

JOURNAL  
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NOTICES

The General Meeting was held on October 15th at the rooms of the Royal Asiatic Society, 74 Grosvenor Street, W.I. A report of the meeting is being sent out with this number of the Journal. The meeting was followed by a lecture by Mr. L. S. Palen, which is printed below.

\* \* \* \* \*

We greatly regret to announce the death of Mr. G. L. Cruickshank, which occurred at his residence in Fyvie on September 2nd. By his passing Aberdeenshire has lost one of its most distinguished figures in public life. Mr. Cruickshank was one of the first dowsers in the north of Scotland to become a member of the British Society of Dowsers, and he was keenly interested in the formation of the North-East of Scotland Group of Dowsers (now the Scottish Branch of the B.S.D.). His position as factor on the Fyvie estate gave him unique opportunities for exercising his gift. He was peculiarly sensitive to radiations from water, and could get reactions working with his bare hands independently of any form of apparatus. Many of the farms on the estate owe the supplies which they now enjoy to Mr. Cruickshank's power of water divining.

\* \* \* \* \*

We regret to record the death of Abbé Mermet, at the age of 71, after a severe operation. He was, perhaps, the foremost dowser of modern times, having attained a wonderful degree of accuracy in his locations for water and in his forecasts of depth and quantity. He was a pioneer of the system of medical diagnosis with the pendulum, and in the practice of *téléradiesthésie* (dowsing on maps) had acquired a well-merited reputation based on numerous recorded results. He was the author of the well-known work *Comment j'Opère*. A short account of his life was published in the *Sunday Times* of August 1st.

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The Editor would be glad to receive copies of old Journals, especially of the first number.

Mumetal rods can be obtained from The Telegraph and Construction Company Ltd., through the Editor, at the price of £1 10s.

\* \* \* \* \*  
Angle rods with a swivel handle can be obtained from Messrs. Windley Bros., Crown Works, Chelmsford, for 6d. 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 6d., and other dowsing instruments.

\* \* \* \* \*  
They also supply whalebone for rods cut to size.

\* \* \* \* \*  
Pendulums of rosewood can be obtained from the Honorary Secretary at 3s. each.

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

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## MODERN DIVINING

[ADDRESS GIVEN BY MR. LEWIS S. PALEN AFTER THE GENERAL MEETING ON OCTOBER 15TH, 1937.]

Mr. President and Members of the British Society of Dowsers,

Divining, in this fourth decade of the twentieth century, has developed into a markedly different process from what it was when, to quote the *Encyclopaedia Britannica*, "The *Schlagruthe* (divining rod) or forked twig of the German miners was brought to England by the merchant adventurers of Queen Elizabeth's days for those engaged in the Cornish mines." Your well-recognized authority adds the rather noteworthy comment that "As mining declined in Cornwall, its use was transferred to water finding." Perhaps this strikes in reverse the keynote of the present-day tendency to travel back up the road to the Hartz Mountains of mineral wealth with new forms of the *Schlagruthe* in hand and new visions of their use.

With the deeper knowledge of the general subject which you more erudite students of this art must possess over a tyro who

has been catapulted into it by a series of adventitious circumstances, I shall not venture even a summary of the wide ramifications of *radiesthésie* as it is practised in France and elsewhere on the Continent, but shall restrict myself to an account of the work which Mr. Max Bourcart, a Swiss engineer of Antibes, and I have been able to do during the past three years.

But, since I believe that he is as far-seeing as—or, perhaps, even more advanced than—any other exponent of the art of whom I have heard, I feel justified in presenting his theories and practice as fairly illustrative of modern divining in its Continental form. I would add that practically all I know of the subject has come directly from him as my divining “guru,” and would render him full credit for the results of the untiring and meticulous investigations which he has followed “with the patience of an angel” during these past eighteen years.

Within the limited time at our disposal it will be possible only to describe briefly our operating methods and to detail but a small fraction of the field work that has been done.

First, a word as to the divining-rod and the pendulum as the accepted instruments or transmitters. To allocate intelligently these adjuncts in our work, I must take you at once into what may be a controversial field. Bourcart has experimentally demonstrated—and I may be correct in saying he has discovered—what he calls the magnetic circulation in the human body. Quantitative scientists insist that there can be no such use of the word “magnetic.” I can only report my colleague’s phrasing.

The demonstrated fact is that there exists some form of current, that he calls a magnetic earth current, which enters the body through the left foot, flows up the left side, through the head and down the right side to pass out through the right foot. Re-entrant loops shoot out of the finger tips and the centre of the forehead. That from the forefinger forms a triangle and re-enters the thumb, while the forehead current projects itself for several yards directly in front of the individual, splits and returns, sometimes at varying elevations on the two sides, to enter the ears.

In certain cases, my own for instance, we have found that the projected column does not separate but returns entirely on one side. This Bourcart takes to mean that some injury has deranged the normal nervous balance. With me he began searching for the reason and started first on my right arm, because previous examination had revealed that this hand gave an abnormally weak projection from the forefinger. Following a nerve course, his pendulum swings along the line of the nerve to indicate normal condition and circles when it would spell



some derangement or morbid state. As he reached my elbow his ivory ball forsook its "straight and narrow way" and began revolving rapidly. Exploring around the elbow, he found the current issued from the inner side just below the joint, formed the usual triangle and re-entered along a line from the right breast.

Had I ever injured my elbow? First I said "No"; then suddenly I remembered and rolled up my sleeve to show a large scar, where I had fallen when playing tennis and taken the flesh off down to the bone. The nerve had evidently been injured, and though it had never caused any perceptible trouble in the free use of the forearm and hand, yet it registered its abnormal condition in this deformity of the frontal magnetic column.

Owing to this more delicate manifestation of nerve conditions by the magnetic body current and to the fact that the Lakhovsky necklace entirely inhibited the flow, when worn in one position, we have come to ruminate on what is to us the possibility of no mean importance that there may exist a vital relationship between this current and the physical conditions of the body or the general health. It might also play a dominating or, at least, an influencing part in diagnosis. In any event it seems worthy of careful study and investigation.

This magnetic earth-current through the body, according to Bourcart, is the most basic and vital fact in all divining work. For he holds that the diviner, whether working with rod or pendulum, must have this current "in flow" in order to be fully sensitive to the impulses which activate his instruments. And there are a multitude of impedimenta which exert an adverse influence.

The test for this current is the movement of a pendulum sensitive to the human body and in the hands of a sensitive individual perpendicularly across the line of the fore-finger, when the fingers are widely spread. If the sensitive is himself "in balance" or "working," the pendulum will at once change its direction and follow the line of flow off the finger; if he is not, the pendulum will retain the original direction and simply "die."

Bourcart holds that a sensitive must test himself for this directional change to know positively whether he is responding properly to forces that would activate his rod or pendulum. Certain types of clothing, paper in the pockets, the proximity of disturbing metals or radiating surfaces of many kinds, even a pin wrongly placed in a garment--any of these *may* interfere. Consequently he believes that many diviners work under conditions which are bound to give false, only partial or negative results.



In passing I might recount to you one disturbing experience which he himself had, when attempting to make one of his usual surveys for underground water for a horticulturist some distance back in the country. In the morning, before embarking on such an expedition, he always tested himself to see that his clothes and hat were "right" for dowsing. But on this day he neglected to go through the formality, as he was wearing clothes which he had recently used and which he naturally took to be entirely satisfactory. In the field, however, he found he could not work. Though he tramped about and did everything as usual, nothing happened. His test plainly revealed that he was not in balance. Removal of his hat, coat, handkerchief, tie and all the other detachables effected no change. Chagrined, he had to ask his disappointed client to take him back to town.

Once in his room, he went at himself with determination to discover where the trouble lay. As each item of clothing came off, he swung his pendulum, only to find it gave no response from the finger tip, until his shoes went the way of his coat and vest. Then all was well. But he had worked many times before in those same shoes. What could the explanation be? Suddenly he remembered they had been half-soled since his last survey. Perhaps there was the clue. His faithful but stubborn pendulum soon gave him the answer, in that it revealed to him that one shoe had been repaired with leather from an ox-hide and the other from a cow!

Yet here it should be added in all justice that some *radiesthésistes* claim that all impedimenta can be overcome by mental convention, by what I understand to be simply willing that no extraneous materials shall in any way interfere with the sensitivity machinery of the operator. Bourcart himself has found an effective mechanical neutraliser in a broken circle of copper or aluminium wire worn around the waist. Equipped with such a neutraliser, an operator can work without regard to what he may be carrying in his pockets or may be wearing. Bourcart himself, however, chooses to work without this precautionary neutraliser, preferring to be naturally or independently "in balance."

Here again a caution must be added. One needs to know in which direction the wire is radiating and to place it on the body in the right position for this directional radiation. If put on the wrong way, it apparently inhibits all sensitivity in the operator.

I had occasion to bring this precaution to the attention of the well-known French physicist, Monsieur Georges Lakhovsky, in connection with the *circuits oscillants* which are described in his interesting volume, *Le Secret de la Vie*. Through wearing one of his necklaces I had been so definitely relieved of a develop-

ing stiffness in the finger joints that threatened to prevent me from using my typewriter and of a tendency to deformative rheumatism in one index finger that I felt under strong obligation to apprise him of the fact which Bourcart had discovered regarding the *circuits*. As a result of this he had a coloured bead placed at one side of the plaque in the necklaces to enable clients to experiment with alternating positions of the chains and take advantage of whichever seemed to be the more beneficial, if any difference in results was manifested.

There seems to be quite a body of circumstantial evidence in the Bible, in the Jewish use of, and regulations for, phylacteries and in the Israelitish and Egyptian temple practices to warrant the belief that this magnetic body-current may readily have been a part of the esoteric knowledge of these ancient priesthoods. Time does not permit citation of these.

Also those who may use the whalebone rod, instead of the ordinary hazel or other wooden twig, should be able to test with a pendulum the directional radiation of the two lengths of whalebone joined to form the rod. If these are put together in such a manner that one radiates in one direction and the other in the reverse, he holds this may nullify their utility or render them unreliable.

Before leaving the subject of the rod, I should like to bring to your attention, against the possibility that it may not have been reported to you, the discovery by Captain Porritt, a New Zealand solicitor, which was recounted to me by a London friend who visited his household. This New Zealand devotee of the forked rod makes the rather astounding assertion that everyone he has ever tested is a dowser; that in each individual case it is merely a question of distance, or the height at which the rod is held above the ground. In the case of my friend, his host took him to a spot where he himself felt underground water and directed him to pass over it with the rod held at the normal height. When nothing happened, he told his guest to raise it gradually and try it at all the varying heights up to the top of his reach; and then, following this, down to his feet. At a point eighteen inches from the ground the rod suddenly acted as definitely and irresistibly as in the hands of the solicitor himself. As I have not had the equipment to verify this, I suggest it as a most interesting experimental possibility for those of you who are sensitives.

Second only in importance to Bourcart's discovery of the body-current has been his working out of the idea that multiple pendulums are for him absolutely essential to any serious divining. When, some eighteen years ago, he first came under the tutelage of the late Abbé Mermet, of Geneva, who was the doyen of

continental diviners, the Abbé was using his watch as a pendulum to demonstrate his theories. Bourcart, with his engineer's scientific training, immediately instituted an analysis of the Abbé's demonstrations and set himself the problem of finding out what element in the materials of the watch it was that was yielding the results. To do this he made up pendulums of gold, steel, crystal, semi-precious stones and whatever else he found went into the composition of an ordinary gold watch. Long and patient study forced the conclusion that pendulums of different substances possessed radically different affinities for varying materials. Continued investigation through the years has so confirmed this theory that he now has nearly a thousand individual pendulums tested, classified and calibrated to the various materials on which he has tried them.

One instance in which this characteristic of the individual pendulum evidenced itself most patently proved of consuming and puzzling interest to us. When we feel an underground gallery, we can, by placing ourselves on one side of it, follow it for a long distance. Tracing thus a gallery which we had picked up, we felt a most exotic cache, which gave us the index numbers for solid gold without the usual alloys, diamonds, emeralds and diamonds, all in a zinc box. Absorbed in this, we had not taken the time to follow the gallery farther, when I happened, through another form of experiment, to pick up a large hollow chamber just a few yards beyond this cache.

In this chamber my pendulum indicated a metal box at the west end, another at the east end and a passage out at the north-east corner, connecting it with a gallery which we had studied for weeks. Seeking an independent check on my findings, I asked Bourcart to go the following morning and study the gallery beyond our solid-gold cache, telling him I would come along in half-an-hour.

When I arrived, he had not felt the chamber but had picked up another smaller one, lying obliquely beyond the south-east corner of my treasure room. Finally, contrary to usual practice, I delimited for him my chamber and marked the corners with wisps of straw and with twigs.

"Let me see your pendulum," he finally said with a bit of petulance in his voice. The moment he took it and gave it an initial swing, it picked up at once a side of the chamber and followed round the walls, giving the identical elements which it had shown to me. Meanwhile, holding his pendulum for him while he was using mine, I set it going and found to my astonishment that I could not feel my treasure room at all but went immediately to his smaller empty space beyond! And with my pendulum he could not feel this chamber. That "gave us to think."

Following this discovery of diverse affinities and as corollary to it, he worked through a maze of puzzling data to emerge into the light of another fundamental truth, namely, that pendulums re-acting to the radiations of the same material may be able to register only within certain limited bands of quantity of the given substance. We presume—or, rather, speculate—that this means varying quantities may radiate, as it were, a different “wattage,” while retaining the same characteristic “voltage”; or that there may be restricted wave-length bands for the varying quantities and that the different pendulums can receive only within their respective bands, just as your short-wave and long-wave aerials are limited to their separate fields.

Whatever the explanation, the practical fact is that Bourcart has a large sack containing some fifty or sixty pendulums sensitive to some one substance, as petroleum or coal, and within these larger containers small bags, numbered from one up to as high as ten or twelve at times, carrying the serial groups of little balls that are thus graduated to the varying quantities. The testing and grading of some of these pendulums has been one of the most important and engrossing bits of collaboration which we have undertaken.

Somewhere along his trail into this realm of the unusual Bourcart hit upon another significant and basic fact. He found that it was as necessary for him to “tune in” a pendulum for a particular substance as it is to tune in a radio, when you wish to pick up a given broadcasting station. Abbé Mermet had taught him that all substances, organic and inorganic, radiate, and that it is possible, given the right individual and the right equipment, to learn the radial number or index of each. It is by tuning in certain pendulums at what he calls the general length that he picks up knowledge of the substances which may be within the sensitivity range. This discovery that he must so treat his pendulums to detect the materials sought and the fact that the Abbé and many other *radiesthésistes* seem not to have found this necessary emphasizes the now well-recognized deduction that much of the work in this developing art is individualistic. Different individuals operate in quite different manners—a thought that makes the field a rich one for enthusiasts who would contribute some new and, perhaps, important item to the ever-increasing mass of data that is being assembled.

And this brings us by natural transition into the more controversial area of our realm—the psychic side of dowsing. Nor would I open this subject for presentation or subsequent discussion, were it not as essential as anything that has gone before in giving you an understanding of our actual field work during the past three years.

It concerns chiefly divining on maps. To us this is now as positive a reality as ground work. I would give you two concrete examples to support this assertion.

The first occurred when we broke into a gallery only two meters underground in the city of Antibes, which had been opened two or three years previously by the Antibes museum. Bourcart and I both felt it distinctly and marked its position carefully on the surface of the ground to check our pendulums for accuracy in delimiting the width of the passage. We had felt vast systems of galleries under Rome and the once-Roman towns of the French Riviera, and wished to make an experimental test on this one. Our knowledge of its general position might readily have been cited against us as influencing our pendulums, so Bourcart enlarged a map of that part of the city to study the course of the gallery to the south of the opening we should make, as the museum excavators had only described their efforts to find the reputed subterranean passage running northward to the old Vauban fortress.

Prospecting on this map, he found the southern reach blocked at a certain distance from the point in the garden where we intended to re-open the gallery. Beyond this barrier it showed as open for a few meters, blocked again and then clear for a long distance out to the Cap d'Antibes. When I entered the gallery with our two workmen, I found it to be an old water conduit, unmistakably Roman in materials, architecture and workmanship. Much more important, however, for us was the fact that at the exact distance which Bourcart had shown on his map the conduit *was* blocked. The material seemed to be dirt and stones that must have been thrown into it when excavations for the foundations of the building which covered it at this point were cut down through it.

The second example is, for me, more dramatic and epochal, as it occurred in one of my own experiments. Due to pass through Paris on a journey north, I saw the opportunity for a clear test of our claims for map location. In my study in Juanles-Pins I took a map of Paris, contained in a small guide of the city issued by one of our banks, and set my most powerful gold-sensitive pendulum in motion on the margin of it, to see if I could locate by feeling its vast gold hoard. Of its whereabouts I was entirely ignorant.

With this same pendulum I had, throughout a sojourn of several months in Rome, frequently measured the reserve in the Bank of Italy and found it varied slightly but usually gave me around 550 revolutions as my measure of its total of something over five milliards of liras. On the map of Paris my bauble marched off at once to a point near the Parc Monceau, turned 1,100 times

there and then shifted to the Rue des Petits Champs, where it gave 1,000 rotations. After that it went off somewhere else for 900 revolutions. I felt I had failed, as the Bank of France was known to have from ten to twelve times the amount of gold claimed by the Bank of Italy, whereas each of these two indicated caches showed only double this amount.

Turning to the individual *arrondissement* maps in the guide, I found my pendulum picked up exactly the same spots on these larger-scale charts that it had on the general one. When I arrived in Paris itself, I set my pendulum going in my hotel room and watched it take the exact direction for the Parc Monceau, make its same count of 1,100 there and then swing round to the line of that part of the city where lay the Rue des Petits Champs. In the morning I bought the largest map of Paris I could find—half the size of my bed—and secured identical results on it.

What could the explanation be? I would go to my own bank to seek some light. They gave me the published figures of the reserve as approximately seventy milliards of francs and the location of the Bank as in—the Rue des Petits Champs! Hardly waiting to thank them, I rushed off to find the answer to my puzzle. In a small café across the street from the vacant lot under which the Bank guards its hoard in deep subterranean vaults I set my little explorer on his way, only to find he journeyed, not across the street as I had in my enthusiasm—and forgetfulness of his fixed habits—expected, but out to the Parc Monceau to keep his tryst with his favourite there before he would come back and pay homage to the lesser *attrayante* across the narrow street.

Then he swung his 1,000, later 600, several times 500 and 400 and so on in smaller measure until his task was done and he rested quiet. When I added the revolutions for the various vaults thus indicated, I found I had a total of 6,300, or approximately between eleven and twelve times the number for the Bank of Italy, which was just the relationship between the published figures of the two reserves.

Parenthetically, I should add that I did not have to count 1,100 and 1,000 revolutions, as quoted above, but that our ability to multiply the power index of our pendulum by ten—and even by one hundred, if we so desire—enabled me to reduce these figures to 110 and 100 respectively.

With very definite hesitancy I would break the thread of my story for a moment to lay before you my attempt to secure some working hypothesis for our prospecting on maps, in other words for what must be admitted to be the purely psychical side of divining. From a source which I considered a possible one for light on the subject I was told that our ego—which, for more



definite description in terms that connote more to me, I prefer to call our "travelling astral mind"—"knows neither time nor space" and that, until we "can grasp and accept this fact," we cannot understand.

When we prospect on a map, the chart acts solely to give concentration points under the pendulum which we are parading over its surface. Our "mind" is *there*, at the point we indicate or in the region we are searching. Being able to penetrate underground as well as to know the surface, it passes up to our conscious mind through the instrumentality of the pendulum—or any other transmitter that may have been conventionalized by previous experiment or calibration—the information we would have. As Bourcart and one other operator whom I have met also feel water and minerals over maps with the hand, I infer that, in these cases at least, the charts might be expected to yield data with any of the methods that are used for ground work. You ask:

"If this be the case and if divining is thus so definitely removed from the realm of the physical, why should different pendulums, sensitive to different materials and to varying quantities, be as necessary on the maps as on the ground?"

For this I have no answer—unless you choose to accept my own guess that it may all be some carefully designed system that is built up for our use by the higher intelligence that may be behind and controlling these our operations. I give you this without comment, only that you may weigh it and test it as a possible hypothesis for your own technique.

With this sketchy précis of our working methods before you, we are ready to pass rapidly in review some of the field work based upon them.

When I first came into contact with Bourcart in the autumn of 1934 and began studying his work as critically as my training would permit, he told me that he had once instructed a fellow-countryman in so much of his art as he had then developed, that the man made a trip into Italy and came back prematurely to bring him the exciting news that he had stumbled on what seemed to be an oil-impregnated area in a part of the country where there were apparently no petroleum activities. As Bourcart said he had already dreamed of going one day to confirm this, I suggested that we set the following Thursday as "the day" to don our packs for the *voyage radiesthésique* into the realm of the gnomes that guard hidden treasure. It was on the Friday previous to this set date when he asked me, rather timidly, as we parted at his door:

"Do you believe in prospecting on a map?"

"It does not seem to me to be a question of my belief," I



answered. "Rather have you had any experience which makes you think you can do it?"

"Once I picked up on a map an artery of water near Beaulieu and later verified it on the ground."

"Good enough," I put in; "let's get a map of Italy and have a try."

The following morning I went to his room to report some of the arrangements for our journey and saw what has turned out to be an historic display. He had a small school atlas on his table, open to a map of Italy and all dotted up with coloured areas indicating gas, petroleum, gold, coal and other minerals. He was beside himself with enthusiasm and excitement.

"If it's going to be like that," I suggested, "take my big automobile map of the country, where you can have a proper scale on which to work." So we arranged to continue on Monday.

Then began three tense days of prospecting all Italy in my own study on the French Riviera! When we were through, my automobile map looked as though it had suffered an attack of what the Chinese euphemistically call "opening heavenly flowers" in their attempt to avoid the blunter word "smallpox." And that was the beginning of the larger chapter in Bourcart's life of *cryptologie*, or unveiling of secret things.

The first opportunity to check his map work came as we travelled in the train along the Italian Riviera. I kept the chart in my own hands and always beyond the reach of his eyes, so that he could not receive any suggestive impulses from it, and only watched his mysterious hand for signs of activity.

I have neglected to state above that he has developed a technique of prospecting with his hand, free from rod or pendulum. Walking over the ground or riding in train or automobile, he carries it closed with the back up and, when over some substance that activates it, seems to lose entire control of it and only watches it as he would a pendulum. Unless he actively interferes by strong conscious effort, the hand makes a peculiar turning movement to bring the palm up, swings back on the pivot of the wrist until the palm is again down and then taps out the radial index of the underground substance. Then he takes out his series of pendulums sensitive to this particular material and tries them out to find the one which responds to the quantity involved. Once this is selected, he secures the quantity measure and tests for depth.

So, as we sat in the train, he picked up from time to time various water arteries, coal and other minerals, in all of which I was not particularly interested, inasmuch as our search was essentially for petroleum. In due course his hand tapped out

the oil index, which a pendulum quickly verified—and it was exactly where the map record showed it to be! I was astounded, veritably, at the precise agreement in position. We tumbled out at the station of the town in whose outskirts the artery manifested itself and took a tram back to the scene. There we travelled over the artery first in the car, later on foot and continued back and forth several times. In seven distinct tests for depth made in the train, in the tram and on the ground we found the returns always lay between 265 and 280 meters.

Never shall I forget our subsequent tracing of this artery far back in the mountains. To understand our work, it must be interpolated here that Bourcart holds a theory regarding the nature of petroleum deposits at variance with that of most geologists, in that his pendulums indicate not only pools of oil but also arteries or sands in which the petroleum is still in migration. It is an interesting side-light on this theory that those of his pendulums which feel pools will usually not respond to arteries—if we may be allowed the use of the term—and vice versa. Also he recounts having seen in Bulgaria, I think it was, a well sunk in the form of a shaft several feet square to collect the oil from a shallow horizontal fissure and allow it to be pumped up. Into this well the oil flowed continually but only from one direction.

I accepted his theory as a working hypothesis and went gladly along to try to locate the main artery from which our sea-going one was the first of three indicated branches. His map work showed the principal source as coming from under a mountain far to the north, in fact in the Swiss Alps, and as passing just south of a small railway station before it rose from its greater depth and separated into three branches that shot off to the northeast, the east and the south-east. On our way up the railway line he sensed two of the three branches at points where they crossed beneath it, and in the freight yard just south of the little station he gleefully exclaimed:

“There it is, just where we had it on the map!” And apparently there it was, for we hurried out to the high road paralleling the line and watched the pendulum mark the artery as clearly as anything could be drawn. But it was deep, some 560 metres down. Then we took the quantity, which his pendulums indicated by revolutions. My part of the field work is to record findings and to relieve him of most of the counting. This was my first experience of what my task might mean, for I watched and counted that persistent little ball go around seven hundred and eighty times.

“Whew!” I said, “that must be a rich one.”

“We’ll see when we measure the branches and add them

together," was his businesslike suggestion for a check on this finding. Luncheon over in a crowded little peasant restaurant, we sallied forth to go two or three kilometers into the country to see whether we could pick up the place where the map prospecting showed the main artery came up to within 320 meters of the surface and separated into three branches. There it was, in a meadow by a brook, and there were the three offshoots, with depths and quantities checking. We had our first investigation-engendered dreams of supplying Italy with some of the petroleum she so sorely needed.

During those, for us, historic weeks of November and December of 1934 we repeated this experience many times in many parts of Italy and with many different minerals. Though to recount them would only clutter the record, there were certain incidents which stood out in such bold relief and furnished me such impressive circumstantial evidence of the reality of Bourcart's work that I would give place to one here.

This occurred much later and came about thus. We had developed our studies one step by working over the maps of Italy published by the Italian Touring Club. Coming into a new section, I would always keep these automobile maps out of Bourcart's reach for several days beforehand, so that he would have no memory of the countryside. Then I would purchase for his more refined studies the military maps of the region with a scale eight times larger, before we went to verify in the field.

On the particular occasion in mind he had studied a large inclusive military map and then worked over a regulation-sized one that bordered the former on the north-east corner. To secure the greatest possible control of his work, he always prospected each map separately without reference to the adjoining section and then placed them together to see whether arteries or fields matched up correctly at the borders of contiguous charts. Usually this correspondence was so close that we grew to expect it to be within the width of a pencil mark or two.

This time, however, there was a variation in one of the margins of the artery of nearly an inch, which meant a difference of over 500 meters or roughly a third of a mile. That was too much for Bourcart to pass, even though I persisted in trying to soften his discontent by reminding him that he could not expect to bat a thousand every time. While he fussed and worried over the apparent error, I happened to look over his shoulder and saw that the big military map had its northern boundary at  $44^{\circ} 52'$ , while the smaller section was based on a southern line of  $44^{\circ} 50'$ . When I folded the latter at a line two minutes farther north, the agreement between the margins of the artery was actually not a pencil mark out!

I cite this at such length as being of the very essence of this man's extraordinary ability to produce identical results on different charts at different places and working sometimes months or even years apart. Whatever may have been our practical success or lack of success in the experiments which our limited means have made possible, his work, to my mind, deserves the deepest and most conscientious scientific study and exhaustive investigation. If he is right, he has revealed to us possibilities in the location of material things which rank in this realm with what radio was to communication, when it was discovered.

But I have used up my allotted time without beginning to cover the more important parts of our field work. These I must, therefore, pass swiftly in review, in order that you may have a more rounded picture of what our efforts have been. In Rome in the spring of 1935, while we were learning that the Italian government would give us no financial backing but would welcome any explorations we would make with our own means, we became diverted from the petroleum, gas and mineral fields by our discovery of what we felt to be a vast system of deep subterranean galleries under the city of Rome, with a large number of caches of gold, silver and precious stones. Both the geometrical plan of these passages and the characteristic location of the caches always at gallery corners or at the ends of branch galleries led us to believe that we had hit upon the safe deposit vaults of the Roman Empire. This belief was strengthened by finding that all the once-Roman towns along the French Riveira gave us indications of similar systems. We also found long galleries between distant cities in Italy and in France between seaports like Antibes and the villages back in the mountains. Legend supports the belief that these exist. Some of the shallower Roman galleries we have entered.

By careful calibration of our pendulums for quantity against known reserves of gold in the Banks of Italy, France and England, we can only stand in wonder and amazement before the master caches which our pendulums search out. How could there have been such quantities of gold in ancient times to gather together and hoard? We have no answer. We only know that here in your own England there is one which turns our most powerful gold-sensitive pendulum just as many times as does the reserve in your great institution, the Bank of England. And, what is more, this shows itself to us as in a deep underground gallery, of whose existence there is circumstantial evidence that has been turned up through certain archaeological studies by authorities who had no idea that they were tending to substantiate the interpretative revolutions of our mystic pendulums.

But aside from this absorption in the possibilities of these

treasure galleries we have had time to make exhaustive map studies of all Italy, France, Switzerland and England, with many journeys for field verification. In practical accomplishment Bourcart has put down several wells during these three years, one of which in the grounds of the Carlton Hotel at Cannes my Antibes associate has recently written me tested out 200 tons (45,000 gallons) of water per day on an extended series of pumpings.

And in the realm of metals he also gave me a report of an interesting case in Mulhausen, Aldace. At the beginning of the Great War a woman buried 5,000 gold marks in the form of 250 coins of 20 marks each. With memory shattered by the sufferings of those trying years, she had never been able to locate her hoard, though they had dug over much of her property in the search. Last spring, hearing of Bourcart's cousin and his recent development of pendulum activities, she called him in. He took but a few minutes to locate the cache exactly and to superintend its easy uncovering. We feel that the deeper interment of metals in mineral or manufactured form is but an extension of the same principle and that sooner or later our working methods will win recognition.

I thank you for the honour you have done me in asking me to present this paper and for the courteous attention you have accorded it.

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## ANNUAL MEETING IN SCOTLAND

By the kindness of the Directors the meeting was held this year in the grounds of the North-East of Scotland College of Agriculture at Craibstone, Aberdeenshire, on Saturday, August 7th.

Members and their friends assembled to the number of about 100, many of whom came from neighbouring counties. As a contrast to last year the weather was fine and sunny, so that the meeting could not have been held under pleasanter conditions.

Sir George Abercromby, the President, opened the meeting in the lecture-room of the College with a short address in which he explained that in future membership of the Group would be open to all residents in Scotland and that the Group would in future be known as the Scottish Branch of the British Society of Dowsers. He then introduced Colonel Bell, the President of the British Society of Dowsers, who made a few remarks in which he referred to the gradual increase in membership since

the formation of the Society, to its various activities during the past year, and to the loss the Society had sustained through the deaths of three prominent members—Major Creyke, Mr. Tompkins and Mr. Christie.

Mr. Lyall, of St. Andrew's, then followed with an interesting lecture on his experiences as a water diviner and well-borer, after which Major Farquhar Spottiswood described a method employed by him for selecting the right fertilisers for his rose trees. This method had been suggested to him by the articles on fruit trees, by Colonel Cunningham, which appeared in the B.S.D. Journals of December, 1936, and of June, 1937. A note of his remarks is printed below.

Mr. Cox then proposed a vote of thanks to the President and the speakers, to the Governors of the College and to Miss M. E. Macqueen, the energetic Honorary Secretary of the Group, who had been responsible for the arrangements.

After tea, which was served in the Recreation Hall, the company proceeded to a field on the estate, where several well-known dowsers located sites for water, and where Mr. Lyall gave a very interesting demonstration of the application of the "point depth method" by means of the mumetal rod, as described in the Journal for June, 1937.

At the end of the meeting Mr. Lyall was conducted by Mr. MacDonald, Farm Manager, to the sawpit (sandpit) field, where water was urgently required to supply a neighbouring house. He quickly located a spot, where he foretold a yield of about six gallons a minute at a depth of 36 to 40 feet.

Note of Major Farquhar Spottiswood's experiments, to find out what manures were required by certain plants in his garden : --

"My idea was to put in an envelope a leaf or bit of stem and half a teaspoonful of the soil in which the plant grew. The same amount of different manures was put in envelopes, with the names written on the outside, as follows :—

Sulphate of Potash,  
Sulphate of Iron,  
Bone Meal,  
Limbex,  
Imperial Chemical Fertiliser,  
Dry Horse Manure.

The manure envelopes were put in a line on the ground, about two feet apart. I then took the envelope with leaf or stem and soil in my hand and the dowsing rod and went over the manures. The reactions were as follows :—

1. Beds made up last autumn, no reactions.



2. Practically all the beds reacted to Imperial Chemical Fertiliser.

3. All the red rose beds wanted Potash in addition.

This is, I believe, no news to rose gardeners, as they all know that red roses require potash; I, being no gardener, did not know this.

The next experiment was on some primrose plants which were showing brown spots on the leaves. The same procedure was gone through, and the reactions gave sulphate of iron, and, in a lesser degree, sulphate of potash.

Since the last experiment, my wife, who knows a good deal about gardening, tells me that sulphate of potash is now given as a cure for brown spots in primroses (botrytis).

I hope any gardeners who may try the experiments will let our Secretary know what results they get, or if they improve on the procedure."

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## DOWSERS' MEETING AT QUEX PARK

By J. CECIL MABY

Thanks to the kind invitation and hospitality of Mrs. P. H. G. Powell-Cotton, several members of the B.S.D. were afforded a valuable opportunity to make comparative tests and discuss individual methods and opinions with visitors from the Continent, during a most enjoyable and profitable week-end, July 30th to August 3rd, 1937, at Quex Park, Birchington, Kent.

In addition to our hostess, herself a sensitive dowser, who had previously located the test objects, the following French visitors and members of the B.S.D. actively participated in the tests:—Vicomte H. de France and his son, H. de France, Dr. Hélot, Captain W. H. Trinder, Dr. F. Braun, Major C. A. Pogson, Major K. W. Merrylees, Mrs. Swann, Mr. F. E. Bramley, Mr. Graham (agent to the estate) and the writer. Colonel A. H. Bell (President) and Mrs. Bell were also present at the later tests.

The following account gives, in outline, the main features of the meeting, and the kinds of agreement and disagreement that were observed between different dowsers and their methods. It is believed that, apart from what was learned personally from these tests and discussions, the results may be of some general interest, as confirming the following widely accepted opinions:—

FIRST.  
That dowsers of good standing and considerable practice



generally agree as to the location of subterranean objects, such as streams, tunnels, ore and masonry masses, pipe lines, electric cables, &c.—possible auto-suggestion excluded.

#### SECOND.

That such dowzers may arrive at equivalent results by very different technical and instrumental methods, but all based on reflex muscular movements, which one may believe to be due to some kind of physical radiation or emanation from the hidden objects, not perceptible by ordinary sensory means.

#### THIRD.

That considerable, and often irreconcilable, differences of opinion may occur with regard to questions of direction and volume of flow, depth, and even width, of underground streams; especially among less experienced dowzers and those ignorant of geological formations in the given district.

#### FOURTH.

That some dowzers (perhaps they should be termed *diviners* in this connection), employing samples, serial numbers or other similar methods, are also able to detect and diagnose the presence of hidden objects of small size and special kinds, other than streams, cavities, &c., as listed above. Such persons may claim to do this either by a more elaborate radiesthetic technique or else by some form of intuitive perception. But, in either case, their demonstrable successes would appear to be very variable, and (judging by previous laboratory tests) seldom much above chance expectation, except for a few gifted individuals working at the top of their form. The physical basis for such diagnoses, therefore, would appear to be not a little dubious, and some other cryptic faculty—call it clairvoyance or metagnomy, for the present—may be favoured by way of explanation.

Corpses, small metal objects, &c., may also be located in this way.

The account was prepared from notes made by Major Merrylees and the writer at the time of the tests, which were, of course, by no means on a statistical basis; though the results are believed to be of considerable confirmatory value, considered in relation to previous observations of a similar kind. The writer has endeavoured to draw such conclusions as appeared to be justified, without prejudice, after discussing the results with several other members on the spot; though no joint concensus of opinion is implied.

. . . . .

Three whole days of fine weather permitted several of the party to make a moderately intensive study of two sites; the

first, an arable field, several acres in extent, having a thin chalky top-soil and thick chalk substrata, beneath which flowed several small underground streams—probably fissure streams; the second, a coppice, also on chalk, with a road bisecting it, beneath which ran at least one good-sized stream. Dotted about this area there were also various archæological remains, including possible Roman remains. In addition, various members of the party prospected certain tunnels in the chalk, ancient foundations and supposed burial sites; the dry tunnels giving unmistakable and sharply defined rod reactions to newcomers, without possibility of auto-suggestion; and several dowzers, using samples or serial numbers, agreed upon the presence of lead and bones, severally, where such objects had been excavated by the owner of the property. No fresh borings or diggings were made, however, during the actual meeting. Several lines of reaction, corresponding to the supposed outlines of an old road were independently described by the Vicomte de France, Mr. Bramley and the writer, running beneath what is now smooth grass lawn; and one or two dowzers made brief tests for gold, foundations and burials during a visit to the old Roman castle at Richborough near by.

Evenings were devoted to discussion, indoor tests and instructive addresses by Vicomte H. de France and Dr. F. Braun on the use of the Mager Colour Rosette and the use of the pendulum in medical diagnosis and treatment, respectively. Debates by the party in general followed.

### **The Arable Field.**

Having prospected the field in question individually, on the first day [with a view to finding a suitable water supply for pumping in connection with the plant nurseries], and found quite a number of small streams of, apparently, moderate depth; one of the party marked six spots at which reactions were generally agreed upon, figured A to F. Six of those interested then spent a morning in the examination of the sites in question and in following the associated reaction lines across the field, without mutual discussion or interference. Each dowser's results, as to the nature of the object, its direction (if a line), depth and approximate yield and direction of flow (if a stream) were noted down independently, and later handed to Major Merrylees for analysis. A careful examination of these data has led Major Merrylees and the writer to much the same conclusion; namely, that they are, generally speaking, too confusing for detailed publication. Nevertheless, analysis shows a fair degree of general agreement—over and above agreement as to actual *positions* of the streams, which was excellent—as well as individual disagreement; the latter, alas, being as great between the skilled as between the unskilled dowzers in several instances!

The following rough analysis of these results appears to the writer to be justified, showing clearly that there really was a good deal of very fair agreement between several of the dowers, despite a few irreconcilable contradictions.

In the first place, it is interesting to note that our most practised member, who is also accustomed to working in the chalk formations, gave both higher yield and greater depth estimates than the rest of us, who were tolerably well agreed upon yields amounting to a fifth (or less) of his estimates, and upon depths varying between about one-half to two-thirds of his values; and that despite the differences between our individual methods of estimation. Hence, one must conclude, either that he was greatly in error, or else that he was right in allowing some factor in his calculations for the given substratum, which the rest of us failed to take into account; and in such an instance, of greater practical experience against greater numbers, it is difficult to decide who may have been right—unless a boring be eventually undertaken at one of the selected locations.

In the second place, it is at once evident, on inspection of the data, that the stations A and B were confusing ones; so, too, were stations E and F, in so far as two distinct water tables seemed to exist there (as was definitely stated by two dowers). At station C, however, four out of the six dowers reported that there was no flow, but diagnosed a fault; a fact that was apparently confirmed by the magnetic recorder, whereas the claim by two of us that there was no flow at B was apparently refuted by the instrument. At station D, all dowers were very fairly agreed upon both depth and yield, excluding one depth divergence.

On the whole, it would appear that the strongest flows were at A, E and F (taking the most skilled dowers' results), while there were weak flows at B and D, but only some fault—giving, however, a strong reaction both on rod and physical instruments—existed at C. The party was also generally agreed about the convergence of several of the flows towards a hollow at the S end of the field; and all except one agreed as to direction of flow, which also appears to concur with the fall of the geological strata. Why one of us should have strongly felt the flow to be operating in the reverse direction remains a mystery; but it is interesting to note that he was, it seems, the one person who was uninformed of the geological stratification. Possibly he was afflicted by the prepossession that all streams flow towards the sea!

One or two of the party maintained that there was water under the entire field, with concentration in various converging and parallel fissures. Another member, however, attributed the generalised pull on the rod to the fact that in the neighbour-

hood of a strong stream or a number of small streams one might always get a reaction of the rod by applying too much muscle tension, and so rendering oneself extra sensitive. In such a way, he said, the beginner, crossing the parallel undulatory reaction bands that always accompany a stream, was liable to mistake one or other of such zones for the stream band itself.

The writer believes that yield estimates are practically impossible (from reaction strength) unless one knows the absorption factor for the given substratum; and much more conformable results might have resulted if we had confined ourselves to stating merely whether the flows were relatively *weak*, *moderate* or *strong*, after averaging the results of several traversals.

Several members supposed that the different individual methods of depthing, by walking round a peg, by Creyke's mumetal rod\*, by tapping with foot over the stream, by walking away from the stream till the "depth band" was encountered, &c., were perhaps only personal means of obtaining an answer from the subliminal mind. In other words, that the depth question might only be answerable clairvoyantly. There was, on the other hand, some evidence to show that over any given substratum or series of substrata the number obtained by such methods required to be multiplied by some factor (possibly varying individually) representative of the physical nature of such substrata. A similar procedure is employed in geological survey work with physical detector apparatuses, according to the relative permeability of the strata to whatever rays or forces are being employed. It is possible, therefore, that some physical factor is at work, whether in relation to the penetration of certain rays of subterranean origin or of the penetration of some exploratory emanation projected by the dowser's own body.

Finally, the writer (J.C.M.) was, he believed, able to confirm the existence and relative strength of two of the streams under this field by means of certain purely physical instruments, which he demonstrated to the party; whereas one of the lines was thought, by instrumental observation, to represent a fault plane, not a stream, as Major Pogson had previously asserted. Such instruments can be used to confirm the dowser's findings, including the serialised parallel reaction bands, which they detect as clearly as the main stream band, though slightly less strongly. A detailed account of their nature and applications will, it is hoped, be published very shortly in book form, making out an incontestable case for the physical reality and reliability of the

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\* A good many recent tests by the writer with Creyke's method, made upon objects of ascertainable depth, appear to confirm its validity. In that case, Major Merrylees was ascertaining correct depths, and the skilled member mentioned above may have been reckoning too high.

dowser's main reflex reactions. So far, depth estimates have not been attempted by this method, though it appears possible to obtain some idea of relative yield—at least, for streams of shallow depth in a given substratum. The methods employed form a natural sequel to, and development of, the pioneer work of physical investigators such as Mager, de Vita, Franklin and Budgett, and will provide, it is anticipated, detailed information of a sort that was previously lacking. But before final publication it is intended to test out the instruments in question over ore bodies, pipes and foundations of masonry, in addition to underground streams and dry cavities, lead, &c.\*

### **The Coppice and Road, Tunnels, &c.**

Here the primary object of the prospection was to locate old foundations, metallic deposits, human burials, &c. Near by, some old tunnels, about 9 x 12 feet in cross section, and 15 to 20 feet below ground level, leading out of a hidden quarry in a wood, were also examined by some members of the party, as mentioned above. It should be noted, in passing, that the physical instruments appeared to give well-marked reactions over these tunnels also, though the tests were rather curtailed owing to lack of time.

The writer, was, unfortunately, not present when some supposed Roman remains were examined in the coppice; but it is understood that several members agreed as to the presence of foundations and metallic (*e.g.*, lead) objects, parts of which had already been excavated by Mrs. Powell-Cotton near by. Bones were also diagnosed by the "diviners" in several places, though they have not been confirmed, as yet, by actual excavation.

Under the road, more or less at right angles to it, was a broad band of reaction, first detected by the Vicomte de France and the writer, and subsequently confirmed by Major Pogson, Major Merrylees and others. This band was exceptionally broad for a stream—though some claimed it to be water—and was accompanied by the usual parallel reaction (image) bands, at approximately equal spacings on either side. The reaction bands were practically as broad as the intervening "neutral" zones, which is not generally the case for streams; and the writer had the impression that the primary object might be a dry tunnel running towards the remains referred to above; whereas M. de France, also disagreeing with the stream theory, put it down to some

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\* This has since been done, with similar and definitive results, almost precisely imitating the dowser's reactions, both as to kind and amount. Many further tests on assessable water flows have also been made in connection with questions of depth and yield, using the rod and other instruments side by side.

sort of geological fault. A two-hours' set of readings with one of the physical instruments confirmed the reaction band and first two images ; but time was lacking to follow it up any further as to depth, nature or direction.

Close to the tunnel or other object just mentioned, and lying across one of its first image bands, Mr. Bramley found, beneath the road surface, what he described as an elongated leaden object of roughly rectangular shape, slightly pointed at one end. This "find" was thought by Mrs. Powell-Cotton and Mr. Bramley to be a possible lead coffin;\* though it should be remarked that the idea of human burials in this locality was uppermost in their minds. Without going over this piece of ground with the rod, the writer made two two-hourly tests with one of the physical instruments, calculated to react especially well to any considerable mass of lead. On the first day a difference of 30 per cent. was obtained between the ground immediately over the supposed lead coffin and that to E. and W. of it. On the second day, a difference of 14 per cent. (and like sign) was obtained between the same ground and that to N. and S. of it ; due allowance having been made on both occasions for the road metal and the neighbouring stream (?) band respectively. The object was then mapped out independently by several other persons, who all agreed as to its presence and approximate shape, though some disagreed that it was lead, and others found "images" of it to either side, one of which was claimed to be the primary object. As these images lay in a *curved* line, however, the writer was very dubious about their physical reality. The physical and unbiassed tests, on the other hand, tended to confirm Mr. Bramley's contention that a rectangular object—possibly a lead coffin—exists at that spot ; and it is to be hoped that Mrs. Powell-Cotton will find it convenient either to excavate or drill the site by way of confirmation or disproof. The instrumental readings certainly agreed with the writer's laboratory determinations for thick lead masses ; and if nothing were found there it would be exceedingly strange.

Finally, down the middle of a part of the same road Major Merrylees and others detected what they claimed to be a narrow iron pipe with leaded joints, equally and appropriately spaced. Several of those present diagnosed lead at intervals, as noted, employing either samples or serial numbers. Some auto-suggestion may, however, have been at work on this occasion. The writer, using a different type of rod and method, also found the

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\* Mr. Graham also agreed to this location, and specified it as lead. But subsequently the object was claimed to be "an *image* of a lead coffin in the wood near by."



narrow line (not a stream), and was able to show that there was an appropriate disturbance of the local magnetic field down the middle of the road (four traverses made), amounting to about 2.16 per cent. on a delicate magnetometer. One of the party suggested, however, that ferruginous material in the road metalling may have produced the effect in question. Judging from the detailed readings and the apparent construction of the road, the writer thinks that unlikely.

Thus, supposing that we were right in our joint findings, this aspect of the meeting may be considered to have been eminently satisfactory and instructive.

### Indoor Tests.

On the second evening Major Pogson arranged the following test. Three samples of approximately equal size and shape, one of bronze, one of silver and the third of wood, were wrapped and sealed in three opaque envelopes of crepe rubber by Major Pogson. The three packets were next shuffled (without being actually lifted up or consciously examined) by the writer, and they were then placed on three sheets of black paper, numbered 1 to 3, by Captain Trinder, and laid on the drawing-room floor. Neither one of us watched what the others did, and we were all well satisfied that we had no idea of what the three packets contained. The company were then asked to divine the contents of the packets by whatever method they preferred individually. None touched or closely examined the packets, and the light was not very bright.

In this test, made by nine persons—

- 1/9 had *all three* right ;
- 2/9 had *silver* right ;
- 1/9 had *copper* right ;
- 1/9 had the *wood* right.

A repetition consisted in placing the bare objects in cotton wool in three similar wooden boxes. A second person, namely, Mrs. Powell-Cotton, then shuffled the boxes, and slid them along the floor into position, without lifting them. This time—

- 1/9 had *all three* right ;
- 1/9 had the *wood* right ;
- 3/9 had *silver* right ;
- 3/9 had *copper* right.

But in this instance it was curious to note that six out of nine persons said that there was no metal in the first box ; that having been the box which contained wood in the first place—as they had subsequently been informed. It is probable, therefore, that three people had subconsciously kept that idea (namely,



on metal in number one) in mind during the second test, and so misled themselves; since the odds were that not more than *three* out of nine people would have made that mistake by chance alone, whereas *six* persons made the mistake.\*

Another important point that arises from these two little experiments—if repeatable—is that it was the shuffler of the objects (the writer first time, Mrs. Powell-Cotton the second time) who got all three right in both instances. In other words, *the person who last made personal contact with the objects* was most successful, though he or she was quite unaware of their nature by ordinary conscious perception. Possibility of telepathy was, we thought, also eliminated in these tests.

A third point to note is that the first complete success (against chance odds of 5 : 1) was scored by one of us who did not use any pendulum or rod at all for the tests, but simply worked by direct intuitive perception or, as he terms it, clairvoyance. In that test the dowzers were remarkably unsuccessful, and also very slow at work. As the chances were that one person in six, guessing purely at random, should have got all three right, and that three out of nine persons should have got any one item right, it is evident that the actual scores in such a test, with only three objects, were *below*, rather than above, chance—especially in the first instance, when it is very possible that the fact that the objects were wrapped in rubber (which many dowzers consider to be an insulator or screen to the hypothetical rays) acted as a negative inhibition. Indeed, if, in a series of tests of this sort, it were found that the percentage of successes scored fell below the chance percentage, then one might definitely claim that a cryptic faculty was at work, informing the participants correctly; but that they then, in sheer perversity, named the items wrongly owing to a prejudice to the effect that it was “impossible to work through rubber.” These two very insufficient tests indicate that such a negative inhibition may have been at work. In the second test subconscious memory also tended to confuse the issue, apparently.

In the second place, the demonstration with the colour rosette tended to confirm the belief entertained by some members that the pendulum is dangerously subject to unintentional reflex control by auto-suggestion, and that the value of colours, like that of samples, is mainly, if not entirely, a subjective and psychological one. Tests with a sample of radioactive soil and the pendulum, on the other hand, though open to a telepathic explanation, appeared to be more convincing.

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\* Major Merrylees informs me that he subsequently found “a strong metallic pull” at the spot where our second test object had been placed. Such an influence, if indeed present, may well have confused the dowzers.

In conclusion, it may be stated that, even if they did not provide any very valuable data to prove or disprove radiesthesia, the evening tests and discussions at Quex Park at least opened the way to a better mutual understanding between physical and psychical adherents, and showed the danger of jumping to conclusions on insufficient data, or of failing to take into full account possibilities of telepathy and clairvoyance in this type of enquiry.

. . . . .

At a second meeting, which was also very kindly organised by Mrs. Powell-Cotton at Quex Park, several of the same dowzers and Captain Orr made a number of brief tests upon pipe lines carrying a variable water flow, pipes and rods of various materials, and certain vertical (as well as horizontal) electric conductors. This was done at the writer's request, in order to confirm the reactions of physical instruments, compared with those of the dowser's muscles, as referred to above, though the writer himself was, unfortunately, unable to be present. Colonel A. H. Bell was good enough to make notes of these tests and to report the numerical data obtained, which the present writer then analysed in the light of his own results.

Although the data are relatively scanty, and somewhat confused by the number of persons taking part, it is evident that several important points relating to the physical theory of dowsing, which Mr. T. B. Franklin and the writer have been endeavouring to define, were substantiated by the reactions of the more experienced members. Thus, certain reactions were evidently dependent upon the nature and size of the conductors examined, increased flow was indicated in an approximately quantitative manner, and the reaction field existing around certain vertically placed conductors, such as trees and iron standards, was confirmed by one of the party. Some of these effects had been previously indicated by investigators such as H. Mager, Abbés Carrié and Mermet, Senor D. Pericas, &c. ; and the writer has been able, during the past three years, to confirm them in greater detail, employing both automatic electromagnetic recording instruments and the reflex reactions of suitably sensitive human subjects. It was interesting, therefore, to obtain brief confirmation of some of these points by experienced dowzers who were uninformed of the theoretical implications. Unfortunately, however, the professional dowser and diviner are commonly armed with personal foibles and preconceptions that tend to mask many of the reactions so clearly given by fresh and unprejudiced (sensitive) subjects and by the physical recording instruments. From the point of view, therefore, of a purely scientific and physiological investigation, one is, unhappily,

forced to admit that the *potential* dowser may often happen to represent a more accurate and unbiased recording instrument than the professed dowser of long-standing skill and experience. At the same time, it is undoubtedly skill and experience that count, in the field, where the location and diagnosis of a suitable water supply, say, are at stake.

Finally, it may be noted here for the sake of those concerned, that the physical and physiological investigations referred to above have also definitely established that many of the dowser's quite commonplace, but so often ill-defined, prejudices regarding weather, time of day, state of the ground, presence of metallic masses near at hand, magnetic fields, and so forth are susceptible of physical proof and justification. So that, when an account of this work has been published, we sincerely hope that—on the "straight dowsing" side, at least—the water and mineral prospector will be able to proceed not only with greater confidence in the reality of his reactions, but also with a much more clearly and scientifically defined technique than has heretofore been possible, lacking any fundamental conceptions as to the true nature and form of the physical forces and reaction fields to which his neuro-muscular system responds.

On the other side, there can be little, if any, doubt, that the average dowser and diviner is also greatly aided *and* afflicted by the psychological side of his nature, with its innate tendency to auto-suggestion, thought transference and even, in some cases, what appear to be metagnomic and clairvoyant faculties. But when the more simple (and it is far from being *quite* simple!) physics of dowsing has been properly elucidated, then will be time enough to return to the more intricate problems of "samples" and detailed diagnosis.

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## MY OWN METHODS

By J. M'C. BROWN

I have read with interest the different articles published in the B.S.D.'s Journal on Water Divining, and the different methods employed by dowsers in their search for water; some of them prefer twigs of certain trees or shrubs, others use whalebone rods, others the pendulum. Some, again, use straight pieces of wire, while others use wire twisted into all different shapes.

But does it make any difference what the rod is made of? Or even its shape? My own experience is that it is not necessary

to use a pendulum or rod. In my opinion, the movement of the rod is only the indication that some reaction is taking place in the dowser's body.

When searching for water all I have to do is to hold my hands rigid, and when in the presence of underground water I feel a sharp reaction passing up my arms to the back of my head. If I want to find if there is a line of water in a certain field, instead of walking all over it, I stretch out my right hand, and by raising or lowering it I can feel if there is water, and at what probable distance.

Others, again, make use of samples. But is this really necessary? If I wish to find the different points of the compass, I stretch out my right hand and swing it round. When in line with any of the points, I feel the same reaction. If I want to find the north, I move forward in the direction of my outstretched hand. If the direction is north the reaction continues. If any other direction, the reaction fades away. If I want to find the position of the sun, I hold out my hand and turn round, and when my hand is in line with the sun I get the same reaction. This proves what I have always believed: that it is not necessary to use a sample; you have only to concentrate on whatever you are searching for. If it were not so, I would have got a reaction at the compass points while searching for the sun.

If I want to find if certain food agrees with any person, I use the pendulum or the rod. This can be done in two ways. First, using the pendulum, get a positive reaction over the food; then try it over the left hand of the person you are testing, and if you get the same reaction the food is good for the person; but if the reaction is negative, I would consider the food unsuitable. Sometimes you get no reaction over the hand—just a straight swing; in this case the food is neutral. Second, using the rod, the person places his hand on a table. Then I place the food to be tested a short distance away; then, with the rod, I move from the food in the direction of the hand, when I will get a reaction either to the right or left of the centre of the distance between the food and the hand according as the food agrees or disagrees with the person. The same method can be employed in finding what colours agree with certain persons.

After the B.S.D. Meeting held at Fyvie Castle last year, a discussion on Dowsing took place among a number of people, several of whom would not believe it could be done. As I was known by some of them, it was arranged that two of them would come and see me and get me to show them how it was done. On their arrival I asked one of them if he had anything in his pocket. He said he had a handkerchief; would that do? I asked him to place it on my right hand, whereupon I at once

told him it was not his own. You can imagine his surprise. It was his brother's. Next I went over him with my rod. I told him there was something wrong above his left breast. He got quite excited at this, and showed me a large scar—the result of a burn. I then went over his companion, and got a reaction on the right centre of the body. I asked him if ever he had appendicitis or kidney trouble. He said "No." I told him I was sure there was something wrong. The following day he had to see his doctor, and was off duty for six weeks with kidney trouble.

Some time ago a notice appeared in the local paper that a certain person was missing. I told my fellow workers that she was dead, and that they would find her in a certain direction. The following day she was discovered dead, in the direction I pointed out. A short time after this another person was reported missing. I again told my fellow workers that she was dead, and pointed out the direction that she would be found in. A week later she was discovered dead, in the direction I indicated. At the B.S.D. meeting at Craibstone, Aberdeenshire, last month I was asked by one of the members to show him how I found direction without the aid of a rod. After showing him this, I asked him if he would give me the name of any one he knew, and that I would tell him the direction he was in. He gave me the name of a gentleman in Skye. I then told him he was in an easterly direction from where we were standing. He said I was correct: the gentleman was in North Germany.

The uses that the divining rod can be put to are endless. But it requires constant practice, and even then the best can make mistakes. If one is tired, or in a crowd, one seems not to be so sure. I think this is the cause of so many failures in some of the tests made at the B.S.D. meetings. Although constant practice is necessary, one must be careful not to overdo it. I find that if I do too much divining at a time I always suffer from headache and sickness afterwards. It also quickens the action of the heart in a marked degree.

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## DOWSING AND ARCHÆOLOGY

By E. S. McEUEEN

I must preface my remarks on the subject by briefly referring to what led up to my observing the use of Dowsing as applied to Archæology.

About  $2\frac{1}{4}$  miles from Winchester there is a small earthwork

called Oliver Cromwell's Battery, a name which appears to be a misnomer, as it is almost impossible to believe that Cromwell's artillery could have bombarded Winchester from a distance of over two miles. In order to prove the question, the Hampshire Field Club and Archæological Society decided to make a small excavation, which was undertaken by four members under the direction of the late W. J. Andrew, F.S.A.

On cutting a trench through the highest portion of the vallum at the north-east corner of the earthwork, which encloses some two acres, to our surprise, at a depth of two-and-a-half feet, a skeleton was disclosed, and resting on his chest was a beautiful bronze bowl,  $11\frac{1}{2}$  inches wide and 5 inches deep, now known as the Winchester Bowl and on view at the British Museum. The skeleton was that of a Saxon about 25 years of age, and beside him lay his sword and spear. This discovery conclusively proved that the earthwork was pre-Cromwellian, but it is quite probable that it may have been used as a parking place for Cromwell's artillery.

The following year the Club undertook a further exploration of the site, and it was suggested that an attempt should be made to test by dowsing for metals if there were any further burials with "objects of vertu" reposing on the chests of the dead.

Although the experiment responded to the bronze test in two spots on the vallum, nothing was found after making a very thorough excavation of a large portion of the earthwork, excepting very large flints and a considerable quantity of Hallstatt period (about B.C. 600) pottery which lay under the existing vallum.

It was owing to this result that I was struck by the fact that the rod was affected by flints and pottery. A year later an excavation was undertaken by the Hampshire Field Club at Meon Hill, Stockbridge. Although nothing was visible on the surface of the field, aerial photography disclosed the site of an earthwork.

I was present on several occasions whilst the excavation was in progress, and on one of these Miss D. Liddell, F.S.A., who was in charge, told me that she thought there was something interesting in the south corner of the field. I had my whalebone rod with me, and on testing I found it reacted very strongly to something, and this was confirmed by another dowser who was assisting the work.

When the site opened up it revealed the presence of a number of Hallstatt period dwelling pits, containing thousands of pot boilers, large flints and pottery, thus further confirming my theory. A few days afterwards I found I could always locate large flints.

Quite recently I discovered the site of a Roman villa of the



corridor type, with walls 2 feet 5 inches thick, formed of large flints and chalk; by the rod I was able to trace the walls in all directions. This brings me up to the present time, and I have had no further opportunity to make other tests.

I hope other dowzers will experiment on these same lines.

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## OIL IN SOUTHERN ENGLAND?

By Captain F. L. M. BOOTHBY, C.B.E.

The British Government are naturally interested in finding oil in this country, and with that end in view have nationalised any that may be found—that is to say, the landowner who may discover oil under his property cannot make use of it. The right to do so is granted by licence to certain companies and firms, who are allotted areas in which they may drill.

No less than eleven concerns have applied for territory.

About 1919 a small quantity of oil was struck at Hardstoft, in Derbyshire, at a depth of 3,077 feet. This is of interest to dowzers, as it is the only place in Great Britain where he can go and calibrate himself and his rod (either an ordinary rod with a sample, or a copper rod without) and know the quality of the oil and the depth from which it is coming.

Until oil has been struck in the South of England, we cannot say the depth represented by one beat, though we may guess it at 500 feet. We can, however, obtain a comparative depth of the oil. We may take it that oil which comes through at four beats is half the depth of that which comes through at eight, though there is one correction to be applied. If a massive dowsing rod is used, it takes an appreciable time to charge up, as may be found by working over superficial oil, and an allowance of one beat or more according to the individual and the rod must be made and subtracted from both figures before comparing them.

When your President suggested that I should see what could be made of the prospects of finding oil in South-Eastern England, I did not expect to find matters so complicated as they are from the dowser's point of view. In the Argentine oil field where I had previously worked there was only one sort of oil, crude petroleum, giving the serial number 23. In England there are three sorts of oil, with the serial numbers 20, 23 and 25. The first is an oil sand—a Portland sand. In the sample I have been able to obtain all the light oils have vanished and only the asphalt remains, coating the grains of sand and making them look like tarmac under the microscope. If a blow-pipe is played on it, the

asphalte disappears and an ordinary looking brown sand remains.

The second, serial number 23, is ordinary crude oil, a sample of which I have not been able to obtain, because all the efforts of the companies with their drilling outfits have failed to reach it so far.

The third, serial number 25, was obtained through the courtesy of one of our members, Miss Oules, and is oil shale from the Kimmeridge clay. All dowers should make it a rule to obtain specimens of things which affect their rod, whenever possible, and I hope that some day the British Society of Dowers will be in a position to get these specimens analysed by competent chemists and radiologists when their composition is unknown.

It occurred to me that one of the companies might be interested in what dowers could tell them, but they simply replied that they had a competent scientific staff. It is interesting to see what methods for locating petroleum are available to such a staff. The Science Museum publishes a handbook called "Applied Geophysics," in which we are told that while petroleum itself cannot be located, the type of formation which holds it can. There are two methods. The first is the "Gravitational Method," whereby changes in gravity due to sub-surface conditions are measured, but we are told that it is only efficient at shallow depths, and, where test wells have been sunk in this country the depth is by no means shallow.

The other is the "Seismic Method," by which a small earthquake shock is produced by an explosion and the time it takes to travel to the receiving instruments measured. Again we are cautioned that this system is only reliable if the strata is homogeneous throughout and unbroken by faults and fissures. The South of England must be one of the worst places in which to apply this method. No wonder the competent scientific experts have been so unsuccessful!

Mr. Cunningham Craig has written a book called *Oil Finding*, one of the easiest and most interesting technical works for a layman to read that I have encountered. Let us see what this great expert has to say on "The Location of Wells." He tells us of the man who used to gallop a horse across country until his hat fell off, and sink a well there! Of another well site selected because a crow alighted on the spot, which was a success, though if the crow had gone on for 100 yards there would have been no hope of finding oil.

Further on he says: "The divining rod has been used occasionally, and sometimes with successful results, while complicated instruments have been invented and put on the market to enable anyone to detect the presence of oil beneath the surface, but as to whether there is any scientific basis for the working of such

instruments the author must plead ignorance. But the ordinary work-a-day geologist must not depend on quasi-supernatural aid nor little-understood inherited instincts. By his geological map he must stand or fall."

The editor of "Applied Geophysics" acknowledges that the divining rod can be used, but apparently thinks it should not be encouraged because it has not been established on a scientific basis. Well, that is what the British Society of Dowzers is trying to do. We made use of wireless before the discovery of the Appleton-Heavyside layer and other scientific discoveries, and there seems no reason to avoid the use of the dowsing rod just because we still have a lot to learn about it.

Before starting for a tour of the southern counties, the *Petroleum Times* was kind enough to supply a most useful map showing where test wells were being drilled, and it seemed best to visit these first. On the visit to Portsdown, Henfield and Hellingly I was fortunate in having the assistance of Major Merrylees, R.E., and he also helped with the investigations near the Hog's Back, and in all the soundings we took we agreed to one beat, more or less, either way.

The Portsdown well was drilled in a chalk pit on the south side of the anticline. The reading here was 18. The well was abandoned at 6,500 feet. On the northern side of the anticline the reading is 14—still too deep. Eleven miles further east a reading of 5 is obtainable.

At Henfield the reading was 16. According to the Press, this well was abandoned at 5,105 feet after costing £40,000. Four miles away a reading of 8 is obtainable. At Poxwell a reading of 10 was obtained. It is not known at what depth this well was abandoned, but it is believed between three and four thousand feet. Three miles away a reading of 5 was found. At Kingsclere the formation is interesting, as the chalk has been eroded, leaving the underlying strata visible, and at the highest point of this drilling has commenced. The reading here is 14. A little further along the same formation we get 6. This is apparently the only well in the south on which operations are continuing, and they would seem to have more chance of success than the others.

I have left Hellingly till last, because the district there is very interesting to the dowser. It is easily reached by car from London, and the visitor can work over shale oil at Heathfield, crude petroleum near Hailsham, and oil sand near Pevensy.

At Heathfield itself readings of 3 and 4, with serial number 25, can be obtained in the town, but if the road to the east is taken till the village of Broadoak is reached, and then a turn to the left is made into the valley of the Rother, readings of 2 and 1

are to be found. A visit to the model in the Geological Museum shows the reason—the Kimmeridge clay comes almost to the surface there.

Near Pevensey, at a farm called Chilly, readings of 2 are obtainable with serial number 20. A boring has been made there, but presumably without successful results.

At the boring at Grove Hill, Hellingly, the sounding is 12. Here boring ceased at 3,506 feet. Nevertheless, there is oil in the neighbourhood.

Major Merrylees found that the rod will lift when turned towards a mass of oil, just as it does when facing upstream over a spring of water. While cruising in a car in this district he took a number of bearings by this means, and on his return to London plotted them on a chart, and all the lines of bearing converged on a spot near Chiddingly. Being unable to go there himself, he sent me a tracing from his chart and suggested that I might investigate. I did so, and found a small dome formation with its apex between Holmes Hill and Dicker, on the main road to Hailsham. Readings of 2 and 3 were obtainable here. I suggest this is a case where the dowser and the geologist might get together with advantage. The oil should be sufficiently near the surface to be proved by the geophysical methods previously mentioned, and it should not be an expensive matter to do this.

The Hog's Back is interesting in that it provides small shallow domes on the south side. To the dowser it does not behave as an anticline, as it is officially described, but as a fault, with a large downthrow on the north side. The oil-bearing strata may be found again at Esher.

All the anticlines give traces of oil, but the main oilfield of the South of England lies between the River Test, north of Romsey, and the Stour, north of Wimborne. Over a large area readings of 3 and 4 are frequent.

The River Stour must flow along a large fault with the downthrow in a westerly direction. On one side of the bridge at Blandford the sounding is 3, on the other side 12, and 12 it remains all the way down to Wimborne, where the river is re-crossed, and we find a reading of 4.

It is all very well for the dowser to say "oil." He may be able to tell the kind of oil, and give a good guess at its depth—but the quantity is another matter—such a very small quantity of any substance will affect a divining rod. We can get some idea of the thickness of the strata containing the oil by testing, with samples, for water or sulphur under it: but that does not tell you whether the strata is rich in oil or holds little. The dowser may feel certain that the oil is there—the geologist and the drill must prove whether it is a commercial proposition.

## FURTHER NOTES ON EARTH RADIATIONS

By H. O. BUSBY

In a previous article,\* "Some Notes on Earth Radiations," I detailed a method which I had adopted in order to reduce the effects of earth radiations by the putting in of iron points on lines of current. Since writing the above article, I have done some further work with a view to the neutralising of the secondary radiations arising from these current lines. I have noted that while the conductor points reduced the affected areas to the mere lines, yet these lines remained noxious in their effects, and were perhaps even rendered stronger in their effects through the increased movement of the current due to the readier conduction. The results of my later attempts may be interesting to the readers of the Journal.

I cannot give any report as to increased growth, &c., due to the installation of my latest method, because we have had an exceptionally dry autumn and winter with severe frosts, so that very little growth has been possible. However, the "rod" has shown that definite results have been obtained in the neutralisation of the radiations.

I have adopted the use of a coil placed on the top of a conductor inserted on a spot where the radiation is shown strongly, usually the junction of two or more of the current lines. The conductors used have been iron pipes,  $\frac{3}{4}$ in. or 1in. in diameter, and sunk into the ground to a depth of from 5ft. to 9ft., according to the penetrability of the soil, with an earth augur.

It is the form of the coil used and its point of attachment to the conductor which appears to be important. I have so far only used soft iron fencing wire, No. 10 gauge for small coils, and No. 8 gauge for the larger ones. I have used coils from 2in. in diameter up to 10in., formed on pipes of various sizes. The latter size necessitated the making of a windlass of wood to wind it, as I had no pipe of that size; this windlass has proved most convenient for the purpose. I have used from 35-40 turns of wire for these coils, and spaced the turns about 1in. apart for the large coils; somewhat less for the smaller ones. I use wooden strips to support the coil, and to these strips the turns are fixed with nails or staples. The whole coil is supported and attached to the conductor pipe by means of an iron support.

The "lead" from the conductor to the coil is a smaller gauge wire, and is attached to the *centre* of the coil. This centre attachment appears to set up opposing fields which neutralise the "radiations."

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\* *B.S.D.J.*, II, 14; December, 1936.

The areas affected by these coils appear to be rectangular in shape, the length of the area at right angles to the coil being about 50 per cent. greater than the breadth.

The area affected varies at a rapidly increasing rate in relation to the diameter of the soil used—a 4in. coil affected an area about eight times the size of that affected by a 3in. coil. A 10in. coil which has been installed for a little more than two months has apparently affected an area two miles wide by three miles long (six square miles). This coil has shown a steady daily expansion of controlled area. As far as I have been able to determine with the rod, this neutralising effect is also going downwards into the soil and has reached from 5-30 feet, varying according to the diameter of the coil used; this penetration appears to be still proceeding.

If the soil becomes wet through rain or fog the controlled area begins to shrink until the coil dries again. The only insulation of the coils is the spacing on wood, and this appears to be sufficient when the coil is dry. Insulated wire would probably be more effective in a wet climate, or else the whole coil should be hooded over. Painting the iron wire with a good metal paint would probably provide a sufficient insulation for most warm climates. There is possibly a limit in the diameter of the coils beyond which they may not increase in effectiveness; as the 10in. appears to cover six square miles, I have not tried any larger ones. It appears possible to trace the areas of different coils even when these overlap.

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## MINERALS

By Lt.-Colonel A. B. CUNNINGHAM, C.B.E., D.S.O.

In the article on "Trees" (*B.S.D.J.* II, June, 1937) mention was made of Mager's Rosette and a quadrant chart ( $180^{\circ}$ - $270^{\circ}$ ), and it was stated that minerals had been found between  $0^{\circ}$  and  $90^{\circ}$ . The results of experiments with minerals and with the latter quadrant will now be described.

Pendulums with different weights such as a black wooden ball, a hard-shelled almond, a bit of quartz, &c., have been employed; one sometimes as a check on the other. A quartz pendulum is adjusted for length, by hanging the suspending



black thread over the forefinger of the right hand and altering its length with the left hand until clockwise gyrations are performed. That length is then fixed in the pendulum notched stick.

With the rosette correctly oriented (violet at the north) the pendulum will gyrate when held at the cardinal points (N. E. S. and W.) and clear of the rosette. It seems that dowsing results are the readings obtained due to some influence emanating from the north and consequently the operator should not interpose his body between the north influence and the object under test. The operator should place himself on the south side of the rosette and hold the pendulum outside the rosette and at the southern point, where gyrations will be counter-clockwise.

Mineral "A" under investigation is placed on each colour in turn, starting with violet, then blue, &c.

The colours that convert the gyrations of the pendulum to oscillation are recorded. These colours are considered to be the "substitute" colours of the constituents of "A." When the object is quartz, a quartz pendulum has been employed, the weight is a piece of the same quartz as the object.

Assume that oscillation occurs when "A" is on blue and also when "A" is on green.

A quadrant chart marked  $0^\circ$  (north) and  $90^\circ$  (east) is now brought into use and correctly oriented.

Orienting can be done with the pendulum, but checking with a compass may prevent errors.

In some experiments of a different nature recently carried out it was found that there was only a margin of error for orienting of about  $5^\circ$  either side of north. Outside this  $10^\circ$  zone readings failed.

It is probable that, in all cases where orienting has to be done, a similar narrow angle of error may exist.

In consequence, correct orienting becomes important, and to assist in achieving this a compass, the variation of which is known, will be a useful help.

With no object at the centre of the quadrant circle gyration will only occur at  $0^\circ$  (north) anti-clockwise and at  $90^\circ$  (east) clockwise, but with "A" at the centre constant gyrations will be obtained also at certain angles between  $0^\circ$  and  $90^\circ$ . Moving the pendulum from east up to north is better than the reverse direction, and if this movement is carried out with the pendulum being made to gyrate slightly anti-clockwise minor readings are less likely to be missed.

Matches laid on the circumference of the quadrant form a simple means of marking temporarily at what angles real gyra-

tions have occurred. On re-checking remove any match which marks a false reading; touching the hands together between readings assists to eliminate residual charges.

Assume that with "A" at the centre persistent gyrations are obtained at  $52^\circ$  and at  $80^\circ$ . It has already been noted that blue and green are the substitute colours. Place a piece of blue cloth under "A." The pendulum now oscillates at  $52^\circ$  and gyrates at  $80^\circ$ . Substitute a green cloth for the blue cloth. The pendulum now gyrates at  $52^\circ$  and oscillates at  $80^\circ$ . The coloured cloths can be put under or over the object, but no portion of the object must project beyond the edge of the cloth.

A tabulated record, Appendix A, was compiled from tests with known minerals and becomes the means of identifying some of the constituents of an object through the angle readings and colours obtained by the methods described above. Facilities have not been available for compiling a more extensive reference.

"A" contains "52° blue" and "80° green"; from the tabulated list this means "Silica" and "Gold." "A" is therefore gold-bearing quartz.

All minerals so far tested have been found to have angles between  $0^\circ$  and  $90^\circ$ . These results differ in some cases from those that have appeared in published books.

It is necessary to make use of both the rosette and the quadrant chart with coloured cloths, as each provides a check on the results obtained with the other.

Should white be one of the substitute colours recorded by the rosette, it is necessary to cover the chart, if this is drawn on white paper, inside the quadrant with a non-substitute coloured cloth and then carry on as before. As one colour may cause oscillation on more than one recorded bearing, it is necessary to try the pendulum on each of the bearings for each colour put under the object.

Violet—green—yellow at  $15^\circ$  are thought to indicate chromium, and these same colours at  $28^\circ$  to indicate platinum, so if it was possible to have a mixture of these two substances under test the same results would be obtained on the two bearings  $15^\circ$  and  $28^\circ$ .

The same bearing may be common to more than one element; results indicate that  $13^\circ$  is associated with copper and with bismuth. Their particular colours provide the means for distinguishing between them—Copper (red)—Bismuth (violet and blue).

It will be realized that this method provides a direct means of finding the substitute colours of an element and may be a valuable assistance to prospectors, travellers and others who

may have neither the means nor the knowledge of chemically treating finds.

The question is, can everybody use the same list or are results peculiar to the individual, so necessitating each person compiling his own tabulated reference? The difference in some results, as has been mentioned, may to some extent be due to operators not keeping on the south side of the object. Uniformity of methods is more likely to produce uniformity in results.

The colours resulting from the system described can be employed with the forked-twig detector. If a pull has been obtained over some formation and no pull occurs when a blue-covered fork stick is substituted for the normal stick there is the probability that the formation is a quartz one. Blue is the substitute colour for quartz, but it is also so for other minerals such as zinc and tin. Nevertheless, the colour helps to eliminate many rather confusing pulls that may be obtained by those who are not experienced experts.

A miniature coloured cloth cap, shaped like a "fool's cap," placed over the point of junction of the fork seems to serve equally well. By having caps of different colours the same forked stick can be employed continuously, and by this means variations between one forked stick and another are eliminated.

The reason for calling the colours, as obtained by this method, "substitute" is that they can be used in replacement of the mineral. They can also be used in conjunction with the mineral as a sort of double precaution.

#### APPENDIX A.

Angle.	Colour.	Mineral.	Angle.	Colour.	Mineral
9°	Blue	Zinc	31°	Grey	Lead
11°	Violet, Yellow, Red	Sodium	41°	Black	Sulphur
13°	Violet, Blue	Bismuth	52°	Yellow	Silver
13°	Red	Copper	52°	Blue	Silica
15°	Violet, Green, Yellow	Chromium	63°	Blue	Tin
17°	Black	Calcium	80°	Green	Gold
19°	Yellow	Alumina	84°	Violet	Iron
28°	Violet, Green, Yellow	Platinum			

## SEARCHING WITH A QUARTZ PENDULUM.

The method of using a "sample" in order to search for the object of which it is a sample is sufficiently well known to require no description.

It is agreed that gold will re-act to gold, likewise copper to copper, and so on. From the quadrant chart and rosette any gold will be recorded as "80° green" and any quartz as "52° blue."

Many experiments, both indoors and in the field, have brought to light an interesting and important exception.

*Quartz will not re-act to quartz unless the pieces belong to the same formation.*

You cannot follow a quartz formation with a sample of quartz from a different formation.

Having found a promising lump of quartz you are afforded the possibility of finding the parent reef by using it or part of it as a sample. Having obtained a reaction, other points can be picked out which may indicate the probable run of this particular formation, as other quartz formations will have no effect.

This selective quality may be of great assistance, but there are often large detached pieces of the formation which may have been shifted quite a distance from the main reef. These "floats" may convey the idea that you have found the main reef and cause some confusion and disappointment.

The lump of selected quartz is broken up into several pieces, and three pieces (say about the size of half a walnut) are chosen. One piece is used as the weight of the pendulum, and the thread is adjusted for length until this weight gyrates either clockwise on its own or anti-clockwise over one of the other pieces of quartz. The pendulum stick is held between the other two pieces of quartz; an elastic band around them is an assistance in keeping the two pieces of quartz and the pendulum stick in contact.

These two pieces of quartz act in the nature of selective valves by only permitting radiations similar to their own to pass through; in consequence, the thumb and forefinger of the right hand must be in contact only with the quartz and not with the pendulum stick.

Reactions obtained at right angles to the run of the formation will include both the width of the formation and the effect due to part of the dip. With the two hands in contact (the right hand still holding the pendulum) gyration will be shown only over the width; the remainder of the earlier gyration area shows to which side the formation dips. The same result is obtained if a fine point of wire is fixed on the end of the searching

rod. Vertically below the width should be the "top" of the reef, by which it meant the uppermost portion of the reef that is solid; large detached and fallen-over slabs are not recognized as "reef" by this two-hand contact.

To obtain a "reef" reading it seems that the formation must be both solid (cracks do not matter) and continue to a certain unknown depth.

By searching with "gold" as a sample it does not seem possible to follow any particular formation in an area where reefs may be running parallel, intersecting, and are perhaps considerably bent.

Making use of different pieces of quartz or rock that may be found in the area, a map can be compiled which should convey a good and fairly accurate representation of what is likely to be found. As a surface method it may be quicker and cheaper than any known system and provide a more comprehensive picture.

The setting of the pendulum should be checked at intervals, as its length may require altering.

Dowsing inside adits and down shafts is of use in ascertaining which formation has been cut where several are parallel or a new one is met at depth.

My attempts at "depth" have been mainly unsuccessful. "Depth" figures added to the map would enhance its value and show at once which places could be most easily tackled.

Opportunities for checking the results obtained by this surface work have been few; nevertheless, the method may be of interest and of use to those who make mineral investigations.

## ASSAYING GOLD.

The following description will explain methods that have been tried to evolve a system by which the gold content of samples can be ascertained.

### A. "Balance" or "Lever" method.

If two similar nails are placed say 24 inches apart the pendulum which gyrated over one of them will oscillate when it is midway between the nails (*i.e.*, at 12 inches) as the nails are equal in quantity. If two nails are placed at the zero end and one nail at the 24 inches mark oscillation will occur at 8 inches from zero, *i.e.*, 2 [double "quantity"] x 8" [distance] equals "quantity" x 16" [double distance].

The principle of "Balance" or "Lever" became the basis on which the following was built. Powdered assays of known

gold value were obtained ranging from  $\frac{1}{2}$ dwt. to over 30oz. per ton; the majority being  $\frac{1}{2}$ dwt. and  $2\frac{1}{2}$ oz. The more this limit can be roughly equally sub-divided by the range of known assays the better.

Bottles of 1oz. were filled with these powdered and standard assays as far as possible to the same height, so that the contents represented very approximately equal quantities of powder and the gold contents would be proportional; a 1dwt. bottle would be twice as rich as a  $\frac{1}{2}$ dwt. one.

The sample to be tested, as finely ground and sieved as the standard assays, is put into a spare 1oz. bottle, which is filled to the same height to correspond with the standard bottles.

It has been convenient to use a 24" ruler to separate the two bottles under test; and sample  $\times$  its distance in inches to the point of balance = standard sample  $\times$  its distance in inches to the point of balance.

The sample, called, say, D 5, may first be tested against the  $\frac{1}{2}$ dwt. bottle in order to obtain a rough idea of its possible value. Assume a balance was obtained at 3" from the sample bottle; then D 5 may be about 3.5dwts. ( $= \frac{1}{2}$ dwt.  $\times \frac{2}{3}$ ").

The nearest standard assays are, say,  $2.5\frac{1}{2}$ dwts. and 4.7dwts.

With the 2.5dwts. readings are 14" and 10", so D 5 should be  $2.5 \times \frac{14}{10} = 3.5$ dwts.

With the 4.7dwts. readings are  $10\frac{3}{8}$ " and  $13\frac{5}{8}$ ", so D 5 should be  $4.7 \times \frac{8}{9} \times \frac{8}{10\frac{3}{8}} = 3.6$ dwts.

As this method only involves carrying about twenty small standard assay bottles and a few empty spare ones for new samples it may be considered a practical method for work in the field.

When dealing with pyritic samples difficulties may arise. In one sample heavy with pyrites the only way I could arrive at the correct answer was when the ruler lay east and west and I was on the south side of the bottles facing northwards. It will be best always to adopt this position.

A sample from the residual of alluvial washings, which might be considered as in a very fine state of subdivision gave incorrect results until it had been crushed to the greater fineness corresponding to the standard powders.

#### B. "Distance" method.

If a standard assay bottle is placed at one end of the ruler, "gold" gyrations will be shown over it. If this gyration is converted deliberately to oscillation and the pendulum is moved along the line of the ruler, gyrations will occur at some point distant from the starting point of oscillation. This distance is a proportional indication of the richness of the gold content



between the standard and the sample ; twice the distance would indicate twice the richness.

This method seems to be independent (*a*) of direction, since the same readings will be obtained in an east-west direction as in a north-south direction, and (*b*) of bulk, since a small or a larger quantity each give the same result.

As the starting point for measurement is the spot over which oscillation was deliberately made, different readings will be obtained in the case of an uncrushed sample according to where this spot is situated, and this is no doubt due to the uneven distribution of gold in an uncrushed sample.

Correct results have been obtained from powdered samples contained in a flat envelope. The whole distance occurred within the flat area of the powder.

This arrangement may be more convenient when dealing with low-value samples, as it is less easy to measure small distances with a vertical container at a different level to the ruler.

This method may provide a quick and simple way of ascertaining in the field which may be the more rich portion of a formation, as the size of the sample pieces does not affect results.

For "assay" purposes this method was discarded, as the distances were normally too small to give such close results as may be obtained by methods *A* and *C*.

#### C. "Turns" method.

If a piece of gold-bearing quartz is placed at the centre of a correctly oriented circular chart ( $0^{\circ}$  to  $360^{\circ}$ ), gyrations will be shown on the pendulum at  $80^{\circ}$  on the circumference for the gold. If the pendulum is moved circumferentially clockwise round the object gyration will again be shown at some point which may be less than one complete circle (in the case of a sample with very small gold content), or after many complete turns and a bit more in the case of richer samples.

It was thought that by plotting the readings from known assays with "Turns" on a vertical co-ordinate and "dwts. and ounces per ton" on a horizontal co-ordinate two curves would be obtained from which values for new samples could be read in a simpler manner.

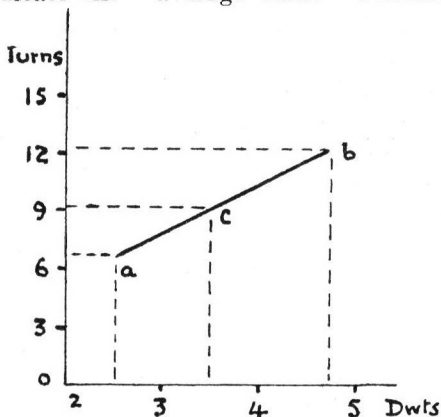
This idea was found to be no good, as "Turns" readings for the same sample vary at quite short intervals of time. This misfortune also applies to the "Distance" method.

"Turns" obtained are independent of the quantity at the centre ; a small or a large amount of the same powdered sample will give the same number of "Turns" if readings are carried out rapidly one after the other.

The gold in a lump of quartz is not evenly distributed, so it is of interest that three readings obtained from three different

positions of a piece of quartz at the centre of the circle gave the same result in number of "Turns." From this it is inferred that "Turns" readings indicate the "average value" content of the lump. This could be verified by crushing the sample and then re-testing the powder.

Carrying on with the sample D 5, mentioned in the "Balance" method, it is necessary to take readings of (1) "under" the sample value—2.5 dwts.; (2) the sample D5; and (3) "over" the sample value—4.7 dwts., and these should follow one another as quickly as possible.



As gold was to be under test, it was found convenient to re-number the circumference and make  $0^\circ$  at the position where  $80^\circ$  was (north becoming  $280^\circ$ ), so that the new  $0^\circ$  round again to  $0^\circ$  made one "gold" turn.

The results were for (1) 2.5dwts. gave 6 turns and  $\frac{270}{360}$ ; (2) D 5 gave 9 turns and  $\frac{100}{360}$ ; 4.7dwts. gave 12 turns and  $\frac{90}{360}$ . On squared paper plot the results of (1) and (3). In the diagram "Turns" are on the vertical line and "Dwts." on the horizontal one. The points *a* and *b* will result. Join *a* and *b*. The horizontal line from  $9\frac{100}{360}$  will cut *ab* at *c*. A vertical line from *c* will cut the horizontal "value" line at 3.5, indicating the assay value of sample D 5 as 3.5dwts., which agrees with the results obtained by the "Balance" method.

The line *ab* is probably really a curve, but a straight line gives sufficiently accurate results provided the "under value" assay and the "over value" assay do not constitute too big a gap.

Should results not turn out as happily as in this example it may be accepted that the "Turns" method is more likely to be nearer correct than that obtained by the "Balance" method, and this latter should be repeated.

When performing any assay test it is safer to hold some gold object, such as a ring, in contact with the pendulum stick. "Green" can be used as a substitute if gold is not available. Also, in all these methods it is best for the operator to keep on the south side of the assays and samples and face towards the north.

## ERNEST CHRISTIE

Mr. W. E. M. Lazenby writes:—"By the death, at the age of 74 years, of Mr. Ernest Christie, of Pollingfold, Ockley, Surrey, the Society has lost one of its first members and also one of its cleverest diviners. I have had the pleasure of experimenting with him in the use of the Divining Rod for a number of years, and his discoveries have been of great assistance to myself and also, I believe, to a great number of other members with whom he corresponded. He was, unfortunately, of a rather shy and retiring disposition, and I am sure that if he could have been persuaded to attend the meetings to speak and demonstrate on his discoveries relating to the uses of divining rods his audience would have been really astonished, and although he has now passed from our ranks his work and his name will not be forgotten. Personally, I have myself lost a very dear friend in him and one who will always be remembered."

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## NOTES AND NEWS

Mrs. Higgon writes: "I was gardening yesterday and pulled off my gloves once or twice doing delicate work. On coming indoors rather late I found my gold wedding ring (which was rather loose) had slipped off, evidently when I had removed my gloves. It was then too late to look for it, but this morning I went out with my divining rod to about the spot where I had been working, with much heather and bracken about, holding another gold ring as a sample, and to my intense pleasure my rod firmly went down at a certain spot, and there, hidden in the heather, was my ring.

\* \* \* \* \*

Mr. Chaplin writes: "I have been experimenting recently with my rod and find that it is possible to pick out one's parents from among a crowd. To do this, I had the good fortune to cut my thumb while sharpening a knife. I immediately cut a twig from the hedge and let the blood drip on the point, when,

gripping the twig in my hands, I found that instead of pointing to myself it pointed to my father.”

\* \* \* \* \*

As reported in the *Somerset County Herald* of July 24th, the Taunton R.D.C. asked Mr. Clode, a water diviner, to inspect certain sites at Churchstanton.

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According to the *Irish Times* of August 8th, public bodies in County Tyrone now place the most implicit confidence in water diviners. The Omagh R.D.C. recently employed Mr. T. M'Allister, of Dromore, to find water for Mullaghmore. In discovering a good spring, he solved a problem that had baffled the Council for 30 years.

\* \* \* \* \*

The *Craven Herald and Pioneer* of August 13th contained a picture of Mr. H. E. Scott. (B.S.D.) demonstrating at Redforth Gill before members of the water company, which was seeking additional sources of supply.

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The *Hereford Times* of August 25th has an account of a Hereford Rotary luncheon at which Mr. Grevile Phillips, the County Land Agent and County Land Valuer, related how he became aware of his gift as a water diviner.

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According to the *Leicester Evening Mail* of August 18th, the *Birmingham Gazette* of August 19th and the *Coalville Times* of August 20th, the Surveyor of the Ashby-de-la-Zouch R.D.C., Mr. J. P. Cook, was successful in finding water at the Heather housing site. The Chairman, Mr. T. Varnan, hitherto a disbeliever, was converted.

\* \* \* \* \*

The *Illustrated Leicester Chronicle* of September 4th contained an article about Mr. John Clarke, of Ab Kettleby.

\* \* \* \* \*

The *Surrey County Herald* of September 10th described how a dowser friend of the Vicar of Worcester Park, the Rev. S. G. Brockington, has discovered two streams of water beneath

the church, believed to be responsible for the flooding of the church boiler-room.

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An article in the *Irish Times* of September 29th states that the Department of Local Government in the Free State is unfavourable to the employment of water diviners, and refuses to sanction the payment of fees. Nevertheless, the engineer of the Dublin Board of Health, Mr. F. P. Russell, who is himself a water diviner, is a firm believer in the use of the rod in conjunction with a geological map.

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The *Oxford Mail* of September 30th contained a picture of Mr. Timms at work with his rod at Sandford-on-Thames.

\* \* \* \* \*

In the *Oxford Mail* of October 9th is an account of a meeting of the Chipping Norton Council, at which it was decided to engage the services of a water diviner with a view to increasing the water supply. In the issue of October 15th it was reported that a diviner had inspected several sites.

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The *Royal Cornwall Gazette* of October 13th contained an article about the well-known water diviner, Mr. Sam Stone, of Polgooth, St. Austell. He has been water caretaker for the St. Austell Council since 1922, and during that time has been of invaluable help to the Council, particularly in discovering a supply for Trewoon.

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According to the *Cheltenham Chronicle* of October 16th, the Northleach R.D.C. is to engage a water diviner, with a view to discovering an extra source of supply for Eastington.

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An article in the *Daily Telegraph* of October 20th tells of the opening of a pumping station, to supply water to six villages in Dorset. The source of supply was found during the great drought four years ago by a water diviner, Captain F. T. Lee-Norman; the plant has been provided at a cost of £48,000.

\* \* \* \* \*

As related in an article in the *Carmarthen Journal* of October 29th, a demonstration of water divining was provided at Cwm

Field, Abergwili, by Mr. T. O. Lewis, contractor, of Pembroke Dock, and Mr. Henry James, of Portis, Llangain, when they were searching for water for the village. The spots selected were in very close proximity.

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According to the *Birmingham Post* of October 23rd and the *Landagents' Record* of October 30th, Mr. John Whitmore, whilst dowsing on the site of an ancient British camp, discovered what are possibly the foundations of ancient buildings.

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As recorded in the *Edinburgh Evening Dispatch* of October 30th, Mr. W. Hall (B.S.D.) gave an address on water divining to the Newton St. Boswells Literary and Debating Society on their opening night.

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It was reported in the *Warwick Advertiser* of October 30th that the Chairman of the Southam U.D.C. is in favour of calling in Mr. Mullins to find fountain heads in connection with the water supply of Priors Marston.

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## REVIEWS

### THE ORIGIN AND PROPERTIES OF THE HUMAN AURA.

By Oscar Bagnall. *Kegan Paul*, 7s. 6d.

The late Dr. W. Kilner, the X-ray specialist, claimed to be able to see an "aura" around human beings. Mr. Bagnall has continued Dr. Kilner's experiments; and finds that by first looking at the sky through a blue solution of dicyanin (which cuts off the green and red of the spectrum), and then looking at a person standing against a black or dark red background in a dimly lighted room, he can observe this aura, which he finds consists of two parts: an inner brighter part extending two or three inches, and an outer portion extending to a foot or more in places. The outer aura, especially, he finds is very variable, depending upon a person's state of health and nerves, and on the person's general level of mentality.



These statements bear some resemblance to the "aura" which some students of the occult have declared they can see surrounding human beings. However, Mr. Bagnall tries to make out that there is nothing occult about his aura; but that its radiation is entirely physical and consists of rays in the near ultra-violet portion of the spectrum. He suggests that the inner aura is due to some ionising radiation proceeding from the body. But if this is so, the near presence of an experimenter's fingers near a charged electroscope should rapidly discharge it, which certainly does not happen.

Our author suggests that the outer aura is ultra-violet light of a wavelength between 3,000 and 4,000 Angstrom units. But this can hardly be so, since these rays would travel through miles of air; while the aura rays are somehow stopped after about a foot. Moreover, this ultra-violet light would not be appreciably scattered in travelling through a foot of air; and so could not produce any aura. The author seems not quite to appreciate the difference between an aura and self-luminousness. An opalescent electric light bulb can emit light; but it is not surrounded by any aura.

There is also the very important fact that the aura is found not to be visible if the person is in a completely dark room; whereas, if the aura was due to any *light* (including this term invisible light) *emitted* by the subject, a perfectly dark room would afford by far the best condition for observing it. In the face of this fact one inevitably feels that the light of the aura *is* the incident light which, by means we do not in the least understand, has somehow been scattered in the neighbourhood of the body by some influence emanating from the body.

This suggests that it is imperatively necessary to find out just what wavelength of ultra-violet light a person placed in a dark room needs to be illuminated with in order to make his aura visible. Under these conditions perhaps all persons with normal eyes could be enabled to see the aura.

It is to be hoped that some physicist with access to a spectroscopic laboratory will interest himself in this work, making use, in the first place, of Mr. Bagnall, who has gradually developed his eyes till he can now see the aura very much better than he could at the commencement of his researches.

Till such experiments as have been suggested have been carried out, even the existence of Mr. Bagnall's aura can hardly be classed as an established scientific fact.

Various biological considerations in the book as to the bodily tissues which produce the aura, and considerations on its inheritance, &c., seem to the reviewer too premature to be of much value in the present state of our knowledge about it.

A.E.

## LE PENDULE MAGIQUE.

By MADAME DE MERSEMAN. *Maison de la Radiesthésie*, Paris.

Mme. de Mersseman has published a second edition of her book, *Le Pendule Magique*. This book, written in a most comprehensible way, gives the beginner and also the adept a long list of her own experiences. She touches all the grounds in which the pendulum can be used, and after describing how she does it, she gives some practical cases in which she has had good results. It is without the slightest doubt a most fascinating book, full of personality. Certain radiations called *Revelatrices* (Revealers) come from certain organs of the body. Others called by her *Immortelles* (Everlasting) can be found even after the death. She writes all the time of "series," and this, in my mind, is a mistake, as no one dowser will have the same numbers, and, therefore, must repeat for themselves, and this a great number of times, the same experiments before being able to arrive at a result. The very remarkable point in this book is that she does not limit herself to her own methods, but gives those adopted by many well-known dowsers. At the end of the volume there is a very comprehensive list of authors and makers of instruments used for our various works.

### BULLETIN DE L'ASSOCIATION DES AMIS DE LA RADIESTHESIE.

The August and September number of the Bulletin gives the second part of H. Mellin's talk on the Auras.

There is an account of a few new books, amongst them *Le fluide guérisseur* (the Healing Fluid), by Pollak. He is a Swiss healer who uses the pendulum to diagnose the illness and then applies a magnetic fluid for healing purposes.

G. Brochenin has written a large volume on the pendulum and the dowser's rod.

The October number gives a very good resumé of Abbé Mermet's life. We join all his friends in sending them and his relatives the expression of our deep sympathy.

In Germany, they have studied the question of what are called *Ondes Nocives*. After examining the various appliances proposed for fighting this plague, they divide them into four classes. In the same country, the dowsers have to join a sort of trade union.

F.B.

ZEITSCHRIFT  
FÜR WÜNSCHELRUTENFORSCHUNG.

(May, June and July, 1937).

*May.*—In this number, Dr. Franz Wetzel publishes a long article upon the work of E. K. Müller, of Zürich.

This investigator “seeks to bring exact proof that physically measurable anomalies (disturbances) occur over certain places on the earth’s surface in which true motions of the rod occur. He also seeks further to prove that in man himself energies are active which are in some way related to the earth’s and atmospheric fields of force.”

According to Secchi, a former astronomer to the Vatican, there was an apparent connection between changes in the earth’s magnetism and severe storms. Fortin found, however, that even the most intense storm was but little connected with movements of the magnetic needle. He constructed an apparatus, however, the principles of which are sketched in the article, and Dr. Wetzel maintains that the apparatus gave good prognostications of the weather.

A Swiss apparatus maker took up Fortin’s idea and applied it to water finding. He patented his apparatus in 1907, and Dr. Wetzel says that this instrument is still being used in Algeria and North America with good results.

Müller, after many years of work, has produced an improved type of Fortin’s apparatus, and has registered the swinging of the needle by means of photographs. Dr. Linke, professor of Frankfort University, constructed a similar apparatus, and gave as his opinion that the movements of the needle were due to draughts. This Müller denies, and produces evidence of his own to prove that the movements cannot be due to draughts. Dr. Wetzel thinks that the lack of support for Müller is due to prejudice, and states that, besides making other experiments, Müller has satisfactorily answered Linke’s objections, by showing that the needle has moved in the proximity of a motionless fleck of thistledown. In his opinion, therefore, the apparatus will be of great value in the investigation of the physical side of the problem.

Dr. Kurt Osswald mentions a publication by Dr. Rothacker and Hans Degler (*The magic twig and its problems*, Hippocrates, 1927, parts 13, 14 and 15). In this, the authors give an account of their work and conclusions on the connection between reaction zones and the incidence of cancer. They are of the opinion

that there is such a connection, and state that they will only be convinced to the contrary by valid results of research.

The remaining pages of this number are devoted to official matters published by the Reichsverband, among which are the rules for the faculty of dowzers in the Reichsverband. Dr. Osswald also issues an urgent appeal, on behalf of the committee of research, to all workers who are interested in the effect on health of the so-called earth rays. He wishes them to send him accounts of their work according to a detailed scheme which he outlines.

He wishes for this information, as, according to an official publication "The Reich department of public health has till now not learnt of a credible example of the perils detected by the dowzers (the 'earth ray' zones)."

Dr. Beyer also refutes an unjust statement in a newspaper. The statement was to the effect that a spot found by a dowzer was of no use to the firm which had employed him. Dr. Beyer enquired into the matter, and found that while the statement was true in the letter, yet that it was entirely false in spirit. The spot was of no use to the firm, to be sure; but the reason was that they had, for other reasons, to move the site of their buildings to a distance of some kilometres from the spot.

*June.*—Dr. S. Buchberger contributes an article on German ore deposits. The article is of general interest, but does not deal specifically with dowsing.

Dr. Raoul Braun-Fernwald gives his usual interesting review of foreign publications on dowsing. Besides the March number of the *B.S.D.J.* he deals with a large volume of French publications.

Four contributors give short notes, which are classified by the Editor under the heading "Points from investigations." In the first note of this series, the writer refers to a former article under the heading "Röntgen portraits of the earth's surface." This notice, which was published in the *Zeitschrift* of March, 1937, was criticised by Professor H. Kraft of Stuttgart. Professor Kraft thinks that the conclusions drawn in the notice were not correct, and that the phenomena observed were probably due to air currents. The photographs were taken by a pilot who was of the opinion that these phenomena were not due to air currents but to some form of radiation from the flowing water beneath, and the contributor says that he must keep to the opinion of the pilot until Professor Kraft can produce further evidence that this opinion is wrong.

The next article states that the students of the German institute for psychiatric investigation at Munich have definitely established

a connection between radio-activity and the incidence of goitre.

The third of these notes refers to the importance, to dowsing investigators, of the study of "neutron" rays.

The fourth note does not refer to actual research, but criticises the attitude of official scientific workers towards investigations with which they are not in sympathy. It hails with pleasure the support given by the publication *Das Schwarze Korps* to a book by Dr. Franz Lawaczek. This book does not deal with dowsing, but with Dr. Lawaczek's views on certain aspects of electrical engineering, which had been adversely criticised by Dr. Schult, the president of the Association of German Engineers.

A review is published of a book on minerals, by L. Rüger. The author mentions the diviner's rod, to which he is not fundamentally adverse; but he does not believe in the more exaggerated claims of its adherents.

The number continues with notices of meetings to be held, and which have been held, under the auspices of the Reichsverband; and with other official notices, concluding with an obituary notice of Professor Johannes Walther, of Halle. Dr. Beyer writes in this notice that dowsing has suffered a great loss, as "he was singularly fitted to bridge the gap between the dowers and their geological opponents."

*July.*—A brief preliminary timetable of the Amberg conference is published in this number.

Dr. Kurt Osswald contributes a paper giving simple instructions for map reading and plan making. A lack of knowledge in this simple subject lessened the value of the Harzburg experiments. Dr. Osswald is very anxious that there shall be much more clarity in the statements of results, and gives as a case in point the necessity of the plotting of the course of a fault as a line, and not as a zone.

Johs. Meyer writes on the technique of holding the rod. He considers that each man has an optimum method of grip of his own. He came to this conclusion from his own experience. He tried to use the diviner's rod with the grip recommended to him by a known dowser. He found that he was quite insensitive when using this method of grip; but after using a grip of his own he found that he was a dowser. This he has tried with a number of subjects, each of whom had a peculiar grip which was best for himself.

Dr. Braun-Fernwald reviews various French publications, also the June number of the *B.S.D.J.*

A little space is also given to an account of some practical successes in water divining.

In the official notices which conclude this number are published two notices, one from the Reich Ministry of the Interior, and the other from the Ministry of Justice. Recent publications of the Zeitschrift (see above) have had references which have led one to fear that the official view upon dowsing has not been a favourable one. These two announcements express a tolerant attitude towards dowsing, while the Ministry of the Interior expresses the hope that the workers on the subject may further investigate the still unsolved problem. The Ministry of Justice recently issued a warning against what was described as the humbug of work with rays. It now pronounces, in its official publication, that this warning is not directed against genuine workers on the subject, but only to protect the public from charlatans and ne'er-do-wells.

Dr. Kurt Osswald recently appealed for information concerning damage by earth rays to man or beast. The response to his appeal has been small, and such cases as have been given have not been verified by official umpires.

He again announces the policy of the Verband, which demands :

- (1) a careful and unprejudiced test of reported observations, and
- (2) a fundamental knowledge of the problem of the diviner's rod, for without this knowledge every research into the "earth ray" problem is without meaning. The dowser, indeed, is not the object of the research, but its instrument, and it may well be expected that a director of research shall have at least some control over his instruments and their functions.

The Faculty of Dowsers again appeals to all professional dowsers to enter its ranks.

C.S.T.



## SOME BOOKS ON DOWSING AND HUMAN RADIATION

- The Divining Rod*, by Sir William Barrett and Theodore Besterman : Methuen, 7/6.
- Water Diviners and their Methods*, by H. Mager (translation) : Bell, 16/-.
- The Modern Dowsers*, 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<sup>e</sup>), 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.
- Investigación de aguas subterráneas*, by Bartolomé Darder Pericás.
- Handbuch der Wünschelrute*, by Carl Graf von Klinekowsstroem and Rudolf Freiherr von Maltzahn.
- Die Wünschelrute*, by Hans Falkinger.