given, "B" offered to read for each well—the distance from the ground surface to the water—and the total depth. He made the former—17, 5 and 7 feet: all three proved exact. The total depths were 22, 10 and 11 feet; in each case he over-estimated these by either 1 or 2 feet. He wrote asking if these apparent errors might not actually be due to an equivalent saturation of gravel or fissured rock below the well bottoms. The Engineer, who had never seen dowsing before, was much impressed, but within an hour proved to be a good natural dowser himself.

Deeper examples:—In December, 1933, "X" pegged for several wells in a Scottish county. In September, 1934, the Engineer responsible took me to see them. The first had been bored, the pumping test completed, and the borehole covered pending arrangements for a permanent pump. To try the depth of the main stream, I stuck the point in over it a few yards from the borehole (where there was a deeper cross stream), walked out with the rod, marked the edges of the depth band with match-boxes; we taped them—138ft. and 142ft. I then asked at what depth the stream had been cut; out came the pocket book, but it only contained "X's" original copper-point estimate, 125-145ft.—an excellent illustration of the difference between copper and Mumetal. The 9in. bore cut the fissure at 138ft.; the water rose to 60ft. from the surface. This borehole is in Old Red Sandstone.

At the second, seven miles away, the pumping test was being carried out. I found more than one flow: working from near the borehole, the base of the shallowest taped 125ft. When the pump was stopped, the water level, which had been 176ft. down, rose rapidly; the Engineer followed its rise with the float wire. Suddenly the sound of water falling in ceased: the rising water had reached and submerged the shallow stream entry; he nipped the wire, pulled it out and measured it—120ft. Satisfactory, if rough, confirmation. Except for the first few feet this borehole was entirely in olivine dolerite.

More examples could be added, but these should suffice; actually twelve have been given. They have been chosen, firstly, to show that long apprenticeship is not essential for accuracy; secondly, to prove the all-round precision possible; they have not been selected from less successful ones; the general standard seems fairly level. When I last saw him some months ago, "X" told me of a very close recent result at about 500ft., but I have no details. So far, I have not heard of a proved example with bedded clay, often considered the dowser's *bête noire*.

The need for lateral space is an obvious disadvantage, but the system is easily applied. I know of no other which consistently gives this standard of accuracy. Only its simplest application has been described, it has also proved successful for more complex dowsing problems.

One further experience might be of interest. Last May, I went to see a very sensitive dowser who normally uses no instrument: he dowses with his hands. For many years he has been employed by a firm of well-borers in Exeter, who assured me that he had never made a mistake. They added a story of a local authority's refusal to allow them to bring their dowser. The Surveyor sited the borehole; after it had failed, this prohibition was withdrawn, and a satisfactory supply obtained.

He gave me an exhibition with a stream under his cottage garden. I have never seen anyone so sensitive. After checking it with the rod—a good little stream of some eight gallons per minute total flow—I asked how deep it was; he replied that he did not profess to tell depth, but thought it about 30ft. I stuck the point in, paced out, and made a little mark—a flat flow at c. 45ft. Then I asked him to start out in the same direction from the point, holding his hands as he normally did when dowsing, and walked out a few yards to watch.

On reaching my little mark his hands lifted strongly and then dropped, just as my rod had, and at exactly the same places; he was obviously much surprised. When I paced out, the expert remained by the point; no doubt he realised that something happened when I reached a spot 15 yards from it, but as he was directly behind me he could not have seen what occurred.

This outline was written two years ago; there is little to qualify, though much might be added. Boreholes do not often give really close checks against previous depth measurements, conclusive incident at an exactly ascertainable depth is generally lacking, core recovery is often imperfect, and pumping tests cannot be carried out at close intervals; any sudden change in water level is a good guide, but as a rule borehole confirmation is rather rough.

Two examples of this: a pupil's sites checked over before boring:—

“A”—A good flow in a highly inclined fissure—63ft. 6in., a lesser flow crossing at a small angle below—69ft. 6in., no whinstone (suspected), pumping estimate 15 g.m. Result: nearly all hard sandstone, very little soft, no whinstone, little water by 60ft., cores of cracked sandstone about 65ft., bored to 73ft. 7in., pumping test 25 g.m. after 40min., after 5 hours 14 g.m., at which it was steady for rest of 4-day test.

“B”—Small oblique fissure flow—70ft., pumping estimate 5 g.m. Result: split sandstone core about 72ft., bored to 79ft., test 6 g.m.

The boreholes were five miles apart, the same rising main, air main and compressor were used. Depth of split cores approximate. Neither give opportunity for close check, but are roughly satisfactory. However, many excellent checks have been got and the accuracy possible with the method is now beyond question.

Minor qualifications and additions:—

1. Two pupils bought a length of mumetal rod. One who is a plumber (he found lost pipes with a rod and was keen to learn) made it into two sticks. These have had no subsequent heat treatment, but work well.

2. The point gives what is below it anywhere; there is no need to stick it in just inside the “stream band” as recommended.

3. Use of sample. Individuals differ but in the main—changes and flows are felt with the plain rod, flows and soaks with the water sample; there may be a soak at a change if its nature is suitable. Examination should be made with each in turn. If necessary, further examination can be made with the point off the stream band, to settle what belongs only to the line and what is common to the surrounding ground; marked structural changes, soaked layers, &c., can thus be identified.

Example.—A pupil taped up a site and sent me his measurements. He said rain and waist-high wet cabbages had been a handicap. The figures sent were—43-45ft., a little over 60ft., and the big one at 82ft. Results followed as the boring went down; there were only three incidents in the borehole—boulder clay/dolerite change at 42ft.; top of strong vertical cracking causing a sudden drop in water level at 62ft.; base of this cracking at 84ft.; then unfractured dolerite.

Under the circumstances not too bad. By depthing with the point well off the line it could have been established that 1 was common to the adjacent ground, while 2 and 3 were not. Further examination should have shown 1 as a change, probably with a narrow soak above it. The reaction should have been unbroken

from 2 to 3, though there would be a good deal of variation in strength; probably it was, but this was missed; the conditions were adverse and the dowser may not have been on the look-out for such a thing. With another of his boreholes, a big open fissure, and a layer of soaked shales in very compact sandstone were similarly felt and depthed correctly. Again I had the figures before boring.

4. Within reason, the angle between "stream line" and "line out" is immaterial, and clay makes no difference whatever. Several examples of either could be quoted, but one combining both should suffice. The depth of a flat flow along a fault in chalk was carefully found at right angles, marked and taped—245ft. As the taping line was rough, a second visit was made. A flat taping line along a path at about 25 degrees was found, so the depth was again very carefully fixed, marked and taped—240ft. The correct answer eventually proved to be 239ft. The nature and exact depth of the flow (if it could be so termed, there was little movement) were beyond dispute as it was cut by a shaft. There was about 80ft. of bedded clay above the chalk. The taping error was 6ft. too much on the rough line, 1ft. too much on the smooth; quite characteristic. Flat streams are taped to their bases, those in cracks to the peak of flow.

5. Changes and incidents are weak compared with flows. No mistake should be possible with a strong stream, but where flows are small, changes or incidents may be misread if skill or care are lacking. The dowser's range of sensitiveness is very great, and accommodates itself to what is arriving; hence where there are only small effects to be felt they may seem quite large. The expert dowser can judge relative sizes at once by feel, and assess values fairly well from strength and character; where stream bands coincide the relative sizes of flows at different levels can be gauged by the strength of their depth bands. The method of measuring flows cannot be dealt with here.

Proper analysis of the site takes time. The different intensities of the fields can be judged rapidly by moving through them with a light responsive rod; but sorting out details and accurate fixing cannot be hurried, and skill is necessary for correct interpretation.

The pupil to whom I have referred has been using these methods for nearly three years; a good and improving dowser, doing very well in a country notably short of water supplies. The overflow from one of his boreholes works a ram and supplies two farms up the hill; five of his close checks mentioned above with four of mine, add up to 949ft., the total error is well under 2 per cent.

RAYs AND EMANATIONS

By Captain F. L. M. BOOTHBY

I would like to put forward the suggestion that there are at least two classes of dowzers :—

- (1) Those mainly sensitive to a ray
- (2) Those mainly sensitive to an emanation.

Let us first consider what evidence we have of the existence of a ray that can cause a dowsing rod to respond, and which is clearly not connected with any emanation.

We can start with a wave whose existence few can now deny—the wireless wave.

Monsieur Mager states in his book that he found a red rod would respond to the waves when held beneath a receiving aerial. For several years I could get no effect myself, but have recently found that when any wireless set is made to oscillate, and so becomes a transmitter (and a considerable annoyance to users of neighbouring sets), the red rod will respond, giving the serial number 21.

That well-known dowser, the Vicar of North Waltham, and his daughter, who is a keen experimenter with ultra-short wave wireless transmission, have also been carrying out experiments, and in conjunction with these two it has been found that a red rod is affected at a distance of at least half-a-mile by short waves. The effect is very directional. In the neighbourhood of a port like Southampton it is possible to pick up indications from ships and aircraft at an unknown distance.

The possibility of reading Morse signals by means of the dowsing rod seems remote, as once charged by being turned in the direction of the transmitter, it will proceed to spin out the serial number of 21, whatever the wave-length, unless checked by touching the hands together. Rods of other colour than red do not respond to wireless waves, unless electro-statically charged by friction, when they will do so.

Again, to deal with another well-known ray, the X-ray. A white rod which is quite inert to any of the material used in the manufacture of the tube, will turn apparently indefinitely while held in the ray, but if removed and allowed to discharge itself, gives the serial number 12, the same as that given by electro-statically charged sealing wax, or the red end of a magnet. A serial number of 16 will be found on the other side of the reflector, the same as that given by rubbed glass or the blue end of a magnet. Coloured rods are all affected, but as they will generally respond

to some material in the tube when it is not working, it is preferable to do this test with a white rod.

Now to refer to rays that are not universally accepted as existing, though some scientists acknowledge the possibility of their presence. Let me quote from Professor Joly's book *Radioactivity and Geology*: "No means of observation now at our disposal, save the slow accumulation of helium or, possibly, the development of a sufficient heat effect, would enable us to determine the presence of rays which *move with less than the critical velocity required to ionize* the particles of a gas or the sensitive molecule of the photographic plate. It is therefore possible that certain elements may expel such rays, the fact remaining at present beyond our cognizance."

The italics are mine. It is just these comparatively slow-moving rays that I believe we dowzers have within our cognizance. If we are to design an instrument to perform the functions of a dowser, which is most desirable, it will have to be sensitive to rays which do not ionize gases, or make a photographic plate which would record them.

Most of us will have read in a recent number of the *Journal* how Mr. Busby was able to erect a rod over a spring with curved wires on the top, and reflect the rays given off by the water. It is unlikely that emanations affected this experiment in any way, but as emanations are always associated with water, it is better to do a similar test where the effect of emanations is an even more remote possibility.

I started by taking an ordinary brass finger-bowl. Used like a searchlight it will be found to project a ray for a long distance, the edges of which affect a dowsing rod, and give the correct serial number. If, now, a radiating substance is placed at the focal point of the bowl, its rays will be reflected, too.

It will be found that certain colours reflect rays, while others permit them to pass through. The material, reflecting colour, and colour of receiving rod, all have to be taken into consideration. Certain combinations give no results at all, certain others project serial numbers very different from those given under other circumstances, but this is a subject in itself.

For simple experiments, a flower pot is a satisfactory projector, being inert itself unless burnt in the kiln, when it has a serial number of its own, usually 10, like so many objects that have been affected by fire. The colour is a good reflector, and a mineral placed inside it will have its rays projected in the form of a beam.

When I had reached this stage, Captain Bond, R.F.C., came to my assistance, and made a wooden projector with a search-

light mirror. The difficulty with this was that it reflected too much. The instrument was mainly glued together, but one or two small nails which entered into its construction had to be removed, as their rays were projected. There are numerous active flints in this neighbourhood, each with its three spheres of influence surrounding it, and if one of these spheres touched the mirror it was projected. This difficulty was overcome by lining the projector with orange paper. Then a pinewood stand was sawn out on which to stand the specimens for test, with surprising results, till it was found that the pinewood had acquired a strong ray of its own, which died away after two hours and was doubtless due to the friction of sawing.

The mirror itself projects the ray of its silvering material, and this can be cut out, if desired, by covering the mirror with orange paper, without affecting its qualities as a projector. Reliable long-range projection can be done with this apparatus and results received at a distance—a mile or more—so that there is no likelihood of any emanation from the transmitting material reaching the receiving rod. These varied experiments seem to put the existence of a ray beyond doubt.

Our next inquiry has to be directed as to the possibility of emanations which affect some dowzers.

Beginning with Monsieur Mager again. Chapter XX. of his book seems to describe exactly the conditions which would arise over water if an emanation came from it, and which would be found by a dowser mainly sensitive to this. Personally, as a dowser mainly sensitive to rays, I have carried out tests in gales, thunderstorms, and by day and by night, and found no change in the positions when the rod turns, but I have no doubt that an emanation sensitive dowser *does* find that the best effects are obtainable in the hottest part of the day, and that he does get his affects to leeward of the point where they rise from the ground. Further, many dowzers, when working over minerals, find that the results come up the dip, which is what would be expected of an emanation.

For the best exposition I have yet seen on the question of emanations Mrs. Pogson's pamphlet* should be referred to. I specially draw attention to her statement anent the desirability of allowing some considerable time to elapse before testing an object placed in a new position, in order to allow the emanation to collect.

Referring again to Professor Joly's work, he shows that radium turns into an emanation slowly. This emanation gives off the

**The Art of Water Finding*, by M. E. Pogson.

same ray as radium itself, and we would therefore expect the ray-sensitive dowser to receive it, but not necessarily the emanation-sensitive one.

In a short time a part of the emanation is turned into radium A, also giving off the same wave as radium itself, and in a very short time part of this is turned into radium B. This gives off two waves quite different to the original, and it is suggested that it is to one or both of these that the emanation dowser is sensitive. A similar process is *known* to take place in the case of actinium and thorium, just because their rays move actively enough for the scientist to recognize them, but there seems no reason to suppose that these are the only substances that give emanations which behave in a similar way, and that the dowser can recognize them.

Mrs. Pogson informs me that she has emanations which have been bottled for years and are still recognizable, and I have some that have kept for weeks. Just a word of warning to those who wish to try bottling emanations. I got into serious complications myself by buying test tubes for the purpose and getting inexplicable results, till I found that the test tubes had a serial number of 11 when empty. Celluloid cases, in which cigars are kept sometimes, have no serial number of their own and are suitable, but I do not think they are quite gas tight like glass, and, if stored touching each other for long are liable to exchange a part of their contents, but I have not done enough in this line to do more than make suggestions as to possible causes of error.

If there are two types of dowsers what is the difference between them? First their serial numbers are quite different—this should allow of a useful check being made.

Secondly, if a sample is used, the ray-dowser finds it strengthens his effects, the emanation-dowser uses a sample to annul his effects.

Thirdly, the ray dowser uses a different method of estimating depth of water—generally that depending on the distance apart of the re-action lines. The emanation-dowser works on the area covered by the emanations, with some factor to multiply the dimensions by.

There are, I believe, some dowsers—probably many—who are affected both by rays and emanations. One that I know seems to be affected by the outer re-action lines of a spring, but the inner one is generally lost in the emanation effect which affects him more strongly. One would not expect a purely emanation-dowser to be sensitive to wireless or X-rays, or projected rays, but only reports from such dowsers can enlighten us, and I hope some who are interested will be so kind as to send them in.

DOWSING OR WATER DIVINING

By J. CECIL MABY, B.Sc., A.R.C.S., F.R.A.S.

[REPRINTED FROM THE REPORT OF THE MEN OF THE TREES
SUMMER SCHOOL AND CONFERENCE, OXFORD, 1938.]

Dowsing is a subject that many people, especially scientists, are inclined to treat with incredulity and scepticism, but that has lately received substantial support from scientific investigation such as should serve, once and for all, to remove further doubts. For the human element has been checked by the use of various self-recording physical instruments, and the sensitives have been shown (conclusively we believe) to be reflex indicators of objective facts rather than the purveyors of subjective imaginations of a purely psychological kind.

Scientific dowsing is, indeed, a subject of unusual complexity and scope, to appreciate which at all thoroughly would necessitate the study of several text books or the attendance of a full course of university lectures; while divining according to traditional methods is an ancient practice that has been carried on for at least four hundred years in Europe and other continents, and which has, unfortunately, come to be popularly associated with hypothetically "magical" practices. "Magic," however, is only another name for ancient science in connection with as yet, or else previously, unknown natural phenomena. Thus, it has really been determined that many persons of a suitable physiological constitution are actually sensitive to certain specific radiations of an electrical and electromagnetic sort, arising from water, certain geological strata, metals, minerals, &c. And their resultant bodily reactions may be demonstrated by means of the familiar diviner's rod or other suitable muscle indicators; the indicator moving more or less strongly *as if* it were being worked by some extraneous force. Which fact anyone can prove for himself by walking alongside a diviner, and holding one end of his rod while a dowsing reaction is occurring. Moreover, some sensitive people have a tendency to feel "creepy" and to get "cold shivers" on certain pieces of ground or in certain unhealthy and uncomfortable houses, that may or may not also be "haunted" into the bargain.

In short, there are two main theories as to the cause of such strange feelings and of the muscular (dowsing) reflexes, which occur in reactive sensitives. And both theories seem to be right in their respective fields. One attributes the effects to a psychic sense—a sort of clairvoyant ability to detect and diagnose the invisible objects, no matter of what kind or size, at a distance; while the other theory is more materialistic, and postulates the

existence of actual physical rays from the soils, metals, water, &c., which fall within its exponents' *repertoire*. Indeed, the objective reality of such very penetrating and electrically ionising rays has at length been proved by recent scientific investigations; amongst them those of the present writer and his colleague, T. B. Franklin, inclusive of a tolerably comprehensive mathematical theory of the observed effects.

The main accepted methods of dowzers for locating suitable objects of not too minute a size, delineating them, and even assessing their apparent magnitude and depth (or height) from the ground surface have been confirmed in detail by careful laboratory and field experiments, properly checked and controlled. Also special automatic physical instruments can now be used, though somewhat laboriously (the rod in expert hands remaining unchallenged), in the detection and quantitative estimations of such radiations, and the delineation of the associated electro-magnetic "field patterns" found to exist around electrical conductors, including trees, buildings and human beings. Such rays consist, it seems, partly of scattered corpuscular radiation and partly of polarised electromagnetic waves of high frequency. Also the present writer and others have designed suitable instruments of a simple kind to measure the amount of the dowsing reaction, whether artificially or naturally stimulated, thus making it possible to correlate the instrumental and human reaction data. The mutual agreement, it may be remarked, is excellent, if good skilled subjects are employed, and psychological factors have been carefully eliminated, including telepathic effects.

Especially important, if true, are the various biological and medical applications of this science. For instance, canker, general ill-favour and lightning susceptibilities in trees seem to be attributable, in some cases, to the presence of underground sources of ionising radiation, such as streams and mineral veins. Wet clay soil also seems to be generally reactive and deleterious to the health of some organisms, with a tendency to cancer, asthma, rheumatic complaints, and perhaps also tuberculosis, in animals and man. But much further research is needed along such lines for certainty. The well-being of plants and trees has often been thought to be related not merely to the top soil, but also to underlying and deep-seated rock strata and mineral deposits. Thus, it is said that where the biggest birches grow, iron ore is likely to be found; and that the finest beeches tend to grow not merely on chalk but on great depths of chalk or limestone rock. Again, the ancient Greek belief that minerals were indicated by certain wild plants, till lately considered a fable, has recently been justified. For instance, a certain rare

mineral was located in new deposits through the co-operation of botanists and workers in this new-old science, by means of a rare violet which grew only over veins of the mineral in question. Here, then, perhaps, we have an answer to the question, why some expert gardeners are unable to grow certain plants in their gardens, whereas other inexpert gardeners can do so.

A good many people, unknown to themselves, are potential dowers, among them apparently, "weather sensitives" and various types of invalid. Ionising rays have, we find, a remarkable direct effect on such subjects' muscular strength, as well as on their nerves and general health. Hence, the proper siting of dwelling houses or work places where people spend many hours on end, day after day, more or less on one spot, is, presumably, of very real importance to everyone—especially where work is extremely laborious, health and vitality poor, or the subject an actual invalid. The sharp localisation of many of the zones of reaction may also, perhaps, account for "unlucky" beds in hospital wards; since the direct muscular effect (which will also act on internal organs, such as heart, lungs and bowels) may, in sensitive subjects, amount to 30 per cent. or even 50 per cent. of the total full strength—incredible though that might appear to be. Then there are, too, the evident nervous and gastric effects, and the action of ionised air on the lungs and blood, as observed by Professor Tchijevsky in his artificial experiments. Sickness and headaches during thundery weather are almost certainly due to such influences with a general feeling of lassitude and irritability. The effects of infra-red rays, of comparatively low frequency, on the other hand, appear to be opposed to those of the high frequency ionising rays here under consideration; and similar effects are observable for both plants and animals.

Although weather sensitives and potential dowers may suffer considerable *temporary* indisposition as a result of their susceptibility to such electrical and electro-magnetic effects, and even develop a chronic *malade imaginaire* as a result (as in hysterics and hypochondriacs), they should not necessarily be thought of as essentially unhealthy people. It is simply their misfortune to be human barometers and electrometers of varying sensitivity, whose reactions other "normal" folk may either jeer at or else turn to good use. Anyhow, they are much more readily upset and made ill and uncomfortable by all sorts of subtle environmental changes of a radiological kind, which renders them exceedingly "touchy" in unsettled weather, and sensitive to the presence of such objects as masses of metal, wet clay, wet walls, steel girders, underground streams, and even large mountain masses near by. Their behaviour, in other

words, parallels that of our wireless receivers, except that they are sensitive, which the machine is not.

The dowser, therefore, can help to direct us how to locate our dwellings and workshops to best advantage, so that we may carry on our lives and work with a minimum of discomfort and interference with health and efficiency under electrically harmonious conditions. At the same time, the dowser has made, and will probably continue to make, occasional mistakes in his diagnoses and locations, owing to the complexity of the fields with which he has to deal. For, apart from the tangle of local "field patterns" thrown out by electrical conductors &c., in close proximity to one another we have found that the active radiations keep varying in both a diurnal and also a sporadic manner, along with various ionospheric and meteorological changes, both as to intensity and direction of magnetic polarisation. The dowser is, therefore, faced with an uncommonly tricky problem, and his past achievements may be said to be almost miraculous, considering that he was entirely ignorant of the nature or origin of the radiations in question, and was thus laid open to every variety of personal fancy or autosuggestion. I trust, however, that enough has been said in a general way in this paper to show that dowsing is a coming science, as well as a very ancient one, of the utmost biological and economic importance, and of direct interest to members of this great Association with regard to the many problems of both silviculture and silviculturalists.

PROSPECTING FOR OIL

[NOTES OF A LECTURE DELIVERED BY MAJOR C. A. POGSON, M.C., TO THE BRITISH SOCIETY OF DOWSERS ON JANUARY 18TH, 1939.]

Dowsers should know as much as possible about the substance they are seeking, its characteristics and behaviour. For water they should study geology as far as water-bearing capacities are concerned. A knowledge of the order in which strata were deposited is useful for checking depth estimates. Medical dowsers should have a knowledge of medical science. Similarly in searching for oil a knowledge of its characteristics is essential.

To the dowser a knowledge of the conditions under which it exists is probably more important than its origin, but all information regarding it is of interest and value.

There are three theories regarding the origin of oil :—

- (1) The result of heat and pressure on plant organisms.
- (2) The result of alteration of animal fats, rather than of organic matter of vegetable origin, caused by a chemical process either during life or after deposition.
- (3) Due to the generation of hydrocarbons from metallic carbides under heat and pressure.

Of these (1) and (2) originated from marine or swamp life ; (3) is but little believed in. In the case of (1) and (2) how came such profusion of existence of plants and animals in marine and swamp life to furnish our present oil resources, contained in certain formations ? To understand matter, imagine a large lake or bay fed by rivers, millions of small animals live in same and their remains cover the lake or sea bottom, rivers bring down debris and further animal or plant remains, debris forms clay and sand. In course of ages, great thickness is thus formed. All such formations laid down by deposition are known as sedimentary rocks. These in course of time are acted upon by earth movements, and other formations are superimposed, causing pressure and heat.

The London and Weald Clays are examples of large ancient lakes. The deposition of animal and plant remains is going on in our days, but, naturally, conditions have not arrived at a stage to turn these into oil yet awhile.

Difference of pressure, heat or other conditions have turned this deposited material into clay, sandstone, limestone, &c.

Majority of earth's surface consists of sedimentary rocks, but all sedimentary rocks are not oil bearing.

Conditions essential to occurrence of oil are :—Presence of rocks of sedimentary origin ; absence of intense metamorphism ; presence of sandstones, limestones, sand or other strata sufficiently porous to hold oil ; some source from which oil has been derived ; water conditions which do not prohibit the accumulation of oil in pools ; suitable cover rocks ; structures which permit accumulation of oil from large areas in a restricted one.

Oil deposits may occur in sedimentary rocks of any age and in any structural condition. A formation containing oil, situated many hundreds and thousands of feet below ground surface, may by pressure become folded into the likeness of hills and valleys. Gas being lighter than oil, and oil lighter than water, it follows that the presence of any water in the oil-bearing formation will tend to force the gas to the summit or crest of the hills or anticlines, while lower down the slopes the oil collects on top of the water. Well drilled on crest of anticline would probably get gas, while one drilled down the flank will strike oil. It does not follow, however, that oil is only found in the anticlines, for in the absence of raising medium, such as water, oil can also exist in

the valleys and synclines of oil-bearing formation. Oil is liable to migration, and instances have been known of a region being abandoned because test wells proved abortive, but later on further test wells have been successful.

Petroleum is located by prospecting, followed by drilling, which provides the only certain proof. Physics, geology, palaeontology, geophysics all enter into oil finding.

In geophysics several methods are employed, notably the seismic method, in which explosions artificially made produce earth waves which impinge on rock structures and are reflected back to the surface. The time taken in reflection indicates the distance of the rock. In this way, by taking series of observations, the extent and nature of a structure can be mapped out, and hence test wells drilled in the most favourable locations.

With very sensitive instruments, petroleum geologists and technologists have found indications of potential oil structures as deep as 25,000 feet.

First oil well was drilled about 80 years ago by percussion rig. Deepest well is nearly three miles. Oil has been found at over 13,000 feet. There is gas wherever oil is found, but as gas migrates more easily oil does not necessarily accompany gas.

Rotary drilling plant now employed, using derricks 100 feet high. Steel rods with bit affixed to end are rotated by machinery and screw into earth like augur; additional 30-foot lengths of rod added as drilling proceeds. Material penetrated fills hollow end of lowest length of rod and this "core" is at intervals pulled up for geological examination. Bit frequently has to be changed, sometimes every 20 feet of drilling, and this and "core" examination entails pulling up of whole length of drilling rods. The hole is lined with iron pipes to prevent falling in and ingress of water. Hole is kept full of water and mud to counteract pressure of gas, which might cause damage if allowed to "blow." As borehole gets deeper diameter decreases owing to casing. A few facts—At 11,500 feet the gas pressure may be as much as 10,000lb. per square inch. The temperature at 12,000 feet is 270 degrees. The weight of rods, &c., at 15,000 feet is over a quarter-of-a-million lbs.

When an oil field is first brought into use its production is usually derived from flowing wells. This is known as "flush production," as distinguished from "settled production" when oil has to be pumped. Production in new or flush fields usually increases rapidly after the discovery well is drilled, and quickly reaches a peak from which decline is first rapid and then gradual. Factors influencing production of flush fields are size of leases and number of wells drilled, for if leases are small, holders all start sinking wells indiscriminately and the number of wells

sunk thus on no one organised drilling programme affects production of all wells.

Average world production is 7 to 8 barrels per well per day. In older fields, where all wells are pumping wells, average production is less than one barrel per day. Flush wells supply majority of current production as indicated by the fact that 2.6 per cent. of total number of producers are responsible for 50 per cent. of total production.

Crude petroleum is loaded in tanks and sent to refineries in the countries of distribution.

Geology plays a most important part in oil discovery, but the geologist was slow to be accepted in the oil industry. He was at first placed in the same category as "oil witch" or "oil smeller." The nicknames "rock hound," "wrinkle chaser," "pebble pup" date back to the time when oil producers were sceptical of the use of geology or quite convinced of its uselessness. Nowadays, every oil company considers the geologist indispensable, and the oil industry which once smiled at the geologist welcomes both him and the palaeontologist.

This leads to the dowser, who is now suffering what the geologist had to put up with. The geologist was able to support his arguments not so much by unqualified success (of all wells drilled, *including those on proved fields*, 75 per cent are successful, but in the case of "wild-cat" wells, *i.e.*, test wells drilled where oil deposits have not been proved but from geological reasoning it is thought oil may exist, the percentage of success is less than 50 per cent.), but, by showing the rock stratigraphy on paper. Here he scores over the dowser, who has no peg to hang his hat on. Nevertheless, if dowsers can prove their bona fides by virtue of successes, dowsing for oil may in time be accepted.

Most forcible way would be for a well, location determined by dowsing, to be successful in area or on structure already tested and abandoned as worthless judged by orthodox standards and reasoning. Cases do present themselves where this possibility might arise where owing to structural conditions "wild-cat" wells have proved unsuccessful. At least half-a-dozen deep test wells, at considerable distances apart, have been sunk in structure known as Wealden anticline stretching through Kent, Sussex and Hants to Dorset, and have proved unsuccessful. Technical opinion is that characteristics of oil-bearing formation are unfavourable for oil accumulation. Notwithstanding, numerous dowsers hold oil does exist in this structure, and could be discovered if drilling conducted in proper places. If a concensus of expert dowsing opinion could agree to probable success obtainable at one agreed location and a well could be sunk which proved successful, this would indeed prove the utility of dowsing for oil search.

Whole difficulty is question of expense of drilling test well. Society's funds are unfortunately insufficient for such a test.

Can only be hoped those who can materially assist in progress of dowsing may come forward and solve this problem. Only one test well necessary, for if oil be found further funds could always be raised.

Every dowser has his own method of finding oil. In field work it must be remembered that oil cannot be said to be on one spot. Normally it is not found in streams, but in a large productive area resembling a fully saturated water bed.

Depth at various points in this area probably varies, as it must be remembered that formations containing oil will be folded. Where oil is banked up against a fault this becomes apparent to dowser by sudden complete absence of oil indications on a more or less sharply defined line across country.

Depth is better obtained by geological reasoning from which horizons can be calculated.

If a dowser is unable to locate saturated water beds as opposed to streams, he is probably unable to locate oil.

Having located oil, the dowser had better endeavour to correlate geological facts which will be simplified by the knowledge that oil is present.

Regarding oil in England from 1916. Hardstoft No. 1 (3,130 feet) yielded 2,946½ tons to end of 1937. This well has recently been deepened to 3,272 feet. D'Arcy well at Dalkeith drilled to 1,810 feet yielded several tons, but was closed down at the end of the Great War.

Activities of various oil concerns were only of doubtful nature. Under old legislation no bona fide seeker would embark on enterprise. Two small licences were granted, but only one unsuccessful well was drilled—at Worth.

When new Act was passed in 1935 there was a rush of applications. At end of 1937 licences had been granted covering 13,198 square miles. Geological surveys were carried out over 1,940 square miles, and geophysical survey over 1,751. These figures have been largely increased to date.

The D'Arcy Exploration Company alone has been doing geophysical surveys in and around Lincolnshire for two years, and had drilled 100,000 feet by the end of 1937.

Over half-a-million pounds has been spent in present British oil search; 15 deep test wells have been drilled, and innumerable geological bores for testing strata, and the only success so far obtained is at Dalkeith, where Midlothian No. 1 well, drilled by the Anglo-American Oil Co., proved oil at 1,833-1,860 feet. This well has been put into production at about 30 barrels daily. The

deepest well so far drilled in Great Britain was at Portsdown to 6,556 feet.

The failure to discover oil has resulted in a number of licences, covering areas where test wells have been drilled, being relinquished. In spite of all these failures, the search goes on, and further "wild-cat" wells will be drilled, but if only dowsing advice were heeded and geologists would work in co-operation, money and labour would be saved, to possible national advantage.

Captain Boothby stated that he, too, had visited many of the drilling sites, and agreed with the Lecturer in his findings. He had found that, in the South of England at least, there were three materials which would cause a rod to turn, if a copper one was used, or if one was used with oil as a sample. The first was the true crude, that the oil companies wished to find. This gave a serial number of 23. Then there was oil and oil gas well known at Heathfield. It gave a serial number of 25, and appeared to be connected with the Kimmeridge shale, as, where this came to the surface in Dorsetshire this gave the same results.

Thirdly there was an oil sand, which gives a serial number 20. This appears to be due to a seepage of oil which has evaporated, leaving a coating of bitumen on the sand, which can be burnt off by a blow lamp. There is such a deposit in a gravel pit near Warsash, above the level where flint implements are found, and must therefore be of, geologically, recent origin. He thought that the lecturer's suggestion that the heat generated by faulting distilled the oil, was what had happened in this case, and that the oil had come from the Kimmeridge, and was not the sort that was required.

He thought that the oil companies had wasted a lot of money, and looked like losing more, by neglecting dowsing, as, while a geologist could say whether a formation was suitable for oil, he could not say if any was there. A dowser could say if oil was present and its approximate depth, but he could not tell in what quantity, but if the dowser and geologist were in agreement about a well site, the financier had a greater chance of making a profit than when he depended on one opinion only.

The Chairman, Colonel Bell, remarked that an old method of prospecting was by means of smell, and that he had seen in the *Royalty Owner*, an American periodical dealing with petroleum, that a new method was being used based on the fact that the emanation from oil was peculiarly penetrating. It affected the surface soil through a considerable thickness of strata so that by analysing samples of the soil the presence of oil even at great depths could be detected.

DIVINING FOR GOLD FORMATIONS

By H. H. GUEST

Within recent years a method has been practised on the extensions of the great gold field of the Witwatersrand, by which auriferous rocks covered by deposits of rocks of later ages have been located thousands of feet from the surface. The science employed is known as geophysics, which had been used in other parts of the world long before it came into prominence in the Transvaal, particularly on oil fields. The particular branch of geophysics employed for locating gold formations is known as the "electrical method," by which two electrodes are buried in the ground at varying distances from one another and the resistance offered by the rock to electric currents passed through them is measured. The sub-strata "reflect" the current, and by this means depth is ascertained, in the same way that a modern ship plumbs by sound. Whether this system would come under the category of "divining" or "dowsing" I do not know, but it occurs to me that there is a resemblance in the methods of human and mechanical dowsing, which is of sufficient importance to interest the members of the British Society of Dowzers.

Those of us who reside in gold-bearing areas are naturally intrigued and interested in reports recorded from time to time in the Journal concerning the locating of gold objects by means of specially prepared heads, which, with the aid of some physical force contained in the body of the diviner, obtains a reaction indicating the presence of such gold objects. Quite recently a report came from Bronkhorstspruit in the Transvaal, where a farmer made claim to power for actually divining the presence of gold ore. Scientists and others connected with the gold industry do not readily accept these statements, and it is certain that more proof will have to be offered before they are convinced of the existence of any human power which can locate the presence of gold, hidden from actual sight, other than by geological determination or geophysical methods. Experience of those connected with gold mining and gold extraction establishes the fact that not only has nature well hidden the precious metal, but has also, with few exceptions, mixed it up so thoroughly with the ore, and in such infinitesimally small proportions, that it is only by the exercise of intense knowledge and application of processes devised by some of the world's greatest scientists that it is possible for gold to be mined and extracted economically. An idea of the difficulty of the task may be gauged from the fact that the average gold mine of the Witwatersrand has

to crush the gold-bearing rock and extract one grain of gold from every 150,000 grains of crushed sand. In the face of such a task, it can hardly be wondered that gold mining men are dubious of the existence of such a simple method of locating gold as that of ordinary dowsing. However, the geophysical method of locating hidden rocks might be regarded as a type of dowsing, in that minerals situated thousands of feet below the surface have been found by means of the apparatus employed.

For the purpose of demonstrating this method it will be necessary to describe a rough outline of the geology of the Witwatersrand system, which formation we are now concerned with.

The Witwatersrand Gold Fields (which comprises what is geologically called the Witwatersrand system), of which the City of Johannesburg is about the centre, was originally a series of river or ocean beds, resting on the granite, and consisting of a large number of sedimentary layers of strata of shale (solidified mud), quartzite (altered sandstone) and conglomerate, the latter consisting of pebbles of all sizes ranging from the size of a pea to that of a football, and formed of chert, quartz, quartzite, &c., and embodied in a matrix of compact sand and mineral, especially iron pyrite. It is in the matrix that the gold occurs. There are also strata of tillite and other rocks, but for the purpose of this article the layers mentioned are sufficient to furnish an idea of how the electrical method of the geophysical system operates. These beds or layers were originally laid flat, but earth movements have resulted in the initial orderliness being disturbed, and the whole system has been tilted, though still retaining its geological sequence, *i.e.*, the various layers always superimposed in chronological order. The outcrops probably were covered by later depositions, but in process of denudation have again become exposed, and being particularly resistant to weathering now sometimes form bold escarpments.

It is such an outcrop that is known as the Witwatersrand, the English translation of which is "Ridge of the White Waters," and it was these exposed rocks which arrested the attention of the gold-seekers in the eighties. This enormous deposit has been traced from Randfontein to Heidelberg, a distance of about 70 miles, and the thickness of the "system" as disclosed in the centre of the outcrop is 25,000 feet, dipping southward at varying angles, none too steep, and on the whole tending to economic mining of the rock. In this area, of which the outcrops give a profile of the strata, there is but little difficulty in locating the position of the reefs, as fifty years of mining development and geological research have revealed the requisite information. More particularly has attention been directed to the zone known

as the Main Reef Series, which is the principal source of gold production, the outputs yielding from 2.7dwt. to 6.7dwt. of gold to the ton of ore, except at the Sub-Nigel Mine, which gives the abnormal yield of about 14dwt. per ton. In the Witwatersrand system there are distributed a number of gold-bearing layers, other than the main reef series, but it is the latter series which contains the most consistent gold content. The Witwatersrand is known to extend beyond the 70-mile stretch of which Johannesburg is the centre, but its continuity has, hitherto not been certain, owing to the tilted edges of the layers which otherwise would be outcrops, being covered by rocks of a later formation such as the dolomite and diabase which covers most of the country from a point below Randfontein to the Klerksdorp district, where Witwatersrand outcrops again appear.

Geologists and mining engineers have always felt tolerably certain of the existence of the Witwatersrand System under this enormous blanket of uneconomic rock, but the only means of determining the exact position of the submerged outcrops was, in the past, by means, either of diamond drilling by which a tubular drill is bored into the ground and a core removed, thus a section of the underlying formation obtained, or by shafts, which are only economic for purposes of prospecting at shallow depths. Both these methods are costly and occupy time, which is a valuable factor, particularly when mining concerns are in the exploratory stage of their existence. Six years ago the technical advisers of the Consolidated Gold Fields of South Africa Ltd., one of the large groups which control the gold mining industry in the Transvaal, decided to employ the geophysical methods on a large area of ground south-west of Randfontein, which had just come under their control. The progression of the various layers, or strata, in the Witwatersrand System are fairly well determined and, underlying the Main Reef, as well as other series, are layers of ferruginous shale containing a high content of magnetite, and it is to these layers that the attention of the reef-seekers is directed. The instrument is of a sensitive nature, and calibrated to indicate the varying resistance of the hidden magnetite on the apparatus. By this means the depths of the magnetite shale layer are measured at frequent and regular stations over the ground being examined, and the maps which are compiled from these readings give the necessary information from which can be approximated the depth and position of the gold reef. It must be emphasised here that the method described does not directly detect gold, but a band of shale contains large quantities of magnetite or magnetic gold ore. The geological position of the gold-bearing reef in relation to these magnetic shales being well known, the location of the reefs is determined

only indirectly by deduction. Not only is the depth of magnetic layer indicated, but, as may be imagined, these layers or stratas which extend over such large tracts of country are not completely intact and contain numberless breaks, called faults, which are also revealed by the geophysical magnet.

When the geophysical map is complete, the engineers determine the best position for boreholes, and instead of wasting time and money in drilling holes at approximate positions are able greatly to eliminate the possibilities of boring in barren places. There is no known means of ascertaining the values of hidden gold reefs, and science can only assist in showing where the reefs are likely to be, but the borehole cores which bring up actual specimens of the reef are the medium for determining the value as well as the thickness of the formation, after which, provided the boring results are satisfactory, shafts are sunk to the reef, which is, in due course, mined and crushed and forced to yield the gold. The Western Reefs Exploration and Development Company Limited at Klerksdorp has utilised the geophysical system to a considerable degree, and the method is also in use by all gold exploratory concerns operating in this country. Geophysical methods have largely contributed to the successful exploration of an extension to the Witwatersrand Gold Fields, almost double the extent of the area known before the system was employed, and its value is therefore inestimable. In case I have made it appear that the geophysical methods are simple, I haste to add that the apparatus can only be used by scientifically trained men, and, furthermore, that an extensive knowledge of geology is a necessary adjunct to its employment.

THE RADIAL DETECTOR

By A. A. COOK

The December issue of our Journal gives some useful articles, and I wish to make a remark or two on statements contained in some of them, not as carping criticism, but to open up different lines of thought on the subjects touched on.

To preface my remarks I may say, as it has a most important bearing, that I work in khaki or white garb, have no filling in my teeth, no plate, while working carry no metals or colours and carry a wooden (bamboo) rod. The student cannot be too careful in experimenting, and in giving his experiences should give details, for the help of others, as to how the results have

been obtained. To those who wish to obtain the results I give, they must conform to the working conditions as given. They cannot get the results, as I have proved with other users of the rod, unless they do.

In mention of the dowser (page 264) who was convinced that he could not dowse in rubber boots, he may have been correct as far as his trial of this went, for the following reason: He may have tried to work with the rubber boot on his left foot only, and found that the stick would not work, so he came to the conclusion, *without further trial* (some dowzers, like most opponents of the rod, are very dogmatic and careless), that he could not work in rubber boots. Had he taken the boot off the left foot and put the rubber boot on his right foot, he would have found the rod would again function, as it also would when he put them both on. In the experiment carried out, about 1782, by the French physicist, Charles, with the dowser Bléton. Bléton could dowse without a stick; in fact, preferred to do so. Mounted on a glass-legged stool, Bléton knew, as we do, that he could not get any dowsing sensation or radiation. Charles probably earthed the side that would not allow Bléton to get this sensation or radiation—Bléton's right side. Had he earthed Bléton's left side, Bléton would have received the radiation as usual. If Charles used a copper wire or a cord for the purpose, it would be effective or not as quoted above.

In my experience I have found that suggestion plays no part, there is always something wrong, as I believe must have been the case in the Bléton experiment, to account for the seeming auto-suggestion. As an instance, I had worked some country in quest of oil on two occasions, and had got result for similarity (away from sun) and definition (towards the sun). On the second occasion I nearly stepped on a large brown snake (one of our most venomous), and on a third occasion had put in my right trouser pocket a small bottle, stoppered with cork, of permanganate of potash. These crystals are used in treating snake bite. As I walked over the spot (away from the sun) where the rod had worked on two previous occasions, it worked as before, but when I turned and walked towards the sun, although it had operated on two previous visits and I was expecting it again to do so, it refused to act. This had me nonplussed, but a friend who had been with me on the two previous trips said, "As it is the only extra you are carrying to what you had on the two previous trials, take the permanganate out of your pocket." I did this, and found the rod worked as it had previously done. This is an example—I have others of a like nature—of what has convinced me that there is nothing in the auto-suggestion theory.

On page 267 Mr. G. C. Sherrin also shows, by the instrument he invented and used, how auto-suggestion cannot apply. Re his question (page 268) as to what explains the reaction for water and minerals, he should include, also, any earthly matter.

The B.S.D. theory of radiation appears to me to be the right one, for many reasons, which can be demonstrated. I must draw attention to the fact that during an eclipse of the sun, the rod is useless, and will not work on anything until the eclipse is over. This goes to show that the base of the power must be radiations (or vibrations, which may be the same thing) which are coming to us from the sun, possible high frequency waves, of which we know practically nothing at the present time.

Mr. Hawker, in his address (page 259), gives an instance of the remarkable power animals have to return to their home. It is a well-known fact, among pastoralists, that horses, cattle, dogs, cats, &c., if taken from their homes, in some cases for hundreds of miles, will go back in practically a straight line, if fencing and natural barriers do not prevent. They evidently get some home radiation or vibration, just as it has been proved that pigeons do.

On page 274 Miss S. M. Laverton states that it is necessary to use a fresh block for each experiment and that a piece which has been used with lead for an hour or so will act for lead for some time after the lead has been removed. I think this can be corrected by bringing the block or the piece in contact with the earth, when it will be found the influence of former samples will instantly disappear. In working with the rod, never use a sample handed to you, or anything, for instance another dowser's rod, without first putting it in contact with the earth.

It has been my experience (page 276) to examine a spot where a tree had been badly shattered by lightning. I could not find any indication of a stream near the spot. The land around was flat and practically treeless, with no mineral lodes, and the tree shattered was large and tall. Lightning will often strike where there are iron lodes, irrespective of streams.

A word or two as to so-called tests of dowsers' powers. Those who put forward the tests, having no knowledge of the matter, give tests which are against the theory of the whole thing—radiation—and with a superior smile blame the user of the rod, as ignorant in most cases as his "learned" examiner, for not getting the answer. An example of this is when one wraps a gold watch in paper and expects a dowser to find its whereabouts. It cannot be done, as the paper insulates the radiations from the gold. Two oil magnates in the United States give the following as tests. One has a large can of oil on his premises and asks the dowser to find it. To date, it is stated, no one has made the grade.

The second, in sight of the dowser, fills eight identical cigar boxes with sand and in one of them he embeds a small bottle of oil, shuffles them, and asks the dowser to find the one which contains the bottle of oil, seven times out of ten. The offer is still open. In both these cases the oil is insulated, and if the dowser could see the can of oil and the box containing the oil he pointed out to him, he would be unable to "get" them with his stick. The only way it could be done would be to connect the oil in the can and the sand in the different boxes, with a cord or copper wire, to the earth. I could go on with other experiences and examples, but this article would grow to too great a length. What is written, I hope will be of interest, and helpful.

[An article by Mr. Cook describing his methods appeared in *B.S.D.J.*, Vol. III., 21, p. 239.]

In view of the fact that dowsing can be successfully carried out from horseback, motor-car, railway coach and aeroplane, it would appear that inhibitions caused by electrical insulators, such as glass supports, rubber boots, &c., must be of a personal nature.—EDITOR.]

INHIBITIONS

By AUBER

"Always higher, always further" was the motto used by the President of the Association des Amis de la Radiesthésie when closing the fourth International Congress of Radiesthésie in Paris in 1935. I venture to add "Festina lente."

The TRUTH about rod and pendulum movements will be revealed in God's good time.

Meanwhile, although we ignore what "it" is, we can use "it"; and all we sensitives *should* use "it," in the many possible ways, for the relief of suffering humanity and animals, as well as for the full enjoyment of the fruits of the earth, in the widest sense—and it *is* wide, were we not so blind and deaf.

Meanwhile we are all learning, or ought to be, and progressing, however imperceptibly, towards the TRUTH.

The Abbé Mermet said that we were building a cathedral; each bringing to its construction our little stone. Each little stone should be progress; but is it?

Devouring everything one comes across, in several languages, one cannot but be struck by the repeated conveyance to the building site of stones already used or already rejected by the builders. The effect of this, if not actual retrogression, is a brake on progress. Among these unnecessary stones are inhibitions.

The Village Water Diviner has for over 30 years been unable to locate springs with his twig when wearing rubber boots. So he thought. I have a "box of tricks" which "fabricates" magnetism. Pretty fierce it is, too: ask Captain Halliday (B.S.D.).

In his rubber boots the V.W.D. held his twig over the apparatus: nothing doing: "can't feel anything in these boots." Suddenly I switched on: the twig nearly flew out of his hand; "Crikey, what was that?" "That, my friend, is what you feel above a water course, gumboots or no gumboots. Come out into the garden." There the V.W.D. was marched over a stream, gumboots and all; and his twig and my pendulum did the Lambeth Walk together. "Oi!" Yes, that's what the V.W.D. said. Exit *that* inhibition.

The V.W.D. doesn't study Radiesthésie, or read about it. He just finds water. Had he known about "it" being felt in an aeroplane, or in a motor-car, he would have known that gumboots don't matter two hoots.

Alas and alack, for those articles written by scientists and other educated men which, to neophytes, must be as retardatory as gumboots in a Flanders trench, being, as some of these articles are, full of inhibitions.

Let's see what one of the French "Aces" says about this, the late G. Brochenin in *Le Pendule et la Baguette des Sourciers*:

"*Avoid imaginary obstacles.* Don't start with preconceived ideas; to imagine, for instance, that rubber soles prevent you working, for that idea, with some, will stop the pendulum moving. This can be experienced, so true is it that our nervous system follows with docility the impulse it receives which is, after all, an orientation of the mind.

"Rubber shoes don't worry me. I don't orientate my position for working on a plan or on a photograph; it doesn't matter if I face North, South, East or West. I function sitting down, or standing up, legs crossed or uncrossed, feet up or feet on the ground. It matters not that my map (plan) is not orientated. In all my researches, whether in situ or on plan or photographs, I've never paid any attention to metallic objects in my possession: watch, penknife, keys, rings, coins, &c., nor to colours, nor to the proximity of metals or of other objects surrounding me. I have not found that these objects upset my work. I usually

forget all about my gold wedding ring, so that I can only use it as a 'sample' if I think of it very strongly.

"If we imagine that any obstacle can exist, our mind, thereto orientated, will find numbers of obstacles, which in effect will interfere, whereas if we concentrate on what we are looking for, *overlooking* all possible obstacles, the obstacles which we do not honour by thinking of them, will go to join the multitude of others, of which we do not even dream, and which nevertheless exist around us.

"It is very rare not to perceive, from time to time, the worthlessness of certain dogmas; thus simplifying our work by throwing overboard all that is unnecessary. Let our precept be, as often as possible, straight to the mark."

That, quite simply, is the truth of the matter. Imagine an obstacle, and it will prove an obstacle.

The inevitable moral is, "festina lente." Radiesthésie is not a science yet; it is mainly an empirical art. So, whatever the would-be teacher's intellectual baggage, scientific or otherwise, he should first learn the ABC of Radiesthésie before attempting the teaching of the solution of its hieroglyphics. Let him read the masters, the pioneers, all of them that he can. Let him retain the gems, but, above all, oh above *all*, let him reject *all inhibitions* as useless and retarding impedimenta.

Now as to the tools of the craft. It is my firm belief, borne out in practice, that if one's instruments, and oneself, are sensitive enough, *nothing* will stop radiation perception. Concentrate on what you want to find; chloroform your imagination; *allow* the pendulum to work freely; read the code words it forms, and then *translate* these code words: *that* is the difficult part, and nothing but constant experience will make a good translator an accurate and reliable radiesthésiste.

To those who have ears to hear, and eyes to see, and are aware of their sixth sense, is offered a master key. Discard electricity: magnetism is trumps—*not* electro-magnetism, but its very much elder brother.

A final word while on the subject of influences which retard the progress of radiesthésie.

It is the commonest thing to read that, in such and such circumstances, with such and such a screen, "there is no reaction." This statement, nearly always, is inaccurate and misleading, *i.e.*, retarding. The correct way to think, and therefore to write, is: "Within the limits of my personal receptivity and within the limits of the sensitivity of the instrument I use, there is no reaction." In other words, *don't* imagine, or lead beginners to imagine, that because *you* cannot obtain a reaction therefore there *is* no reaction.

As an illustration: a well-known English dowser tried his rod the other day over the "hands" of my magnetism-fabricating "box of tricks." Over one "hand" he got a very strong reaction; also between the two; over the other "hand" nothing. He wasn't at fault; he is highly sensitive, a brilliant natural dowser; but he didn't say "there is no reaction." He said, "I wonder *why* there is no reaction?" The explanation is quite simple: his baguette, or rod, is not sensitive enough to capture those particular radiations.

I use principally a pendulum and allied instruments of French manufacture, and so far have found *nothing*—animal, mineral or vegetable—of which I cannot capture, measure, and analyse the radiations, even a bit of firewood and a stone picked up on the road!

Nor am I ever stopped by any inhibition whatsoever. Day or night; sunshine or cloud; hot or cold; wet or dry; always my instruments work; indoors or out of doors; facing North, South, East or West. Fading is the only impediment. I met it once. It lasted for about an hour. Some say even that can be overcome? also, ware rémanence!

HUMAN RADIATIONS

[NOTES OF AN ADDRESS GIVEN TO THE BRITISH SOCIETY OF DOWSERS BY MRS. KINGSLEY TARPEY ON NOVEMBER 24TH, 1938.]

I am very often asked how long have I known I possessed this power of healing, and when did I first discover it. I find it very difficult to answer that question with any certainty. When one is very young one accepts one's own qualities as a matter of course, whether they be gifts or defects. The musical child finds some kind of an instrument, piano or penny whistle, and the sculptor digs out some clay and fashions his images. Neither speculates about the special tastes of his playfellows. It is only in later years we begin to discover our unlikeness to our fellow beings.

There are a few things I can remember which seem significant now. I always liked flowers and plants, and, especially, I used to enjoy having growing things in pots. I had an entirely undeserved success with these enterprises, for I was an ignorant and careless gardener, but I must have had the "green finger" even then, for my plants outlived gross illtreatment. My elder brothers and sisters had a name of affectionate derision for me, "Potting Jenny," very hurting to my feelings, which, later on, was supplemented by an expression relating to my supposed skill with sick animals. Whenever I was wanted to do anything in

the sick-nursing way I was reminded of my supposed success with an ailing fowl!

I think my best plan will be to take cases of healing first in the order of importance. I have been fortunate in getting a few statements specially written for this occasion. The writer of the following notes, Mrs. T., has most kindly allowed me to make her account public, as she thinks the discovery that healing by the Cosmic Ray is possible should be of immense benefit to humanity.

The Case of Mrs. T.

Dear Mrs. Tarpey,

I have received three treatments from you and think you may be interested to read my notes regarding them.

First.—After seeing the sterilised meat and the miraculously restored plant I remember thinking, "I wish the treatment could be applied to my eyes," so that when you offered to treat me my thoughts were concentrated on my eyes.

After the treatment began I felt a sensation of warmth and tingling, and very soon afterwards a spasmodic twitching of the eyes themselves. I have since tried to reproduce this twitching, but cannot do so. My eyelids, however, were very tired afterwards, so that I was a little afraid that though it was obvious that the treatment gave muscular power, it was possible that the use of long atrophied muscles might cause the ulceration which is another of my troubles, and occurs when my eyes are tired.

Second treatment.—I explained this to you, and we agreed that localised treatment might be a little dangerous, so I expressed the wish that I might have increased vigour in order that I might carry on the work in which we were both interested. One of my troubles has been a very severe hæmorrhage of the knee, which had kept me immobile for some months. In this case I again felt the warmth and tingling, but it located itself in the knee and produced violent twitchings, which I have again been unable to reproduce. As before, the treatment left me very passive, so passive that I did not wish to move at all for some time. That evening I went to my son's who remarked with pleasure how well I looked. The next morning I was in the garden with his children and joined in a game in which I had to run. At the moment I thought nothing of this, but a moment later was surprised at the energy I had shewn, and then remembered my treatment. Since then I have several times been surprised at the spring in my steps, which had gone.

Third.—This was after a space of time during which I had been greatly worried in various directions. A similar period of worry had occurred the year previously and had resulted in the recurrence of a nervous breakdown I had had three years ago. This time, though my nerves had been strained, they had shewn (for me) exceptional recuperative power. When I saw you I felt rest imperative, and had decided to spend a very restful two days, that is, if my worries would permit rest. During my third treatment, therefore, I felt a great desire to be able to rest. This time I felt no tingling, although I had expected to do so, but only restful warmth and the same desire to remain passive afterwards. The next night I slept very well. I rested all through the day, had a long afternoon sleep and again a very good night. This morning I felt more peaceful than I have done for some time and quite ready to continue my necessary work to-morrow.

I hope these notes may be of some interest, but in any case I am sincerely grateful.

Yours sincerely,
E.T.

I omitted to say in the last notes that during the third treatment I felt a regularity of the pulses. My daughter, who is a trained nurse, testifies to this regularity in spite of increased activity on my part.

Fourth visit.—This resulted in my finding myself most unexpectedly breathing more deeply than I had ever done in my memory. This was at first spasmodic and very noticeable. Again I rested and remained immobile.

Fifth.—The deep breathing continued, but became more regular, and a distinct change set in. This was most interesting, as the difficulty in breathing had become chronic with me. My husband was most anxious to overcome this, and we tried exercises, &c. I asked doctors, but the exercises overtired me and the result was nil; the doctors considered it incurable. For some years, therefore, I had merely accepted the condition as inevitable, and was greatly surprised that without volition on my part deep breathing was even possible. One other point was very striking on this visit. In getting up after the treatment Mrs. Tarpey pressed my little finger. This sent a strong tingling through the finger up to the elbow—a tingling similar and quite as definite as that caused by electricity. From then there could be no doubt in my mind of the existence of a definite force. Just as there could be no doubt in anyone's mind of the existence of electricity after touching a live wire. After this treatment the deep breathing continued, and has now established itself. It seems to me that the force found for itself the basic trouble, but before doing so, obstructions of which I was conscious had to be cleared away. With regard to the eyes, the knee and the heart, these had all presented themselves as local troubles and had been cured, these symptoms being unmistakably present in my mind as difficulties. The root trouble (lung expansion) had remained, but I had almost forgotten its existence.

The remaining three treatments can, I think, be taken together, as establishing the habit of deeper breathing. The flow of force seemed to establish itself more readily and the need for rest afterwards seemed less intense.

I should like to add to these notes that I received the treatment during a time of mental distress, and that it seemed to me that I was unexpectedly able to "get on the top of it" and not be "weighed down" by these troubles, and my family remarked on my brighter mental outlook more than once.

On April 19th, eight months after these treatments, Mrs. T. called to see me to give a report on the permanence of her cure. She looked remarkably well, and younger than when she first came to me last summer. She told me that in every respect the improvement in her condition had been maintained. Her doctor, her daughter who is a nurse, all her family and friends endorse this verdict. She has been able to resume many activities that she had dropped, and had not expected ever to take up again. The most marked change was an utter absence of the nervous and jerky movements, and the strained atmosphere.

I had met Mrs. T. on Committee work and did not know her well, personally, at all. She told me of her nervous condition, and I thought I could improve that. It was only bit by bit that I learnt details of her very bad physical history. She was poisoned by impure vaccine when an infant, and had been liable ever since to ulcers. She had had one at the back of the eye, and there was a partial paralysis of the lid, and a blind spot in the eye itself. After the first treatment she rang me up to tell

me that the area of the blind spot was smaller, but I am not aware that any further improvement in the eye took place, though in her statement she mentions improvement in that regard also.

Another serious disability was muscular weakness. The muscles of the heart were so flaccid that the action was irregular. This improved from the first.

I think that Mrs. T. was in a very receptive condition, mentally, and that auto-suggestion may have helped a great deal in the cure.

Acute Neuritis.—Statement by A.D.

Some years ago I had what seemed to be a poisoned thumb. It was most painful, very swollen and enlarged. After some days the joint became quite stiff. When at its worst Mrs. Kingsley Tarpey offered to try to relieve the pain, and held the thumb in her hand for above five minutes. I was much surprised to find that the treatment caused pain, swelling and inflammation to disappear, and that joint mobility had returned. Mrs. Kingsley Tarpey was unable to give further treatment, and the condition reappeared (some weeks later), so I consulted my doctor, whose diagnosis was neuritis. The cause was finally traced to a toxic tooth, which was removed.

I can verify the above statement, having been present during the treatment given to Miss A.D.'s thumb by Mrs. Kingsley Tarpey.—J.R.D.

Writer's Cramp.

This was a case of two years' standing. Miss B. had tried to get medical treatment for it, but doctors were agreed that as it was an occupational disease nothing could be done for it unless she could give up her secretarial work. This she was unable to do. She came to me regularly for treatment for three months, twice a week. After three weeks' treatment she wrote me a letter in her own hand and told me it was the eighth she had done that morning. It was written in a clear, readable, steady script.

Miss B. reminds me that an added disability was a bent middle finger due to a fall downstairs. The joint was straightened, and the pains in the finger disappeared within the first three weeks. The cramp was greatly relieved, though not completely cured.

During this treatment the headaches and eyestrain from which Miss B. suffered chronically were greatly relieved. The treatment was quite definitely intended to affect the cramp, but sometimes when only a slight improvement shewed in the hand another part of the body would be markedly affected, *e.g.*, on one occasion a bad attack of rheumatism in the foot was entirely cured.

While the treatment was in progress Miss B. wrote me a series of commentaries and notes of a very interesting and intelligent kind, from which I make the following brief extracts.

Miss B. never felt the tingling "pins and needles" sensation that is usually perceived by people sensitive to the radiations. She felt warmth and a general sense of "betterment." This condition lasted at first about twenty-four hours, but a year ago Miss B. wrote me that she considered the influence had continued for three weeks, during which time we did not meet, and she had to go through a peculiarly harrowing experience of illness and death in the house where she lived. She thought she had "stored up some of the Cosmic Force" and by its help been able to get through.

Miss B.'s letters written at the time are much more vivid and emphatic than her comments written after a long interval.

Nervous Exhaustion.

Dear Mrs. Kingsley Tarpey,

I thought you might like to know that I often think of the treatment you gave me when you were staying here. I had never heard of Human Radiations (I think that is what you call it), and when you offered to heal me I had no idea what one expected to happen. For the first few minutes I felt nothing at all, but gradually a faint tingling started in my fingers and gradually went up my arms, and the second time you healed me it reached my toes. I was not ill in any way at the time, but was rather run down and "nervy," and everything seemed to worry me, but after your treatment I always felt rested and calmed, and, as I was very busy at the time, able to get through my day's work, feeling greatly restored somehow in my nerves. So I often think of you with much gratitude.—(Signed) G.S.B.

Rheumatoid Arthritis.

I have had several severe cases of Arthritis with stiff joints, in which I have been able to relieve pains and restore movement. Headaches and local pains caused by strain, &c., seem to yield very easily to treatment.

Two years ago I was staying in Cornwall with my sister. I drove with her to see a relative in N. Devon, and found her in great suffering from acute pain and stiffness of the knee joint. She had been under modern treatment of various kinds of baths at Ilfracombe, and had obtained some relief, but the knee seemed to be fixed in a bent position, and the doctor and the masseuse were both of opinion it would be too painful at her age, 80 years, to straighten it by force. I asked if I might try to relieve the pain, and my cousin gladly consented. Under my hands the pain was at once relieved and my cousin went into a light sleep.

I gave a second treatment before we left, after tea. I asked my cousin if I might try to unbend the knee. She said I might

do anything I liked, and I straightened the leg without the least pain.

Some months later I spent a week near by and gave my cousin a daily treatment. She is still rather lame, but a few weeks ago she came to London on a visit, and I was glad to see her walk quite briskly to meet me at Paddington Station.

The sister with whom I was staying in Cornwall was herself a sufferer from rheumatoid arthritis, and had for many years paid regular visits to Droitwich for treatment. She had had inoculations of self culture from a toxic focus and had certainly benefited for a time, but her knees were permanently rather stiff and she walked with a stick. As we drove home from my cousin's she spoke about my treatment. She was of a very sceptical nature, and had always pooh-poohed the idea of there being any such healing force. She asked me how long I had known that I could heal or relieve pain. I laughed and reminded her of the family joke at my expense that I was "clever with hens!" She asked if I thought I could do anything for her knees, but as I was leaving in a couple of days there was not time, so I suggested she should come and stay with me in town for a week and have daily treatment. At the end of that time she could walk up and down stairs with perfect ease, and did not need a stick at all. She was so enchanted by this miracle that when she went home she used to show every visitor how agile she had become, and would run upstairs or sit down and get up quickly from her chair to illustrate the fact. In her case there was certainly no predisposition in favour of the treatment. In very many cases the effect of suggestion or auto-suggestion must be taken into account. It is for this reason that experiments on animals and plants are valuable. I have had some success with both cats and dogs. They are often highly radiesthetic.

The Case of the India Rubber Plants.

I have an india rubber plant, now about eleven years old. In the summer of 1932 I was absent from home for some months, and the plant was kept too wet. It flagged, and the leaves turned yellow and fell off in spite of all I could do. I had it re-potted and some canary guano added to the soil, but it did not revive. At last it was only a bare stem about five feet high with a bunch of smallish leaves at the top, and two short branches low down, also with some stunted leaves—about a dozen leaves in all. As it was no longer an ornament I put the pot outside on the balcony, and in spring planted some sweet peas to grow up the bare stem. The plant was not dead, for the leaves were still green, but the stem had dried a little and had a wrinkled appearance.

In July the outside of the house was painted, and all the plants were put into my studio from the balcony while this was in progress. The change did not suit them at all, and I had great trouble with green fly and mildew. The sweet peas had not been a success, so I grubbed them up. I observed that the india rubber plant was in no worse case than it had been the year before, and I thought I would try treating it by radiation. I held the stem with both hands for ten minutes at a time two or three times a day; and in addition to this much of my time was spent in the room, where I was writing or painting. At the end of a week I thought the undeveloped buds on the stem had swelled a trifle. My housekeeper thought so, too. After a second week there was no doubt at all, and at the end of six weeks it had broken at twenty-seven points, and had several large leaves on the main stem and on the two small branches. These branches are now about five and six feet high, and there are more than eighty large healthy leaves on the three branches.

Two years after this experience I had a second india rubber plant that fell ill. This time I could not account for the illness. The leaves turned a sickly grey in a single night and fell off. I re-potted and examined the plant carefully, but could not find what was wrong. The stem was wrinkling and fading like a dead stick. I tried the same treatment as before, but this time the recovery was very slow indeed. In fact, it was six weeks before I detected any improvement, beyond the fact that no more leaves turned grey. Now the plant has healthy branches and about fifty leaves.

It was after reading a report of a lecture by Dr. Dudley d'Auvergne Wright that I turned my attention to plants and seeds. I carried out some careful experiments and found that the germination of seeds could be stimulated and accelerated. The treated acorns, chestnuts, &c., came through eight to ten days before the untreated ones.

Afterwards, on Dr. Dudley Wright's suggestion, I tried the effect of radiation on meat and fish. I did some specimens for Dr. Wright, and I have some pieces of meat myself. They are as hard as stone and have no smell. I believe they resemble "biltong," the S. African sun-dried meat. The chief value of these specimens, so far as I can see, is that they convince the sceptic in a way that a dozen cures of aches and ailments would not do. But the human experiments will always be the most interesting for me.

DIAGNOSIS BY DOWSING

[NOTES OF A LECTURE GIVEN TO THE BRITISH SOCIETY OF DOWSERS
BY DR. HECTOR MUNRO ON DECEMBER 16TH, 1938.]

An explanation of how the rod or pendulum in the hands of a sensitive detects abnormal changes in the living body is obtained when we consider the electro-magnetic nature of matter.

The atom with its proton of positive and its electrons of negative electricity combines to form molecules. The molecules are attached to each other in varying degrees of stability to form cells. Then we have the human body built up of such cells specialized according to function (muscles, bone, nerve, &c.).

The nucleus is of positive, and the rest of the cell of negative electricity.

Another proof of the electro-magnetic nature of living matter is the absolute necessity to maintain an acid-alkali balance. When this balance is just right electric energy flows freely.

Again water has the highest known dielectric constant, and it is far and away the most common element in organic electrolytic solutions and colloids. It makes up the greatest mass of the human body. Also all living organisms are permeated with hydrogen, and hydrogen ions are, from the point of view of electricity, of the utmost importance.

So the human body is made up of forces and energies that must balance, and to do this there has to be fair exchange between the positive current of the acid nucleus and the negative current of the alkaline cytoplasm of the cell.

Polarity seems to be difficult to understand for people who have not studied physics. Polarity just expresses two different aspects of the same thing and this thing is generally an energy, but not necessary.

In every case where we have to do with energy, we find two opposing aspects of it. A few other examples of polarity are: masculinity and feminine, day and night, protons and electrons, &c.

Electro-magnetic balance depends on the presence of certain elements in the cell which serve either as conductors or insulators. Also the acid-alkaline balance depends on a sufficiency of the acid and alkaline elements of which the body is composed.

When either of the electro-magnetic or the acid-alkali balance is upset, we get disease. Their balances are always apt to be disturbed because of a deficiency of one of the essential elements, or it may be a superabundance, generally of acid.

Again, the body is constantly exposed to influences of all sorts from its environment. These are terrestrial and cosmic, such

as strong fields of positive or negative electricity from the atmosphere, as from the depths of the earth, which at certain places, or it may be times, disturbs or upsets the electro-magnetic balance of a sensitive person.

In its physical composition, therefore, the body is not only perfectly adapted to electrical processes, but its constituents in their inter-relations within the organism could not be of any conceivable value in a mechanism operated by any other form of energy.

Certain foods make, after digestion, acid. Others make alkali, and so we maintain our acid-alkali balance.

Now it so happens that tradition, fashion and social habit have much more to do with food than understanding. But the reason and excuse for this is that the great discoveries of the real nature of food are of quite recent date. I enclose a list of these common foods because so many members have asked me for one.

ACIDS				ALKALIS			
			<i>Index No.</i>				<i>Index No.</i>
Beef			4.1	Almonds			3.3
Barley			2.9	Apples			1.0
Bread			2.0	Apricots			1.8
Cheese			1.5	Bananas			1.5
Eggs			3.1	Beans			1.5
Fish, various			3.0	Cabbage			1.6
Flour			3.0	Carrots			3.0
Ham			3.7	Celery			2.2
Herring			2.7	Chestnuts			2.0
Lentils			1.5	Cucumbers			2.2
Mutton			2.7	Dates			3.2
Nuts, various			2.0	Figs			29.4
Oysters... ..			4.3	Lettuces			2.1
Pork			2.8	Lemons... ..			1.5
Rice			2.7	Melons			2.1
Salmon			3.2	Milk			0.5
Sardines			3.2	Molasses			1.7
Turkey			3.0	Olives, fresh			16.0
Cereals			3.0	Oranges... ..			1.6
				Onions			0.4
				Peas			1.0
				Potatoes, in jackets			2.5
				Parsnips			3.3
				Raisins			6.9
				Spinach... ..			7.6
				Turnips... ..			0.7

NOTE.—Refined sugar and its products are acid-producing.

NOTE. — All vegetables and fruits, except rhubarb, cranberries, plums, prunes are alkali-producing.

The rod or the pendulum in the hands of a sensitive detects abnormal changes or unbalanced states of parts of the body affected. But it is one thing to detect easily an abnormal change, it is quite another to interpret accurately the meaning of such changes. This means years of daily contact with illness of all sorts, and a high development of what is known as the Clinical Sense.

Another point, and one of importance, is that by means of the rod or pendulum the food that agrees or disagrees can be indicated. This, when we consider the place that the acid-alkali balance takes in metabolism, is quite enough for the layman to handle. Therefore I would strongly advise lay sensitives not to prescribe remedies of any sort. If they are interested in this sort of work they should do it in partnership with a doctor.

DIAGNOSIS BY DOWSING

[NOTES OF AN ADDRESS GIVEN BY MRS. BARRACLOUGH AFTER
DR. HECTOR MUNRO'S LECTURE ON THE ABOVE
ON DECEMBER 16TH, 1938.]

I believe most Dowsters would allow the possibility of healing radiations—as distinct from sensitivity towards radiations external to themselves. Like Mrs. Tarpey, who recently gave the Society some most interesting facts on healing and mummification, I find I also have healing hands. This, with the Dowster's unfailing curiosity, has led me to endeavour to locate the trouble, and therefore can be classed as a form of diagnosis.

Before I define my method I must make a statement or two.

I am sensitive with rod or pendulum, but for me the pendulum is more subtle in its variations, for I get four results. Three of action.

1. Oscillation
2. Gyration clockwise
3. „ anti-clockwise
4. A static pendulum

This static condition is not to be confused with the gradual stop at the end of a serial movement, for the pendulum will change sometimes with astonishing rapidity from oscillation to the static, on going from one organ to another.

In my first examination I then get two actions only, an easy oscillation indicating normality, and a static pendulum if there is any sort of physical disturbance. This may be temporary and functional, or chronic and deep-seated. This first test does not define which.

While the pendulum hangs "dead" I take various medications into my pointing hand. If the medicine is suitable the pendulum immediately starts into action, indicating it is the substance required to restore normality. If the medicine is withdrawn from my hand, the pendulum becomes static again; not even a rocking movement of my hand will make it oscillate.

After this first diagnosis I carry the matter further with a blood sample to get greater detail. Its complications need an article to itself.

I have also used diagramatic dowsing, by taking a drawing of the particular organ and going over it carefully with a blood sample in my pendulum hand. I get very definite indications. This is, of course, in line with map dowsing. I have once or twice indicated conditions by this method which have been proved by operation.

A possible theory for the static position was suggested to me by G. C. Sherrin's article, "Experiments to Trace Muscular Reaction," in our Journal of December, 1938. I quote page 270: "I find the most definite reactions occur in the form of a dip and not in a horizontal movement. It seems to me that the pendulum as commonly used is only half an instrument, because it fails to reveal the most important reaction of the hand, namely, the dip."

I believe "the dip" is responsible for my static pendulum; the vertical vibration—infinitesimal though it be—is a constant check to any swing. I might mention I never use my fingers to support my pendulum, but have it on a silver chain and ring which I slip on my middle finger, with the other fingers outstretched. Thumb pulsation, therefore, is not a factor to be considered.

A point I have noticed is that physical normality with me is always indicated by oscillation, never gyration. I attribute this to the fact that my right or pendulum hand is positive (giving oscillation over the palm). I believe dowers having a negative right hand would get the action of gyration, but I do not know as yet if this is an invariable rule.

I have made some interesting experiments with a magnet as amplifier, and I do not consider it is used enough in general dowsing. I have often been puzzled by faulty results in the well-known test of sexing photographs in opaque envelopes, due, I found, to the fact that some men give negative actions or gyrations over the right hand and some women, like myself, give positive action or oscillation. The use of the magnet clarifies these points. Captain Trinder in his article, "Differences of Reaction," September, 1935, of the *Journal*, shows how the north or south arm of the magnet can be used to separate or block out radio-active emanations from the radiations of the substance sought. In the same way I find it can be used to group sex. It has enabled me to very successfully foretell sex before the birth of a child.

When a woman's right palm gives *oscillation* or positive action, if I hold the north arm of a magnet down, all action is checked—the pendulum becomes static. When, however, the south arm is turned downwards oscillation immediately starts. If a woman's right palm gives *gyration* or negative action the north arm will check the action and the south arm start the gyration again. With a man's hand, however, action will not occur with the south arm down, the north arm alone will indicate if the hand is positive or negative. The use of the magnet, therefore, broadly groups males under positive magnetism and females under negative magnetism, though there is evidently a further classification within this grouping.

The dominantly positive male will be P P P P
the next class P P P N
balanced qualities P P N N
the negative male P N N N

The feminine group being :

dominantly negative female N N N N
N N N P
balanced qualities N N P P
the positive female N P P P

It is possible that the *balanced* also may give the opposite sex qualification, positive or negative, over the right hand. I do not know as yet.

The above ideas suggested some interesting experiments to me. I am a very interested student of gland action in the body, and read every available book on the subject. On trying the pendulum over various gland preparations I found sex classification was quite definite. They were also grouped as positive or negative.

In the first instance I only had mixed substance, that is, irrespective of sex. I give below a table of my findings :—

Positive Gland.	Pituitary <i>mixed</i>	OSCILLATION ONLY with NORTH arm downwards
		OSCILLATION ONLY with SOUTH arm downwards
	Pineal <i>mixed</i>	OSCILLATION ONLY with NORTH arm downwards
		OSCILLATION ONLY with SOUTH arm downwards

Note Positive classification is suggested as there is no gyration.

Negative Gland.	THYROID <i>mixed</i>	GYRATION ONLY with SOUTH arm downwards
		GYRATION ONLY with NORTH arm downwards
	THYMUS <i>mixed</i>	GYRATION ONLY with SOUTH arm downwards
		GYRATION ONLY with NORTH arm downwards

Note Negative classification is suggested as there is no oscillation.

The following was, however, the result when Dr. Guyon Richards kindly supplied me with UNMIXED Thyroid.

Negative Gland.	THYROID FEMALE	GYRATION ONLY with SOUTH arm downwards
		STATIC with NORTH arm downwards
	THYROID MALE	GYRATION ONLY with NORTH arm downwards
		STATIC with SOUTH arm downwards

It would seem from these indications one may argue that as food and persons giving the same movement of the pendulum are in accord, so better results could be claimed for gland therapy if the sex of patient and the gland supply was the same.

There is no end to the interest and variation in dowsing. But it is not easy to organise and systematically record results. The reaction of sensitives to radiations is undoubtedly a fact, but a too loose interpretation holds a danger of wandering down paths far from truth.

We have all met at times people with dowsing ability who were only too ready to forget that both rod and pendulum are merely extended fingers and hold no magic virtue in themselves. As in every science or art the dowser also must work, I may say labour, for his results, let us hope with the spirit of research alive we will as a group contribute in the future towards the benefit of humanity in many fields.

NOTES AND NEWS

Mr. W. Hawker, on his way to Australia, writes: "I had a very interesting time, four days out from London. One of the tourist passengers went into the hospital with violent pain in the abdomen. I was called in in consultation with another doctor. I used the pendulum and diagnosed it to be trouble over the site of the appendix. The ship's doctor was not a surgeon, and did not want an operation done, though the other doctor, who is a very fine surgeon, offered to do it. The ship's doctor decided to "wait and see." The next day the patient was better, but the following day was very much worse, so an operation was decided on. I gave the anaesthetic, and we had a hospital nurse on her way to New Zealand. The ship was stopped for an hour, everything went off well, and the patient is doing nicely. The appendix was badly affected, and if not operated on the patient would most likely have died."

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The *Weston-super-Mare Gazette* of October 29th contained a short article mentioning that Dr. K. Mallen and his brother, Dr. Mallen, are water-divining sons of a father who is a "wonderful water diviner." Five other brothers are not water diviners.

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Mr. H. E. Scott (B.S.D.) offered his services to the police in connection with the disappearance of Phyllis Hirst, the eight-year-old Bradford girl (*Yorkshire Observer*, November 4th). He also offered to help the police in connection with the disappearance of Mr. H. E. Gibson, of Hull (*Daily Dispatch*, January 3rd).

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In the *Hereford Times* of November 5th there was an account of a meeting of the Dole and Bradwardine R.D.C. The Clerk, referring to the Shenmore housing site, stated that a diviner had reported that the well there, which was 45 feet deep, was quite in order; it had only partly tapped the spring, and should be deepened four or five feet.

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The *Leamington Chronicle* of November 11th recorded with regret the death of Mr. Thomas Garrett, the well-known water diviner of Bishops Itchington, and gave an account of his funeral.

A leading article in the *Cape Times* of November 22nd, headed "Divine Lightning," mentions some of the recent activities of Mr. J. J. Morton (B.S.D.) in connection with the tracing of underground streams at places where lightning had struck.

Four days after a particularly severe electric storm had broken over the Cape Peninsula, Mr. Morton, armed with a forked quince stick, walked past St. George's Cathedral, the tower of which had been struck by lightning, and up Queen Victoria Street. In both streets his rod pointed to the centre of the tower. He then walked into the Cathedral, and found two very strong underground streams of water crossing directly under the tower.

At the Norfolk Island pine in the Municipal Gardens, which had also been struck, he found that two very strong underground streams crossed at an approximate depth of 40 feet below the surface.

Similarly he traced two very strong streams crossing each other right in the doorway of the Yorkshire Insurance Company's office, near which the fuse of a trackless tram had been blown out when the storm was at its height.

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In a local paper of November 22nd, reporting a meeting of Seaton U.D.C., it was stated that a diviner had located two or three streams at Holyford and that the Committee had accepted an estimate from a firm at Martock for sinking three boreholes at a cost of £214 10s.

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The *Bath Chronicle and Herald* of November 29th contained a paragraph about the monthly meeting of the Bradford-on-Avon and Melksham R.D.C. At the meeting it was made known that a well had been sunk at Atworth on the hill above the Roman Villa to a depth of 70 feet, but no water had been discovered, though three water diviners had testified that there was water in the vicinity. The Council decided to ask the Ministry for help. (See *B.S.D.J.*, 22, p. 293).

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The *Yorkshire Post* of December 3rd, the *Grimsby Evening Telegraph* of the same date and the *Plumber* of January 2nd, all report the success of the sixth artesian bore sunk in connection with the £65,000 regional water scheme of the Welton R.D.C.

Five of the six sites for the bores had been selected by Mr. G. W. Robinson (B.S.D.), the member for Sothorn (see *B.S.D.J.*,

22, p. 289). The Chairman, Mr. H. P. Stamp, stated that if Mr. Robinson had been permitted to divine for the first bore as well, the ratepayers would have been saved hundreds of pounds.

The present overflow from this last bore is 205,560 gallons per day and its depth is 116 feet.

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A short paragraph in the *Northamptonshire Evening Telegraph* of December 8th states that amongst the items in the report of the Housing Committee of the Oundle and Thrapston R.D.C. was the submission of an account by the Surveyor for £2 12s. 6d. in favour of Mr. Lance Baker for services in connection with water divining in Collyweston, Glapthorn and Nassington.

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According to the *Daily Record and Mail* of December 9th, and *Fife Advertiser* of December 10th, at a meeting of Falkland Town Council Mr. Peter Craig strongly advocated the employment of a water diviner in connection with the proposed augmentation of the water supply. It was agreed, however, to consult a Kirkaldy civil engineer.

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The *Lincolnshire Echo* of December 9th and 12th, the *Lincolnshire Chronicle and Leader* of December 10th, and the *Lincolnshire Standard* of December 24th, all contained articles about Mr. G. W. Robinson (B.S.D.), who has recently rendered such valuable service as a water diviner to the Welton R.D.C.

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The *Birmingham Evening Despatch* of December 11th gives another instance of the identification of a grave by Mr. S. Bloor (B.S.D.) in Wrockwardine Wood churchyard (see *B.S.D.J.*, 22, p. 292).

Mrs. Jarvis, an 82-year-old widow, was anxious to trace the grave of her husband, who died 32 years ago. The grave had become overgrown and the page in the records book in the church containing the appropriate reference had been lost. Using a silver watch which had belonged to Mr. Jarvis as a "sample," Mr. Bloor obtained a strong reaction over one grave.

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In the *Lancaster Guardian* of December 16th it was stated that a water diviner had been used by the Milnthorpe Parish Council to trace the course of water springs at the Haverflats Lane site.

The Correspondent of the *Daily Mail* (December 28th) in Rome reported that Mario Dottore, a water diviner, located petrol and copper in the hills of Crotone, near Catanzara, in Southern Italy. A 100-foot tunnel was sunk and reefs of copper pyrites soaked with oil were found.

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The *Electrician* of December 30th contained an article on Radiesthesia by Mr. Noel Macbeth (B.S.D.).

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In *Punch Almanack* for 1939 there was a full-page advertisement for Hayward Tyler's submersible pumps showing a wooden divining rod turning in the hands of a water diviner.

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According to an article in the *Daily Mail* of January 13th, Lord Berners, who is interested in the possibilities of truffles for British farmers, has witnessed the efforts of an elderly Wiltshireman to discover truffles by a process similar to that of water divining.

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The *Evening News and Times* of January 16th contained an article about Mr. E. R. Thomas (B.S.D.), of the Crown Hotel, Worcester.

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The *Nottingham Evening News* of January 21st contained a long article about a Mr. A. Bond, of Dorrington, near Sleaford. He divined his first spring at Dorrington in 1910. He discovered a wonderful supply for Butlin's Holiday Camp at Skegness at a depth of 466 feet, yielding 30,000 gallons per hour.

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A short article in the *Timber Trades Journal* of January 21st describes how Mr. M. G. Chipperfield (B.S.D.) dowsed round a number of dead and dying elm trees and found without exception an underground stream beneath them.

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According to the *Evening Standard* of February 2nd M. Bickermann, of Rennes, has succeeded for the third time in the last six months, by dowsing over a map, in finding a missing body after the police had failed.

SOME BOOKS ON DOWSING AND HUMAN RADIATION

- The Divining Rod*, by Sir William Barrett and Theodore Besterman (out of print).
- Water Divining*, by Theodore Besterman : Methuen, 7/6.
- Water Diviners and their Methods*, by H. Mager (translation) : Bell, 16/-.
- The Modern Dowser*, by Le Vicomte Henry de France (translation) : 2nd Edition, Bell, 4/6.
- The Art of Water Finding*, by M. E. Pogson : obtainable from the President, B.S.D., post free, 1/8.
- Local Variations in a Penetrating Radiation and their Connection with Water Divining*, by H. M. Budgett : obtainable from the President, B.S.D., -/6.
- The Human Atmosphere (the Aura)*, by W. J. Kilner : Kegan Paul.
- The Origin and Properties of the Human Aura*, by Oscar Bagnall : Kegan Paul.
- Les Sourciers et leurs Procédés*, by H. Mager.
- Traité complet des secrets de la Baguette et de la Pendule des Sourciers*, by Frère Padey, 65 fr.
- Le Sourcier Moderne*, by Henry de France, 5th Edition, 10 fr.
- Comment j'opère*, by Abbé Mermet, 4th and enlarged edition, 25 fr.
- La Radiesthésie* (explaining Abbé Bouly's method), by M. A. Capron, 15 fr.
- Comment devenir Sourcier*, by Armand Viré, 18 fr.
- Tu Seras Sourcier*, by Emile Christophe, 20 fr.
- Manuel théorique et pratique de Radiesthésie*, by René Lacroix-à-l'Henri : Henri Dangles, 38 rue de Moscou, Paris (8^e), 20 fr.
- La Radio-Tellurie*, by M. Larvaron and Dr. J. Regnault : Maison Deyrolle, 46 rue du Bac, Paris, 18 fr.
- Essai sur les Rayonnements de l'Homme et des Etres vivants*, by C. Voillaume.
- Cours de Radiesthésie*, by Henri Lemonnier : Maison de la Radiesthésie, 16 rue Saint-Roch, Paris.
- La Vérité sur la Radiesthésie*, by Paul Serres : Dunod, Paris.
- Le Pendule Magique*, by Madame de Mersseman : Maison de la Radiesthésie, Paris, 15 fr.
- Electricité Magnétisme Radiesthésie*, by Comte de Marsay : Maison de la Radiesthésie, Paris, 12 fr.
- Investigación de aguas subterraneeas*, by Bartolomé Darder Pericás.
- Handbuch der Wünschelrute*, by Carl Graf von Klinckowstroem and Rudolf Freiherr von Maltzahn.
- Die Wünschelrute*, by Hans Falkinger.