JOURNAL
OF THE
BRITISH SOCIETY OF DOWSERS

Vol. II. No. 11 March, 1936

CONTENTS

PUBLISHED BY
THE BRITISH SOCIETY OF DOWSERS
BACKWOODS, LINDFIELD, SUSSEX

Price to Non-Members, 1/-

BRITISH SOCIETY OF DOWSERS

COUNCIL

President :

COLONEL A. H. BELL, D.S.O., O.B.E.
Address : Backwoods, Lindfield, Sussex.

Hon. Secretary and Treasurer :

T. R. WHITLEY, ESQ.
Address : White Gates, Lindfield, Sussex.

Miss M. E. Macqueen
Dr. Hector Munro, M.B.
Major C. A. Pogson, M.C.
Captain W. H. Trinder

OBJECTS OF THE SOCIETY

(*a*) To encourage the study of all matters connected with the perception of radiation by the human organism with or without an instrument.

(*b*) To spread information amongst members, by means of a journal, lectures and other means, about the use of dowsing for geophysical, medical and agricultural and other purposes and for tracing objects animate or inanimate.

(*c*) To keep a register of dowsers for water, minerals, oil, and for other purposes.

RULES OF THE SOCIETY

I.—Membership.

The Society is open to all persons interested in radiation-perception.

The Council has power to appoint honorary members.

II.—Subscription.

The subscription is five shillings per annum, or three guineas for a life member.

III.—Management.

The Society will be managed by a Council consisting of a President, who will act as Chairman, and five members, one of whom will act as Treasurer and Secretary.

The President and members will be replaced as necessary by the Council, appointments being confirmed at a General Meeting.

All questions regarding the publication of the journal, lectures, meetings, etc., will be settled by the Council.

Decisions of the Council will be arrived at by correspondence if necessary, the facts being recorded in the Minute Book.

Decisions will be decided by a majority vote, the Chairman having a casting vote.

The Council has power to co-opt other members for special purposes.

IV.— Accounts.

The financial year will be from July 1st to June 30th.

Accounts will be published annually within two months after the end of the financial year.

Accounts will be audited privately.

V.—General Meeting.

A General Meeting will be held annually, and other meetings when considered necessary by the Council.

JOURNAL OF THE
BRITISH SOCIETY OF DOWSERS
Vol. II. No. 11 March, 1936

NOTICES

A lecture was given at 74 Grosvenor Street on November 19th by Mr. H. M. Budgett on "Local Variations in a Penetrating Radiation and their Connection with Water Divining." This lecture was specially printed and is issued free to members.

* * * * *

A Lecture was given by Mr. Francis Mapson on January 14th on "Buried Treasure and Black Magic in Africa," and is printed below.

* * * * *

Mr. Mapson has received letters from several members expressing regret that he did not speak at greater length on the general subject of Black Magic. He will be happy to supply further information to any member on inquiry. His address is at Kingcup Farm, Slough Road, Denham, Bucks.

* * * * *

We have received the first number (November/December, 1935) of a new periodical, *La Radiesthésie Médicale*. The editor is Dr. Y. Barry and his office is at 76 Rue de l'Hotel-de-Ville, Lyon. The annual subscription is 9 francs.

* * * * *

Messrs. Windley Bros., of Crown Works, Chelmsford, will supply angle rods as described by Mr. Budgett in his lecture, with a brass handle fitted with a ball at the floating end whereby friction is practically eliminated, at 6s. 6d. each, postage paid to any address in England.

* * * * *

Messrs. Devine & Co., of St. Stephen's Road, Old Ford, London, E.3, will supply pendulums of whale ivory (prepared from the teeth of the sperm whale), in which the string is threaded through a boss screwed into the pendulum, at the price of 5s. each. They also supply whalebone for rods, cut to size.

* * * * *

Pendulums of rosewood can be obtained from the Hon. Secretary at 3s. each.

* * * * *

Communications for the Editor and enquiries should be sent to Colonel A. H. Bell, Backwoods, Lindfield, Sussex.

WATER DIVINERS OF INDIA

(Address to the British Society of Dowsers, read on June 1st, 1934, by Major C. A. Pogson, M.C.).

During the tenure of my appointment as Water Diviner to the Government of Bombay, one of the most interesting investigations that I was called upon to carry out was that of examining the claims of Indians who affirmed that they were able to locate underground water. In an endeavour to discover individuals who really could show a high and useful percentage of success, I not only carried out searching enquiries in regard to the past work of those who presented themselves as candidates, but also put them to a series of practical tests. In addition, a similar procedure was adopted with all individuals of whose reputed abilities in this connection I learnt in conversation with the villagers, although considerable search frequently was necessitated before these men could be traced and found. As a result of my researches, extending over a period of five years, I was fortunate enough to obtain unparalleled opportunities of gaining an insight into the many methods employed by the exponents of this "faculty" in India.

To those who have seen water divining, or "dowsing," as practised in the West, it is common knowledge that some dowsers employ a rod of some description, some a pendulum, while others use their hands alone, without any medium. Whether an indicator is employed or the hands used alone, the fact remains that the arms are utilised by western "dowsers" to enable them to locate underground water supplies. On the other hand, during all my journeyings in India through many rural areas, during which I covered many thousands of miles and investigated the claims of a large number of Indians, I did not happen on a single case where the arms were employed in the fashion of the West.

An individual professing to be able to locate underground water is known by several names—"panade," "jalshilpi," &c., dependent on the locality and language. Methods employed are not common to localities or regions, as I found evidence of the different systems in various parts of the country.

It may be of interest if I relate my experiences and describe the various methods which came to my notice.

As a result of my investigations I was able to separate these methods into five groups. In compiling lists of individuals I categoried them under these headings, which, as a means of convenience, rightly or wrongly, I named (1) Physical, (2) Botanical, (3) Geological, (4) Astrological, (5) Psychical.

Those I included under (1) Physical—either employed their senses of (*a*) sight, (*b*) hearing, (*c*) smell, or (*d*) they experienced general muscular or nervous reactions.

The Botanical Group included those who relied on the growth of certain trees or plants to indicate the existence of underground supplies.

The Geological Group consisted of men who examined either (*a*) relative position or shape of stones, or (*b*) description of soil.

The fourth Group of exponents professed to be able to locate supplies by astrological calculations; while under the last category came men who employed no appreciable method but appeared merely to exercise an effort of will power or mental concentration. In some cases the performance of work was preceded by certain rituals which varied but, as might be expected, were principally intended for the edification of onlookers. I would here emphasise, however, that whichever method employed, those working by such method invariably adopted the same procedure; hence immediately an individual commenced operations it was possible at once to classify him. I will next proceed to describe the modus operandi of individuals falling under the different groups.

(1). Physical.

(a) *Using sense of sight.*—On being shown the field or area in which it was desired to locate a water supply, men employing this method walked to various points, stopping occasionally to scan the ground surface at some distance from them, frequently shading their eyes with their hands, sometimes erect and sometimes bending as if to obtain a view of the surface from a different angle. These men stated that they were able to see the water reproduced on the ground surface, sometimes as if it was a surface stream or sometimes in pool-like form. Having observed the water in this manner, they would make a mental note of its position by observing any objects on the ground coinciding with the water "reflection," and then walk direct to the spot. These men, without exception, informed me that it was considerably easier to work on a bright, sunny day than on a cloudy one as the "picture" showed up far more distinctly in the sunshine.

(b) and (c). *Using senses of hearing and smell.*—The procedure in this case consisted of going to various points about twenty feet apart, there lying flat on the ground and placing either an ear or the nose close to the ground, dependent on which method was employed, and listening intently or smelling carefully. These men claimed that they were able to hear the water flowing or smell dampness, as the case might be. The more

zealous and conscientious exponents of these methods used to crawl all over the area to be prospected, listening or smelling at frequent intervals. As burrs and other prickly things abound, it can well be imagined that the beardy ones emerged from their survey looking very much the worse for wear. In the case of those who employed their sense of hearing, I noticed on several occasions that where a man appeared to be in doubt, he used to make a small hole, pour a handful of water into it, wait until it had soaked in, and then listen again. They explained this action by saying that the presence of a little *isolated* dampness served to amplify the sound of the underground water.

Both these classes were unable to work in the monsoon or after rainfall, apparently because, owing to the general moisture, the sound was so diffused as to make it impossible to locate its exact site.

(d). *Muscular or nervous reactions.*—These men walked all over the area to be prospected, and when they came on spots where they claimed supplies existed, expressed its reaction by various body movements—some trembled all over, some shook at the knees, others shivered violently. One man I remember shook and shivered so violently that he frequently fell down and was rendered incapable for the remainder of the day. Considerable investigation of this man revealed that he shook more often than not where there was no water, and his percentage of success was very low. His career as a water diviner, as far as I was interested, was cut short one day when, after a more than usual violent agitation, he fell down in a fit. First aid was rendered, and, on regaining consciousness, he declared that a murder had been committed on the spot where he fell and that he had been assailed by the evil spirits which haunted the spot!

(2). Botanical Group.

Those operating by this method proceeded to search for certain trees or plants said to grow over subterranean water. Some of them merely accepted the presence of a particular tree or plant as indicating the existence of water; others, however, relied on a certain grouping or formation of the specified plants, &c., and unless this existed, returned a negative report. There was nothing very mysterious in this method.

(3). Geological Group.

These men were sub-divided into two classes; one, which might be called the Primitive, and the other a more advanced or scientific edition. In the former case, individuals merely searched for certain shaped stones or stones with a certain "feel." In the latter case, candidates provided themselves with a magnifying

lens. They dug a series of small holes about six inches deep, and extracting some soil from the bottom of these holes, arranged these samples in order. Each sample was then subjected to close scrutiny through the lens, and the prediction of the existence of water or the reverse was based on the result of these inspections.

(4). Astrological Group.

The modus operandi of these savants was to retire beneath the shade of some nearby tree and there to work out obtruse astrological calculations, based on position of planets, names of owner of land, of father's name, of village, shape of field or area, situation of same in relation to owner's home and several other factors. Occasionally some bystander would be asked to name some animal or object, and this was duly incorporated in the calculation, and after a lengthy period a decision was announced. Frequently only a certain corner of the field or restricted portion of the area was indicated by the man as a result of his deliberations, and he would then proceed to combine the geological method with his own, inasmuch as with a lens he would examine the soil in the indicated restricted area.

Before passing on to my last Group I would mention that instructions for finding water by the three previous methods are laid down in ancient writings of the country, and I believe I am correct in stating that in a college of one of the Indian States there exists, or used to exist, a special class of instruction to impart this knowledge to prospective water diviners.

I now come to my last Group.

(5). Psychical.

These men, on arrival at the scene of operations, stood for a few moments in deep thought, and then perhaps would walk direct to a certain spot, which they indicated as being the correct one for a well. Unfortunately, I did not happen on many of these men and those I did, all spoke different languages, which served to complicate the situation as far as my investigations were concerned. In spite of protracted conversations and enquiries I was unable to elicit any particulars beyond that immediately they concentrated on the matter, then at once "they just knew" whether or not water existed. In an endeavour to find some working basis, one day, while conveying one of these men to a field where a well was required, I suddenly asked him what was the shape of the field. After a moment's thought he drew a shape on his hand with his finger. It so happened that he was a complete stranger to the locality; further, no one but myself knew to where I was going and I myself had not been to the field. On arrival, I observed that the man had

correctly foretold the shape, which was unusual, hence easy to identify with his diagram. Subsequently I made a practice of springing the same question on all candidates. I found that men employing other methods were totally unable to solve the problem; on the other hand, when the question was put to men falling under the Psychical Group they were able to supply information, but not with the same accuracy as the first man.

I may be pardoned if I digress at this point to relate a brief incident. Two or three years ago, while on the sands of Brittany, I was watching two dogs at play. The game finished; one dog stood still a moment and then made off hurriedly towards the sea, then a long distance out. I presumed that he was going to have a bathe, but no! he galloped direct to a spot, very near the sea, and there commenced to dig a hole. This stirred my curiosity, and I went to see why the animal was doing this. The hole was about six inches deep and, to my surprise, I saw a spring bubbling up from the bottom. Dipping my finger straight into it to avoid the sea water seeping in from the sides of the hole, I discovered the spring was sweet water. At once there flashed into my mind the picture of another very different scene—a boiling sun, parched fields and a gaunt figure with matted hair and bedaubed forehead, who stood for a moment and then walked direct, without any sign of hesitation or doubt, to his selected spots with, as it proved, a high percentage of accuracy. It was with real regret that I learnt that he had fallen a victim to cholera, for I held many a conversation, instructive and interesting, with this mystic, the original of my No. 5 Group.

One mysterious example which came to my knowledge and which perforce I had to classify under my last Group, deserves special mention. I had been called in by the custodians to investigate why a well in a temple precinct, where the supply had never been know to fail, had suddenly become dry. After an examination I gave it as my opinion that the spring supplying the well had altered its course by a few feet (probably owing to a new fissure opening up as the result of some earth movement). I marked its new course and suggested means of re-tapping it. My activities had been watched by countless people assembled on neighbouring house tops, and when I pegged out what, in my opinion, was the new course of the spring, I heard sounds of astonishment from the assembled sightseers, and enquired the reason thereof. I was informed that the line was as indicated by an old man of low caste, who dwelt in the town and, furthermore, who had indicated the exact position without even going near the temple. This aroused my curiosity, and I waited out-

side the temple walls while search was made for him in the bazaars. He was brought before me and I questioned him in regard to his method. Considerable questioning was necessitated, as his explanations were hard to follow, but briefly his procedure was as follows: While allowing a little dust to trickle through his fingers he recited a few "mantrums," after which he rubbed his right hand slowly three times across his left shoulder and held it up in front of him. He then concentrated his mind on the place where water was desired and affirmed that he saw a picture of the place on his hand. Then, by moving his hand nearer or further from his eyes or to the right or left, he stated that he was able to see, mirrored on his hand, the surroundings of the original picture. Similarly, by dropping his hand below the level of his eyes, substances and rock structures below ground surface came into view. He added that he had located water by his method at a distance of 40 miles from him. Independent witnesses testified that the man was speaking the truth, and mentioned various examples of his work. In the case of the temple there was a possibility that he might have been operating under the "sight" method; hence I decided to put his method to test on the spot. Before coming to the temple I had been working at a village some seven miles distant and had there located a site for a well. I had made the journey by car and not more than one hour must have elapsed since I left the village. He knew the village, so I requested him to inform me whether he considered water existed under a certain field. Turning himself in the direction of the village, he carried out the procedure as above described, and eventually got the place in his "field of vision." Then, by dropping his hand and moving it slowly about he announced that supplies did exist at a certain spot below what appeared to be a milestone. Somewhat intrigued, I bade him jump in the car, accompany me to the place and point out the exact spot. On arrival I found that, unbeknown to me and since I had left the village, a small brick and cement pillar had been erected over my marking peg, and this he indicated as being what he took to be a milestone. Before seeing the white pillar I did consider the possibility that the man had read my thoughts, but the fact of the pillar seemed to rule this out. Unfortunately the man was very old and feeble, and soon after I heard that he was dead. He informed me that the "gift" came to him suddenly after an accident, and that he was only able to "see" up to a depth of 40 feet below ground surface. I much regretted that I did not have the opportunity to put this man to further strict tests.

So far I have confined my remarks to individual efforts, but

the record would not be complete unless I mention three other methods of a collective nature, a few examples of which I happened upon and which savoured of superstition.

Five old inhabitants of a village assemble at the place where a well is desired; one remains in the centre of the area while the other four retire to different points. After solemn reflection they meet and compare notes. If the personal opinions of three out of the five are in agreement that a certain portion of the field is favourable, then the owner is advised to dig a well thereon. If there is not a majority opinion then the owner is told no water exists.

Another method consists in selecting a small child of the village by some means I have never discovered. The child is conducted with due state to the field, given an article and instructed to place it where he chooses. I was unable to ascertain what was supposed to happen if water did not exist, and the only reply I received was that the owner had decided in any case to dig a well and merely wished to be shown a site.

The last and final method which came to my notice was of an amusing nature and in which a goat played the leading character. The goat, duly adorned and solemnly admonished, is taken to the field and left to his own devices. The owner of the field returns after an interval and the spot where stands the goat when first sighted is the site for a well.

I came upon examples of these methods only in very remote places, and as far as I was able to ascertain, villagers themselves, credulous as they are, did not appear to put much faith in the schemes, and, needless to say, I did not hear of any successful results obtained from these efforts.

From a consideration of the individual systems it will be seen that although eight methods are practised, these naturally fall into two divisions—(1) Those in which personal effort is the operating basis; (2) Those in which reliance is placed on the evidence of other factors. Although I obtained direct evidence of successful results by men operating under the Botanical, Geological and Astrological Groups, the percentage of success was so small that after due trial and investigation I ruled out all those operating by these systems, as it was clear that no reliance could be placed on these men. In those cases where successes were obtained, the water found was at very shallow depth. Percentage of success obtained by individuals relying on personal factors was considerably better, and I investigated these cases for a long period, but eventually formed the opinion that they, too, were not sufficiently reliable to enable results to be guaranteed.

It is of interest that men produced the best results in their own localities or where sub-soil conditions were similar to those to which they were accustomed. I noticed that they appeared unable to locate water situated at deep levels.

It may be of interest if I add a few comments relating to the methods of which I had the most experience, *i.e.*, those in which the senses are employed. It has been suggested to me that these men actually have a *mental* appreciation of the presence of water and that this appreciation is so vivid that the sense of it is communicated to their nerve system with the result that they imagine they "see," "hear" or "smell" the water, in each case dependent on the manner in which they have cultivated their mental faculty. I see no reason, however, to think that this *must* be the case, and it is quite possible for anyone to test this matter for themselves.

Descend into a well under excavation which has reached some depth and is nearing a flow of water; place the ear to the floor of the well and the sound of the water is distinctly audible. In this case the water may be within a few feet or inches and the sound is amplified by the hollow of the excavation, but I see no reason why certain individuals should not be gifted with acute powers of hearing and be able to distinguish the sounds from a greater distance. Personally, I am inclined to take this view, for whereas the method did produce some successes in areas where the sub-strata is such that all supplies consist of currents or isolated flows; yet, on the the other hand, it failed lamentably in localities where exist supersaturated conditions where there is little or no movement of water. In this connection the practice of pouring a little water into a hole and listening over it is of interest.

In regard to the sense of "sight"—not only I, but friends accompanying me, to whom I have pointed it out, have frequently observed what appears to be a representation of water on the surface—I do not refer here to mirages or heat or light refraction effects on the brow of hills, but to what seems to exist either as a straight silver streak or in hachures. Frequently have I observed this phenomenon—by taking a few paces forward or backward, or by stooping, the representation disappears, only to reappear when the original position is resumed. By moving to the right or left on a parallel line to the apparent direction of the "picture," it is possible to keep it in view. I have in the past noted the exact position of these "watery" lines and then tested out the place and have found that water does exist thereunder. Ground surface must be fairly smooth and moreover it *must* be dry.

Dampness can always be smelt and again I do not see why certain individuals should not possess a highly developed sense of smell, sufficient for them to detect the presence of subterranean moisture. It is a common experience that a feeling of cold and dampness is experienced when passing through a valley or low-lying ground where water exists. This is more pronounced in the early morning and in the evening, and is more appreciable in hot, dry climates; possibly a similar feeling is experienced by certain people when passing over subterranean supplies.

In the case of individuals who utilise their senses, my opinion tends to the belief that they are endowed with enhanced power of such senses, while in regard to those categoried in my fifth Group, I can but say that evidence certainly was obtained that successful results were possible by their method. Although the percentage of success was in excess of that which could be obtained by sheer guesswork, yet nevertheless a large percentage of absolute failures was recorded.

I would only add that all tests were carried out in barren and dry tracts where there is a chronic shortage of water and where to sink a well at random is merely courting failure. In view of the fact that the work of these men cannot really be relied upon to any great extent, I came to the definite conclusion that, generally speaking, their activities throughout the rural areas did more harm than good. Unfortunately this harm is accentuated by the actions of imposters, of which there are large numbers.

There are countless thousands of wells in India (one authority gives the number as over $2\frac{1}{2}$ million) and to anyone who has travelled in the rural areas it is a common sight to see dry and useless excavations. During my water divining career in India I examined several thousands of wells, and I was particularly struck by the fact that the number of useless ones predominated near roads that converged on places of pilgrimage. Enquiries from owners elicited the fact that sites for these wells had been shown by "wayfarers"; further research into this matter brought to light that the unfortunate credulous owners of fields, in return for some act of hospitality, had been promised water in abundance did they but dig at a certain spot. Unhappily, the cultivator proves a ready victim for these imposters, and through their mischievous counsel many thousands of rupees annually must be wasted by the cultivator, who can ill afford a loss which probably plunges him into debt for the remainder of his life.

None but those who have had the opportunity of talking to the villager, the cultivator, of discussing the weather, the crops,

the cattle, the simple things that go to make up his life, can guess the bitter disappointment of a waterless well. Those who do understand will sympathise with my oft-repeated advice to the ryot in such cases : " If he returns, this wayfarer, send (!) him down the well to search for his water." Unfortunately, or perhaps fortunately for him, the ill-chosen counsellor takes good care not to return to the scene of his activities.

DIVINING FOR DIAMONDS IN INDIA

By Captain W. H. TRINDER

In December last, whilst staying with Lieut.-Colonel Robson, a member of the B.S.D., at The Residency, Indore, I had the good fortune to meet His Highness the Maharajah of Panna, who was a fellow guest there.

The Maharajah was anxious to see map-divining, of which he had heard, and I arranged to go over a map of his State after dinner one evening, to see if I could locate anything valuable for him. At dinner I asked him whether diamonds were still found in India, but he did not reply, and, thinking that I had asked an awkward question, I said no more. After dinner I went over the map of his State and tried, first for gold, using a gold sample with the pendulum, but got no reaction. I always carry a small specimen of each kind of precious stone, *i.e.*, a diamond, emerald, sapphire, ruby, and also a pearl, and I then tried with the diamond as a sample. To my surprise I immediately got a reaction and marked the spot. On trying again I got reactions at about 12 places on the map.

The Maharajah was very interested, and, when I had finished, told me that diamonds were still found in his State of Panna, and that I had marked most of the known fields and also other spots where diamonds had not been suspected. He asked me to come and stay at Panna and endeavour to mark the new places, and also find in which direction the known deposits ran, and I spent a most interesting and enjoyable ten days there at his Guest House.

Panna is a city entirely surrounded by jungle, and is on a plain between two big plateaux. The guest house is on the side of a hill and looks over a small lake, with the jungle-covered hills as a background, and the scenery is far more like Italy than India.

On my first day there I was taken to the mines, near the City, by the Maharajah, just to see the local conditions.

These are, I suppose, unlike most diamond mines, as in some cases the diamonds are found within 3ft. of the surface, and in no case are the workings more than about 70ft. deep. The stones are found in a conglomerate called *mudda*, which runs in dykes usually about 40 yards apart and from 1 to 3ft. thick. I first tried with the rod, using the diamond sample, but as I only had one sample, which I was afraid of losing owing to the jungle being rather rough going, I obtained a piece of the *mudda* and used that.

Previous to changing samples I had only got indications in one or two places, which I put down to the diamonds being deposited in pockets in the *mudda*, but after changing to the *mudda* sample I found it perfectly simple to follow the dykes as one would follow an underground stream.

With the rod I got a curious reaction when approaching a dyke, which may be of interest to dowsers. First the rod lifted slightly; about ten yards after that it dipped slightly, but returned to normal almost immediately, then dipped again and returned to normal just as quickly and then remained inert until I reached the edge of the dyke, when it rose sharply. I found most of the dykes to be between 35 to 70 feet deep, according to district, and these depths coincided very closely with those I got on the map.

The Maharajah and his two brothers, than whom no one could have been kinder or more attentive, are all very true shikaris, and we never started out without at least a rifle each in the car, and after the sun was beginning to go down we drove home through the jungle to see if we had the luck to get any particularly good head, but I was generally so interested in watching the changing colours of the sunset that my attention had to be called to the game. Also it is not easy for the untrained eye to pick up animals, whose existence depends on making themselves as invisible as possible.

One of the new spots which I had marked on the map was about 17 miles out in the jungle and in the opposite direction from any known mines, and I was quite sure that Rajah Bharatendra Singh, His Highness's brother, who had charge of that side of the State business, was rather sceptical about it.

We went off there one morning early and, as the map on which I had worked was only on a scale of $\frac{1}{4}$in. to the mile, it was not too easy to locate the spot. However, the Rajah knows the

jungle like a book, and took me to a place which he said was somewhere near my marking. I got out of the car and, using the *mudda* sample and pendulum, with my hand as a direction-finder, I picked up the direction and was about to follow it up when the Rajah warned me that we had, not long before, passed a herd of wild cattle, who would probably charge us if we went there without one of the local natives, to whom they are used.

He sent the car off to collect three men from the nearest jungle village, about three miles away, and as soon as they arrived I started in the direction I had found and picked up a dyke about 200 yards away, running N.E.-S.W. I then started to trace the direction towards the N.E., and after about 80 yards got no further reaction. I had marked out the bank of the dyke, and now tried on the other side and, following this also N.E., I found that the two banks converged to a point, which was obviously the start of the dyke.

I then found two more dykes, which also ended after about 80 yards towards N.E. I then followed all three dykes for some distance towards S.W., and was able to mark out their general direction, but was unable, owing to the roughness of the ground and some dense bush, to follow them further. I made the depth to be about 55 feet. I got the same peculiar reactions with the *mudda* sample.

Until borings have been made my findings cannot be confirmed, but all the reactions were so definite that I am very hopeful of being right. The expressions on the faces of the villagers and their constant mutterings of *jadu* (magic) were most amusing, but, as I had to drive 76 miles from the railway to reach Panna, I should imagine that the local aboriginies, who are Gonds, are still very superstitious.

Another most interesting day was when I was taken to the best existing diamond mine, or group of mines. These were also well out in the jungle and are large open pits, and the diamonds are found at about 40ft.

My job on that occasion was to try and find out in which direction the *mudda* dykes ran. I made a large circle of the whole place and found that there were several lines on the E and S.E. side, with a few on the N.W., and one running N. and S. The thing which struck me as extraordinary was that the original mines must have been sunk almost exactly where the lines crossed each other.

Now the formation is as follows :—First there is a bed of clayey loam for a depth of about 35 feet, when there is a layer of very

hard rock, which in these days is shifted by small charges of explosives, for about three to four feet, and then comes the *mudda* under the rock. As the strata of the hard rock is absolutely flat, there could never have been any outcrop to show there were diamonds there. Why, then, were the original pits sunk in this position over 200 years ago ?

From enquiries I was told that the then Maharajah was told of their existence by a holy man, but I can hardly help thinking that this " holy man " most likely had some form of dowsing, which enabled him to make such an accurate statement.

The methods of working are worth a short description. The clay is first dug down to the rock and then holes are bored with a chisel and hammer and the rock is then blasted--quite a small quantity at a time. The *mudda* is then dug out and broken up into pieces about the size of a monkey nut with hammers, and the grit is then washed out and the pieces are spread on a smooth piece of earth over a space which would be covered by an ordinary table cloth. The workers then go over this by hand and pick out any diamonds. I cannot help thinking that many small ones must be missed, but they certainly do get out some very good stones. I was only there about two hours, and during that short time they brought 15 good stones, which they found in that period, to show us.

The cutting is done in Panna by methods almost as primitive, which I had the chance of seeing, but the results are excellent. Stones are sent from Calcutta and Bombay to be cut at Panna.

The Maharajah showed me one diamond of his, of a very fine colour, which was over 15 carats after having been cut.

In Panna itself I was shown the ruins of a house in which a very rich merchant used to live many years ago. It is hardly surprising that he was rich, as his business consisted in giving these jungle people a basket of grain in exchange for a basket of diamonds ! Why is it that one always hears too late of these opportunities ?

There were other places which I had not time to visit, and I cannot say, until I hear the results of digging, or boring, on my findings, whether or no I am correct, but trials will certainly be made, and should the results be as satisfactory as I hope, I am sure that the authorities of at least one State in Central India will have been converted to dowsing, even though it may be called *jadu*.

MUSIC, COLOUR AND RADIESTHESIE

By GUINEVERE de BEAUMONT, A.R.C.M.

Having observed, when using the divining rod and pendulum, with a colour as sample, that both reacted on a violin string vibrating to a certain note, I made a radiesthetic study to find out whether there was a relation between colours and musical notes.

As early as 1581 Acrimbalo, a Milanese painter, wrote a book on "Clorific Music," and about the same time there appeared at Mantua a treatise, "Il Figino, overo del Fine della Pittura." But it was Louis Bertrand Castel who was the first to imagine and establish analogies between art and colour; he made an instrument called Clavecin Oculaire. Born at Montpellier on November 11th, 1688, his works attracted much attention in England, and he was made a fellow of the Royal Society. He said that "at every period light has been compared to sound," and since then many great men have tried to find an analogy between the two arts of Music and Painting, or, more strictly, Sound and Colour.

In a musical dictionary compiled by James Grassineau in 1740 he refers to Vibration as "a regular reciprocal motion of a body, for instance of a chord, which being suspended at freedom vibrates first this way and then that way. The vibrations of a stretched chord or string arise from its elasticity, which, however, being the same kind with that of gravity, the vibrations of chords follow the same law as those of pendulums."

The late Sir William Barrett, Science Master at the London International College, and joint author of "The Divining Rod," discussed the problem in the *Quarterly Journal of Science*. He says:

"Let us take as our standard of colours the series given by the disintegration of white light, the so-called spectrum; as our standard of musical notes, let us take the natural or diatonic scale. We may justly compare the two, for the former embraces all possible gradations of simple colours, and the latter a simple gradation of notes of varying pitch. Further, the succession of colours in the spectrum is perfectly harmonious to the eye. Their invariable order is red, orange, yellow, green, blue, indigo, violet; any other arrangement of the colours is less enjoyable. Likewise, the succession of notes in the scale is the most agreeable that can be found. The order is C, D, E, F, G, A, B; any attempt to ascend or descend the entire scale by another order is disagreeable. The order of colours given in the spectrum is exactly the order of luminous wavelengths decreasing from red to violet. The order of notes in the scale is also exactly the order of sonorous wavelengths, decreasing from C to B. The

interval of the wavelengths between the extreme colours of the visible spectrum is as the ratio of 1 : 0.57, corresponding to the 7th in music. Arbitrarily placing C under the colour at the solar line A, namely, a deep brownish-red, then the octave higher of C would fall under whatever colour is found at the solar line L, namely, a lavender-grey. Now comes the important question: Are the intermediate colours of the spectrum produced by vibrations giving rise to the intermediate notes of the scale? According to our knowledge up to this time, apparently not. In an ingenious work by Dr. Macdonald, an attempt has been made to establish this analogy indirectly; but if direct comparison fails, it is useless to push the matter further. Newton himself sought for this analogy between notes and colours, but only found the relative spaces occupied by each colour in the spectrum to be similar to the relative intervals of musical notes. This is obviously a false analogy. We must compare wavelengths of light and wavelengths of sound not, of course, by the actual lengths, but by the ratio of one to the other."

Barrett then gives the following table of wavelengths in thousandths of a millimetre and their ratios:—

Colour.	Limit.	Mean.	Ratio.
Red	0.723μ—0.647μ	0.685μ	100
Orange	0.647μ—0.586μ	0.616μ	89
Yellow	0.586μ—0.535μ	0.560μ	81
Green	0.535μ—0.492μ	0.513μ	75
Blue	0.492μ—0.455μ	0.473μ	69
Indigo	0.455μ—0.424μ	0.439μ	64
Violet	0.424μ—0.397μ	0.410μ	60

TABLE GIVING NUMERICAL NOTES OF THE SCALE, THEIR WAVELENGTHS AND REDUCTION TO COMMON RATIO.

Name.	Wavelengths in Inches.	Ratio.
C	52	100
D	$46\frac{1}{3}$	89
E	42	80
F	39	75
G	35	67
A	31	60
B	$27\frac{1}{2}$	53
C	26	50

"Putting together the two ratios, the following remarkable correspondence at once comes out."

RATIO OF WAVELENGTHS OF NOTES COMPARED TO RATIO OF WAVELENGTHS OF COLOURS.

Name.	Ratio.	Colours.	Ratio.
C	100	Red	100
D	89	Orange	89
E	80	Yellow	81
F	75	Green	75
G	67	Blue and Indigo	67
A	60	Mean Violet	60
B	53	Ultra Violet	53
C	50	Obscure	50

"Assuming the note C to correspond to the colour red, then we find that D exactly corresponds to orange, E to yellow, and F to green. Blue and indigo being difficult to localize, or even distinguish in the spectrum, they are put together, their mean exactly corresponds to the note G; violet would then correspond to the ratio given by the note A. The colours having now ceased, the ideal position of B and the upper C are calculated from the musical ratios."

When reading the above it struck me that the analogy of colour and music would be of great interest to dowsers.

My first experiment was to find out whether the pendulum worked on the major and minor chords. I struck the major chord C (namely C E G), holding the pendulum over the middle note E, and keeping the sound down with the loud pedal. I found that the pendulum oscillated. For the minor chord C E*b* G it gyrated clockwise.

The next experiment I carried out with a black ebonite pendulum, holding in the left hand a coloured ribbon. I struck a note on the piano, without looking at the note and holding down the vibrations with the loud pedal. I passed the pendulum over the above octave and found it vibrated over several notes. It struck me there was something wrong, and I felt disappointed that the experiment had failed.

However, I remembered a system by which Captain Trinder in order to eliminate the false radiations of gold used a bar magnet with the north end pointing upwards. I tried this with great success, as it eliminated the harmonics of the note struck and so worked on the correct colour for each note.

I then got a friend to strike different notes of the diatonic scale and tried them with coloured pendulums. I found that the pendulum gyrated clockwise to the note corresponding to its colour and only oscillated over the others.

When I had finished these experiments I wondered whether, if Sir William Barrett had lived, he would not have worked out to the full the connection between colour and music as discernible by the divining rod and pendulum.

I would like to know whether other dowsers have carried out similar experiments.

SOME EXPERIENCES IN WATER DIVINING

By HELEN F. PIM

It is now over twenty years since I discovered (quite by chance) that I had the power of finding water.

As the result of my experience in many parts of Ireland, and also in England, I find there are lines of water running across the country, and where these lines cross the real spring is to be found. Those lines which run between the points of the compass, and not directly north and south, or east and west, are, I consider, the most important; the north and south, east and west lines I did not discover till some years after the others. The rod will turn on any of these lines, the motion increasing as one reaches the cross or real spring. Then the force is so great that it is almost impossible to hold the rod down; the more I try to hold it down the more it seems to want to go up.

An engineer, anxious to test the actual force, got a large meat scales and tied one end of it to the end of my rod and put his foot on the other end of the scales, while I held the rod down. When I let go the scales registered 40lb. The next day, in our own garden where there was a spring, my daughter filled a bucket with 43lb. of stones. When this was attached to the rod and I stood over the spring, I could raise the bucket quite two feet off the ground at arm's length. I could not even lift the bucket when not over the spring. My theory is that it is some force coming up from the spring that turns the rod. It is only real

spring water which makes the rod move; other water has no effect upon it, but it will turn for metals.

Some people consider that water diviners depend partly upon sight in locating springs, but for two years I was quite blind owing to cataract, and yet, during that time, I was able to find several springs, one of which yielded 3,000 gallons per hour. I find that water divining has no ill-effects upon me; I enjoy doing it very much, and always feel that I must follow the water when I have the stick in my hand.

I generally use a hazel rod, though any kind of wood will turn, and I have tried successfully with a piece of wire, a walking stick or umbrella held horizontally, and even a pair of long scissors. Once I put the ends of the rod in two glass bottles and held the bottles in my hands; when I came to the spring the bottles and all turned over.

A doctor wished to find out whether the movement of the rod was due to muscular action. He asked me to bare my arm, and held it with both his hands. He said there was no muscular movement whatever when the rod turned, but when I turned the rod of my own accord in a place where there was no spring, he said that every muscle in my arm was moving.

I am much interested in the influence of springs under houses, and consider that they have a bad effect upon the health of people living over them, sometimes causing rheumatism, lumbago, and other ailments. A spring under a house, or even a line of water, is sure to cause damp places on walls and to make a room very cold and uncomfortable.

On one occasion I was asked by a firm of architects to find out the cause of water rising in a cellar. I was able to show them that it was a spring and not a burst pipe, as I found that the lines of water crossed at that point. The effect of the spring could be seen in the rooms directly over the cellar on each of the four storeys of the house. One corner in each of these rooms was so damp that it could not be used. Because of these ill effects, people should be very careful not to build their houses over springs, or even lines of water.

An engineer once told me that lines of water are found running under the sea, and when I have used the rod on board ship it has turned as we passed over one of the lines. I have also found the same in rivers.

I cannot explain why the rod moves as it does, or why the water should run in lines, as it appears to me to do, but these conclusions are the result of many years' experience.

TRANSACTIONS OF THE INTERNATIONAL CONGRESS OF ELECTRO - RADIO - BIOLOGY

Held in Venice, September, 1934

By Dr. DUDLEY d'A. WRIGHT, F.R.C.S.

The addresses presented at this Congress, the first of its kind, appear in two bulky volumes, and the mass of material therein collected, and its scientific nature, attest the seriousness of the attention devoted to the subject by a large number of workers.

The majority of the papers are written in Italian, the remainder being divided between German and French, with only two or three from English contributors. At the end of each paper is printed, in all four languages, a brief summary of its contents, so that any member of one of these nationalities is able to glean some knowledge of its scope.

The scientific work of the Congress has been divided up into several sections, which include: (1) Ultra sound waves; (2) Electro-biology; (3) Photo-biology; (4) Roentgen-biology; (5) Curie-biology; (6) Cosmic rays and biology; (7) the distant action of metals; (8) Electro-radio-biology in relation to the air, mineral waters, hot springs, &c.

A glance through this list cannot fail to arouse the attention of Dowsers, and in view of the fact that they no longer limit their activities to the finding of water and metals, but have invaded more than one department of biology, they may be pardoned for expressing surprise that their special branch of radio-bio-physics finds no representation in this Congress. Let us hope that the next Congress will repair this defect.

The contributions which will claim the most interest of the dowsing fraternity are those in the section of radio-biology, and we will therefore limit our review to this part of the transactions.

It is here that we find some light shed on the much debated question of radiation emitted by living organisms, for the majority of the papers in this section were devoted to this subject, and the investigations all revolve around the so-called " mitogenetic " rays, which were discovered by Gurwitsch, Professor of Physiology in the Leningrad University.

Gurwitsch's original investigations carried out in 1922, showed that the terminal cells of the root fibre of an onion when placed for a certain length of time, which varied from one to three hours, in close apposition (1 to 3mm.) to the growing cells of another root fibre, had a stimulating effect on these cells, causing them to divide more abundantly and rapidly than did the cells on the

opposite side of the fibre, which had not been submitted to their influence. He concluded from this that certain radiations, which he named mitogenetic rays (now contracted to M rays), were emitted by the first-mentioned cells, and that these rays were received by the second cells, with the result above mentioned. To the root which emitted the rays he gave the term *inductor*, and the root which underwent the change he called the *detector*, and these terms have been adhered to by subsequent investigators, and it is not without interest to briefly follow up the later developments on this line of research, which are clearly brought into evidence by a long series of papers presented to the Congress.

One of the first Investigators who confirmed Gurwitsch's work was Magrou, of the Pasteur Institute. He used as Inductor an emulsion of Bacillus tumefaciens, the germ which causes Geranium Cancer. His Detector was the same as Gurwitsch's, viz., the root fibres of the onion.

Baron used yeast as a detector, which showed itself to be extremely stable, and was easy to handle. Later, Brauner found the bone marrow of a rabbit to be an excellent detector.

There is not a complete separation between inductors and detectors. Certain substances can serve as either one or the other, according to the disposal of the experiment.

Moreover, it is most important to note that it is not living matter alone that is capable of acting as an emitter of these rays, for Siebert has shown that combinations of certain substances possess this power. For instance, carbon with oxalic acid under the influence of a current of oxygen ; laevulose and a mixture of phosphates with the oxygen ; pyrogallol with the juice of a radish and peroxide of hydrogen have also acted well. Again glucose and permanganate of potash act strongly as emitters on the eggs of the sea-urchin as detector.

Blood has a strong power of emitting the M rays. If it is drawn from the body it loses its radiant power in about 20 minutes, but this is restored by adding a little glucose. Several workers have studied the radiant powers of cancerous tumours. These, when in rapidly growing state, show a power varying from 20 per cent. to 50 per cent. If a tumour be excised it, like blood, loses the power, and this is not restored by glucose.

In this connection it is interesting to recall the fact that Dr. Abram's " electronic " work was founded on, and started by, his discovery of the effect which a mass of cancer tissue, preserved in a bottle with spirits of wine, produced on the abdominal reflex of a patient who was standing close to the specimen when Abrams was examining him. A further point of interest in regard to cancer is that Palcotti of Bologna found that patients suffering

from this disease showed a great decrease of the M power of their blood, but if tested six months after successful treatment by radio-therapy the M power of the blood had greatly increased.

A paper by Dr. Borodin, of the Biological Laboratory of Cold Springs, Harbo, U.S.A., on the "Individual Biological Spectra," has important implications.

He says that M rays have been identified as short ultra-violet radiations, owing to their ability to penetrate air and water, their partial absorption by glass, and their total absorption by a very thin layer of vaseline or gelatine solution. They penetrate quartz glass, and are reflected by glass mercury surfaces and by platinum mirrors. In addition to this they are refracted by prisms and lenses of quartz.

Borodin states that it is now clear that M rays do not emanate in the form of a microchromatic ultra-violet light beam, but as a combination of waves of different lengths. This was first shown by Reiter Gabor (1928), who, by using a quartz spectroscope and onion root detector, was able to obtain direct spectrographic evidence that M rays from a given source have characteristic wave lengths.

Muscle in a state of tetanus is, at present, the strongest known emitter of M rays, and Frank (1929), by means of a quartz spectroscope, obtained definite induction in the range of 1950 to 2,600 A.U. Borodin's researches showed further that muscle in tetanus, the contracted muscle of a frog's heart, and the bacillus of lactic acid cultures, were found to differ as emitters in their characteristics in the spectrum. This phenomenon he called "Individual Biological Spectrum."

Another important discovery was that emitters of M rays produced greater effect if these rays were interrupted by a revolving perforated disc or sector than when uninterrupted.

For instance, a yeast colony as an emitter affected another yeast colony as a detector in a shorter period of time, if the exposure against each other is thus interrupted, as compared with an uninterrupted exposure of similar colonies.

Whilst still on the subject of organic emitters it should be noted that two Indian workers, Messrs. Nehru and Sharma, have shown that M rays are given off by a large number of plants in addition to the onion, especially by the seedlings of all plants tested. They conclude that this method of research constitutes a sound means of demonstrating the existence of Gurwitsch's rays.

It should be mentioned that two researchers working in co-operation, Krenchen, of Heidelberg, and I. B. Bateman, of Cambridge, were unsuccessful in repeating many experiments

of Gurwitsch and his followers. They state that in spite of their having paid attention to all the publications on the subject, their experiments with the yeast detector, which is described by the Gurwitsch school as being the most objective, produced no positive results.

These are the only workers who sent in an unfavourable report amongst the numerous positively successful ones, and Rahn, of the Cornell University, sheds some light on the possible source of their failure when he says, in his paper on Micro-organisms as detectors of M rays, that there are many sources of failure, such as variations of the culture medium, the presence in the vicinity of the experiment of other bodies that radiate strongly, and interfere with, or upset the action of, the emitter. The flame of a Bunsen burner which is commonly used near the culture, is a potent radiator, and the persons of the workers themselves, at certain times, emit harmful radiations. Cosmic and seasonal influences also may have a disturbing effect. He further says that all workers have occasionally found that the biological method has failed temporarily.

Metals appear to be emitters of M rays, just as are organic and living substances. Especially is this so with copper, zinc, aluminium and bronze.

Rivera, director of the laboratory of vegetable pathology of Perugia, has a long report on the action of metals at a distance.

His conclusions are to the effect that it is possible to demonstrate the biological action of metals at a distance on certain higher plants, and lower ones (bacteria and fungi), and, according to later researches, on the animal kingdom (silk worms and mice).

Certain plants are particularly sensitive, while others appear to be almost insensitive. In general the organisms which are sensitive evince a special response to lead, a moderate response to copper, silver and platinum, and very little to the lighter metals. Moreover, the effects are stimulating or depressing according to the dose; the most sensitive structures in the plant are, as might be expected, the embryonic portions, or pathological growths. The same holds good for animals.

The biological effects become attenuated, or may be abolished by covering the metal with a layer of paraffin, a film of water, a sheet of paper, or by interposing glass between the metal and the organism, or even by the formation on the surface of the metal of its oxide or carbonate.

The inhibition manifests itself in the lack of germination of all, or part, of the seeds or germs submitted to the experiment,

but the germ is not killed, and this inhibition no longer manifests itself after the metal has been removed.

The writer then concludes by suggesting that the exciting and depressing factors demonstrated "in vivo" by the distance actions of metals is caused by "secondary radiations, or also by ionisation of the air brought about by these secondary radiations."

As far as the reports go, all experiments for the M rays have been of a biological nature, except those with the so-called "Liesegang's rings." But we learn from one researcher that, although attempts to detect M rays by physical methods such as photographic plates, and the Geiger photo-electric Counter, have not yet been successful, nevertheless some encouraging results have been obtained, and further studies are in progress.

We thus see that workers in this branch of bio-radio-physics are in the same position as are dowsers, and also those who are making use of radio-methods for medical work, in that they have to depend upon the reactions of the living organism, and are still seeking for some physical apparatus by which the radiations from both living and non-living matter can be indisputably demonstrated, and it is scarcely conceivable that with the rapid advances of the science to-day the discovery of such a means can be long delayed.

THE QUESTION OF PROTECTION AGAINST LIGHTNING AS AFFECTED BY EARTH RAYS

By Colonel F. A. ILES, C.B.E., D.S.O., late R.E.

[*Reprinted from The Royal Engineers Journal of December, 1935.*]

The original idea of protection against lightning by means of lightning conductors appears to have been that a thunder cloud, or cloud charged with electricity, would upon its approaching be tapped by the lightning conductor, and its charge would thus be led harmlessly to earth. Or, failing this, the lightning finding an easier path to earth than through the building would strike the conductor instead.

It came to be realized very soon that the lightning conductor's part in the proceedings might not always be so passive as this. Ganot says that the cardinal fact regarding atmospheric electricity is, as Peltier discovered, that the electricity of the ground is always negative, while the atmosphere and clouds, visible and invisible, are generally positively charged. Hence there is

generally between cloud and earth a state of electrical strain. Owing to a medium which, because of the moisture it contains, is but an imperfect insulator, and owing to the phenomenon known as brush discharge, the lightning conductor plays a more active part than was at first believed, in that it leads continuously negative electricity away from the earth and discharges it to the sky, thus tending to bring about a state of electrostatic equilibrium, and to prevent the lightning discharge by neutralizing the positive cloud. This action was regarded as definitely established before physical theory had embraced the electron, and it found expression in a change of design, the simple point of the finial being sometimes replaced by a sphere from which spikes radiated, a form recognized as increasing the amount of brush discharge.

The origin of the atmosphere's positive electrification is by no means clear. Evaporation (Volta and Pouillet) and friction (Faraday and Gaugoin), the latter due to water and ice co-existing in the upper regions (Hörbinger, Sohncke and Luvini), have been suggested as sources. The origin of the excess of electrons on the earth's surface is even less clear. Elster and Geitel pointed out that, owing to imperfect insulation and brush discharge, the total negative charge on the earth's surface would be dissipated in a few minutes, were it not in process of constant renewal " by some means unknown to us."

The questions of origin and of renewal are discussed in Baron Pohl's *Earth Rays as Promoters of Disease*,* published by J. C. Huber, Diessen vor München. This book, written as a general contribution to science, and particularly for doctors and the suffering public, places the origin of the earth's surface negative charge in physical changes taking place within the earth's molten interior or at least in that portion of it which volcanic evidence shows to be molten. In its final chapter it advances a theory connecting the behaviour of lightning with the existence, and indeed with the exact situations, of earth rays. It thus becomes of interest to all whose business it is to design and build barracks, quarters, hospitals, etc., especially in neighbourhoods where owing to frequent thunderstorms one cannot afford to neglect the chance of their being struck by lightning. The author says that physicists have up to now explained the constant renewal of the earth's surface negative charge only by radio-activity, an explanation to which he takes exception for the following reasons. The original material from which radio-active earth rays emanate is uranium ore. The rays emitted by uranium in its many derivative transformations are of three kinds, as

* Reviewed in *B.S.D.J.* 5 (September, 1934).

Becquerel discovered in 1896. Of these, the *a*-rays (better, particles) are composed of positive helium atoms, or helium atoms each short of two electrons. They can therefore be struck off as a possible source of a negative charge. In any case their range is very short and they are absorbed even by paper and the thinnest of foil. β-rays (better, particles) are composed of electrons, and will therefore charge bodies negatively. They have, however, very poor penetrating power, only slightly greater than that of *a*-rays, and cannot pass through concrete floors, etc. γ-rays are very short ether waves and cannot be deflected by magnets like the other two kinds. They resemble very hard Röntgen rays, and have very good penetration, but they carry no charge. All of which reasons go to indicate that a source other than radio-activity must be found to account for the earth's negative charge.

Baron Pohl has an explanation ready. It is based upon the fact that when the disruptive discharge occurs the positive spark does not suddenly jump to the negative pole, but that an impulse of electrons first streams to the positive pole, and then the leap of the spark takes place. Franklin himself was the first to establish a complete parallelism between the spark discharge and lightning. Accordingly we might expect that when lightning strikes, an impulse of electrons from the earth to the cloud will have preceded the discharge. In other words, that the lightning does not strike blindly at any spot, but according to law only at spots whence a conductive path of electrons is flowing to the charged cloud.

The results are given in this chapter of Baron Pohl's thirty years' experience as a highly successful water diviner, including the examination of hundreds of spots, buildings, trees, etc., which have been struck by lightning. In all these instances he claims never once to have failed to find the underground stream or streams, whence the radiation of negative particles issued which determined the course of the lightning stroke.

As regards the vexed question of water divining, there are indications that this subject (at which Horatios have ever scoffed, placing it in the same category as table-turning and telling fortunes by cards), is nevertheless beginning to claim the attention of practical people. To the general disbelief, and disinclination even to consider the subject, there is a personal and temperamental side, and the man who has always looked upon water divining as humbug will quite possibly continue to do so even after it has produced for him money-saving results. "As a land agent, I have always employed a diviner when I have had to find water, but I don't believe in it all the same, because I

don't understand how it works," is a genuine remark, and reveals a typical attitude. Converts are not easily made, but the fact remains that water divining produces results, and hence cannot be disregarded with impunity. It is an art, in that, given the aptitude, a great deal depends upon the experience and skill of the diviner, but it is an art resting upon a scientific basis, which is more and more disclosed by such recently published researches as those of Henri Mager in France (English translation published by Bell) and of Pohl in Germany.

The latter found in his first attempt at water divining, which occurred about the year 1900, that a plum tree, which had been struck by lightning, stood directly over the course of the first underground stream he ever followed with the divining rod. Further, to his surprise, he found that the tree was growing over the spot where the stream he was following was crossed, either over or under, by another underground stream. In later trials he found from the behaviour of the rod that wherever such intersections occurred there was an increase of radiation strength or a summing together of the effects of the two emanations. As from his observations it soon became evident that the lightning preferred to strike at such crossings, it was a fair deduction that they must give off an abundance of negative particles. Other discoveries were that the breadth of the strip along which radiation occurred was always most clearly defined, and indicated the exact breadth of the stream which gave rise to it : and that besides these vertical rays there were always, according to the depth of the conductor and its radiation strength, two weaker parallel bands, one on either side. As the rays causing these bands are inclined at 45 degrees on either side of the vertical rays, the diviner measures at once from them the depth of the surface of the stream below the surface of the ground. Baron Pohl also found that the emanation from underground streams and other conductors of electricity, like veins of ore, is not of poor penetrating power like the α-rays and β-rays, but of immense penetrating power ; that, although, like the lightning stroke it will often pierce masonry rather than go round it, unlike the highly penetrating γ-rays it is easily deflectable, and will turn aside to pierce masonry and concrete in order to get at a conductor. It would be a great mistake to imagine that all places under which underground streams cross each other are equally dangerous. Baron Pohl was once called upon by the anxious proprietor of a glass factory to examine his works, and report what steps would be necessary to render it lightning-proof. He found within an area of two-and-a-half acres no less than eight different streams with thirteen separate crossings. Of these he selected

as the most dangerous the crossing of a deeper, specially powerful stream by a weak stream running close under the surface. This crossing happened to be under the garage. He was then informed that the garage had been struck by lightning and burnt down once, that lightning had struck the conductor subsequently provided on several times since, but nowhere else in the factory. He was able to assure the proprietor that the works were now efficiently protected. He was able to do so with confidence, because decades of experience had taught him that no ordinary crossing of underground streams is dangerous when it is within hundreds of yards of a crossing of the particular type found under the garage, viz., a powerful stream below crossed by a weak stream close to the surface.

The author gives in this chapter many interesting experiences of the connection between the lightning stroke and the spot where a skilled water diviner finds the maximum amount of earth radiation. One of these instances is selected for quoting as illustrative of several points, especially of how little a lightning conductor really protects when the conditions are against it. A factory in Munich has two chimneys, about 40 metres apart, one 40 metres high and the other 23 metres. Both were provided with lightning conductors and earths. During a storm, lightning struck the switchboard for light and power in a small building lying between the two lightning conductors, and did great havoc. This occurred at a spot which, according to the well-known teaching that a lightning conductor protects a cone, the base of which has a radius equal to the height of the conductor, was well within the area theoretically doubly protected, viz., not only by the lightning conductor on the 23-metre high chimney, to which it was quite close (10 metres' distance), but also by the lightning conductor on the 40-metre high chimney (30 metres' distance). Baron Pohl found very strong earth-radiation in the switchboard-room, such as would emanate from the crossing of a large underground stream. The owner then told him that lightning had struck more than once before, but never before inside the factory. Where it had struck before was close outside the factory, but still within the supposed protected area of the conductor on the smaller chimney. Baron Pohl asked to be allowed to find this place without being told where it was, and on the other side of the main building he found a spot in the open where he diagnosed two underground streams as crossing. He was told that he had found the spot correctly, and that formerly a mast of the H.T. line had stood there, which had been struck more than once. Although the diviner had been successful so far he was by no means satisfied, since the radiation from that

spot, instead of being greater than that of either of the two streams which caused it, was unaccountably weaker. While he was puzzling over this, the owner went on to relate that when it had been decided to remove the mast from that spot, owing to its being struck, the overhead H.T. route had been replaced by a cable into the switchroom. This explained all. It showed why the amount of radiation fell off, instead of increasing, where the streams crossed, for the extra amount of radiation was certainly being carried away by the cable, a fact which was immediately verified with the rod. Also it explained why the lightning had struck the switchboard instead of the old spot outside the factory. In fact, the substitution of the overhead lead-in by an underground cable had served to transfer the centre of attraction for the lightning stroke from the crossing under the pole outside to the switchboard inside the factory.

The foregoing is only one of a succession of impressive instances related. Theory is supported by plenty of evidence. Either this account is *tota kahani*, or it is worth the serious attention of all who build houses. In the latter case, how will it affect those who are responsible for the safety of the houses they build ? In neighbourhoods where thunderstorms are infrequent and there is a negligible amount of radiation from underground streams, practically not at all. They will continue to put up lightning conductors and provide them with earths as heretofore. In districts, however, which are much troubled by thunderstorms, and where there are many underground streams, it is a different proposition. The reality of the danger can be very great. In Germany, for instance, in one year close on 30 million marks were paid out by fire-insurance companies for damage caused by lightning alone, a sum which does not represent the total damage done in this matter, as it does not cover the losses of the uninsured. In such districts those responsible, unless they risk the chance of the lightning conductors they provide being no more than comforting ornaments, will avoid building on any spot where lightning has once struck, and will select precisely such spots for the burying of their lighting conductor earths, or, failing that, will bury them at the point of maximum earth-radiation, as indicated by an expert water diviner. A caution is added that it would be as wrong to imagine that all water diviners are equally skilled as it would be to assume that all schoolboys alike can solve difficult methematical problems.

It is only fair to the author to state that the measures indicated do not exhaust the weapons in his armoury. He has also made a special study of the screening question.

It so happens that a check on Baron Pohl's theory is afforded

by a note in *Nature*, 28th July, 1934, p. 136, in which Professor Schonland, of Cape Town University, describes a lightning discharge in detail in its several stages as revealed by photography. His description ends with the words, "The full mechanism of this phenomenon is not yet understood." The pre-supposition made by Baron Pohl of the formation of a pillar or column of electrically negative particles reaching from the ground to the cloud before the lightning strikes, seems to furnish the missing key to what happens, from the "first little tongue of light stretching earthwards," to the "final brilliant flame sweeping upwards from the ground."

BURIED TREASURE AND BLACK MAGIC IN AFRICA

(Address to the British Society of Dowsers, read on January 14th, 1936, by Francis Mapson).

Much has been written and spoken upon the scientific aspects of dowsing, but I want to tell you something this afternoon of a different side of a dowser's activities, the adventure and romance he may meet with in the course of his occupation.

For many years I was resident in Central Africa, and that is a country where nothing is improbable, a country of vast, silent forests and endless tracts of waterless veldt; where the failure of water supplies means not mere discomfort or restricted bathing, but often death. I was there during the drought of 1921, when the natives died like flies and the crocodiles were surfeited upon the bodies of those who died of hunger consequent on the failure of the crops.

From the Abargue in the south to the Chimanyanja in the north hunger stalked abroad, and it was in the hopes of doing something to help the natives in those areas that I started upon a trek that was to bring death to two men.

Striking due East from Umtali across the hills which marked the Portuguese—Rhodesian border, I journeyed from village to village wherever it seemed I could be of most use, not of course searching for permanent supplies of water, for there was neither the time not the means to carry out boring operations, but endeavouring to locate as many temporary resources as possible, mostly in dried-up river beds, in which I was very successful. Although many small rivers dry up in the dry season, there are always pockets or buried pools to be found at no great depth in the river beds, and upon these I concentrated.

At the end of six weeks of very tiring work I began to run

short of supplies and decided to make my way to the railway and so to Beira on the Coast to refit.

I had been in Beira some few days when I was approached one evening by a man who had all the appearance of a typical "old-timer." He had heard I was a Diviner and wished to make me an offer. Whilst prospecting in search of alluvial he had stumbled across the ruins of what had evidently once been a town or fortified village. Its stone construction argued considerable antiquity. Before he had a chance to make a thorough investigation the local tribe had come down in a body and warned him to clear out, as the forest in which the ruins lay was *tabu*. Deeming discretion the better part of valour, he went, but not before he had succeeded in unearthing several gold beads and an amulet or charm.

Now he wanted me to join him in an expedition to the ruins. He had chosen me as a companion because he felt certain the natives would give us no chance to make a lengthy exploration and therefore he hoped, with my help, to locate any buried metal or other deposits without loss of time.

After making some enquiries I decided to join him, if only for the sake of the adventure the journey promised, for the territory we were bound for was far from any European control. About a third of our journey was done by water, but after leaving the Zambesi it was hard going, mostly through heavy forests, and the strain began to tell upon the old man. Day by day he got weaker, but refused to rest up, though by then he had fever badly. Finally he went down with dysentery, and in spite of everything I could do he died. We were then about three hundred miles from our starting point and some two or three hundred miles from our objective. I gave him the best burial I could and trekked on, as I had promised him I would do.

That last few hundred miles took me just over $2\frac{1}{2}$ months, for lacking his guidance I lost my way more than once, and my carriers did everything possible to induce me to turn back. Many deserted until I was reduced to only five, and could only load the barest necessities. But I did eventually reach the ruins.

They appeared to extend for about a mile-and-a-half, but were so buried and overgrown by the forest that definite landmarks were hard to define. Immediately we struck the first walls I told my boys to make camp whilst I started investigating, using a gold sample. Within half-a-mile from camp I found a hill which had been fortified and seemed to have been a place of refuge, having an outer and inner breastwork of stone, and here the rod showed a definite reaction.

I returned to camp for a spade, when my head boy greeted me with the news that a native had come and watched them from a distance until they attempted to approach him, when he had decamped. That did not sound too good, so, taking the head boy with me, I returned to the spot I had located without delay.

After clearing about two feet of rotten vegetation we struck soft going, and at five feet the spade hit an obstruction. We quickly had it to the surface, where it revealed itself as a small vase or urn, about ten inches in height and perhaps seven inches across the mouth. In spite of its dirty condition it was very striking in appearance, perfectly proportioned and with two very finely shaped handles in the form of fishes. Apart from its obvious age it was not the sort of thing that any people of recent times would carry hundreds of miles into the bush, for it would have no utility, and was very heavy.

As by now sunset was upon us we returned to camp. I felt very happy and contented as I ate my dinner that evening, until a boy called, "Listen, Bwana, the drums!" That spoiled my appetite, for the African drum has an unpleasant sound, even at the best of times, and this was certainly not one of them.

The first drum was soon answered by others, and my boys lost their nerve and began to panic. Only the fact that night was upon us kept them from bolting. I could see that if I did not go my boys would desert anyway. So I gave orders to pack ready for daylight. The drums gave us no peace, but throbbed a menace throughout the night, and at the first streak of dawn we left.

My boys, spurred by fear, travelled willingly enough for three days, but then, having recovered their nerve, flatly refused to proceed unless I abandoned the vase, which they declared was *m'tigati*, or *tabu*. I kept them going another four days by sheer force, and awoke on the fifth morning to find myself alone. They had thoughtfully taken the whole of my kit with them, including my rifle. They had left only the vase.

The prospect looked bleak indeed, but I decided I could only keep on travelling and trusting to luck. So burying the vase in the roots of an enormous baobob tree, I started. For six days I trekked on alone through the forest, endeavouring to follow as straight a line as possible, keeping a watchful eye for possible danger in the surrounding forest, sleeping, or rather roosting, each night in a tree, for I had no means of making a fire and death walks the forest at night.

Once the cough of a hunting lion woke me with a start from a fitful doze and once again a herd of buffalo, evidently thinking

that I had perched myself up aloft for their amusement, cruised around the foot of my tree for several hours.

During the whole time I had nothing to eat, and only one drink from a stagnant pool. And always the fear was in my mind that I was lost and perhaps walking in circles. But late on the sixth day I came out of the forest, and saw the most blessed sight of my life—a native village, green palms and a little stream of water, the whole bathed in glorious sunshine. I stumbled (for I was very weak by then) to that stream and just lay down and soaked myself in it.

The natives were amazed that a white man should have come through the forest alone and treated me as something like a god.

In the course of a conversation with the headman I learned that a white man was living some five days' journey away, so after several days' rest I asked for guides and sufficient supplies to take me to his residence. These were readily furnished.

I found the man was living "native," that is, he had thrown civilisation overboard and had settled down in a very pleasant spot with a native wife. He was very glad, however, to see a white face, and made me thoroughly welcome. "But," he said, "it is strange you should have turned up, for ten days ago my native girl came to me in tears because the local witch doctor had told her a white man was coming to take me away from her." Well, ten days before I had not known of his existence, but the witch doctor's prophecy was to come true. I confided my adventure to my host, and his imagination was so fired that he asked if I were willing to return and at least attempt to recover the vase.

In view of the fact that he had considerable influence among the surrounding tribes and could procure a strong force of natives, I consented. In the light of subsequent events it was significant that when he informed his native wife he was about to make a trip with me she made no scene as we expected, but seemed to acquiesce, though very sullenly.

A week was spent in collecting an outfit and carriers, then early one morning we set off. As is usual we trekked till sundown without stopping to eat, and as soon as we reached camp that evening we both made a hearty meal from a cold duck which his native wife had prepared.

That night we were both violently ill with every symptom of poisoning, and by dawn my host was dead and I nearly so. For three days I lay most wretchedly sick, but on the fourth day was sufficiently recovered to instruct the boys to make a hammock and to carry me back to the dead man's house. Upon my arrival I found it deserted and the girl gone. And so I returned

to my friendly village until I was strong enough to attempt the long trek to the coast.

. . . . . .

The next two years were spent in prospecting and mining over many areas, including an unsuccessful search for the Kruger millions. Then I decided I would attempt to return to my buried village by way of giving myself a holiday. But almost within reach of my goal I went down with blackwater fever. Luckily, my boys were loyal, and carried me safely back to the coast, where the doctors ordered my immediate return to England. But some day I am going to go back and penetrate the secret of those strange ruins in the silent forest.

. . . . . .

And now I will tell you something of native divination. I use that word because the natives do not practise divining in the sense we do, but use it rather as an aid to sorcery and black magic.

I found the majority of witch doctors to possess the gift of dowsing, although they do not use the gift as such. In every case of so-called " smelling out " the doctor carries a straight rod, on which is bound feathers, &c., these latter merely for effect. The rod is pointed toward the suspected persons while the doctor goes through many incantations and much contortion.

I always observed this rod to vibrate rapidly over the victim, and I hold the opinion that, stripped of all its ceremonial, the rod is the main essential.

Again, in " Throwing the Bones," a method by which the future is foretold, I have known this method uncannily accurate, but have never succeeded in persuading a doctor to give a forecast of more than a day or so. The " bones " consist usually of almond shells, though sometimes actual human finger bones are used. These are shaken up in the two hands, and then thrown to the ground with the palms downward. I think it possible that a supernormal cognitive faculty directs the position of the hands, and consequently the pattern of the bones.

My own ability to divine gained me the confidence of several witch doctors, and I learned to respect their knowledge and ability, which is, however, hidden beneath a mass of mumbo-jumbo. They have a wide knowledge of the occult, and are invariably members of the powerful Chi 'Nyau Society, the basis of which is spirit worship. It is this society which has gained notoriety on the West Coast under the name of " The Leopards," and which is responsible for the many ritual murders which occur from time to time. This society, which has members everywhere, holds its meeting in secret recesses of the forest.

After many fruitless attempts and at some risk I eventually succeeded in spying upon such a meeting in the Abarque Forest. And here I observed that the " Kadiakadzi " held a long wand over the head of each newcomer whilst interrogating him. I subsequently tested this man and found he was a dowser, but, of course, was unable to verify the use of this wand, for their secrecy is impenetrable, and all questions are met with a shrug or a blank stare, but that the witch doctor owes something to an ability to divine I am certain.

The so-called " Rain Makers " are not strictly witch doctors, in the sense that they claim no evil powers, but belong rather to the order of " White Witches." Their ability to make rain comes, they claim, from the co-operation of the spirits of the wind and water. Their ceremonial is interesting, but results are usually disappointing.

Among certain tribes it is the custom to set apart a young virgin as a goddess of rain. These unfortunate creatures live an enforced celibate and solitary existence upon the summit of a " sacred " mountain. Their only visitor is the witch doctor.

When, in 1921, the Gorongozi tribe suffered, in common with the whole of British Central Africa, from drought, their Paramount Chief sent to their Rain Goddess for an explanation. She confessed that she had been guilty of a love affair with a son of the chief. By the laws of the tribe this boy, together with the Goddess, were sentenced to death by his father, and the sentence was duly carried out by burning. This came to the ears of the authorities, and I guided the expedition which was sent to investigate.

As the result of these investigations the Paramount Chief and his four Indunas were tried at Salisbury High Court and sentenced to be hanged. They were, however, reprieved by the High Commissioner, and their sentences commuted to four years' penal servitude.

NOTES AND NEWS

The following is a copy of a note sent us by Mr. G. G. Fleming, of Vancouver. It provides a striking example of successful map dowsing :—

[Copy.]

Rapid Creek Gold Mining Syndicate,
157 Powell Street,
Vancouver, B.C. *15th April, 1935.*

Dear Mr. Fleming,

To-day I was in receipt of the map submitted to you for DISTANT PROSPECTION covering Eighteen Mineral Claims

owned by the Rapid Creek Gold Mining Syndicate, the property being located in the CARIBOO Mining Division of British Columbia.

I have been in personal charge of operations at this property for the past two years, and your DISTANT PROSPECTION has fully verified our findings to date.

In view of the fact that this map showed our camp site and claims only, it is remarkable that you have so accurately traced the two veins that we have been exploring, and we find that four other veins which you indicate coincide with known outcroppings of quartz.

As a result of your findings we are immediately commencing an intensive exploration of these showings.

I take great pleasure in recommending you to the other companies who desire an accurate mineral survey of their property.

The members of our Syndicate join with me in expressing our complete satisfaction with your work, and we hope to be able to arrange with you to make a personal survey of other property controlled by us, at an early date.

Thanking you on behalf of the Rapid Creek Gold Mining Syndicate, I remain,

Yours very truly,
(Signed) F. B. WHITESIDE.
Vancouver, B.C.
April 15th, 1935.

I, Frederick B. Whiteside, of the City of Vancouver, in the Province of British Columbia, do solemnly declare as follows:—

That the statements and facts contained in the attached letter dated the 15th April, 1935, to Mr. Fleming, are true and correct to the best of my knowledge.

Declared before me at the City of Vancouver in British Columbia this 15th day of April, 1935.

SEAL. (*Signed*) *D. T. ASHLEY,*
A Notary Public
for British Columbia.

* * * * *

Another case of a different kind was reported in the *Midland Daily Telegraph* of January 7th. Mr. T. G. Stewart, of British Columbia, himself a successful water diviner, previous to his departure from Canada, wrote to Mr. J. A. Clarke of Leamington, saying he would like to meet him. After arriving in England, he wrote again saying he would call on Mr. Clarke, but when his letter arrived Mr. Clarke was out. On returning to his house

and opening the letter, Mr. Clarke wondered whether Mr. Stewart had called during his absence. But with the aid of his rod and the letter (as a sample) he satisfied himself that Mr. Stewart had not yet called. He then took a map and pendulum and at five minutes past three located Mr. Stewart at Banbury. Twenty minutes later he found he was between Banbury and Leamington. At four o'clock the bell rang and Mr. Stewart arrived. He had come by motor-coach, and stated that at five minutes past three he was taking a walk at Banbury during a break in the journey. Mr. Clarke has written verifying this report.

* * * * *

An interesting case of water divining was reported in the *Eastbourne Chronicle* of December 21st. Sir James Purves Stewart required an independent water supply at his residence, Belle Tout, formerly the lighthouse on Beachy Head. A geologist suggested that the best place for a bore would be in the valley about 200 feet below and a considerable distance away. However, Mr. F. Clarke, a water diviner and an inspecting engineer of Messrs. Duke and Ockenden Ltd., Hydraulic Engineers, of Littlehampton, located water at a depth of 280 feet on the top of the cliff near the old lighthouse. Boring was carried out and water was struck at 279 feet (about sea level). The bore was increased to 330 feet, and an excellent supply has been obtained.

* * * * *

As reported in the *Nottingham Guardian* of February 27th, Mr. J. A. Clarke, of Ab Kettleby, located the body of Mrs. Agnes Ford, of Bagworth, Leicestershire, who had been missing since December 6th, at the bottom of a disused quarry at Mackfield. For several days parties of police and villagers had searched without success.

* * * * *

Dr. Kopp, of Ebikon, Lucerne, has sent us an article from a newspaper, written by him, on the effect of earth rays. Three years ago investigations were carried out on their biological effect by the Italian Dr. Gori, and further experiments were undertaken in 1933 by three members of the Natural History Society of Aargau, viz., Dr. Jenny, A. Oehler and Dr. H. Stauffer. The position of zones of influence (reizstreifen) were located on a certain area and marked on a plan. Observations were made on a number of plants grown on this area. During three years considerable difference was observed in the growth of gherkins, maize and celery on "rayed" and "unrayed" spots, plants on the former being definitely inferior to those on the latter. Ex-

periments were also carried out on white mice. Hutches were arranged so that one-half was over a " rayed " and the other half over " unrayed " ground. The mice were free to move about at will and were fed in each half alternately. The result showed in an unmistakable manner that the mice preferred to stay in the " unrayed " hutches. Even when they had settled down for several weeks in an " unrayed " hutch, they moved out when the hutch was changed to a " rayed " site. If a celluloid plate was placed under a " rayed " hutch the mice remained there. It was also found that the development of cancer was more rapid in " rayed " animals than in " unrayed."

REVIEWS

TRAITE ELEMENTAIRE THEORIQUE ET PRATIQUE DE RADIESTHESIE PHYSIQUE.

By Lieut.-Colonel J. Correnson, *Amédée Legrand*, Paris.

The author of this new book on Radiesthésie can perhaps be described as a disciple of M. Voillaume, whose *Essai sur les Rayonnements de l'Homme et des Etres vivants* was reviewed in *B.S.D.J.* 6 (December, 1934).

The book is 159 pages long, in five chapters, and has a preface by M. de France, who states that by following the author's advice one could become the perfect dowser in three months.

Like writers of other treatises on this subject in France, the author adheres to the electromagnetic origin of the radiations which cause the dowser's reactions, and like M. Voillaume insists on the necessity for accurate adjustment of the length of the pendulum in accordance with the assumed wave length of the radiation.

He holds that all bodies emit vertical radiations as also radiations inclined at 45 and 135 degrees to the vertical, and assumes that some rays are electric and others magnetic in origin, while some again are of both kinds.

He describes the use of series, samples, the *rayon fondamental*, and introduces certain new terms such as *rayon d'union*, which occurs when two similar objects a short distance apart emit radiations interfering at a neutral point between them; the *triangle d'union*, which occurs when a third body of the same nature causes the disappearance of the neutral point by its situation immediately below it; the *rayon photogénique*, a system of rays which occurs when an object is in front of a source of light.

The author discusses the radiesthetic field of a magnet and shows how it can serve for locating the exact position of an object.

In the rest of the book Chapter III. deals practically with prospection, depth, analysis, yield, etc.; Chapter IV. discusses the radiations from living beings—and here M. Voillaume is closely followed, injurious rays and téléradiesthésie, and Chapter V., the last, contains a programme of training to be carried out in twelve weeks.

BULLETIN DE L'ASSOCIATION DES AMIS DE LA RADIESTHESIE

(No. 34, October-November, 1935).

There is an account of a series of lectures delivered during a tour in Eastern France under arrangements made by the A.A.R., the lecturer being M. Armand Viré. Lectures were given at Reims, Nancy, Strasbourg, Mulhouse, Dijon and Troyes between May 20th and 30th. The lectures produced interesting results; for instance, at Reims, from information provided by Dominique Hans, a series of subterranean rooms of the XII century was found by M. Viré beneath some cellars in a farm on the property of Mme. Neuville, Hans' grandmother.

In "Radiesthesie applied to Meteorology," Dr. P. L. Rothey d'Orbcastel states that observations made by M. Dauzère, director of the observatory of Pic du Midi, Hautes Pyrénees, and M. J. Bouget, botanist at this observatory, showed that:—

(1) Lightning strikes for preference certain particular spots not necessarily prominent;

(2) The position of these spots is connected with the nature of the rocks of which the soil is composed;

(3) The places most exposed to lightning are often found on lines of junction of two geological strata;

(4) Compact limestones are practically immune;

(5) Siliceous rocks, granites, ophites, crystalline schists, clays and rocks containing metal ores are very vulnerable.

According to M. Dauzère the explanation of the occurrence of lightning and hail lies in the ionisation and conductivity of the air, the latter being caused by the transport of electric charges by ions. Experiments made with the electrometer revealed that at places not subject to lightning and rarely hailed on positive ions are generally more numerous than negative, whereas at places frequently struck negative ions predominate.

The author carried out experiments to find out whether observations made with the pendulum could be of assistance in meteorology.

There is the first chapter of a pamphlet by Engineer in Chief of Aviation E. Pitois entitled *La Condensation radiesthésique et ses applications*. A complete copy of this work has been received.

A lecture on *Radiesthésie mentale* was delivered on April 16th to Les Amis by General de la Gontrie, and the first part is reproduced in this number.

A.H.B.

ZEITSCHRIFT FUR WUNSCHELRUTENFORSCHUNG

(October-December, 1935).

This number mainly consists of papers read at the September Congress in Wiesbaden.

It commences with a paper by Dr. Lehmann, an electrical engineer of Dresden, on "The present position of dowsing investigation from the physical standpoint."

In his endeavours to show the close relationship between dowsing and the definitely understood physical phenomena, he first gives a brief account of some of the ordinary facts and theories connected with radio-activity. He states that dowsing, if physically explicable, is probably due to the effect of some of the known earth rays; and that variations in strength of the magnetic field need not be considered.

He then describes the use of an apparatus, of which no diagram is given, but which he says was built from details given by Cav. de Vita. The experiments were carried out by him in collaboration with Dr. Aigner, of Berlin; and Dr. Lehmann, states that "they have succeeded in establishing a connection between dowsing phenomena and actual disturbances in the atmospheric electric field." He does not, however, claim that the apparatus in question can be a complete substitute for the human dowser.

Dr. Lehmann's paper is interesting, and gives several references.

Dr. Dobler has contributed an interesting paper entitled "The riddle of the diviner's rod, and its physical explanation."

As might be expected, he has stated as his proposition that movements of the diviner's rod, and similar phenomena, are produced by the action of undamped electromagnetic waves of millimetre to decimetre length, which are sent out by subterranean materials.

In reference to Dr. Lehmann's work, he says that although Lehmann has conclusively proved the existence of ionised air above water veins, and therefore the existence of rays from those veins, yet that Lehmann could not determine the nature of those rays. Dobler states that his investigations prove these

rays to be undamped electromagnetic waves in the millimetre and decimetre region. This, he says, he has proved in his book (which was reviewed in a recent number of the JOURNAL).

He mentions a publication, hitherto unknown to the reviewer, by B. and T. Düll at the geological and meteorological institute of the University of Frankfort. He says that in this publication these workers have shown that undamped millimetre-decimetre waves occur in the atmosphere, and that they are ejected so strongly by the sun that they reach the stratosphere. From their statistical results they consider that health may be affected by susceptibility to these rays, the intensity of which varies with the periodic occurrence of sunspots.

These are merely the main points of his interesting paper, which is written in a pleasant, clear, and readable style. Dr. Dobler has the courage of his convictions, and he is quite certain that he has, by his researches, opened a gate which should lead to the clear understanding, and proof of the true objective nature, of the phenomena of the diviner's rod.

Turning from Dr. Dobler, we come to a short paper by Herr Fritsch, another engineer. He entitles his paper "An attempt to explain the problem of the diviner's rod by electrical means." He has been struck, during a large number of geophysical observations, by the correspondence between the results he has obtained and those of practised diviners. He intends to deal more deeply with the matter in a forthcoming book.

Following these three purely physical papers comes a contribution by a physician, Dr. Schreiber, who deals with the matter largely from a psychological standpoint. He asserts that if we are to investigate what is supposed to be an unknown sixth sense we must remove as far as possible the influences due to the other senses, as these influences are likely to give rise to auto-suggestion. He admits that the first result of the elimination of other senses is to render less sensitive the subject of the experiment; but he says that this lack of sensitiveness is due to anxiety and fear which by practice can be removed.

Hans Degler contributes a biological paper, on the changing of the polarity of organisms. He says that he has detected such changes in polarity by means of the diviner's rod. In his preliminary experiments he found that the rod rotated 45 degrees clockwise over alkalies and males, and 45 degrees counter-clockwise over acids and females.

Dr. Parisius, another physician, gives some notes on the connection between zones of influence and illness.

He gives his opinions as follows:—

1. Earth rays cause irritations, which bring illness,

2. These irritations caused, in his patients, changes in the hydrogen content of the blood.

3. All his cases of cancer were connected with the occurrence of such earth rays.

4. All his cancer cases showed similar variations from normal in the hydrogen content of the blood.

C. Lienert, of Zürich, reports on biological investigations in Switzerland. These experiments were carried on with plants as well as with animals. He describes experiments with white mice, showing that they prefer to makes their nests in places in which rays are not present. He believes that he has shown from these experiments in nesting, and also from cancer experiments, that celluloid is a good insulator against these rays. His experiments with plants gave inconclusive results.

Herr Hasse, an architect of Aue, describess shortly some dowsing carried out by him over the submerged site of the Viking fortress Jomsburg, near Cape Arcona.

After these papers follow seven-and-a-half pages of notes on discussions, mainly dealing with subjects of medical interest. They deal very largely with attempts to correlate the incidence of cancer with the occurrence of "zones of influence."

The above papers and discussions take up forty-eight pages of the *Zeitschrift*, and the remaining twenty-five pages deal with the ordinary routine work of the editorial staff. There are the usual notes on foreign publications, in which England, Italy, and France come under notice. Of these the last named takes the major part of the review.

From the review of the French publications it appears that French military circles have taken great interest in the diviner's rod. The *Revue du Genie Militaire* is specially mentioned. In 1934 this journal addressed specific questions on the subject to various people. To these questions Lieut.-Colonel Correnson has replied at length in the June number. A review is also given of the *Compte rendu du IVe Congrès Internationale de Radiesthésie*.

Finally, Dr. Kurt Osswald, for the Research Committee, publishes a specimen form of questions and answers regarding the results obtained by the use of the rod.

C.S.T.

LA COTE D'AZUR MEDICALE.

November.—In *Le Fluide Humain* (see a previous review in *B.S.D.J.*8) E. K. Müller, of Zurich, describes a simple electrical circuit by which emanations from the human hand can be detected. He shows that the indications on the galvanometer cannot be due to heat or moisture. The emanations can be transmitted—

by a wooden rod, for example, which has been held between the hands for some minutes. They can pass through organic and inorganic matter such as skin gloves and gelatine. They are also given out by the human breath. Emanation from the fingers is stronger when the fingers are dry and warm. It can be increased by an effort of the will.

January.—Dr. Paolo Borelli gives a short account of the important scientific work carried out by Dr. A. L. Tchijevsky in the domains of psychopathology, climatology, epidemiology, physiotherapy, etc. Born in Russia on January 26th, 1898, he lived abroad till the age of 16. He was nominated professor in 1922, and since 1930 has been Director of the Central Laboratory of Ionification. He is chief editor of the scientific journal "Problems of Ionification," and has published more than 250 works.

Amongst his discoveries are the dependence of the neuropsychic tonus on the gradient of the atmospheric electric field; the influence of atmospheric electricity on the progress of epidemics; the action of cosmic rays on bacteria, yeast, etc.; the part played by electricity in the vegetable world; the effect of the polarity and number of ions in the air on the functional state of the nervous system; the electrostatic function of the lungs.

Professor Tchijevsky is now studying a new type of ray which he has called Y.

On December 12th, at the request of Général Henry de Raymond, Dr. Regnault delivered a lecture to the *Cercle Colonial de Toulon* on "The Dowser's Art and its modern applications." He compared the *lituus*, a kind of rod used by the Etruscan augurs, with the instrument represented in Japanese ivory figures held in the hand of a man with a dragon at his feet. He gave two striking cases of water found in the locality by dowsers, and stated that the best proof of the value of the dowser's art is that certain well-borers will agree to make borings from 60 to 100 metres in depth for a guaranteed quantity of water, thus incurring the risk of losing 60-70,000 francs. He quoted the application of dowsing to agriculture as practised by M. Larvaron, Professor of Agriculture at Rennes, and to veterinary surgery by M. Martin and M. Gerard, and the interesting studies made by Dr. Abravanel Ayssoy, Professor to the Veterinary Faculty at Angara. He also referred to the use of dowsing by M. Marignane for the identification of works of art, by M. Marcel Baudouin for the study of archæology, and by Dr. Van Rousseaux for the solution of historical problems. He showed how valuable dowsing can be to the architect for studying the subsoil of a building site for the avoidance of underground currents and faults.

In an article by R. de Montigny there is an illustration of a coin struck at Dresden in 1719 to commemorate the marriage of Prince Frederick Augustus of Saxony to the Princess Josepha of Austria, showing a cupid holding a dowsing rod, his bow lying at his feet.

LA CHRONIQUE DES SOURCIERS.

November. — A short article on *Radiesthésie électrecienne* describes how the pendulum can be used to illustrate the fundamental laws of electricity, *i.e.*, to observe similar kinds of electricity, attraction, repulsion, magnetic fields, resistance, similar currents, etc.

Lieut.-Colonel Correnson describes the use of the *rayon mental* for identifying five different metals in cardboard boxes.

Under *Informations* we are told that a packet of radium worth 3,000 dollars was lost from the Moë hospital in Minnesota. It was ascertained that it had been thrown by mistake into a field where there were more than 500 pigs. Dr. Buchta, an expert in radiesthésie, was summoned. Armed with a rod he traced the guilty pig, the slaughter of which was justified by the discovery of the radium in its stomach.

Abbé Jacquemin, curé of Vitry-Beuvange, wanted to discover the site of the former abbey. A dowser priest indicated the park of the castle. Excavations revealed frescoes in the foundations of the sacristy.

December.—There is a note on the *Congrés international des mines et de la géologie*, which was held at Paris at the end of October and was attended by more than 1,500 people.

A remarkable lecture on injurious rays was given at The Hague by M. Mieremet, representing Baron von Pohl. The rays are gamma rays and have a vertical range of 1,400 metres. Apart from these M. Chaney has noted the existence of rays of mineralogical origin. M. Mellin has discovered others which act horizontally. Gamma rays are harmful to animals and trees; they are best detected by a steel rod. As a result of the lecture an office for the examination of the soil was instituted at The Hague, 3 Carolina van Nassau Straat.

January, 1936.—This number begins with a highly appreciative note on Mr. Budgett's experiments, as described in his lecture "Local variations in a penetrating radiation and their connection with water divining."

There is an article by M. Pitois on the identification of bodies through the reactions of infinitesimal photolysed dilutions.

A.H.B.