

THE DIVINING-ROD

AN EXPERIMENTAL AND PSYCHOLOGICAL
INVESTIGATION

BY

SIR WILLIAM BARRETT, F.R.S.

AND

THEODORE BESTERMAN

WITH 12 PLATES AND 62 OTHER
ILLUSTRATIONS

Foreword by

LESLIE SHEPARD



FIG. 1. THE EARLIEST PICTURE OF A DOWSER
S. Münster, *Cosmographia universalis* (1550), p. 9

UNIVERSITY BOOKS



New Hyde Park, New York

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Library of Congress Catalog Card Number: 67-26622

Printed in U.S.A. by
NOBLE OFFSET PRINTERS, INC.
NEW YORK 3, N. Y.



FOREWORD

This is the best and most comprehensive study of an extraordinary and important subject.

Dowsing for water, minerals or other hidden objects is one of those strange activities on the borderline between magic and science. Under one name or another the art has been practiced for hundreds of years and even in the skeptical twentieth century the hard scrutiny of conventional science has been unable to dispose of what it would clearly prefer to regard as outmoded superstition.

Yet eminent scientists have testified to the truth of the claims of dowsers or water-witchers. Hard-headed business men have engaged the services of dowsers, while government officials in many different countries have recognized that modern diviners can achieve practical results beyond those of scientific instruments.

This book is the first detailed factual, historical and theoretical survey of dowsing. As a reliable, unprejudiced, scientific work by two distinguished authors it has played an important part in making water divining acceptable in modern times. Both authors are also noted figures in the field of parapsychology.

SIR WILLIAM FLETCHER BARRETT, born February 10, 1844, had a notable scientific background. At the age of 19 he was assistant to the famous physicist John Tyndall. In 1899 he developed a valuable silicon-iron alloy, and from 1905 to 1907 conducted important researches on entoptic vision. Barrett was a Fellow of the Royal Society, the Philosophical Society, the Royal Society of Literature, and a Member of the Institute of Electrical Engineers, and the Royal Irish Academy. Apart from his various scientific publications Barrett was also responsible for several books on psychical research. In 1882 he was a principal founder of the Society for Psychical Research, London, becoming President in 1904. He was Editor of the *S.P.R. Journal* 1884-99 and also made important contribution to the *Journal* and the *Proceedings* over some fifty years. He died May 26, 1925.

THEODORE BESTERMAN, born November 18, 1904, is a celebrated editor, author, librarian and bibliographer. From 1944 to 1946 he was Editor and Executive Officer for the important

British Union Catalogue of Periodicals, and from 1945 to 1947 Editor of the *Journal of Documentation*. He was successively Counsellor of the World Bibliographical and Library Centre, and Director, Department for Exchange of Information, UNESCO, 1946-49. Librarians and researchers owe him a special debt of gratitude for his magnificent compilation *World Bibliography of Bibliographies* (1939-40; 1947-49). He is responsible for a score of other important books on a wide range of subjects from bibliography to parapsychology (including a fine work on *Crystal Gazing*, reissued University Books, New York, 1965). From 1927 to 1931 he compiled the catalogue and supplements of the library of the Society for Psychical Research, London, serving as Librarian from 1929 to 1935, and as Investigations Officer 1933-35. He took part in various research projects and sittings with famous mediums, notably Mrs. Osborne Leonard and Rudi Schneider.

The present book stems from some six years' research and experiment by Sir William Barrett, during the course of which he wrote nearly seven thousand letters and studied thousands of books. His preliminary findings were first published in two volumes of the *Proceedings* of the S.P.R. (1897 and 1900). This book, published after Barrett's death, is a revised and greatly amplified version of those original reports; the arrangement and writing are by Theodore Besterman, who collaborated in the preparation of the book for some time before Barrett's death.

There was a curious anticipation of this work by Andrew Lang as early as 1884. In an essay on "The Divining Rod" in his book *Custom and Myth* he wrote:

"There are two ways of investigating the facts or fancies about the divining rod. One is to examine it in its actual operation—a task of considerable labor, which will doubtless be undertaken by the Society for Psychical Research; the other, and easier way, is to study the appearances of the divining wand in history."

This book more than fulfills Lang's suggestions, and makes a clear case for the reality of dowsing phenomena. Its excellent bibliography of more than six hundred items indicates a fruitful field for further researchers.

Dowsing or water-divining has been known under many names. In America it is "water-witching." In Germany the rod is known as *Wünschelrute* or *Zauberrute* and the operator *Rutengänger*, *Wassermuter* or *Wasserschmecker*. In France the rod is *baguette* or *baguette divinatoire* and the diviner *baguettiste*, *sourcier* or *balancier*. In Switzerland the diviner is *Rütlimänner*, in Holland *roede-*

loper, *waterloper* or *rhabdomant*. In Denmark the rod is *Spästikke*, in Norway, *önskekvist*, in Sweden *slagruta*.

Nobody really knows how old dowsing is, or where it first started. With proper caution Barrett and Besterman separate water-divining itself from other early forms of divination by rods, and their earliest dowsing references do not date before medieval times. But there are many accounts of the power of rods in the Bible—in particular that of Moses smiting the rocks and water gushing forth (*Exodus* xvii, 5-6)—which suggest an earlier origin. Descriptions of the preparation of a magician's wand in the old magical treatises clearly have something in common with dowsing. The *Grimorium Verum* (published 1517) directs the operator to prepare wands of elder and hazel, upon which magical characters must be engraved. The *Grand Grimoire* specifies a wand of hazel which is cut at sunrise with the following invocation: "I beseech Thee, O Grand ADONAY, ELOIM, ARIEL and JEHOVAM, to be propitious unto me, and to endow this Wand which I am cutting with the power and virtue of the rods of Jacob, of Moses and of the mighty Joshua! . . ." The folklore of many countries abounds with stories of the strange powers of the hazel wand.

Since this book was published, an article in *Reader's Digest* October 1958 suggests a remote antiquity for dowsing. It describes the caves of Tassili-n-Ajjer in the Sahara, where archaeologist Henry Lhote investigated levels eight thousand years old. A scene on one of the cave paintings is described as "an eager crowd watching a diviner's search for water" . . .

Over the centuries much controversy has raged around the question of the action of the divining rod. In the sixteenth century Melancthon and others claimed that the movement arose in the rod itself through "the law of sympathy." In the following century the Jesuit Father Kircher demonstrated that it was the dowser himself who communicated movement to the rod. Half a century later other investigators insisted on an explanation that has also been applied to spiritualist phenomena like table-turning—that it was due to "mischievous devils." Barrett and Besterman favored the more practical and scientific view that the movement of the rod was due to unconscious muscular action, arising from the firm grasp of the operator. It seems that in most cases the tension of the grip is converted to sudden clonic spasms when the operator is in the presence of water, but we have yet to understand the precise mechanism of the nervous displacement, and the exact complex of external influences. And there may have been occasional cases when rods moved without direct contact, as did tables

in spiritualist seances. So it is not so simple as one might think.

General theories on dowsing fall roughly into two categories—the psychical and physical explanations. On the psychical side, Barrett relates the movement of the rod to parapsychological phenomena like table-turning and planchette-writing. Other investigators have preferred a complete physical explanation in which the dowser is considered a human indicator of physical stimuli. Champions of the physical theory claim that psychical or ESP assumptions attempt to explain one unknown process by another unknown. However, the postulation of “rays”, “magnetic currents” and “radiations” is often equally vague and not always in line with modern physics.

Actually there need be no real discrepancy between the known facts of the psychical and physical explanations. Both theories agree that some kind of radiation from hidden water or minerals causes a neuro-muscular reaction in the dowser. Undoubtedly a number of complex physical forces are involved, some of them very subtle. The dowser is sensitive to these influences and, through his rod or other device, able to act as an automatic indicator. Long and patient experiment enables the dowser to assess his own reactions with considerable accuracy, leading to estimation of depth and yield. The theoretical system which he uses for this work may be only a rationalization or an oversimplification, but so long as it works well it is sensible to be more interested in the empirical result than the theory.

The dowsing reaction certainly has a physical basis inasmuch as there is a chain of events which begins with a physical fact and ends with a physical indication, but the estimation of depth and yield of springs, or of the nature and quantity of metals, undoubtedly involves a more intuitive factor. The physical schools do not deny that some psychical or ESP factors are operative in many cases, but prefer to ignore them in favor of a mainstream of straightforward physical dowsing.

The difficulty for these physicalists is that nowadays the practice of the art is not confined to discovery of underground water or minerals. Closely related to dowsing for water is the newer field of *radiesthesia*—an extension of dowsing into the realms of medical diagnosis and treatment, telepathy, clairvoyance, tracing of missing persons, acquisition of hidden information, and divination at a distance. Much of this dates from the French revival of interest in dowsing from 1913 onwards, when many operators began to use pendulums instead of rods. The movement of suspended rings or pendulums for divination had been part of folklore for centuries

but the modern French dowsers devised new and imaginative experiments. In 1930 the Abbé Bouly coined the term *radiesthésie* and soon pendulum divination became almost as widespread as the table-turning of nineteenth century spiritualists. Most of this lies outside the scope of the present book, but it should be noted that many modern dowsers not only work with a rod but also prospect with a pendulum over *maps of the district* instead of the actual territory. It sounds fantastic, but it works! Unfortunately these more occult practices antagonize many modern investigators.

Behind the rival theories of psychical versus physical explanations lies a more fundamental problem than a matter of emphasis. For dowsing to be a respectable activity in a materialistic twentieth century it is convenient for it to be confined to the search for water and minerals, with a firm belief in purely physical causes and effects. When dowsing includes occult divination the whole subject becomes clouded by accusations of superstition, delusion and fraud. Modern dowsing is still uneasily poised between science and magic—yet it works.

Since the publication of Barrett and Besterman's book in 1926, there has been an extensive output of other books dealing with dowsing and radiesthesia, so it will be helpful to consider some of the more important works.

In 1938 Theodore Besterman published another short book *Water Divining, New Facts and Theories*, which he dedicated to Sir William Barrett, “whose courage and penetration added the facts of dowsing to the canon of scientific knowledge”. In this work Besterman cited new evidence from the detailed records of various dowsers, particularly Major C. A. Pogson, who was official Water-Diviner to the Government of India between October 1925 and February 1930. During this period Major Pogson located sites for wells and bores, and acted as consulting adviser on all matters relating to underground water. He traveled thousands of miles, giving his services to the authorities in Bombay, Bihar, Orissa, Central Provinces, and North West Provinces, handling hundreds of projects with an overall success of 97%. He located 465 sites of water supply, and his remarkable achievements were recorded in three official reports issued by the Government of Bombay.

In the same year as Besterman's supplementary work, the U.S. Geological Survey reprinted *The Divining Rod; A History of Water Witching* by Arthur J. Ellis (*Water-Supply Paper 416*) first published in 1917. This critical survey is remarkable for its uniformly hostile attitude to dowsing, using terms like “delusion” and “curious superstition”, “extravagant and absurd claims”. This little book

is so intemperately opinionated and its bias so prejudiced that it is wide open to strong criticism. In contrast, the work of Barrett and Besterman is a masterpiece of careful and impartial inquiry. Ellis's book is valuable, however, for its extensive chronological bibliography and careful index.

An important book which attempted a detailed physical explanation of dowsing by rod and pendulum was *The Physics of the Divining Rod, being an account of an experimental investigation of Water and Mineral Divining* by J. Cecil Maby and T. Bedford Franklin (London, 1939). This careful investigation in field and laboratory by a trained physiologist and a mathematical physicist is a valuable contribution to our knowledge of dowsing.

The small introductory works deserve special mention: *Dowsing* by W. H. Trinder (London, 1939; 1941; 1948), and *The Elements of Dowsing* by Le Vicomte Henry de France (London, 1948). Both books deal with dowsing by rod and pendulum, including the controversial issue of divining over maps, and give excellent advice for beginners. Trinder's book describes his own methods, and gives an honest analysis of his successes and failures, with many useful hints and warnings. Some kinds of rock and stone, for example, give consistently misleading indications to dowzers. Purists may complain of oversimplified theories of "rays" and "radiations" but these are essentially practical books. Actually there is surprising uniformity in the indications and results of dowzers of different theoretical persuasions.

A more recent book by S. W. Tromp, Professor of Geology, indicates the complexity of the scientific position regarding dowsing and allied phenomena. His book *Psychical Physics* (1949) is 500 pages in length, with a bibliography of 1,496 items. This massive and enlightened scientific survey reviews relevant questions of the many electro-magnetic fields in and around living organisms. In the section on dowsing, Professor Tromp details the questions of electrical stimuli in atmospheric, geophysical and biological fields; magnetic stimuli in biological and earth magnetic fields, and earth magnetic stimuli from natural sources (sunlight and cosmic rays) and artificial sources (X-rays and high-frequency Hertzian waves). He also details his own careful experiments in establishing the physical and physiological factors involved in dowsing phenomena. This is a formidable scientific analysis, rather too technical for many general readers, but a worthy successor to the present book.

Aside from the severely scientific aspects, Barrett's correlation with physical phenomena deserves closer attention. There certainly

seems to be a whole spectrum of related divination phenomena ranging from clairvoyance, prediction, table-turning and the human aura, to straightforward water-divining, arising from a metaphysical background of primitive religion, the practice of magic, and the relationship of man to rural nature.

In 1692 John Locke referred to the 'Deusing-Rod or *Virgila Divina*'. It has been suggested that there is a derivation from the Latin *deus* ('god') and that the use of the rod is a divine activity. 'Dowser' has also been suggested as a derivation from the Gaelic *dahmsoir* or 'dancer', and it has been pointed out that the traditional Gaelic dance involves plucking the feet away from the earth. Was primitive dancing itself a sensitive response to the influences of the earth? And are the circular forms of dance, religious processions and prayer motifs related to the movements of a pendulum and rod?

Meanwhile water-divining survives today because its practical utility does not involve too great a strain on the outlook of a relatively unprejudiced person. Radiesthesia, with its claims to medical diagnosis, prospecting over maps, tracing missing persons, and prediction of unknown events, etc. is too bizarre for many dogmatic materialists. But ultimately, as with water-divining itself, such things will be validated by their accuracy and practical value rather than by theories and opinions for and against. It has to be admitted that dowsing and radiesthesia occasionally attract cranks, that claims are sometimes extravagant, and self-deception is possible. But the same could also be said of the practice of medicine and other arts and sciences. In my experience, most dowzers are, on the whole, honest, hardworking and practical people of high intelligence, unusual skill and good moral sensibility.

One of the greatest advances in maintaining a high standard of practice and ethics amongst dowzers and radiesthetists has been the formation of societies which have regular congresses and issue informative bulletins. The British Society of Dowzers, founded through the efforts of Colonel A. H. Bell, D.S.O. in 1933 has brought together dowzers of great skill. Through its excellent books and its *Journal* (now in its twentieth volume) it has made available valuable information and suggested new lines for experiment. In the United States, the American Society of Dowzers carries on similar work, and comparable societies exist in France, Germany, Belgium, Switzerland, Italy and elsewhere. Amongst well-established journals one should also mention the French *La Radiesthésie Pour Tous* and the Bulletin of *Les Amis de la Radiesthésie*, the German *Zeitschrift für Radiästhesie* and the Italian *Cespera*.

Dowsers have been employed by engineering concerns, waterworks, laundries, breweries, government departments and many other practical organizations. Major Pogson's appointment as official Water-Diviner to the Government of India was not unique, as Miss Evelyn Penrose was at one time official dowser to the Government of British Columbia. It is not generally known that the police departments of many countries often enlist the aid of dowsers. A recent article in the March 1967 issue of the British Society of Dowsers *Journal* describes how Mr. Thomas Trench successfully located the missing body of a murdered policeman through map prospecting, at the invitation of the Belgian authorities. Similar cases of police co-operation with dowsers are known, but naturally many are confidential.

Of course, the main body of dowsing is still concerned with water-finding. Dowsing really works, and it is one of those fascinating skills which many ordinary people can learn, given proper guidance. It does not need costly apparatus or cranky cultism. In an age when urban man is increasingly dependent upon adequate water supply, when many areas are still periodically devastated by drought, water-finding can be one of the most worthwhile social skills.

The present book has always ranked as a standard reference work, from the basis of which more detailed studies can be made. The present reprint—the first since the original printing—is therefore a very welcome one, both for experienced dowsers and also newcomers to the subject.

London, England
February, 1968

LESLIE SHEPARD

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INTRODUCTION

THERE are in many parts of the world certain persons who profess to be able to discover, without the aid of any known means of investigation, the exact location of underground water. For this purpose they usually employ a Y-shaped twig of hazel or some other wood; this so-called divining-rod is held in the hand and the diviner then traverses the ground. When supposed to be approaching the hidden water the rod is seen to move, sometimes with such vigour as to forcibly strike the holder's body, although he claims to make considerable efforts to restrain it—a fact which seems to be proved by one limb of the twig being often snapped across under the strain of the opposing forces. The holder of the rod generally appears exhausted by the effort; in some cases he complains of sickness or giddiness, occasionally the pulse rises, he breaks out into a violent perspiration, and trembles all over. As a rule he asserts that he experiences singular sensations, resembling muscular cramp, when he is over an underground water-course. These sensations are so well marked that in some cases he discards the use of the twig and trusts to his sensations alone. If now the place be carefully noted beneath which the hidden water-course is asserted to exist, the probability is that, however often the spot be crossed by the holder of the rod, the same phenomena will recur, even when his attention is distracted, or another and independent dowser is employed. Further, if a well be dug at the spot so indicated, water will usually be found. This alleged power of finding underground water, when to an ordinary observer there appears nothing to betray its presence, is not confined to a professional and paid class of men, but is found among amateurs, young and old, male and female, and in all classes of society. Nor is the dowser only met with in England; he is found today to our knowledge in France, Italy, Spain and Portugal, Switzerland, Germany, Austria, Scandinavia, the Baltic countries, in short, in all parts of Europe, and in the United States, Canada, Australia,

India, and doubtless in other places of which we have no direct evidence.

There exists a large mass of indisputable evidence (a portion of which will be given in due course) proving that it is possible to find water, oil, metallic ores, coal, hidden objects, and so forth, by means of the rod. It is impossible to read this voluminous evidence without coming to the same conclusion as that of a modern investigator, who wrote after painstaking investigation: "The evidence for the success of 'dowsing' as a practical art is very strong—and there seems to be an unexplained residuum when all possible deductions have been made."¹

In like manner, it is impossible to study this subject historically without being impressed by the number of those who have accepted as indisputable the practical value of the rod. And these believers in its efficacy were not a set of silly, superstitious men, easily duped by cunning rogues, credulous fools, capable of believing any nonsense; on the contrary, among them are some of the most learned writers and the most painstaking investigators, Cabinet Ministers and judges, shrewd business men and large landowners, railway companies and architects, together with an array of practical miners and well-sinkers; men who ought to have known what they were talking about, and not likely to waste their money on a silly superstition. The popular off-hand view about the rod—that it is merely another instance of the perennial superstition and roguery of mankind—seems therefore somewhat inadequate. For the curious problem that meets one in the examination of the subject is not only the long survival and wide extent of the belief in the rod, but the singular and unselfish enthusiasm of its advocates, together with the general probity and intelligence of the diviners themselves. Quakers, farmers, ladies, children, poor-law guardians, clergymen, magistrates, etc., are among the English diviners of today, and these are not the class of people one would expect to find hoodwinking a gullible public. They may, of course, be the victims of self-deception; if so, does this also apply to the professional dowsers (in England alone there are scores who make a living by their practice), whom numerous agents of estates and owners of land find it in their interest repeatedly to employ?²

As a silly superstition, nevertheless, the subject remains in the minds of most people who have not had an opportunity of

¹ E. R. Pease, in *Proc. S.P.R.*, ii. 89.

² We are glad to be able to bear testimony to the fact that several of these professional dowsers, notably those who have been most suc-

themselves witnessing its phenomena or of reading accounts of other people's experiences. To this practice is also opposed the whole weight of official science. This sufficiently curious phenomenon must be accounted for, for such a widespread attitude cannot be altogether unreasonable. It is true that the subject at first dispirits and repels the investigator because of the quantity of rubbish that overlays it and the credulity and ignorance that surround it, and which characterize so many of its enthusiastic votaries and of the writers on the divining-rod, both in ancient and in modern times. Indeed, at first sight few subjects appear to be so unworthy of serious notice and so utterly beneath scientific investigation as that of the divining-rod.

But this was once true of many matters now of the greatest scientific importance, and it is our business to try and discover with the divining-rod of science the treasure that is hidden beneath any soil. As Sir John Herschel has truly said: "He that has seen obscurities, which appeared impenetrable, suddenly dispelled, and the most barren and unpromising fields of inquiry converted into rich and inexhaustible springs of knowledge on a simple change of our point of view, or by bringing to bear on them some principle which it never occurred before to try, will be the last to acquiesce in any dispiriting prospects."¹

Unhappily this truly scientific spirit is only too often replaced in academic circles by a reckless misoneism.² Many cessful, are simple unassuming men, who do not disguise their ignorance, nor occasional failures, and are ready to impart all they know. On the other hand, as might naturally be expected, the possession of any peculiar "faculty" tends to inordinate self-conceit and vanity, especially among the illiterate class from whom the professional dowser is usually drawn. This is traceable from the 17th century dowser down to the present day. Among such men a great mystery is made of their "art"; an apprenticeship must be served, and initiation to its mysteries could, in former times, only be gained by a knowledge of the magic rites and ceremonies with which the practice was surrounded. At the present day these magic rites are swallowed up by the more magic dollar. For example, the son of an English rector having accidentally found he had the faculty of dowsing, the father applied for information to a young professional dowser, and received the reply that "Mr — declines to take less than one hundred guineas for giving the youth three months training"! We hope this warning may make such premiums a little more difficult to catch.

¹ *A Preliminary Discourse on the Study of Natural Philosophy* (1831), p. 8.

² Here is an amusing instance of apriorism in a letter from a well-known geologist: "It is sad to find you troubling about that wretched divining-rod! . . . Why is it that of late years this 'pestilent heresy' has cropped up so? And why are educated people bitten by it? Squires, M.P.'s, doctors, and alas, parsons!"

men who have imperfectly assimilated and related the findings of the various sciences have too easily recourse to a convenient and superficial scheme of things, from which they then vigorously exclude any new facts which appear destructive of their preconceived notions. To discuss this psychological truth would be to go beyond our present scope, and we have merely to consider whether there is any immediate explanation of this very general scientific prejudice against serious consideration of the dowsing-rod. Its name is no doubt largely responsible for the opprobrium under which the subject rests; naturally enough the "divining-rod" is confused with such ancient divinatory practices as Belomancy, Xylomancy, and especially with Rhabdomancy. But there is of course no connexion between these things and the use of the divining-rod. It will therefore be convenient to replace that term with the old and locally well-established words dowsing-rod and dowser.¹

The historical evidence adduced in the next chapter renders it practically certain that the birthplace of the modern use of the dowsing-rod is in the mining districts of Germany, probably the Harz Mountains. It was probably introduced into England in the latter part of the 16th century by the German miners brought into this country to work the Cornish mines.² The beginning of the use of the rod for the purpose of finding underground water is uncertain, but this probably originated at least a century after the use of the rod in mining. Towards the end of the 17th century the rod was also used, in France, for the tracing of criminals, but this practice soon died out. At the present time, in this country, the rod is almost exclusively used as a water-finder. It fell into disuse as a help in mining through the exhaustion of the mines in Cornwall. If it is tending to become disused for water-finding also (which is very doubtful) the fact is no doubt due to the spread of elementary scientific knowledge among farmers and the like. Such elementary knowledge is sufficient to make a poorly educated person distrustful of unorthodox methods of research but not sufficient to enable him to distinguish between the charlatan and the dowser producing practical results. This conclusion explains why the rod is more widely

¹ According to the best authorities the origin and derivation of the words are unknown.

² Though of course foreign miners are known to have been in the country much earlier; see e.g., T. Rymer, *Foedora* (1704-1732), xi. 318; W. Campbell, *Materials for a History of the Reign of Henry VII* (1873-1877), i. 310.

used by cultured persons than by illiterate ones. It is always ignorance, and not knowledge, that blindly denies what is unfamiliar. "Ignorance is the parent both of blind credulity and of scoffing scepticism, and leads not only to implicit belief in untruths, but to a rash denial of what is true."¹ Our present object is to endeavour to dispel such ignorance in regard to the dowsing-rod by carefully examining in the clearer light of the present day the evidence that exists on behalf of phenomena rejected as trivial and valueless by orthodox science.

Here then we find a widespread belief existing at the present day and extending backwards for centuries; though it seems contemptible, how are we to account for the origin and survival of this belief, and for its appearance and persistence in regions remote from each other? The answer is simple: the belief can only be explained by proving it to be founded on true and ascertainable facts, facts which are now to be put before the reader.

Before doing so it seems proper to refer to a matter of some importance. From time to time reports come to hand of local authorities who refuse to employ a dowser, or who refuse to pay his fees after having employed him, on the ground that such employment and payment are contrary to law. These authorities have some justification for their view in that several such authorities have in fact been surcharged by their auditor of the fee paid by them to a dowser. But in fact an auditor has no right to do so, nor is there anything to prevent a local authority employing a dowser if they think fit. In this connexion we may quote a letter from the now defunct Local Government Board in answer to a specific inquiry on this point (31st of August 1901): ". . . . it appears to them [the Board] to be competent to the District Council to consult Mr Tompkins if they think fit to do so, and to pay him a reasonable fee for his advice." This statement was confirmed by the Board in a later letter (23rd of November 1903) to Sir William Barrett.²

¹ Sir Lauder Brunton, "Truth and Delusion," *The Universal Review* (1889), iii. 54.

² News has come to hand (June 1926) of the appointment of an official dowser by the Municipality of Bombay.



FIG. 2. A MINING TOKEN

THE DIVINING-ROD

PART I

HISTORICAL AND GEOLOGICAL

CHAPTER I

A BRIEF HISTORICAL SKETCH OF DOWSING

§ I. ORIGINS

AN eminent authority, after discussing the oracular powers of the whispering leaves of the oaks of Dodona, of the Appolonian laurel at Delphi, and of the fabulous ash Ygdrasill, proceeds to say that "the divining-rod has inherited its qualities from the divining tree."¹ Other writers have found similar theories tempting, and indeed there is some slight ground on which to rest such opinions. The wand of Hermes is sometimes figured as a forked rod;² figures of Mediterranean idols have been found bearing forked rods as symbols of their power;³ and so far afield as on the carved rocks of Peru similar figures are to be discovered.⁴ The various ideas regarding the origin of the dowsing-rod to which students were led by these discoveries were summed up in a completely scholarly way by Adalbert Kuhn, a mythologist of the old school. Postulating the forked shape of the rod, which he imagined to be its universal and distinguishing characteristic, he suggested that the rod was, in brief, the symbol of divine fire or light.⁵ Perhaps the most extraordinary medley ever put together on this basis is an

¹ C. F. Keary, *Outlines of Primitive Belief* (1882), p. 62.

² L. Preller, *Ausgewählte Aufsätze* (1864), p. 154.

³ F. Creuzer—J. D. Guigniaut, *Religions de l'Antiquité* (1841), iv. plate LVI bis; cp. J. W. Tyndale, *The Island of Sardinia* (1849), iii. 221–222.

⁴ T. J. Hutchinson, *Two Years in Peru* (1873), ii. 174, plate.

⁵ *Die Herabkunft des Feuers* (1851), pp. 204 *et seq.*; cp. Sir J. G. Frazer, *The Golden Bough* (1911–1915), xi. 67, 281–2, 291–2.

article by John Fiske, of Harvard, the historian and philosophico-scientific writer. Having once met a dowser, whom he promptly proved to be a rogue by showing that the rod would not move when he (Professor Fiske) held it, and having read that "learned author" Mr Baring-Gould, Fiske felt himself qualified to clear up the subject. Accordingly he tells us that the dowsing-rod as "throughout Europe it has been used from time immemorial," and as "the one thing essential about it is that it should be *forked*," it is obvious that its origin, "hopeless as the problem may at first sight seem," is "nevertheless solved." It is, we learn, unquestionably the wooden incarnation of forked lightning! ¹ So much for myths and myth-makers.

All such theories fail because it is attempted to trace the origin of dowsing through the forked shape of the rod. This shape, however, is neither its original nor its universal form. In the oldest references even more than in contemporary practice the instrument used in dowsing varies in all ways. The substance of which the rod is made may be of any kind of wood and metal, they may be manufactured articles such as tongs, snuffers, or even (be it whispered) a German sausage. It is clear, therefore, that if the origin of dowsing is to be found it must be sought through the practice and not through its instrument. On these grounds we cannot connect dowsing with any of the numerous ancient divinatory practices such as rhabdromancy, belomancy, xylomancy, hydromancy and the like. Nor does there appear to be any reason for ascribing to dowsing the feat of Moses in the wilderness (Numbers xx. 11), though the commentators have not reined their imaginations in discussing this passage and others of a similar nature, which may be found in any biblical concordance under "rod." In short, the origin of dowsing for underground minerals and water is wrapped in obscurity too deep for present penetration. But we may well say with the learned William Pryce that "it is impossible to ascertain the date or personality of the discovery, which appears to me of very little consequence to posterity; but perhaps we may not be far off from the truth, if we incline to the opinion of Georgius Agricola, in his excellent latin treatise *De Re Metallica*, that 'the application of the enchanted or divining rod to metallick matters took its rise from magicians and the impure fountains of enchantment.'" ²

¹ *Myths and Myth-Makers* (1873), pp. 37 et seq.

² *Mineralogia Cornubiensis* (1778), p. 113. The passage from Agricola will be found at p. 27 of the work cited.

§ 2. DOWSING AMONG SAVAGE PEOPLES AND IN FOLKLORE

It is no part of our purpose to make any extended investigation into the practice of dowsing among savage peoples. Nor, indeed, does this custom appear to be very widespread among such peoples. But a few instances that we may adduce will serve to demonstrate the world-wide extent of the use of the rod for finding hidden things. These hidden things are in fact generally stolen things in the remoter regions of the world. An Indian case will lead to more characteristically uncivilised evidence, though it is not recorded by an impeccable authority. It appears that having had some property stolen from his home near Calcutta the writer had secured a native who was famous for these detections. This native, after the proper incantations, caused two other natives from the Madras coast to hold together two bamboo rods. After a while, says the writer, "we confess to our great surprise, we beheld the bamboos crossing each other horizontally, and afterwards alternately rise up and descend." In this manner the direction in which they were to proceed was indicated, and at length a certain person was shown as the culprit. ¹

We have here in all probability a mingling of two elements: one being dowsing proper, and the other the very widespread worship of sticks and their use in divination, such sticks being held to be possessed by, or to contain, a spirit or deity. ² With such cases we are not here concerned. Very similar to the practice just described is that of the Maganja of Central Africa. Some corn had been stolen and the medicine-man appointed four men to hold the sticks, two men to a stick. On the spectator enquiring what this meant, he was answered: "Wait and you will see. The sticks will drag and drag the men, until they drag them to the person who stole the corn!" And so it was. "The men seemed scarcely able to hold the sticks, which took a rotatory motion at first, and whirled the holders round and round like mad things." The sticks led to the hut of one of the wives of the robbed person, who duly was made to pass through the appropriate ordeal, which, by the way, proved her innocent! ³

A very similar custom is found among the Yaos of Lake

¹ "The Detective in India," *Chambers's Journal* (1856), pp. 49-52; cp. S. R. Maitland, *False Worship* (1856), p. 330.

² E.g., Richard Taylor, *Te Ika A Maui* (1855), p. 92; cp. Sir E. B. Tylor, *Primitive Culture* (1920), i. 125 et seq.

³ Henry Rowley, *The Story of the Universities' Mission* (1866), pp. 218-9.

Nyanza,¹ and seemingly also among the Zulus.² The natives of the Banks and Torres Islands in Melanesia use bamboo rods for the purpose of spiritualistic sittings. When they feel the bamboos moving in their hands they know it to be a sign of the presence of a ghost.³ It is interesting to observe that in a journal supposed to have been written about 1675 in connexion with a search for treasure up the river Gambia, occurs the following entry: "February the 24th, I tried the Use of *Virga Divina* upon a high, barren and rocky Mountain: But, whether it afforded no Metal, or whether my Rod, being cut in *England*, and being dried and carried far by Sea, had lost its Virtue; or whether it hath no such Quality (which I rather believe) I am not certain. However my Companions laugh'd me out of the Conceit."⁴ In discussing gold-mining in Borneo, Posewitz says, without giving a reference: "Professor Veth states that they [the natives] use a kind of Wünschelruthe (divining-rod) in order to find the spots rich in gold."⁵ James Gilmour tells us that the Mongols among whom he lived expected him to be able to say "where they should dig a well so as to get plenty of good water near the surface . . ."⁶

Sir Frank Swettenham, discussing the methods of divination used by the Malays, writes: "Yet another plan is to place in the hand of the *pawang*, magician, or medium, a divining-rod formed of three lengths of rattan, tied together at one end, and when he gets close to the person 'wanted', or to the place where anything stolen is concealed, the rod vibrates in a remarkable manner."⁷ This is confirmed by Dr Skeat in the following interesting passage, describing the rod spoken of by Swettenham: "This is a rod or birch of *rotan sega* (the best marketable variety of cane), which may consist either of a single stem, or of any odd number of stems up to nine. The handle of the rod or rods is bound with a hank of 'Javanese' yarn, which may or may not be stained yellow. The sorcerer

¹ Duff Macdonald, *Africana* (1882), i. 161.

² Bishop H. Callaway, *The Religious System of the Amazulu* (1870), pp. 330-2; cp. *id.*, "Divination and Analogous Phenomena," *The Journal of the (Royal) Anthropological Institute* (1872), i. 178.

³ R. H. Codrington, *The Melanesians* (1891), pp. 223-225.

⁴ Francis Moore, *Travels into the Inland Parts of Africa* (1738), Appendix III, p. 16.

⁵ T. Posewitz, *Borneo* (1892), p. 343; P. J. Veth, *Borneo's West-Afdeeling* (1854-1856). Cp. N. Adriani and A. C. Kruijt, *De Bare's sprekende Tovadja's van Midden-Celebes* (1912-1914), i. 25.

⁶ *Among the Mongols* (1883), p. 188.

⁷ *Malay Sketches* (1895), p. 207.

who wishes to use it grasps the butt-end of the rod in his right fist, and after burning incense and scattering sacrificial rice, repeats the appropriate charm, which commences with a summons to the spirit to descend from the mountains and enter into his embodiment. If the invocation is properly performed, the spirit descends, and entering the sorcerer's head by way of the fontanel, proceeds down his arm and into the rod itself. The result is that the tip of the rod commences to rotate with rapidly increasing velocity, until the sorcerer loses consciousness, in which case the rod will point in the direction of any sort of lost or hidden treasure, which it may be the object of the operation to discover. Even underground water could, I was assured, be thus discovered."¹

To deal adequately with the subject of dowsing and the dowsing-rod, in custom, tradition and association, in European folklore, would require a small treatise. To do so would be to throw our study hopelessly out of proportion. It can only be said that dowsing folklore is to be found in every European race, that some of it is of considerable age and that a knowledge of it is essential for a proper appreciation of the origin and development of the practice.²

§ 3. THE ROD IN CLASSICAL AND MEDIEVAL TIMES

Apart from the reasons put forward above, it is pretty clear that dowsing was unknown in classical times, from the absence of references to that practice. Pliny, who had a sharp eye for this sort of thing, has a good deal to say about water and its discovery, but nothing of dowsing. We may be sure that Varro's lost *Virgula divina* dealt merely with divination. Still better reason for our opinion that dowsing was unknown at this time is the fact that so late as the 4th century A.D., Cassiodorus praises water-finders without allusion to our subject;³ and

¹ "Malay Spiritualism," *Folk-Lore* (1902), xiii. 145.

² The reader who wishes to follow this up should consult the Bibliography under the names of Afzelius, Arnot, Bartsch, Birlinger, Bosquet, Brand, Broberg, Buckland, Busch, Caila, Dybeck, Dyer, Elworthy, Feilberg, Folkard, Friend, Grimm, Haušky, Hedenstjerna, Herrlein, Hoffman-Krayer, Robert Hunt, Hunziker, Ipolyi, Jens, Kamp, Kelly, Kinahan, Krause, Krauss, Kuchler, Kuhn, Lang, Lehmann, Lemke, Leoprechting, Lippert, Lloyd, Luetolf, Lyncker, Mahlschedl, Mannhardt, Meier, Menzel, Meyer, Müllenhoff, Müller, Musäus, Nerucci, Napier, Panzer, Peretti, Perger, Philpot, Preller, Pritz, Pröhle, Quitzmänn, Rääf, Sanders, Schindler, Schönwerth, Schulenburg, Schwartz, Seiler, Simrock, Sloet, Strackerjan, Thorpe, Vernalaken, Vonbun, Waldbrucht, Waldfreund, Wigström, Wlislöcki, Wolf, Wuttke, Zingerle.

³ *Variarum*, III. liii.

the same applies even to such specialist works as the 6th cent. *De Re Rustica* (IX. viii) of Palladius and the (probably) earlier *De Architectura* of Vitruvius (VIII. i).

The next allusion to anything approaching our subject dates from the 11th century, at the beginning of which we find Notker, monk in St Gallen, writing of the volatile and mercurial rods.¹ In the next two centuries are to be found a number of Germanic allusions to the rod; it is necessary to refer to these since these allusions are likely to lend themselves to too facile generalisations. The ancient Germanic word for the divining-rod (in its rhabdomantic sense) was *wünschelruote* or *wünschelrisz*, that is, wishing-rod. This word was unfortunately adopted for the dowsing-rod, which is now called in German the *wünschelrute*. It must therefore be made quite clear that no allusion to dowsing must be found in the golden rod of the *Nibelungslied* (c. 1170),² or in the paradisial wishing-rod of Gottfried of Strassburg's *Lobgesang auf Maria und Christus* (c. 1210),³ or in the magical rod or taming-wand of the *Edda* (c. 1240).⁴ References to this wishing-rod are curiously frequent in certain writers of this period, such as Albrecht of Scharffenberg,⁵ Conrad of Würzburg,⁶ the anonymous *Historij von hertzog Reynfrid von Braunschweijg*.⁷ A number of similar allusions to a wishing-rod may be found in other of the typical compositions of this time, to the end of the fifteenth century, but we need not linger with these.

One interesting allusion may however be discussed: in Conrad of Megenberg's *Buch der Natur* (written 1349-50), the first work on natural history in the German language, there are several references to a wishing-rod.⁸ One of these references (p. 376) says that when split hazel rods are used as spits they turn by the heat of the fire without any magic; this seems to imply a knowledge of turning rods but whether it may be regarded as an allusion to dowsing is doubtful.

§ 4. EARLIEST EVIDENCE OF DOWSING

Towards the end of the period just described, in which the rod was known only as a mythological, semi-fabulous instru-

¹ *Schriften Notkers*, i. 701, 720.

² *Das Nibelungenlied nach der Hohenems-Münchener Handschrift*, p. 43, l. 24.

³ *Gottfried's Werke*, ii. 104.

⁴ *Edda*, etc., pp. 2, ll. 14, 29-30; 22, ll. 28-29; 23, l. 10; 25, l. 7.

⁵ *Der jüngere Titivel*, ll. 624, 701, 1242, 1247-8, 1728, 2509, etc.

⁶ *Engelhard*, l. 3000; *Goldene Schmiede*, l. 664, 1312; *Lieder und Sprüche*, no. 11, l. 43; *Der Trajanische Krieg*, ll. 2217, 20,006.

⁷ ll. 1575, 4150, 4414, 6352, 10,944, 12,950, 13,106.

⁸ *Das buch der natur*, pp. 42, 455.

ment, on a par with magical wishing-rings and cups, it becomes apparent that it began to be used for the discovery of underground minerals. As early as about 1430 there is an allusion, in a manuscript left by a mine surveyor, to a mining-rod, its striking being attributed to metallic exhalations.¹ After this earliest unmistakable reference to dowsing there is a long silence until 1518, when Martin Luther included the use of the rod in his list of acts that break the first commandment.² But twelve years later the subject was definitely established as a practical help in mining, for there is a reference to the rod in the Latin-German glossary in Agricola's little essay published in 1530.³ This reference was supplemented a quarter of a century later (1556) by a long and acute discussion in Agricola's great treatise. He points out very cogently that as the rod does not move in the hands of all men there cannot be any specific affinity between the object of the search and the rod: the phenomena (which Agricola himself observed) must be due to some quality of the dowser himself.⁴ An interesting woodcut (Fig. 3) shows the successive scenes of a dowse for minerals. We see the dowser cutting a branch from a tree, traversing the ground with the rod thus obtained, the rod dipping, an excavation begun and the bringing up of sample pieces of rock. On another woodcut the operations are shown proceeding below the ground, while on the surface the dowser goes on with his work. The serious, business-like air of the dowser is apparent on both these cuts, and the same can be seen in an illustration to a book which had appeared in the meanwhile: the geographer and mathematician Sebastian Münster's greatest work, his *Cosmographia universalis* (1550, p. 9). This woodcut (Fig. 1, Frontispiece), showing the dowser, forked rod in hand, striding over low hills is the earliest picture of the dowser at work. In it the rod is labelled, "Virgula divina—Glück rüt," but there is no reference to it in the text.

In the interval between the publication of Agricola's two works on mining there had appeared, in addition to the cut in Münster's folio, a number of interesting accounts of dowsing which show that by the middle of the sixteenth century dowsing for metals had become quite general. In 1531 Paracelsus

¹ Andreas de Solea, *Eröffnete und blosgestellte Natur*, in C. Kiesewetter, *Geschichte des Neuen Occultismus* (1891-1895), i. 512, ii. 382.

² *Decem Praecepta* (1518), praecceptum primum; cp., *id.*, *Tischreden oder Colloquia* (1566), f. 481b.

³ P. Plateanus, in G. Agricola, *Bermannus* (1530), p. 135.

⁴ *De Re Metallica* (1556), pp. 25-28.

touched on the matter of the rod,¹ and next year was published "a true though brief description of the mercurial rod," in which we find described the discovery of buried treasure by the Reverend Father P. Bernhardus, the first dowser of whom we have such specific record.² Ten years later Caspar Brusch celebrated in heroic verse the use of the rod for finding veins and treasures on the Bohemian side of the Erzgebirge³ (just as Michael Barth was to celebrate later the village of Annaburg in the Saxon Erzgebirge);⁴ and a little later (1549) there is an allusion in the *Zimmerische Chronik*.⁵ In 1553 Pierre Belon observes that the rod is not used by the Macedonian miners as it is by the German,⁶ and in the same year Caspar Peucer speaks of the forked rod used in the search for metals.⁷

After Agricola's discussion of the subject (1556) more or less original considerations of dowsing are to be found in many of the works of the learned inquirers of the sixteenth century.⁸ In works dealing with mining there are also frequent allusions,⁹ and, in short, knowledge of dowsing for minerals seems to have been very widespread by the beginning of the seventeenth century. We cannot attempt to mention even a few of the writers who discuss the subject.

§ 5. EARLIEST SYSTEMATIC STUDY OF DOWSING

Systematic experiments in dowsing may be said to begin with the Baroness of Beau-Soleil. This lady was anxious that France should hold the first place among the nations of Europe (about which she need have had little concern at that time). Looking round France, says she in a dedicatory epistle to Richelieu, she came to the conclusion that her country could



FIG. 3. A SIXTEENTH-CENTURY DOWSER
G. Agricola, *De Re Metallica* (1556), facing p. 28

¹ *De Causa et Origine Morborum* (1565), f. 2b; cp. *id.*, *Von heym-
ligkeyten der Natur* (1584), p. 4 of "Die Wünschelrhut"; *id.*, *Astron-
omia Magna* (1571), p. 64; *id.*, *Dictionarium obscuriorum vocabulorum*,
p. 91; *id.*, *De natura rerum* (1583), ix. 94b.

² *Vera atque brevis descriptio Virgulae Mercurialis* (1532).

³ *Encomia Hubae Slaccenwaldensis* (1542), p. 8.

⁴ *Annaebergia* (1557), pp. 37-38.

⁵ *Literarischer Verein* (1869), xciv. 136.

⁶ *Les Observations de plusieurs singularitez* (1553), i. 45.

⁷ *Commentarius de praecipuis divinationum generibus* (1553), p. 276.

⁸ E.g., J. Bodin, *De la Démonomanie des Sorciers* (1580), f. 36 a; M. Pabst, *Wunderbarliches Leib und Artzneybuch* (1590), i. 350; G. B. della Porta, *Magia naturalis* (1589), p. 300; M. A. del Rio, *Disquisitionum magicarum* (1593), I. iii. 4, etc.; *id.*, *Syntagma Tragoediae Latinae* (1594), *Comment. in Medeam*, l. 231.

⁹ Some of these can be found in N. Gobet, *Les anciens minéralogistes* (1779).



FIG. 4. DOWSING FOR MINERALS
G. E. von Löhneys, *Bericht vom Bergwerck* (1617), pl. 16

A BRIEF HISTORICAL SKETCH OF DOWSING 11

best achieve this end by means of her mineral wealth. This, however, was largely undeveloped and she accordingly applied herself to remedy this defect by careful study. From a marginal note (p. 12) in her first pamphlet she intended to apply her methods to the discovery of underground water as well as minerals and she thus becomes the first to have applied dowsing to water. After much study the Baroness laid down five methods of finding underground water and minerals: by means of opening the ground, by means of plants that grow on the surface, by means of tasting the water that can be found on the surface, by means of the vapours that ascend from the soil, and finally by means of sixteen instruments, chief among which she places that rod which, she says, is in Italy called indifferently *Verga lucenta*, *Verga cadente* or *focosa*, *Verga salente* or *saltente*, *Verga batente* or *forcilla*, *Verga candente* or *inferiore*, *Verga obuia* or *superiore*. What is more to the point, the writer gives a list of the mines she has discovered by means of this rod: these include numerous gold, silver, copper, lead, iron and many other kinds of mines. Details are given and there seems to be no reason to doubt that some of these claims are sound.¹

§ 6. DOWSING IN ENGLAND

The first discussion of dowsing in an English work occurs in Robert Fludd's *Philosophia Moysaica* (1638, p. 117), though this can only be called an English work by courtesy, since it is in Latin and was published in the Netherlands. Fludd has nothing original to say, for he simply revives the use of the rod as an illustration of the innate affinity between things vegetable and things mineral. He states that the rod is used by Germans in the Welsh silver-mines.

Next year Gabriel Plattes, animated by reasons similar to those of the Baroness of Beau-Soleil and perhaps inspired by them, sets out in brief various matters relating to mining. Among other things he describes how on a calm midsummer morning he cut a rod of hasell, almost a yard long, and carried it up and down a mountain. "Before Noone it guided mee to the Orifice of a lead mine." The reason of the motion of the rod Plattes conceives to be "of Kin to the Load-stone, drawing Iron to it by a secret vertue, inbred by nature, and not by any coniuration as some have fondly imagined."² By 1646 Sir

¹ *Véritable déclaration de la découverte des mines* (1632); *La restitution de Pluton* (1640).

² *A Discovery of Subterranean Treasure* (1639), pp. 11-13.

Thomas Browne was able to include the rod among the vulgar and common errors,¹ and a few years later (1651) we find the satirical Samuel Sheppard writing:

Some Sorcerers do boast they have a Rod,
Gather'd with Vowes and Sacrifice,
And (borne about) will strangely nod
To hidden treasure, where it lies:
Mankind is (sure) that Rod Divine,
For to the wealthiest (ever) they encline.²

And Abraham Cowley, some years later, thus:

To walk in *Ruines*, like vain *Ghosts*, we love,
And with fond *Divining Wands*
We search among the *Dead*
For Treasures Buried,
Whilst still the Liberal Earth does hold
So many *Virgin Mines* of *undiscover'd Gold*.³

And half a century later still (1710), thus Jonathan Swift, in a satirical political broadsheet:

THEY tell us something strange and odd,
About a certain Magick *Rod*,
That, bending down it's Top, divines
When e'er the Soil has Golden Mines:
Where there are none, it stands erect,
Scorning to show the least Respect.⁴

§ 7. THE EARLY SCIENTISTS ON DOWSING

In the meanwhile had appeared some interesting comments by the learned Jesuit Athanasius Kircher (1641). Discussing the *virgula divinatoria*, which, on very proper grounds: the desire to dissociate a purely scientific speculation from the divinatory practices, he prefers to call the *virgula aurifera* or *metalloscopia*, he states that he has witnessed and made innumerable experiments and is convinced of its truth. But experiment has shown that the motion of the rod is due to some movement communicated to the rod by the dowser; he describes (with cut) a test to prove this contention: a rod is balanced horizontally on a vertical support and it is found that no movement in the rod ever follows. In a later work he repeats these observations and gives additional experiments, which go to assimilate the principle underlying the rod to

¹ *Pseudodoxia Epidemica* (1646), V. xxi. 20.

² *Epigrams* (1651), VI. i.

³ "To Mr. Hobs," *Pindarique Odes* (1656), p. 27.

⁴ *Virtues of Sid Hamet the Magician's Rod* (1710), ll. 21-26.

that governing the *pendule explorateur*, a ring attached to a thread held in the hand.¹ If Agricola first discovered this absence of specific affinity between the rod and the mineral or water, it was Kircher who first hit upon unconscious muscular action as being the mechanism of the rod's movements.



FIG. 5. INDICATING MINERAL LODGES WITH THE ROD
B. Roessler, *Speculum metallurgiae politissimum* (1700), p. 14

Some years later (1658) Pierre Gassend unfortunately returned to the theory of affinity.²

Robert Boyle, in placing dowsing among the "Un-succeeding Experiments," says that he is unable to come to an opinion

¹ *Magnes* (1641), pp. 25-28; *Mundus Subterraneus* (1665), ii. 181-182.

² *Opera Omnia* (1658), ii. 167.

in the matter: he is not convinced but dare not peremptorily reject it. Indeed, a few years later, he inserted a query regarding this very matter in the Royal Society's *Philosophical Transactions*.¹ The replies to this query are interesting; "the learned and worthy" Joseph Glanvil writes twice: first on the information of a friend whose knowledge is thirty years old and who declares that the rod is not used in the Mendips, and then from contemporary information to the effect that in the Mendips "some have made use of the *Virgula divinatoria*; but the Experienced Work-men have no value for it; yet they say, when the Mine is open, they may guess by it, how farr the *Vein* leads."² This passage substantiates a similar statement made a few years before by Joshua Childrey.³ According to a later anonymous reply to the same question the rod was used for a similar purpose in the mines of Cornwall and of Devon as well as in those of the Somerset Mendips,⁴ but in Lancashire, Cheshire and Derbyshire it was not found in use.⁵ This broad geographical distribution holds good to this day, and for very good reasons that will be discussed in their due place. John Webster, who later wrote *The Displaying of supposed Witchcraft*, gives a lengthy historical account of the rod, "as by many judged to be a sure way to discover where the ores of metals lie."⁶ It may here be conveniently observed that there is some account of dowsing in many works dealing with trees, plants, and the like, because of the general notions regarding the material of which the rod is made. Of early works of this nature need only be mentioned Evelyn's *Sylva* (1664, p. 35) and John Ray's *Catalogus Plantarum Angliae* (1670, pp. 83-84).

§ 8. DOWSING FOR WATER

It will have been observed that so far, except for a marginal reference by the Baroness of Beau-Soleil, nothing has been written of dowsing for water. The earliest discussion of this

¹ *Certain Physiological Essays* (1661), pp. 83-85; "Article of Inquiries touching Mines," *Philosophical Transactions* (1665-1666), i. 333, no. 18.

² *Philosophical Transactions* (1667), ii. 526; (1668), iii. 767, 768. Cp. John Billingsley, *General View of the agriculture of the County of Somerset* (1795), pp. 22-23.

³ *Britannia Baconica* (1660), pp. 44-45.

⁴ *Philosophical Transactions* (1671), vi. 2101; cp. Sir John Pettus, *Fodinae Regales* (1670), sig. B2b.

⁵ Charles Leigh, *The Natural History of Lancashire, Cheshire, and the Peak in Derbyshire* (1700), i. 89.

⁶ *Metallographia* (1671), pp. 104-110.

matter appears to be in the rather fantastic observations of Jean François in his comprehensive treatise on hydrology (1655). Basing his theories on Kircher's experiment described above, which he completely misunderstood, François manufactured an instrument (which he illustrates, though the cut conveys little) by means of which underground water ought to be discoverable: but we are not told whether it was successful.¹ Indeed a score of years later, after witnessing a



FIG. 6. DOWSING FOR METALS

G. Schott, *Magia universalis* (1657-1659), pl. XI

normal dowsing performance, François fell back on a simple rod.² About this time too John Aubrey, writing of the "springs medicinall" of Wiltshire, reports that Mr Nich. Mercator "told me that water may be found by a divining

¹ *La Science des Eaux* (1655), ii. 5-6; *id.*, *L'Art des Fontaines* (1665), pp. 38-39, 120.

² — Le Royer, *Traité du baston universel* (1674), p. 27.

rod made of willowe . . ." And he adds the note "Quaere Sir John Hoskins de hoc."¹

In 1658 took place a happy event: the elevation of dowsing to the dignity of discussion in an academic thesis at Wittenberg. The question to be settled was whether the movements of the *Virgula mercurialis* are due to an occult force. Duly considered under twenty-three heads, the conclusions are that it is unquestionable that the rod does move, that the movements are not due to an occult force, but in the larger number of cases to fraud and deception, and in the smaller number of cases in which the indications are genuine, to an implicit pact with the devil.² This thesis was reprinted in the same year with sets of congratulatory Latin verses from twelve persons, and went into yet another edition a few years later. This dissertation was followed by many similar ones, mainly from Wittenberg.³

In 1692, it is interesting to observe, was published John Locke's letter on the lowering of interest,⁴ in which occurs the first recorded use of the word dowsing, though in an archaic form: ". . . the Deusing-rod or Virgila [*sic*] Divina able to discover Mines of Gold and Silver."

§ 9. THE DISTRIBUTION OF DOWSING IN EUROPE

Works of all kinds in which more or less lengthy and interesting references to dowsing may be found became very numerous from the end of the seventeenth century, and we cannot attempt, nor would it be in any way useful, to mention more than the most important, or those wholly devoted to our subject. Before doing this it may be useful, in order to emphasize the widespread nature of this practice, to allude to a few works in languages not yet referred to. In Spanish works there are many discussions of dowsing owing to the activities of the Zahoris, or clairvoyants; this is a peculiarly interesting subject and deserves separate consideration. Of French and German works we have already quoted a number. The earliest Dutch reference is in the *Collectanea medico-physica* (written

¹ *The Natural History of Wiltshire* (c. 1660-70), p. 24; cp. *id.*, *Remaines of Gentilisme and Judaisme* (1686-1687), p. 115.

² Jacobus Klein, *An Virgula Mercurialis agat ex Occultâ Qualitate*; cp. Sylvester Rattray, *Aditus novus* (1658), pp. 37, 44.

³ See the Bibliography under Ahlbom, Beern, Cleeman, Detharding, Fischer, Kauderbach, Martius, Praetorius, Rivinus, Salchlin, Thilemann, Wille.

⁴ *Some Considerations of the consequences of the lowering of Interest*, p. 127.



FIG. 7.—A SEVENTEENTH-CENTURY DOWSER
M. A. de La Frata et Montalbano, *Practica Minerale* (1678), facing p. 11

in Dutch, 1680-83, IV. xlix, V. lxxii). The first Danish reference is by Baron Ludwig of Holberg in 1729;¹ the first Italian, apart from translations, is in Frata et Montalbano's mining treatise (1678);² the first Swedish is in 1751 by Linnaeus,³ and so on. In quite modern times works, big or small, devoted to dowsing are to be found in practically all languages.

In 1681 appeared a German tractate devoted to the showing-up of the devil's pernicious influence in dowsing,⁴ and so characteristic is this of the general attitude at this time that dowsing, like so many other misunderstood practices, seemed about to wilt and disappear beneath the priest's frown. About this time, however, the intellectual world of Europe was aroused by the advent of the first outstanding dowser of whom we have knowledge, Jacques Aymar. His activities are of the greatest importance and will be separately considered in the next chapter. Here it will suffice to say that his work produced a flood of literature and filled the French press for about ten years from 1689. He was the direct cause of the first substantial work devoted to the study of our subject;⁵ and he inspired, among many other things, a valuable correspondence between the learned priest Pierre Lebrun and Malebranche and a most learned and comprehensive work by the former.⁶

In the midst of the turmoil evoked by Aymar appeared a very interesting little book called *La Verge de Jacob* in which Aymar is not so much as named. The author indicates chiefly how the rod should be held and discusses the rationale of its movements, basing himself on the corpuscular theory, which was then in the height of its fashion.⁷ In discussing the problem of finding water-sources Jacques Ozanam gives an account, with illustrations, of dowsing.⁸ This account has an interesting history, for Ozanam's book, after going through several editions, was rewritten by J. E. Montucla (1790), and translated into English in 1708, 1790 and finally by Charles Hutton, the learned editor of the Royal Society's *Transactions*, in 1803.

¹ *Danmark og Norges Staats-Beskrivelse* (1729), p. 47.

² *Pratica Minerale* (1678), pp. 8-9.

³ *Skånska Resa* (1751), pp. 160-161.

⁴ A. Lebwald von Lebenwald, *Von den Teuffels List und Betrug in der Berg-Ruethen* (1681).

⁵ P. de Le Lorrain de Vallemont, *La Physique occulte* (1693).

⁶ *Lettres qui découvrent l'illusion des philosophes* (1693); [P. Lebrun], *Histoire critique des pratiques superstitieuses* (1702).

⁷ J. N., *La Verge de Jacob* (1693); trans. as *Jacob's Rod* by Thomas Welton [1875].

⁸ *Récréations Mathématiques* (1694), ii. 223-231.



FIG. 8. THE ORIGIN AND LATTER END OF DOWSING
J. G. Zeidler, *Pantomysterium* (1700), Frontispiece

In this edition Hutton thought dowsing beneath contempt, but by the publication of a second edition in 1814 he had convinced himself of the contrary and had the courage to say so. He quotes a letter to him from Lady Milbanke (at whose death her son-in-law Byron made the unkind jest that she was gone to a place where she could no longer dowse) in which she describes how she first came to dowse. Hutton carried out some experiments with this lady at the Royal Military Academy, Woolwich, in which she was successful, though not beyond the powers of a geologist.¹

In 1700 appeared a long condemnatory German work on dowsing, the most valuable part of which consists of a series of plates showing the different kinds of dowsing-rods in use. The articles shown for this purpose include, in addition to the usual wooden and metal rods, candle-snuffers, a pair of scissors, a knife and fork crossed, two pipes held at an angle with the mouthpiece of one in the bowl of the other, an open book, a bucket handle, an ordinary forked rod fixed to the ends of two magnets, the bare hands, and the kind of long, hard, smoked sausage known as *Knackwurst*. Each of these articles is not only illustrated in a plate, but they are shown all together in the frontispiece (Fig. 8). This entertaining picture shows Leviathan belching up a crowd of dowsing-rods, notwithstanding the efforts of a priest, who not only fails in this but gets his nose tweaked by the dowser himself when he begins to use the rods so thoughtfully provided for him. In the foreground the dowser is shown in all his glory; in a tray he carries the various implements of his craft, which overflow on to the table beneath. By these arts he again tweaks a nose, but this time that of "God's city" Halle, which is symbolically represented as a globe with three eyes and "the wisest nose," as we are told in an explanatory stanza. From the heavens, however, we get a delicate hint of retribution in the shape of a whip and a plague of locusts.² In Figure 9 we see the dowser already unmasked and shown in his true shape; this is the frontispiece to a work published a few years later: one of equal length, but less merit,³ for Zeidler at least goes very thoroughly into the philosophic basis of dowsing and makes many sensible observations. These two books together total nearly thirteen hundred pages.

¹ *Recreations in Mathematics*, ed. by C. Hutton (1st ed. 1803), iv. 259-266; (2nd ed., 1814), iv. 216-231.

² J. G. Zeidler, *Pantomysterium* (1700); cp. *Unterricht vom rechten Gebrauch der Wündschel-Ruthe*, ed. by J. G. Zeidler (1705).

³ Theophilus Albinus, *Das entlarvete Idolum* (1704).

From the beginning of the eighteenth century to about its middle the theological movement against dowsing, which had been interrupted by the advent of Aymar, resumed its ascendancy. Even as late as 1778 the engraved frontispiece of a



FIG. 9. THE DOWSER UNMASKED
T. Albinus, *Das entlarvete Idolum* (1704), Frontispiece

mineralogical work shows the good genius of a new dispensation breaking the dowsing-rod of a blindfolded evil genius.¹ But from the fifties of that century there appear numerous favourable allusions to dowsing in works on mines and mining,

¹ J. F. W. Charpentier, *Mineralogische Geographie* (1778).

as in the works of William Hooson,¹ William Borlase² and William Pryce, to mention only a few English ones. Pryce's well-known folio on Cornish mining contains some interesting pages on dowsing for minerals. The author derived his knowledge from personal observation and from the dowser William Cookworthy, of Plymouth, a very intelligent Quaker, who had written an excellent article on this subject some years before,³ and of whom we possess also other information.⁴ Pryce gives some useful cases of the discovery of mineral veins by means of dowsing, but the larger part of his space is devoted to some absurd theories on a corpuscular basis.⁵ Pryce lived at Redruth and it is therefore interesting to notice that in 1802 a Mr William Phillips published an account of his discovery by dowsing of a mineral lode in that Cornish village.⁶

§ 10. DOWSING IN MODERN TIMES

In the last quarter of this century there appeared in France another remarkable dowser, named Bleton, whose career we shall consider in the next chapter. He was fortunate in that he was studied and experimented with by, among others, a Dr Thouvenel, who has left very full accounts of his observations.⁷ Bleton had been preceded by a dowser called Parangue and was succeeded by another named Pennet, so that the attention both of the public and of academic circles in France was focussed on dowsing almost continuously for a quarter of a century. This public attention was continued into the first half of the nineteenth century in connexion with the inexplicable achievements of the Abbé Paramelle, which we also discuss in the next chapter. Paramelle was not a self-avowed dowser, but his success in finding water was quite remarkable and not based on any accepted scientific postulates. Thus dowsing has been before the public in France to a far greater extent than it has ever been in England, though the achievements of W. S. Lawrence and John Mullins were at least as remarkable as those of any of the continental dowsers and

¹ *The Miners' Dictionary* (1747), s.v. *Virgula Divinatoria*; cp. D. W. Linden, *A Letter to Wm. Hooson* (1747), pp. 13-22; *id.*, *Three Letters on Mining* (1750), pp. 24-31.

² *The Natural History of Cornwall* (1758), p. 165; cp. *Rural Elegance Display'd* (1768), p. 41.

³ *Gentleman's Magazine* (1751), xxi. 507-508.

⁴ T. Bond, *Topographical and Historical Sketches* (1823), p. 141.

⁵ *Mineralogia Cornubiensis* (1778), pp. 113-124.

⁶ *Tilloch's Philosophical Magazine* (1802), xiii. 309-328; cp. *id.*, *Transactions of the Geological Society* (1814), ii. 123-124.

⁷ *Mémoire physique et médicinale* (1781); *Seconde mémoire* (1784).

much more scientifically recorded. Indeed, really accurate study of dowsing is only about a century old. In 1821 the Rev. Ralph Emerson (not Ralph Waldo) published an excellent paper in which he suggested that there should be collected "a sufficient number of well authenticated facts" on the use of the dowsing-rod. He himself carried out some experiments with a Rev. Mr Steele and records some interesting cases.¹ In the same year a German physician reports the conversation he had with a Walloon dowser named Johann Philipp Brayer. By means of skilful questions this dowser was led to give a very interesting account of the development of his faculty and an account of some of his successes.²

In England De Quincey appears to have been familiar with the phenomena of dowsing (he uses the word in a slightly different form), for he refers to the subject more than once. Thus, in his essay on *Modern Superstitions* (1840) he writes that there "are in England a class of men who practise the pagan rhabdomancy in a limited sense. They carry a rod or rhabdos (*ῥαβδος*) of willow: this they hold horizontally, and by the bending of the rod towards the ground, they discover the favourable places for sinking wells,—a matter of considerable importance in a province so ill-watered as the northern district of Somersetshire. These people are called *jowers*; . . . the experimental evidence of a real practical skill in these men, and the enlarged compass of speculation in these days, have led many enlightened people to a stoic *ἐποχή*, or suspension of judgment, on the reality of this somewhat mysterious art." In a footnote De Quincey adds that for twenty miles round Wrington in Somersetshire "nobody sinks wells without their advice," and he adduces an instance of a dowser's success.³

In 1844 a journalist named Francis Phippen being on a visit to Somersetshire heard and saw so much of the practical use of dowsing that he wrote a full report of his inquiries in the newspapers and later published a pamphlet on the subject.⁴

¹ "On the Divining Rod," *The American Journal of Science* (1821), iii. 102-104; cp. (1826), xi. 201-222.

² — d'Outreport, "Ein Beytrag zur Geschichte der Wünschelruthe," *Zeitschrift für psychische Aerzte* (1871), i. 94-109; abridged trans. by E. T. Bennett in *Journ. S.P.R.* (1899-1900), ix. 83-86.

³ *The Collected Writings* (1889-1890), viii. 434; cp. *Confessions of an English Opium-Eater*, iii. 220-221 n.

⁴ *The Morning Chronicle*, 15th November 1844, and *The Morning Advertiser* of the same date; *A Narrative of practical experiments, proving to demonstration the discovery of water* (1853). Cp. John Phillips, *Memories of William Smith* (1844), pp. 131-132.

He gives many facts that came under his own observation, chiefly concerning the doings of the dowser Charles Adams of Rowberrow, and quotes some cases that seem to be valuable. An excellent frontispiece (Fig. 10), by A. Crowquill, shows a



FIG. 10. CHARLES ADAMS, OF ROWBERROW
F. Phippen, *A Narrative of practical experiments* (1853), Frontispiece

dowser at work, the flexed arms being held tightly to the sides of the body, and the prongs of the fork (which are longer than those now generally used) passing between the index and the next finger of each hand. A few years later Herbert Mayo published an article showing a very nice understanding of the subject and its difficulties; he describes some

experiments carried out by himself and by his friends and concludes by assimilating the subject to the theories of von Reichenbach.¹

§ II. THE MODERN LITERATURE OF DOWSING

In 1849 the distinguished French anthropologist Gabriel de Mortillet, who was at one time a professional dowser, published a little treatise on dowsing. This book is of considerable interest as being a description by an educated dowser of his own sensations and experiences. But, as so often happens, the author is no better able than the most ignorant yokel to give an accurate analysis of his own psychological and nervous re-actions.² The standard treatise on dowsing was long considered to be Michel Eugène Chevreul's *De la baguette divinatoire* (1854). Chevreul was a distinguished chemist, the author of numerous books (some of which have gone into several editions in English translations) and scientific papers on colour and the artistic and industrial application of chemistry, and on other scientific subjects. He died in 1889 at the age of 103, retaining his faculties and industry almost to the last. The immediate cause of Chevreul's essay was a paper presented to the Academy of Sciences in March 1853 by a M. Riondet, entitled *Sur la baguette divinatoire employée à la recherche des eaux souterraines*. As is usual in such cases, the Academy ordered a report on the paper to be made, and nominated for the purpose three eminent members of its body, MM. Chevreul, Boussingault and Babinet. Chevreul was requested by his colleagues to draw up the report, which led to the publication of his book. The author relates that he found it impossible to dissociate the movement of the rod from that of the *pendule explorateur* and from table-turning, and these subjects accordingly occupy a considerable part of his work. (Meanwhile Riondet's paper seems to have been forgotten, for it is not discussed by Chevreul and no report or summary of it—nor of a subsequent paper sent in by M. Riondet—was made in the *Comptes Rendus* of the Academy.) Chevreul's book was certainly useful in drawing attention to a widespread belief which had hitherto not been seriously discussed in

¹ Under the pseudonym of "Mac Davus," "The Divining Rod," *Blackwood's Edinburgh Magazine* (1847), lxi. 368-374. This was reprinted with alterations and the addition of an account of experiments carried out by the author with Edward Seebold at Weilbach in Nassau in *On the Truths contained in Popular Superstitions* (3rd ed., 1851), pp. 1-21.

² *Histoire de l'Hydroscopie* (1849).

contemporary times by any writer of recognised scientific position. But its importance has been largely over-stated: it was believed to be the first attempt to give a rational explanation of the movement of the rod. This belief is erroneous, for Chevreul's theories were anticipated three centuries before by Agricola and later by Kircher. Chevreul is content to accept the popular view that the indications afforded by the rod are always fallacious; hence he gives no contemporary evidence of its success or failure and made no experimental examination for himself. The historical portion of his book is principally derived from the works of Le Lorrain and of Lebrun. In this part of his book, at least, he was far outstripped by Louis Figuier, whose works maintain a surprising level of excellence when their number and scope is considered; their great popularity is well merited. His essay on dowsing, though he relied on Le Lorrain for most of his historical data and on Chevreul for his theory, is by far the best popular memoir on our subject that had appeared to his time. He made no attempt, however, to collect or discuss contemporary evidence.¹ We may note here that Mr Baring-Gould's article, probably the best-known to English readers, is largely historical and is entirely indebted to Figuier, though the debt is not acknowledged.² Andrew Lang has a capital though brief essay on the rod, written in his inimitable style of contemporary comment on historical narrative.³

In 1876 Mr Charles Latimer, an American civil engineer, published an essay on dowsing which contains an interesting record of his own experience. Having accidentally discovered that the rod moved in his hands, he was led to try whether its indications were of any practical use, and the experiments which he narrates convinced him that they were. The movement of the twig enabled him to discover underground water-supplies in places where his experience and judgment would not have led him to locate them.⁴ A few years later (1883) Professor Rossiter Raymond, the secretary of the American Institute of Mining Engineers, read a paper on dowsing before that Institute. This is a serious and thoughtful attempt to investigate the subject; contemporary evidence, though not adduced, was considered by the writer, and he concluded that in dowsing "there is a residuum of scientific value, after making all necessary deductions for exaggeration, self-decep-

¹ *Histoire du merveilleux dans les temps modernes* (1860), ii. 3-175.

² *Curious Myths of the Middle Ages* (1866), pp. 52 et seq.

³ *Custom and Myth* (new ed. 1904), pp. 180 et seq.

⁴ *The Divining Rod* (1876).

tion and fraud." ¹ In 1884 Mr E. R. Pease, the secretary of the Fabian Society, published a study and abstract of a number of contemporary well-attested cases collected by E. Vaughan-Jenkins, ² to whom we shall have occasion to refer more than once, and finally in 1897-1900 Professor (later Sir William) Barrett published the reports of his researches and remarkable assembly of cases that he had collected and investigated, ³ dowsing thus being definitely established as a subject worthy of the most careful scientific attention.

This century the flood of dowsing literature shows every sign of becoming more voluminous than ever. The multitude of dowsers' pamphlets continues to increase throughout Europe, America and Australia, few of them containing anything of value. In France and Germany much intensive study has been devoted to the subject. In the latter country there was formed in 1911, as a result of a congress of dowsers, the Verband zur Klärung der Wünschelrutenfrage, which issues regular publications. A similar body was formed in Vienna, the Österreichisches Verband, the first issue of whose *Mitteilungen* appeared in June 1914. The attempt in 1913 to form a similar international organisation did not succeed. A small newspaper, *Die Wünschelrute*, was founded in Leipsic in October 1920. During March 1913 was held in Paris a Congress of students and practitioners of dowsing; as a result of this the Academy of Sciences appointed a Commission de la baguette divinatoire, which heard evidence during 1913-1914, but failed to come to a definite conclusion. In the meanwhile the Ministry of Agriculture had appointed in 1910 a sub-committee to investigate the matter; this committee was unable to make any formal recommendations. In December 1912 the Société d'agriculture, sciences et industrie de Lyons appointed a Commission d'études hydrosopiques, which published two interesting preliminary reports (see Bibliography under Birot) and a subsequent brief report. In England no such official inquiries have been held, but the present volume should make it clear that the dowsers' activities have not been less, though applied to the practice rather than to the organisation and discussion of their craft.

¹ "The Divining Rod," *Transactions of the American Institute of Mining Engineers* (1883), xi. 411-446.

² "The Divining Rod," *Proc. S.P.R.* (1884), ii. 79-107.

³ "On the so-called Divining Rod," *Proc. S.P.R.* (1897-1898), xiii. 2-282; (1900-1901), xv. 130-383.

CHAPTER II

THREE FAMOUS FRENCH DOWSERS

I. JACQUES AYMAR

§ I. EARLY DAYS

A YMAR did not become a public figure for more than a year or two, under very special circumstances, and little is known of his early movements. He was born on the 8th of September 1662 at Saint-Marcellin, some distance from Lyons. It is not known how he found himself possessed of the dowsing faculty, but Dauphiny was a famous spot for dowsers and no doubt he learned by imitation. While searching for water Aymar one day felt his rod turn so strongly that he felt sure he was standing over an underground supply. On the spot being dug there was found, instead of water, the head of a murdered woman. Aymar went to the house in which this woman had lived and directing the rod, in turn, upon each person there, he found that it moved for only one person, the widower. This man immediately fled, and his guilt being thus apparently established, Aymar's ability to trace murderers and other criminals became equally established. Later, at Grenoble in 1688, Aymar performed a similar exploit into the details of which we need not enter.

§ 2. AYMAR'S GREAT EXPLOIT

Accordingly when on the 5th of July 1692 a wine-merchant of Lyons and his wife were murdered, and no trace of the murderer could be found, recourse was had to Jacques Aymar. Thus began the almost incredible feat which filled France with astonishment. Before entering upon its details the reader should understand that these details were not reported upon hearsay, but were recorded in legal documents and testified by the magistrates, doctors and others concerned in the actual case. These documents may be found in the reports and books cited at the end of this section.

On being applied to Aymar agreed to do what he could and visited the house in which the murders had been committed. He left the house and, following a circuitous route, arrived at the door of the city, which was closed for the night. The following morning he resumed his way, following the



FIG. 11. JACQUES AYMAR (?)

P. de Le Lorrain, *La physique occulte* (1693), p. 139

right bank of the Rhône ; he soon announced that his sensations and the rod which indicated them informed him that the murderers were three in number. They reached the house of a gardener and Aymar stated that the fugitives had entered this house and had eaten. The gardener denied this, but his two children confessed that they had allowed three men to enter and drink a bottle of wine. Aymar's assertion being

so far verified, the magistrates decided to apply some tests to him. These were carried out in the presence of the legal authorities and others. The fugitives had left some article behind them ; three similar articles were obtained, and the whole buried in the garden. Aymar passed over the place with his rod, which gave indications only over the article which had been found. Aymar was then blindfolded, the experiment repeated, and with equal success.

Thus encouraged the magistrates gave Aymar legal powers and a number of archers to accompany him, and sent him on his way. He continued to skirt the Rhône until half a league beyond the last bridge in Lyons ; here the footsteps of three men were found in the sand, where they had embarked. Aymar and his escort did likewise and by water and by land Aymar continued this fantastic journey to a military camp at Sablon. Aymar feared to continue his researches here and returned to Lyons to obtain the requisite authority. This done he and his escort returned to the camp from which, Aymar declared, the murderers had recently departed. Pursuing his way Aymar indicated not merely the houses that the fugitives had entered, but the beds in which they had slept, the chairs on which they had sat and the glasses from which they had drunk. The party eventually arrived at Beaucaire and found themselves led to the prison. This they entered and Aymar indicated a man who had just been arrested for a petty larceny. This man denied all knowledge of the murders ; he was accordingly led back to Lyons by the route that Aymar had indicated. So overcome was he by the accurate manner in which his movements were indicated that, arrived at Lyons, he confessed to the crime and gave a description of his accomplices.

Aymar and his archers went back to Beaucaire, picked up the trail, and continued on their way, which led them to Nîmes, back to Beaucaire, to Toulon and finally to the frontier of the kingdom, where they were obliged to give up their search. In the meanwhile the man already arrested had made a detailed confession, which corresponded with all that Aymar had said, and accordingly on the 30th of August 1692 the murderer was condemned to be broken on the wheel.

§ 3. LATER DAYS

It need hardly be said that this series of incidents attracted very extensive attention. It was impossible to question the facts, for these were to be found recorded in proper legal

form in the judiciary records of Lyons. Aymar was invited to Paris by the Prince of Condé and a number of experiments were carried out. Of these experiments we unfortunately lack details; it seems that they were of the absurd nature that is always to be expected when such delicate experiments are carried out by persons who approach them not only in complete ignorance of the subject but in a fashionably satirical spirit. Thus, on one occasion Condé caused a number of holes to be dug which were filled with various metals. Aymar was then required to discriminate, by means of his rod, between the metals!

Aymar, however, did attract a certain amount of attention from those better fitted to investigate his curious gift. The Jesuit Lebrun carried on a correspondence with Malebranche on this subject, but without coming to any very notable conclusions. The learned Abbé of Vallemont, on the other hand, writes that Aymar came to Paris on the 21st of January 1698, and that for two hours daily for a month after this date, he carried out experiments with him. "During the whole of this time," he writes, "I investigated him this way and that as well as I could. It is certain that the rod turns in his hands on the trail of fugitive thieves and murderers."

At the beginning of the eighteenth century Aymar, back in the country, involved himself in the bloody disputes then taking place in the Cevennes between protestants and catholics. The latter employed him, as a pretext it must be feared, to trace some protestants who had killed some of the other party. Aymar did so, whether honestly or not we have no means of judging, and at his word twelve protestants were taken and executed. A lamentable end, certainly, to a career begun with such possibilities for good.

§ 4. AYMAR'S ACCOUNT OF HIS DOWSING

In the records of Aymar's feat in Lyons, we find a number of passages in which are reported his own statements concerning his procedure and sensations while dowsing. We learn that when he was on the trail of the murderers and when his rod began to act, his temperature increased till he was in a feverish state, that his pulse increased in rapidity, that he felt faint, and even that he spat blood. From all accounts it seems certain that the sensations he felt were unusually violent. The manner in which he discovered whether any article had been touched by the fugitives was by placing his foot on the article and then taking his rod in his hands. On being asked

what sensations he felt, he stated that he felt none when searching for thieves, water or money, but that when he was tracing criminally displaced boundaries, and murderers, he felt "violent agitations." He stated that the rod gave indications just as well on water as on land, and this was because his rod did not act for any water but only for underground water. In reply to a question he agreed that if, while looking for water, he came across buried money, his rod might move and give wrong indications. But he could not make a similar mistake as between a murderer and an underground spring or buried treasure, because of the difference in his sensations. Nor could he confuse the trail of the different murderers because what he followed was not a generally murderous trail but that of a specific person. This is an important distinction and disposes of the theory which was given currency at the time, namely, that Aymar was able to detect a special "matière meurtrière," "murderous matter," given off by a murderer. He also said that he was able to find coins, and at once proved it in an experiment in which a coin was hidden in some of a number of hats, his indications being always correct.

In conclusion, there can be no doubt but that Aymar was a genuine dowser, and that his faculty took a peculiar and most unusual direction, to which we can find few parallels outside of ethnographical records, though such an incident has been recorded in recent years.¹

II. BARTHÉLMY BLETON

§ I. BLETON'S PROCEDURE AND SENSATIONS

Barthélmé Bleton was born at Bouvantes in Dauphiny somewhere between the years 1740 and 1750.² He was the

¹ The chief sources for Aymar's activities are: *Mercure Galant* (1692), August: pp. 113-128, September: pp. 226-237, October: pp. 12-64, 212-216; (1693), January: pp. 16-64, 223-284, February: pp. 235-280, 311-313, March: pp. 104-210, April: pp. 171-187, 261-294, May: pp. 75-106, 140-200, June: pp. 66-119, 201-249, August: pp. 52-146; *Journal des Sçavans* (1693), pp. 26-27, 51-54, 142-143, 189, 215-216, 221-225; *Lettres Historiques* (1692), ii. 393, 637; (1693), iii. 312, 658; *Mercure Historique et Politique* (1693), xiv. 558-565; (1694), xvi. 176; *Monatliche Unterrichtungen* (1693), pp. 604-607; (1694), pp. 399-403; and the books and pamphlets described in the Bibliography under the names of Boileau-Despréaux, Buisnière, Chauvin, Forest de Béliador, Garnier, Lebrun, Le Conte, Leibnitz, Le Lorrain de Vallemont, Louvreuil, Ménestrier, Renaud, Saint-André, Vaginay, Viollet.

² The exact date of his birth is uncertain; the above date is deduced from an incidental observation in the evidence about to be cited. By 1773, as appears from another witness, Bleton's faculty was so well known that he was then in request as a water-finder or *sourcier*.

son of a poor peasant, was brought up by charity in a Charterhouse of Dauphiny, and became a herdsman. An accidental circumstance seems to have led to the discovery of Bleton's peculiar faculty. Here is the account which is given by one of Dr Thouvenel's correspondents, who writes from Dijon on the 14th of April 1781, and who adds that he has certain proofs of all that he has stated: Bleton, when seven years of age, had carried dinner to some workmen; he sat down on a stone, when a fever or faintness seized him; the workmen having brought him to their side, the faintness ceased, but each time he returned to the stone, he suffered again. This was told to the Prior of the Chartreuse, who wished to see it for himself. Being thus convinced of the fact, he had the ground under the stone dug up; there they found a spring, which at the time of writing was still in use to turn a mill.

A similar account is given by another contemporary and by the writer in the *Monthly Review*, who quotes from a French pamphlet, the writer of which states that the circumstance was "confirmed by many local witnesses." Some confirmation of the foregoing story is gained from a remark made by the Prior of the Charterhouse of Lyons, in a document testifying to Bleton's extraordinary faculty, that Bleton "was quite as well able to detect underground water when he was seven years old as he is now."¹

In any other part of the world but Dauphiny the coincidence of the boy's illness and the presence of an underground spring would probably soon have been forgotten. But a century before Jacques Aymar and his rod had made this province famous for its dowzers, and Aymar had been followed by many who claimed a similar gift. As, however, the Inquisition had forbidden the use of the rod in the "moral world," that is, for tracing criminals, or determining boundaries, or settling lawsuits and the like (its use for these purposes having become a most mischievous superstition and scandal), these diviners or *tourneurs* were chiefly water-finders or *sourciers*. Bleton was therefore at once considered to be a new and sensitive *sourcier*. Some tests followed which confirmed this view. Doubtless custom demanded that he should have a rod, and the subsequent use by Bleton of a nearly straight rod, resting on the forefingers of each hand, satisfied the sense of *sourcier* propriety. The rod was very slightly curved, and rotated

¹ See P. Thouvenel's *Mémoire physique et médical* (1781), p. 251; *Monthly Review* (1782), lxxvii. 554.

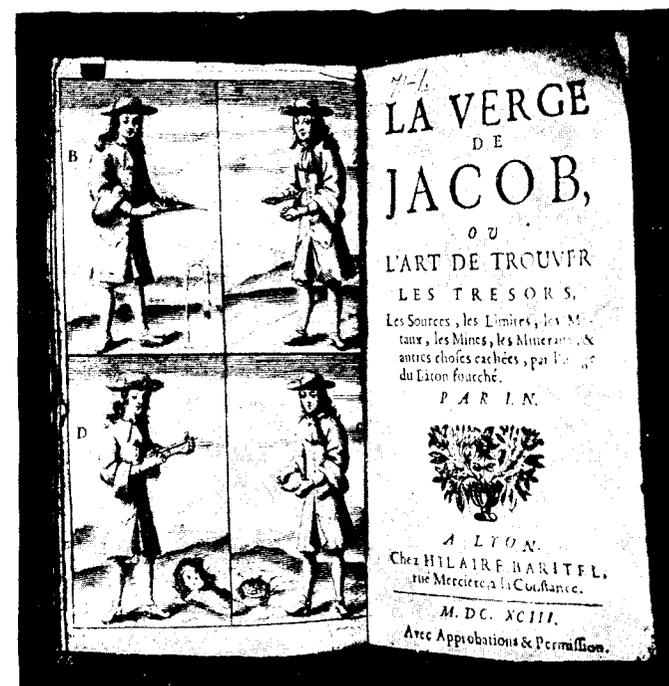


FIG. 12. "LA VERGE DE JACOB" (1693)
Title-page and Frontispiece

more or less rapidly on its axis when Bleton came over an underground spring. Dr Thouvenel states that he counted from 30 to 80 revolutions per minute, and upwards. The rotation of the rod was doubtless caused by involuntary muscular action on Bleton's part. There is no reason to suppose that he moved it intentionally; in fact, it is a very difficult, if not impossible, feat to accomplish by volition, except to one long practised in sleight of hand, as any one can prove who supports a short slightly-curved stick on his forefingers, and attempts to cause it to rotate from "30 to 80 times a minute." On the other hand, there is no reason to assume any other motive power than muscular action, as the astronomer Lalande showed that Bleton's rod could be made to rotate by this means.

How Bleton came by this novel form of rod is not told us.¹ A straight rod, supported horizontally between the forefinger and thumb of each hand, is depicted on the title page of that interesting old book on the divining-rod, *La Verge de Jacob* (see Fig. 12, D) which was published at Lyons in 1693. In the third chapter of this book the writer says that in order to ascertain if a person really has the faculty of finding a hidden spring he must let a straight stick rest across his hands, in the manner shown in the lowest figure of the woodcut (Fig. 13); if he has the faculty the stick will begin to rotate. Bleton was probably tested in this way, and subsequently used this rotating rod as the outward and visible sign of the inward commotion he experienced.

The singular physiological effect produced upon Bleton by underground springs seems to have been retained more or less throughout his life. A sort of convulsive spasm seized him, affecting the diaphragm and pulse. Abundant evidence of the genuineness of this "commotion" is given by a number of unimpeachable witnesses. Bleton's sensibility appeared to vary, being greater in dry weather and before meals; it entirely ceased during an illness he had, and did not return until three months subsequent to his recovery. The rate of rotation of the *baguette* was observed closely to correspond with the physiological effect produced. When Bleton moved away from an

¹ The only notice of the peculiarity of Bleton's rod is in a letter "from a distinguished physician" cited by Thouvenel in support of Bleton's faculty. The writer says (*Mémoire*, p. 277) that although nearly all the *tourneurs* he has known use a forked rod, yet some in Germany use a simple rod, very slightly curved, placed across the back of the hand, "ou comme Bleton, sur l'extrémité des deux doigts indicateurs."

underground spring the symptoms disappeared as rapidly as they arose, and the pulse resumed its normal rate. Stagnant water appeared to make no impression on him, nor the water of exposed rivers, lakes, etc. This latter is indeed a singular, and at first sight appears a suspicious circumstance. But equally singular is the fact that it is affirmed by all dowzers from the time of Jacques Aymar in 1693 down to the present day, and not in one country but wherever the dowsing-rod is in use, a singular illustration of the manner in which tradition spreads, for diviners, as a rule, are illiterate men, ignorant of any language but their own.

§ 2. EARLY EXPERIMENTS

Let us now examine what experimental evidence history has preserved on behalf of Bleton's alleged powers. The principal sources of information are Dr Pierre Thouvenel's *Mémoire physique et médicinale* (1781) and his *Seconde mémoire* (1784). Both these works are almost entirely devoted to a record of observations of the phenomena occurring in connexion with Bleton and to an exposition of Thouvenel's electrical theory. This Dr Thouvenel was a very interesting man. Born in 1747 he established himself in Paris and soon became identified with questions relating to water-supply. He was appointed inspector of the mineral waters of France and in the succeeding years many honours, both French and foreign, were bestowed upon him: as the *Biographie universelle* has it, he seemed destined for a happy and peaceful career, enjoying a considerable personal prestige. At this time, however, appeared Bleton, whom Thouvenel brought to Paris, and the phenomena produced by whom he began to study. At once the learned and fashionable worlds turned against him, and at last, disappointed and tired, he retired to Italy, where he pursued his researches into dowsing. He was a sincere and courageous investigator, and if his theories were baseless it was rather because of the limitation in the knowledge of the age than because of any intellectual shortcoming in their propagator. Thouvenel died in 1815.

Here is a complicated test to which Thouvenel submitted Bleton. Over a stone bridge, of one arch, pass four small wooden aqueducts, carrying water to Nancy. Only the engineer, who had never seen Bleton, knew the exact position of these four rows of pipes, their distance apart and depth underground, the whole being well covered by earth and vegetation. He gave Thouvenel secretly information on this, of which Bleton



FIG. 13. SEVENTEENTH-CENTURY RODS
[P. Lebrun] *Lettres* (1696), p. 125

was entirely ignorant. The latter was then taken across this bridge as though to return to the town, after various experiments had been made in the neighbourhood, and without being told that fresh experiments were to be made. Just before reaching the bridge he asserted water was flowing beneath him, and the sensation continued with slight gaps, while crossing and in front of the bridge to a distance of five or six feet. He retraced his steps several times before finding distinctly the four channels, and was much astonished to find them so near. He was then told that they were simply four hollow tree trunks made to serve as aqueducts.

Thouvenel then describes other tests as to the distance apart of these pipes, and remarks that as a small stream about 3 feet wide was flowing some 10 feet beneath the bridge, he endeavoured to ascertain what effect it had on Bleton; a careful experiment showed that the agitation of the diviner and the rotation of the *baguette* sensibly increased on crossing the stream. There is nothing, however, in this experiment to exclude the effect of unconscious indications given to Bleton by the experimenter. Suggestion also, without doubt, played a great part in such experiments. For example Thouvenel found that when his *sourcier* was over a spring and the *baguette* turning strongly, the convulsive movements of the body and the rotation of the rod were almost arrested the moment he touched Bleton with various "magnetic compositions recently electrified"! Experiments were also made when Bleton was insulated, the belief that insulation stops the movement of the rod being almost as widespread as that concerning the different effects of running and of stagnant water.

On pp. 77-80 of his first memoir Thouvenel gives a summary of the tests he made with Bleton in Lorraine. He writes: "I took the precaution to repeat several times all the experiments just described in detail, after having carefully *blindfolded* Bleton; in addition his arms were sometimes fastened behind his back leaving his forearms only just sufficiently free to hold the *baguette* at the extremity of his fingers, sometimes even confining these in order to hinder if possible all mechanical movement. These precautions were not taken for my own satisfaction, as I was already entirely convinced.

I conducted Bleton to places which he had never seen; I took him towards springs of which I knew, but which he could not know of, at other times over ground where neither of us knew what might be found. Whenever he experienced his peculiar sensations—and whenever the *baguette* repeatedly turned at the same spot—I led him far away, bringing him

back by quite different roads, still with his eyes bandaged. . . . When he had followed the course of an underground spring—sometimes for more than a quarter of a mile, across mountains, rock, or forests, and indicated on the way numerous sub-divisions of the same spring—I made him return. He then re-conducted me himself, though still blindfolded, only supported by one arm, to the point from which we set out, without straying a single step from the line previously traced and marked by pegs, which were often hidden beneath the surface. He re-found all the subterranean rivulets already pointed out, and followed exactly the sinuosities of the underground stream. It frequently happened that we came across springs whose course was interrupted by walls, terraces, or wide ditches, so that in order to enable Bleton to overcome these obstacles, I had to procure ladders, or take long detours, or in some way get him conveyed across; nevertheless although blindfolded, he soon regained the course without the aid of his eyes. Sometimes in order to try and deceive him, if his senses were concerned, I placed false marks as if to indicate a spring; sometimes after he had followed a spring across several fields, I moved the pegs some feet away without his knowledge. Nevertheless, he was never led astray and always rectified such errors. In fine I tried all sorts of ways to deceive him, and I can testify that in more than six hundred trials, I did not succeed in doing so one single time."

M. Jadelot, the Professor of Medicine in Nancy, Thouvenel states, was a witness of, and co-operated in, all his experiments, which extended over a space of two months, and was no less struck than he was with the strength and importance of the evidence obtained. Another distinguished savant who was converted to a belief in the *baguette* was M. Sigaud de La Fond, whose published testimony Thouvenel quotes (*Mémoire*, pp. 289 *et seq.*). But the most important evidence on behalf of Bleton is contained in the numerous letters and affidavits Thouvenel appends to his work. These are the replies he received from various well-known persons who had employed Bleton, and whose opinion he had asked. In addition to the foregoing, Bleton found one or more valuable springs (as testified by letters or *procès verbaux*) for the Marquis de Torcy in Poitou, for the President of Lamoignon in Basville, for the Bishop of Laon in Annisy, for the Count d'Adhemar in Thun, for the Duke d'Uzès, the Count of La Blanche, the Count of Bourg, President d'Ornacieux, M. de La Borde, and many other French personages of distinction. There are also brief statements from 20 other persons for whom Bleton found *plusieurs*

belles sources, in addition to the 17 letters or affidavits quoted at length by Thouvenel. In these *pièces justificatives* Thouvenel as a rule gives only the initials of his correspondents; the documents, he tells us, are all signed and some legally attested, but some of the writers might object to their names being published; moreover, he adds that in physics names add nothing to the facts themselves.¹

In one statement, however, this rule is departed from, and Thouvenel humorously prefixes the heading: "*Procès verbal sur Bleton . . . papier timbré, paraphé, collationné, etc., etc. (Bon pour ceux qui aiment ces petites formalités)*," and the testimony is certified by, and attested before, a list of signatories whose names and official titles are appended. In this case the evidence of the various municipal officers of the Commune of St Jean-en-Royant in Dauphiny is given. Bleton was a native of, and resided in, this commune (Bouvantes being a parish therein), and the *procès-verbal* states that Bleton had possessed the gift of finding springs for about 30 years, and had practised it much to the advantage of the inhabitants of the commune. Specific instances are then cited of the more important springs Bleton had found in arid ground—springs which were still running, the witnesses affirm, and had largely increased the value of the property in the commune: owing to these discoveries fertile and productive land had, in several places, now replaced the previously barren soil. The Chief Clerk of the neighbouring commune states that Bleton found for him an ample spring in a district where no water was previously known to exist, the result of which was that the ground which formerly was of little or no value now was a valuable property. The signatories of the *procès-verbal* further testify that Bleton had discovered during the preceding 20 years a quantity of springs in other neighbouring communes, some of these being of so great a volume that machinery was worked by them.

Another document, also signed by an inhabitant of St Jean de Royant, states that the value of his property had been increased tenfold by the springs discovered on it by Bleton. The Prior of the Charterhouse of Lyons testifies that Bleton had found several springs for him and had not once been mistaken, though his estimate of the depth and volume of the water he acknowledged to be conjectural, Bleton's discovery of his liability to err on this point being, he adds, the only

¹ This may account for the omission of his own name (initials only being given) as the author of these *Mémoires*, though of course his authorship was an open secret.

progress he had made since he was seven years old, when "il etoit aussi savant qu'il l'est actuellement." The Prior states that when he held Bleton's wrist, the change in Bleton's pulse was so perceptible upon arriving over an underground spring that the fact was as obvious to him as to the *sourcier*, a *baguette* being perfectly needless. The Chevalier de M., formerly Captain of the Piedmont regiment, testifies that he had been convinced of Bleton's powers in spite of the prejudices he previously entertained. Having put Bleton to all the tests he could think of, he never once found him mistaken. "Whatever the power is," he remarks, "it is not the mere movement of the *baguette* that astonishes me—that might be a matter of skill—but the effect on Bleton's pulse and nervous system were unmistakable, and these cannot be simulated. Moreover," he continues, "I have made all the tricky tests that my doubts suggested to me," until doubt became impossible. The Chevalier describes in detail one of several tests he made; he brought Bleton to his own house, arriving after dark; in passing through the village, which Bleton had not visited before, Bleton suddenly stopped and said water was there; he followed it in the darkness and arrived at a spot where he declared the spring existed; he was right; it was in fact the source of the fountain of the castle. Other tests are also given: altogether a remarkable and weighty testimony. M. de F., the receiver of taxes for Autun, states that a strong spring was discovered on his place by Bleton. In order to test the *sourcier*, M. de F. afterwards blindfolded him, and took him over the same ground; Bleton marked precisely the same spots he did previously when not blindfolded; this experiment he repeated several times. Dr de C. (a neighbour of M. de F.) took Bleton to his house, where Bleton accurately traced the course of the water pipes, a fact confirmed by the workmen who had laid them. M. le Comte de M., of Chagny, describes several careful tests he made of Bleton. In one, after Bleton had accurately indicated an underground spring (the existence of which was known to the Count but unknown to Bleton) and traced its direction, which was noted, the Count carefully bandaged Bleton's eyes with a thick handkerchief, and, in order to mislead him, turned him round several times; nevertheless Bleton correctly indicated the same course of the spring in spite of frequent attempts made to divert him. Holding his wrist the Count noticed that the change in the rate of Bleton's pulse was very marked when he came over the spring. The Bishop of M. describes how his Archbishop tested Bleton's ability to discover running

water: (1) Bleton correctly traced the buried water pipes in the Archbishop's grounds when water was flowing through them; (2) unknown to Bleton the water was then turned off and he was asked to repeat the trial, and he completely failed to find the pipes; (3) again the water was secretly turned on, and Bleton once more correctly indicated the direction taken by the pipes.

The Chevalier de S., *commandeur de Malte*, states that many years previously his grandfather had made several attempts to find water at his chateau *près de la Côte de Saint-André*, having even sunk a well to the depth of seventy feet, which had to be abandoned. The Chevalier de S., and his brother, the President d'O., in 1735 sent for a *sourcier* they knew of who traversed the estate, using an iron rod they had picked up as a *baguette*. Upon their expressing surprise at his ability to use so novel a dowsing-rod, the *sourcier* replied, "The rod is of no consequence, it is the peculiar feeling I have when over an underground spring that guides me." In 1773 (thirty-eight years later) the Chevalier heard of Bleton and sent for him. On his arrival he was taken to the terrace, where the rod began to rotate, and the site of the well was correctly indicated. To estimate its depth Bleton went to a certain distance on each side, the rod rotating in an opposite direction as he moved away from the spring. By observing the distance and decreasing force of the rotation, Bleton estimated the depth of the well to be 64 feet: its actual depth was 66 feet. Bleton was then taken to a hill behind the chateau, where he pointed out the existence of several springs in the spots marked; the following winter a well was sunk at one of these spots and water found at a depth of 18 feet, a narrow layer of sand being struck after piercing through the upper very hard rock. This spring had never run dry even in times of great drought. Two years later (in 1775) Bleton was again tested on the same estate and he indicated another spring, the depth of which he estimated at 33 feet; a well was sunk at this spot and the prediction was verified. Some time after, the two springs were joined by underground conduits; these conduits Bleton accurately traced when he was again summoned to the chateau in 1779.

In 1781 a fourth visit to this estate was made by Bleton. This time he discovered another spring which he estimated at 25 feet deep; a well was sunk and at 35 feet an abundant supply of water was obtained; this also issued from a layer of sand beneath the hard superincumbent rock. Some experiments were then made by the President d'O. and his brother

as to the movement of the *baguette* when Bleton was placed in various positions. The rod turned when he lay on his back, but not on his stomach, nor did it turn when it was placed on his loins when he was lying down. Bleton was then suspended upside down and the *baguette* placed on the soles of his feet; it did not rotate. Bleton, however, showed them that when the rod was placed nearly perpendicular with one end resting on the palm of the left hand, and the other in the air, encircled by a ring formed of the finger and thumb of the right hand placed a little below the point, the *baguette* "pirouetted slowly" when over a spring. This interesting document ends by suggesting the desirability of placing *le tourneur de baguette* on a sheet of resin or a glass-legged stool and noticing whether his peculiar sensations are still experienced, or whether they resemble the sensations one has when thus insulated and connected with an electric machine. If, remarks the Chevalier, running water gives off subtle emanations, they must be comparable to those of light, and possibly suffer refraction and reflection in their course. The document is signed by Le President d'O., who states that he did not write it, but he approves; and that the facts narrated were all witnessed by him, his son, the Chevalier de S. and other persons, and he adds his conviction that Bleton employed no *charlatanerie* in any of his proceedings.

On the lands of the Abbé of Vervains there were certain springs, all trace of which had long been lost; they were, however, known to exist from the ancient title-deeds of the estate. A lawsuit hinged upon the question of their existence being actually proved. When search for the springs had been made in vain, Bleton was sent for. He came and indicated the location of these springs. Their actual existence was then discovered and the lawsuit terminated. Surgeon-Major N., of St Geny Laval, near Lyons, testifies that Bleton came to a part of his estate which was rocky and arid, and found one spot where the *baguette* indicated a considerable spring, which he estimated to be at a depth of some 55 feet. A well was sunk, but no water found at this depth. Bleton was, therefore, sent for again. He tested the ground once more, asserted confidently that a good spring would be found at a few feet lower, remarking that he was often mistaken as to the depth when it was over 30 feet. The well was, therefore, deepened, and at 7 or 8 feet lower so powerful a spring gushed forth that it was impossible to sink deeper, as the water rapidly rose in the well, which was 5 feet in diameter. The witness adds, "A useless land has thus been converted into a meadow."

P.I.G., and Seigneur D., *Conseiller du Parlement de B.*, affirm that they brought Bleton to Tanyot, in Burgogne, where he was subjected to various tests, three of which are cited: (1) He was asked to find the course of some water pipes that had been laid some time previously and which were completely covered by earth and grass, so that no difference was apparent on the surface of the ground. Bleton immediately discovered the position, and accurately traced the course, of these pipes. (2) He was asked to find the spring which supplied a neighbouring well, and to estimate its depth. This he did quite accurately, and stated it was a very feeble spring, which the owner of the well certified was also correct. (3) He was asked to find a supply of water for their chateau. For some time he searched in vain, but eventually in another direction he found six small springs: their position was marked by pegs. Upon digging at these spots springs were found in each place at about the depth and volume he indicated. These springs were then connected by a deep trench, and furnished an abundant supply of water for both house and garden.

§ 3. THE EXPERIMENT OF THE LUXEMBOURG

It is needless to translate or summarize the other documents, which contain similar evidence. Thouvenel's treatises, however, are not the only sources of our information about Bleton. Accounts of this *sourcier* are to be found in many of the French journals of that period.

In the *Journal de Paris* for the 13th of May 1782 an account was published of some careful experiments, made to test Bleton's powers, in the garden of the Luxembourg, under the direction of M. Guillaumot, "intendant général des bâtiments du roi," who was accompanied by inspectors and officials of the gardens. The report states that on leaving the Château d'Eau Bleton traced the aqueduct of Arceuil with such precision that if M. Guillaumot's plan were to be lost they would use the trail of Bleton. These indications were verified from this plan and Bleton's angles and sinuosities were found to be "almost mathematically" correct. Two days later the experiments were repeated in the presence of the municipal authorities and a crowd of spectators. Here the events were such that with the exception of two persons (who had publicly stated that they would not believe, whatever they saw), the five hundred spectators were convinced of Bleton's ability to trace underground water with the most rigorous precision. On this occasion Bleton was blindfolded. Other trials followed

in the presence of ministers of state, ambassadors, magistrates, scientific men and clergy, and the writer in the *Journal de Paris*, in summing up his report says: "To the present time, and to our knowledge, Bleton has followed more than fifteen thousand *torses* [*sic*] of the conduits, without his having committed a single error and without having found, among more than six thousand persons, a single responsible witness who has made a well-founded objection. He has been submitted to the most rigorous tests that incredulity, even prejudice, could suggest, and they have only resulted in more light, more conviction and more astonishment."

Some rigorous experiments were made by a committee of six *savants*, who drew up a report dated "Paris, 25th of May 1782." This report, which was signed by all the members, states that Bleton, having been blindfolded with extreme care by a succession of black and then white linen bandages, with cotton wool stuffed up the sides of his nostrils, was taken to the garden of one of the members of the committee, wherein a water pipe ran underground to a distant fountain. The jets of this fountain had been removed, so that the water ran into the basin, and off through an overflow pipe, quite noiselessly. Here Bleton indicated running water at certain spots which were marked; he was then made to retrace his steps 10 or 12 times, and it was found that the *baguette* turned nearly, but not quite, invariably when he crossed the same spots: at the places where the water entered the basin and where the overflow pipe discharged he was always right. This they verified at least a dozen times. The experiments lasted two hours, with a short interval for rest; during the whole time Bleton was blindfolded, and during part of that time Thouvenel was not present. According to the writer of the article in the *Monthly Review* for 1782: "These successes led the Queen of France to employ Bleton and the springs that have been found in consequence of his indications have fertilised and embellished several arid districts, among which Trianon is a striking example, as that delightful seat has acquired new charms by Bleton's discoveries." According to another account, however, Bleton had some failures at Trianon, mistaking caverns and dry conduits for underground water.

The Editor of the *Journal des Spectacles*, in a figure of speech, we must assume, states that Bleton, by his discovery of numerous springs, had changed Dauphiny from an arid soil, which produced nothing, to one of the richest in France. Dr Ginetz, writing in the *Journal de Paris* for November 1807, states that "the efficacy of the *baguette* is nowhere contested

in Dauphiny. I have myself frequently observed the effects of the *baguette*, and can state from personal experience its success in seeking for springs and metallic veins."¹

In Thouvenel's second *Mémoire* further accounts are given of his experiments with Bleton. He had been commissioned in 1783 by Louis XVI to examine and report on the mineral and medicinal waters of France, and to aid him in the discovery of any fresh mineral springs he obtained permission to engage the services of the dowser. Most of this second *Mémoire* is therefore occupied with the tracing of hot springs and mineral waters, with conjectures as to the source of the former, and attempts to verify the electrical hypothesis which Thouvenel had formed of the influence of subterranean springs on the diviner. We need not concern ourselves with the latter, as the experiments cited are certainly open to criticism, and would only excite a smile in the wider scientific knowledge of the present day. It is, however, now known, as Thouvenel conjectured, that there are subterranean electric currents, the strength of which fluctuates in various places and from time to time. It is certainly a curious coincidence, if it be no more, that upwards of one hundred years ago this French physician, on the strength of Bleton's sensations, maintained that these electrical manifestations appeared in general to run east and west. Current electricity itself was not discovered till ten years later, the existence of earth currents was not known till Barlow's experiments in 1849, and the general trend of these currents east and west is a still more recent observation.

§ 4. CONTEMPORARY OPINION ADVERSE TO BLETON

Among those who, after experimenting with Bleton, formed an unfavourable opinion of his reported powers was the Abbé Mongez, one of the principal contributors to the articles on natural philosophy in the Paris *Encyclopédie*; but, according to Dr Thouvenel, these experiments were intended to be unfavourable, and the experimenters, by designing a number of ingenious tricks to deceive Bleton, in reality deceived themselves. Certainly the *partis pris* of most of the scientific investigators of Bleton was very evident, and to a large extent

¹ It was in Provence (the adjoining province to Dauphiny) that Lady Milbanke, in 1772, first saw the use of the divining-rod. In a dry, mountainous region north of the Durance, the Marquis d'Ansonis had found water by the aid of a *sourcier*, and the Marquis, whose faith in the divining-rod was unbounded, converted Lady Milbanke to his views after she had witnessed experiments on his estate. She herself afterwards became a dowser, as we have already seen.

vitiated both the experiments made and the conclusions drawn from them.¹ These experiments were made for the most part in the church and garden of Ste Geneviève in the presence of several *savants*. An account is given of them in the *Journal de Paris* for the 16th of June 1782, and *procès-verbaux* of the experiments are to be found in the *Journal de Physique* of that year. It is needless to enter into the details; suffice it to say that the report concludes by stating that Bleton found water pipes, springs, etc., on all sides, whereas there were no water pipes and no springs beneath him. The attempt to explain away this failure, which Thouvenel made, shows that believers in dowsing can be no less blind and prejudiced than their opponents. Doubtless the experiments were wholly inconclusive in face of the abundant testimony in Bleton's favour, some of which we have cited. The writer in the *Monthly Review* seems to have given the true explanation of these experiments. Admitting that Bleton did fail, he remarks "this will not appear surprising when we consider this poor timorous man led about blindfold, harassed, fatigued, and perplexed with cross questions," and he adds, "even the Abbé Mongez admits that Bleton was sometimes quite correct." In fact "the public have no curiosity to know how far tricks and ingenious means of deception can go in disconcerting or suspending the exercise of Bleton's natural talent; they only desire to know whether he in reality possesses this talent, when left to himself and allowed the free use of his faculties." But like all other dowsers, Bleton unquestionably failed at times. Figuiet names four places, and also "dans quelques autre lieux," where wells were dug at the spots indicated by Bleton and no water found, even when the wells were sunk to a depth greater than had been estimated by the *sourcier*. In his able paper read before the American Institute of Mining Engineers in 1883, Dr Rossiter Raymond quotes—without, however, naming his authority—several instances where Bleton failed to find the same spot, after being blindfolded, that he had indicated previously.

After the lapse of a century it is instructive to notice how

¹ As the able contemporary reviewer remarks (*Monthly Review*, lxxvii. 554), "It is certainly possible that even an honest zeal for the discovery of imposture or enthusiasm may be exerted in a manner not perfectly adapted to the discovery of truth. . . . It is observed by all that Bleton is uncommonly timorous and easily disconcerted, even so far as to suspend his *impressions*. This we can well conceive, be his talent ever so real. The very talent seems to announce a sensibility of nerves that may render him peculiarly susceptible of perturbation. Who has not seen schoolboys of the most retentive memories lose the remembrance of the best learned lesson by being intimidated?"

frequently the adverse criticism of Bleton arose from his critics assuming a particular explanation of the lad's sensitiveness or of the motion of his rod, and having demolished that theory they roundly asserted the boy was a charlatan, a mode of argument not unknown to certain critics of psychical research of the present day. Thus, Bleton's sensitiveness being supposed to be due to some electric influence, he was mounted on an insulating stool and his rod at once ceased to move, but resumed its motion when he was on the ground. A famous physicist, Charles, who conducted this experiment a century ago, when Bleton was on the insulating stool, secretly connected the lad with a wire to the earth; still the rod remained passive although the insulation was destroyed. Whereupon Bleton was openly denounced as a charlatan by his scientific critic. All that this experiment proves is the influence of suggestion on the motion of the rod. As the lad knew nothing of electricity he must have been told that the insulating stool would intercept the power, and so the rod ceased to move when he was mounted on the glass-legged stool, and it remained motionless when the insulation was destroyed, as care had been taken to avoid any suggestion of this reaching Bleton. Even on his own hypothesis, the French experimenter with Bleton was mistaken; for the theory that some electrical influence from underground water affects the dowser, and so starts the motion of the rod, is not touched by insulating the dowser; as every tyro knows, standing on a glass-legged stool merely prevents electric conduction from the earth and does not impair electric induction.

Again, the eminent astronomer Lalande believed he had conclusively demonstrated Bleton was a rogue because he established the fact that the peculiar rod Bleton employed could be rotated by sleight of hand. The fallacy of this line of argument, though persisted in at the present day, is obvious enough. As, however, Lalande is often quoted as having "exposed" Bleton, it is worth giving *in extenso* the communication which this famous *savant* made to the *Journal des Sçavans* for August 1782, p. 558:

"Un nommé Bleton, né dans un village, près de Grenoble, a prétendu avoir un propriété extraordinaire de sentir les eaux souterraines par un tremblement convulsif. Ce *sourcier*, ou *hydropyrète*, plaçoit sur ses doigts une baguette ou une verge de métal, courbée en arc, et on la voyoit tourner rapidement. Ce stratagème était plus adroit que celui des *sourciers* qui courent les villages, et qui marquent des sources aux paysans, moyennant la plus mince rétribution. Ceux-ci serrent leur

baguette dans leurs mains, et pour peu qu'on ait envie des regarder, on s'aperçoit facilement qu'il suffit de ferrer la baguette inégalement ; sa courbure détermine nécessairement un mouvement de rotation . . . il [Thouvenel] n'était plus assez calme pour se rendre aux raisons de ses adversaires, ni même pour appercevoir la petite charlatannerie dont il avait été la dupe . . . [il] a été parfaitement séduit par l'adresse de Bleton, à faire tourner sur ses doigts une verge courbe de métal ; il n'a pas aperçu que cela tenoit à une cause mécanique.

En effet, si l'on place sur deux doigts une baguette de métal courbée en arc, de manière que le sommet de l'arc soit plus bas que les deux extrémités, mais que le tout soit presque en équilibre, le plus petit rapprochement des doigts, ne fût-il que d'une ligne, suffira pour que les extrémités l'emportent à leur tour, et que le sommet de l'arc vienne en haut. Si on les écarte, à l'instant le sommet de l'arc descendra, et avec une pareille alternative, le mouvement peut continuer aussi longtemps qu'on le jugera à propos. Un homme très-exercé n'a besoin pour cela que d'un léger tremblement qui est à peine sensible, quand on n'est pas prévenu.

Faute d'avoir aperçu ce petit mécanisme, M. Thouvenel a fait un livre sur la baguette, mais M. Demours, fils de l'Académicien très-connu, a fait tourner une baguette pareille dans une assemblée de l'Académie des sciences, de manière à lever toute espèce de doute à cet égard. . . . M. Needham . . . cite même quelques faits contre les prétentions de la baguette, qui sont renouvelées de tems à autres par des fripons, ou par des dupes.¹ Enfin, M. Paulet, dans la *Gazette de Santé* du 10 Juin, 1781, s'est moqué de la nouvelle physique, ainsi qu'on l'avait fait dans le dernier siècle."

But whilst M. de Lalande clearly demonstrates that slight muscular action can move the rod, somewhat as Bleton moved it, he does not trouble to make any enquiry on the only point of real value : whether Bleton was more successful in finding underground water than chance or shrewd observation would account for. Nevertheless, the weight of Lalande's authority crushed Thouvenel and his *protégé* Bleton. It was taken as a matter of course that the latter was a clever trickster, who had duped the public. Conjuring books showed how to work the rod *à la Bleton*. A book by H. Decremps, called *La magie blanche dévoilée*, published in Paris in 1784, devotes a lengthy chapter to this, showing not only how to rotate a slightly curved rod by the quivering of the index fingers, but also how

¹ [L. Spallanzani, *Nouvelles recherches sur les découvertes microscopiques*, ed. by J. T. Needham (1769), i. 245-248].

a manikin can be made to imitate the search for water in this fashion. This chapter was copied into the *Encyclopédie Méthodique* for 1792, and an English translation of Decremps's book was published in 1785 under the title of *The Conjuror unmasked . . . with directions for the tricks of the Divining Rod*. But the whirligig of time brings its revenge ; Decremps, whose book was all the vogue a century ago, is today forgotten and Bleton is now the subject of scientific study.



FIG. 14. THE DOWSER PENNET

C. Amoretti, "Lettera," *Opuscoli Scelti* (1793), xvi. Plate II

The rotation of Bleton's nearly straight rod was no doubt due to the same cause as the twisting of the forked twig of the dowser at the present day : an involuntary muscular movement arising from some subconscious suggestion ; how he, in common with other dowsers, derived this usually correct suggestion of underground water, when no one else knew of its presence, is the problem that we have to consider.

Thouvenel gives no picture of Bleton nor of his manner of holding the rod. After search through many works in the hope of finding a picture given by some contemporary writer of the use of this curved rod, the accompanying drawing (Fig. 14) was at last discovered. The picture shows the lad Pennet holding the rod as Bleton did, but the rod appears rather larger and more curved than Bleton's. Thouvenel, and afterwards Amoretti, experimented with Pennet.¹

III. THE ABBÉ PARAMELLE

§ I. WATER SUPPLY IN THE DEPARTMENT OF LOT

The story of the Abbé Paramelle and his extraordinary success as a water-finder (or *hydroscope*, as he was called) is so little known in England that it is worthy of more than a passing notice. Paramelle was born in 1790, and in 1818 was appointed curé and afterwards abbé of St Jean L'Espinasse, moving from there to St Céré in the Department of Lot in the south-west of France. A man of keen observation and scientific spirit, he was struck with the remarkable difference between the numerous springs, streams and well watered areas of the eastern half of the Department and the difficulty with which water was obtained in the twenty-four arid cantons of the western half. Here the population were impoverished by having to expend a large part of their time in laboriously carrying water from distant wells to supply the wants of their families and their cattle. Prompted, he tells us, by charitable feelings, he spent two years in the fruitless search for springs, in the hope that he might be able to supply the poor folk of the arid region with the benediction of a bountiful water supply. In this he failed, and got the reputation of searching for the quantities of buried treasure which the English were supposed to have left behind when long ago they evacuated that district. He then set to work to compare the geological characteristics and rainfall in the two regions; the arid part was calcareous but had the same rainfall; where,

¹ The main sources for the above account, in addition to those cited, are: *Jou. nal des Scavans* (1781), pp. 623-628; (1782), pp. 558-564; *Journal de Paris* (1781), x. 329-330; (1782), x. 659-660; (1783), xii. 431-438; (1784), xiv. 242-243, 831-833, 1072; (1785), xvi. nos. 167-173; (1786), xvii. no. 185, Supplement; (1787), xviii. no. 190, Supplement; *Journal de Physique* (1782), xx. 58-72; *Journal Encyclopédique* (1782), vi. 491-501; *The Monthly Review* (1781), lxv. 497-504; (1782), lxvii. 553-556, (1784), lxxi. 571-577; and most of Thouvenel's works have some discussion of the subject.

then, did the rainfall go to in the arid region? It must penetrate the soil and accumulate ultimately, making its way underground to the river valleys. Guided by his own observations, Paramelle was gradually led to put his theories to the test, and found them verified. He then travelled further afield, and at last he tells us that after nine years of exploration and observation he felt sufficient confidence to go to what we should call the County Council of the Department of Lot and to ask them to place a certain sum at his disposal to test his theories by sinking wells in certain places where he predicted water would be found in the arid communes. The Council agreed, and in 1827 granted him a sum of 600 francs to make experiments, the communes that were benefited to contribute an equal sum. Eight places were selected by Paramelle in as many communes, but it was considered at that time so impossible to find water in these calcareous plateaux that three communes refused to incur the expense, though five who did make the venture were in each case rewarded by an abundant supply.

§ 2. PARAMELLE'S SOLUTION OF THE PROBLEM

In the *procès-verbal* of the Council General of the Department for 1829 these remarkable successes are recorded. Paramelle—now the learned savant, M. l'Abbé Paramelle—is called in to explain his theories, and a further sum of two thousand francs placed at his disposal and a generous recognition paid to his learning and self-sacrificing devotion. Two years later the Council record that in sixteen out of seventeen localities the predictions of Paramelle had been verified, a perennial water supply being found at the place, depth and of the volume he had indicated. His fame becoming widespread, applications to find water in waterless districts poured in to such an extent that with his Bishop's permission he relinquished his ecclesiastic duties and became what we should now call a hydro-geologist, what he called a *geognostic*, and the public of that day an *hydroscope*. Disclaiming the infallibility which was thrust upon him, the local newspaper accounts of the period speak of his modesty and marvellous success. Many explain his secret as a gift of God, others as the work of the devil. The poor people, however, answered very much in the words of the blind man cured: "Whether he be a sorcerer or a messenger of God we know not; this we know, that whereas we were perishing for want of water, now by his help we have an abundance." By permission of the authorities, Paramelle

hereafter made a fixed and modest charge of ten to forty-five francs for his services in each case, except to the poor, to whom no charge was made (this would not satisfy our English water-finders, whether geologists or dowsers !), and for twenty-one years he spent from sunrise to sunset every day, except Sundays, for nine months in every year at the work of water-finding.

In 1843 the *procès-verbal* of the Council General of Lot records that in their department alone 338 wells had been dug at places indicated by Paramelle, and of these 305, or 90 per cent., yielded an abundant supply of potable water, in every case found at the depth he had predicted. In other parts he had also found 683 sources of water supply; and when in 1854, at the age of 64, he practically gave up his active work, the Abbé asserts that in 25 years he had located over 10,000 sources of underground water, and he estimated that between 8,000 and 9,000 wells had been dug at the sites he had selected. He endeavoured to find out the percentage of failures he had had, but in spite of the circulars he sent out, he got very few replies; he believed, however, that his failures were under 5 per cent. of his total trials. Whether 5 per cent. or 10 per cent., as the above official records indicate from his entire results, his astonishing success is, we venture to think, beyond anything modern expert geologists claim. A remarkable testimony to the value of his work is found in a number of the *Journal d'Agriculture Pratique* for April 1845. The *Journal* quotes a letter the Prefect of Lot wrote to the Prefect of Versailles, stating that up to that time about 6,000 new sources of water supply in 30 departments had been discovered by the Abbé Paramelle, and the actual money value of the springs thus found was, he says, estimated at not less than four to five million francs.

In 1846 the *Académie* of Reims published a report in their *Comptes Rendus* from a committee of six of their members appointed to enquire into Paramelle's theory and work. In this lengthy and careful report the committee express their high opinion of Paramelle's character and the results of his work, and quote a number of letters and certificates from various officials in different parts of France testifying to his success. His proportion of failures is estimated as rather less than 5 per cent. In almost every instance quoted, the depth at which water was found was under 50 feet. As to his theory, the committee report that, though true in a sense, it is imperfect and not always applicable, nor do they consider that a knowledge of it would enable another, not

possessed of Paramelle's special talents, quick recognition of all surface indications and long practice, to be equally successful. Paramelle himself declared, however, that in a few months of study and three of field practice, he could teach anyone of ordinary intelligence all that he knew. That might be, but he could not communicate his almost unerring instinct.

Paramelle, however, unlike most prophets, seems to have had more honour in his own country than elsewhere. His success was declared by outsiders to be impossible; doubt was thrown on the reality or permanence of the springs he had found; one *savant* asserts that his procedure was unscientific and valueless; whilst a writer in one of the French journals for 1842 says whatever success he had was due to impressions, sensations and convulsions, and, doubtless, diabolic visions that he experienced. This writer adds: "The only difference between Paramelle and other sorcerers is that he conceals the diabolic signs he receives, glossing over his magical proceedings with a lot of scientific jargon."¹

To meet his critics Paramelle determined to publish the methods which had guided him. He states that in 1827 he had written a work "on the art of discovering springs." This he revised and published in 1856; three editions were quickly sold, a German translation was made by the Professor of Geology in Freiberg, a Spanish translation followed, and so highly was the work esteemed that the Spanish Ministry ordered every municipality to purchase a copy. A fourth enlarged French edition was published in 1896, after Paramelle's death. We have read this book and we do not hesitate to express our amazement at the oversight of this work in England. The wealth of geological and useful practical knowledge gained, through field observation, by this French Abbé two generations ago is astonishing. He must have been an odd mixture, for he includes in his work a number of laudatory Press notices. From these, however, we gain a description by eye-witnesses of his method of procedure; and these merit some attention. First, there is the unimpeachable evidence of one of the most distinguished French *savants*, Geoffroy St Hilaire, who, in a memoir read before the Paris Academy of Sciences, in 1836, said as follows: "The Abbé Paramelle's skill in discovering springs rests on the science of observation, and not on the instinctive movement of the divining rod. He has acquired by practice such acuteness of observation that, after a single and rapid inspection

¹ *L'Éclairneur du Midi*, July 1842.

of the surface of the ground, he can indicate the place and the depth of any underground sources that may exist. His success has been so remarkable as to convince the most incredulous." Nearly every eye-witness says the same thing. A journal at Aix says that, "Without any hesitation, and after a rapid glance, Paramelle at once indicates not only the very spot where to sink a well, but the depth it will have to be sunk and the volume of water that will be obtained. All this in so laconic and precise a fashion that scepticism vanishes." Another journal, *Le Rhutenois*, writes on the 15th of February 1837: "The Abbé Paramelle simply looks round, says, 'Here you will find the spring at such a depth and of such quantity; it comes in this direction, and the water will be of such and such a quality''"; and so on, in upwards of a score of other Press notices which are included in the chapters XXX. and XXXI. of Paramelle's work. Similar testimony is borne in the Report of the Commission appointed by the Academy of Reims already referred to, and in a paper published in 1835 by the French Société Centrale d'Agriculture (LVII^e Cahier, p. 326).

§ 3. PARAMELLE'S THEORIES

What then was the secret of Paramelle's method? This he has disclosed, or professed to disclose, in his book, *L'Art de découvrir les sources*. He did not use any form of dowsing-rod; he tells us the rod would never turn in his hands, though he had often tried it, and he regarded the users of the *baguette* with undisguised contempt. The hypothesis upon which he worked, to state it in the most general form, was that underground water behaves precisely like water that is visible on the surface of the earth. Just as in the latter case waters that are precipitated upon the surface of the earth and fail to penetrate the superficial soil, gather into rivulets and join streams and rivers, following in their course certain suitable channels, so must underground waters behave. Thus the waters which percolate through the upper earth, on reaching a bed of impermeable rock, will form into little filaments of water, these will unite into rivulets, which again will join larger subterranean water courses, and so on until they finally reach the surface or possibly emerge in the bed of a river or lake. Throughout their course they will follow hollows, depressions or folds in the impermeable stratum analogous to those in which surface waters flow. The position of these underground channels, our author asserts, can be determined

by observation of the surface. This branch of his subject Paramelle explains with much detail, but it will be sufficient here to give a bare outline of his views.

Subject to certain exceptions, it may be said that he held the conformation of the surface to correspond in some important features with that of an impermeable stratum beneath it. A valley or longitudinal depression, whether large or small, marks, he says, the position of an underground stream. In broad valley bottoms the principal water course will usually be found on the line of intersection of the sides. Subsidiary gullies or hollows indicate the affluents. In a fairly level country, where the depressions can be only slightly marked, he describes how it is still possible with minute precautions and by closer observation to detect them. The existence of such outward signs of hidden streams of water Paramelle attributes to the natural tendency of the surface to conform to its supporting bed, and also to subsidence due to the constant carrying away of matter by the underground current. The quantity of water likely to be found at a selected point he estimated from the area drained. The quality of the water he inferred from the nature of the soil through which it had filtered, and the depth at which it ran mainly from ordinary geologic data. Paramelle did not claim that his method was applicable to the discovery of sheets of underground water or water-logged strata of wide area, or, one may suppose, to water at a great depth. The former case, however, he believed to be of very rare occurrence, and to others, for which his general plan would be unsuitable, he refers candidly, and suggests several ingenious considerations.

Paramelle's theories may excite a smile among geologists of the present day or they may awaken interest or arouse criticism. In any case, his phenomenal success in the location of underground water needs explanation, even assuming that he did not discover the more abundant sources found in deep wells. We believe that the experience he had gained by long observation in the field, and the instinct he had thus acquired, accounted for a good deal more than he could rationally explain. Hence, like the successful dowser of past and present times, it was his subconscious far more than his conscious faculties that were concerned in the process of water-finding. That no mere knowledge of the theories he sets forth in his book will enable any one to become a second Paramelle is obvious from the fact that, although his book has been widely read on the Continent during the last seventy years, no such renown has been subsequently gained by any Continental

water-finder, nor by hydro-geologists anywhere. In short, the success of Paramelle, in our opinion, was due, as a general rule, not to a new geological theory but to his possession of the very same gift as that owned by the avowed dowser.¹

¹ Reference to most of the contemporary literature regarding Paramelle is cited in his book *L'Art de découvrir les sources* (4th edition, 1856).

CHAPTER III

DOWSING AND GEOLOGY

NO study of dowsing would be complete which did not consider, however briefly, the general geological laws of water supply and distribution, and which did not consider the opinions of geologists concerning the claims of dowsers. Nor would much that follows be readily understood without such a discussion.

§ I. THE GEOLOGY OF WATER SUPPLY

The supply of potable water depends almost entirely on rainfall; this source of supply, though it may seem insufficient and inconstant, suffers from neither of these defects. The average annual rainfall in Great Britain is about 39 inches, and has never fallen below about 15 inches. But a rainfall of only 1 inch per annum, if it could all be utilised, would yield over 100 gallons per head per day for the population of the country.¹ The rain sinking into the soil has to encounter water-bearing and non-water-bearing rocks. Among the former are porous and permeable rocks such as sand, soft sandstone, marlstone and chalk; rocks which are impervious but which have joints, fissures, and the like, which hold water, may be included in this class. Among the non-water-bearing rocks may be noted clay, loam, marl, granite and greenstone.

The former class of rocks become saturated to their full extent and then throw off any surplus water in the form of springs. The rain that falls on the latter class of rocks runs off their surface into surface streams, collects in pools, or runs off the edges of the impermeable surface. It should also be observed that there are definite underground water courses which are followed, for instance, by rivers in times of drought. Cases are also known of holes which take water and

¹ H. R. Mill, in *The Journal of the Statistical Society* (1909), lxxii. 294.

discharge them elsewhere; thus the water disappearing into the Malham Tarn Water Sinks comes up through the Aire Head Springs. There are still further exceptions to the rule stated, but these we need not consider.

It is apparent therefore that it would be unnecessary to employ a dowser in districts the geological formation of which is known to fall under either of two heads. On the one hand if the district is over porous or permeable rocks, water may readily be found almost anywhere. On the other hand if the locality is over non-water-bearing rocks, water can, as a general rule, be found only where the impermeable or impervious rocks have been pierced. In the former case the experienced local well-sinker can do the work and in the latter recourse must be had to a geologist, or by preference to an hydro-geologist.

It will be observed that a large field is left for the dowser: the numerous regions in which the non-water-bearing rocks have faults, fissures, joints and the like, or are in a decomposed or shattered condition. In such regions both the well-sinker and the geologist are often helpless, and can only proceed by a process of guess-work. We can now understand the reason why so many dowsers originate from Somersetshire; it is because this region is among the most typical examples of the geological condition just described. It is here that the dowser should be employed and it is under such conditions that he has scored some of his most striking successes.

It must not be supposed that the dowser can never be usefully employed in other circumstances than those we have discussed. This is not the case, for geologists often make mistakes. Thus a well on Southampton Common was sunk to a depth of 1,317 feet at a cost to the ratepayers of £19,600, getting a supply which could only be used for road watering. The well of the Caledonian Road Prison in London only yielded a supply of 900 gallons per hour at a depth of 370 feet. The artesian well at Chichester is 1,054 feet deep and yields only 100 gallons per hour of bad water. These are only a few examples, and in fact, as Mr Westlake pointed out, "Even where deep wells are necessary, experience has shown it is sometimes advantageous to supplement geological advice by calling in a dowser, for, though a definite water level may exist, the *quantity* found at a given spot is often a matter of chance: such a case I saw recently near Newbury, where the dowser, Tompkins, had found, at a depth of over 100 ft. in the chalk, so large a supply that steam pumping-gear had to be used, whereas in two or three other wells in the neighbourhood, with water at about the same hydrostatic level, the

quantity was much less." Throughout this book examples of cases have been quoted in which a dowser has succeeded after a geologist or engineer has failed. Indeed, Mr C. E. De Rance, a geologist who made hydro-geology his own subject, says in a letter that he would not be surprised to learn that the best geologists, other than hydro-geologists, were in their success or non-success on all fours with the dowser! But as a general rule it is true to say that it is in a region like Somerset that the dowser is likely to be most useful and successful.

§ 2. THE GEOLOGY OF SOMERSET IN RELATION TO DOWSING¹

The mineralised ridge of the Mendip Hills just above the middle of the county has been the seat of mineral dowsing since the time of Queen Elizabeth. The practice was probably introduced into Cornwall simultaneously, but has become practically extinct for this purpose in both localities. In Somersetshire, however, local conditions, favouring the later application of the rod to water-finding, have preserved its use to the present day. The Mendip itself consists of permeable Palaeozoic rocks—Mountain Limestone on a core of Old Red Sandstone—in which the water for the most part sinks to too great a depth to be reached by wells. It is the Secondary rocks lying to the north and south—the Trias, Lias, and Oolite—forming what De Rance calls a "super-pervious" series and yielding underground water, which have determined that Somersetshire and not Cornwall shall be the centre of water-dowsing.

The two last (Jurassic), which occupy about half the area of the county, may be described as alternations of clays and limestones, the sand beds being few and subordinate. The Oolites, especially in the upper part, consist of clays often of great thickness, alternating with massive limestones forming reservoirs in which it is comparatively easy for a geologist to predict water; although even here, the limestones being well consolidated, success where quantity is required may depend upon the accidental striking of a water-bearing fissure.

In the Lower Lias, which forms most of the low-lying arable land of the county, clays and limestones alternate every few feet or inches, and are alike impermeable, as De Rance indeed terms the whole formation. When uncovered in the quarries they are seen, however, to be traversed by cracks and occasional faults, like much-skated-upon ice, which allow of a slow

¹ This section is by the late E. Westlake, F.G.S.

percolation and the storage of small bodies of water.¹ There is no record of any copious supply, and the finding even of a domestic supply depends on a chance meeting with these water-bearing joints of which there is no sign at the surface. This, which is the geologist's extremity, is the dowser's opportunity; or, in other words, it is not surprising that where common-sense ends, the uncommon-sense attributed to the dowser should be in demand. The water, it is true, is sometimes impure, the fissured character of the formation being more favourable to pollution near farms or villages than to purification. Thus at the town of Somerton the well water was analysed by the Rivers Pollution Commission and found to be nearly all dangerously polluted.

We may note, moreover, that dowsing is not carried on on the Somersetshire moorlands, which comprise the high-lying impermeable Devonian areas of Exmoor and the Quantocks drained by surface streams, and the low-lying alluvial levels debouching on the Bristol Channel where water lies near the surface. Cornwall also consists of Palaeozoic clay-slate ("killas") with granite and other igneous rocks, all of which throw off the water, except the little that percolates in fissures.

There are two main types of underground water—what may be termed bed-water, or seepage, filtering through the pores of beds; and fissure-water, or drainage, flowing through their joints. The first type characterises permeable beds, the second the impermeable. To the latter condition the consolidation due to ages tends to bring all the aqueous rocks; all the igneous are so from the time of cooling: such rocks are seen in the Palaeozoic of Cornwall, Wales, the Lake district, etc.²

Bed-water is the more usual form, in the sense of being the one most met with in the populated lowlands. But as we pass from the looser rocks in the south-eastern counties to the more consolidated in the west, the proportion of fissure-water increases, till in the mountains there is nothing else. Tending

¹ Water not only sinks through the Lias but *rises* through it as in the springs of Bath and Cheltenham.

² An illustration from Llanelly is furnished by Mr J. F. Young, who says in a letter: "In the Coal Measures exposed in a new dock near here numerous springs have been intersected, issuing with considerable force through fissures in the rock, some of which were horizontal whilst others were vertical. In a new coal pit they are sinking near my residence I noticed the same thing, showing beyond dispute that underground water in this and similar districts *does* circulate through fissures, or follows the dip of the strata, and that intervening portions at some distance below the surface may be quite dry."

to keep in compartments, it is difficult for a geologist to predict its level, and still more its exact place or quantity. In these Palaeozoic districts, however, surface water is usually abundant and good, and the dowser is superfluous; and so also in the Tertiary where the rocks hold only bed-water. His happy hunting ground lies therefore, as we have seen, in the intermediate conditions of the Secondary rocks, such as exist in Somersetshire.

§ 3. THE EXPERIMENT OF DR W. J. SOLLAS

In view of these facts and in view of the numerous successes recorded of dowsers it is surely extraordinary that no British geologist or geological body (beyond those experiments instigated by students of dowsing) has thought it worth while to make a serious investigation into the subject. This being the case the Society for Psychical Research requested Professor Sollas, one of the most eminent geologists living, to undertake, at its own expense, a simple experiment. This was done and the results described by Professor Sollas.¹ The experiment, in brief, was this: On a field at Locking the dowser Thomas Young was asked to, and did, indicate two spots, one at which water would be found and one at which no water would be found. Professor Sollas, on the other hand, stated that water would or would not be found in both wells alike. The wells were duly sunk, Professor Sollas reported, to a depth of 29 feet, and, he said, equal quantities were found in each. On the strength of this Professor Sollas triumphantly declared the dowser's pretensions to have been exploded. Unfortunately, however, for this claim, when Mr E. R. Pease examined the wells he found that the well in which the dowser declared water would be found was "a mere hole some 10 ft. deep, whilst the—well was a carefully-timbered shaft 24 ft. in depth." Thus Professor Sollas's conclusion is quite unjustified, since the conditions under which the wells were sunk were unequal. Mr Pease writes that he "cannot feel his [Professor Sollas's] complete confidence in the conclusive nature of the experiment;" an opinion from which, we imagine, few would be disposed to dissent. We are, of course, far from claiming that the experiment was completely successful from the point of view of the dowser, but simply that it was inconclusive.

¹ "Report on Wells Sunk at Locking, Somerset, to Test the alleged Power of the Divining Rod," *Proceedings of the Bristol Naturalists' Society* (1882-5), n.s., iv. 116-125.

§ 4. DOWSING IN GEOLOGICAL WORKS

This is a subject very easily disposed of. There are many works of a geological and of a jointly geological and engineering nature devoted to water supply. The very great majority of these works do not so much as mention dowsing.¹ Those writers who do refer to the matter do so generally only to condemn,² or to damn with faint praise.³ Among substantial works published in recent years there is only one in which dowsing is discussed at any length and with knowledge: the admirable treatise by E. A. Martel.⁴ In a smaller book occurs this passage: "When doubt exists as to whether sinking will yield water, or when great depths may have to be sunk, the services of a water diviner are very useful. Water divining is a gift; and very few practise this art and some of these are not reliable. On the whole however much reliance can be placed on a first-class man."⁵

§ 5. GEOLOGICAL CRITICISM OF DOWSING

It might be supposed, when viewing this strong body of opinion on the part of geologists against dowsing, that there is a clear geological case against dowsing. It is true that a geologist might be disposed to dismiss the whole matter at a glance because of the absurd opinions held with great determination by the dowsers themselves regarding the underground distribution of water. The dowser with the utmost assurance locates a spring on a particular spot, and gives its exact depth to a foot and its yield of water, and then probably will tell you there is another spring a few feet further off, perhaps at a very different depth, but that between no water will be found. Or, basing his interpretations on the indications of the rod, he will confidently assert that under his feet an underground river exists, yielding so many gallons per hour. By the same means he will profess to ascertain the direction in which the

¹ See for instance among modern works those in the Bibliography under Engels, Flinn, Hodson, Isler, Jeffery, Parker, Prinz, Uren, Water Supply Manual.

² E.g., E. S. Auscher, *L'Art de découvrir les sources* (2nd ed., 1905), pp. 149-154; E. Bailey-Denton, *The Water Supply and Sewerage* (1901), pp. 37-38; M. L. Fuller, *Domestic Water Supplies* (1912), pp. 48-50; Gordon Harris, *Water Supply* (1899), p. 8; A. B. Thompson, *Emergency Water Supplies* (1924), pp. 3-4.

³ E.g., P. F. Chalon, *Les Eaux souterraines* (3rd ed., 1813), pp. 2-5; H. B. Woodward, *The Geology of Water-Supply* (1910), pp. 239-242.

⁴ *Nouveau traité des eaux souterraines* (1921), pp. 743-754.

⁵ F. N. Taylor, *Small Water Supplies* [1912], p. 23.

imaginary river is running, and give you its depth below the surface. Hard by he will trace other invisible streams, and follow them to their source, maintaining that a perfectly dry rock or sub-soil separates the underground water. A lot of this is ridiculous to the geologist. Thus the Rev. Osmond Fisher, an authority on this subject, writes in a letter: "It appears to me that the assumption which underlies the belief in the divining rod is erroneous. It is only under exceptional circumstances, as among crystalline rocks, or where the strata are much disturbed, that underground water runs in channels like water in a pipe so that a person can say, 'I am now standing over a spring,' whereas a few paces off he was not over one. What is called a spring, such as is reached in a well, is *usually* a widely extended water-saturated stratum. Ordinarily where water can be reached by a well, there are few spots in the neighbourhood where a well would not find it."

We have seen that this is true; but it is unfortunate, from the point of view of the geologist, that these absurd statements of the dowser are often verified, that when the dowser has stated that there is an underground flow, there has in fact been often found a fissure in the hard rock, and so on. As another geological writer has well said: "*A priori* conclusions seem to me absurd and unscientific, whether put forward by the President of the Royal Society, or by a village cobbler." These are the words of Mr T. V. Holmes, a past president of the Geologists' Association of London, and one of the few geologists well-informed as regards dowsing. This gentleman studied a number of successes of dowsers and concluded that there were a few undoubtedly genuine cases of this nature. He was not willing, however, to admit that the dowser possessed any supernormal faculty, ascribing his successes to a marvellously developed instinct and eye for the country. This criticism is not a geological one, but ample evidence will be put forward to show that an eye for the country is far from being the portmanteau theory Mr Holmes supposes it to be.

Thus the interesting fact is revealed that there is no geological case whatever to be set against the claims of the dowser. In other words, there is no *a priori* reason why, assuming that his record of successes is as great as that of the geologist, a dowser should not be employed for the finding of water as readily as a geological expert. It must not be supposed that a geologist is never able to correct the dowser. On the contrary, when the dowser has found the water, the geologist is always ready to explain how it was done and how he him-

self could have done it. But apart from such wisdom after the event, the geologist is in fact often able to show that there was nothing supernormal in the dowser's discovery of water. He is able to show, for instance, that water would have been found anywhere in the neighbourhood of the spot indicated by the dowser, since the locality rests on a water-bearing rock. For this reason a great many of the cases collected by Sir William Barrett were submitted to a competent geologist: G. A. J. Cole, T. V. Holmes, J. R. Kilroe, G. H. Kinahan or E. Westlake. No case rejected by one of these gentlemen on the grounds stated has been included in this volume.

When a number of geologists were requested to state their opinion of dowsing and to describe any case of failure which they had come across, many general criticisms of the nature described were received. Others stated that they knew of many failures, but failed to reply when asked for particulars. One geologist, however, did give some details. Mr J. H. Blake, F.G.S., replied that so far as he knew the dowser was never successful and that in his opinion "those who profess to find water by means of the divining rod, and receive money for their erroneous information, ought to be prosecuted for *fraud* . . ." This temperate expression of opinion could be ignored, but Mr. Blake went on to quote two specific instances of failure on the part of a dowser. These cases were investigated, with the following result.

Mr Blake states that "the owner of The Hollies, Burghfield, near Reading, called upon me, and stated that her tenant—a General, who believed in the divining rod—had employed a well-known divining rod man, who went over the ground, and told him water would be found at about 40 feet beneath the surface. After making some calculations, I informed the owner that no water would be met with until the basement bed of the London clay was reached, which at the site of the house would be about 183 feet beneath the surface. This information was communicated to the General, who shortly afterwards called upon me, when I explained to him how I arrived at my conclusions, and that the divining rod business was *absolute nonsense*! I advised a boring to be made, which was completed a few days ago, and no water was met with until the water-bearing basement bed of the London clay was reached at a depth of 190 feet from the surface." On inquiry it was found that the General in question was General L. Buck, of "The Hollies," Mortimer, Berks. This gentleman replied that the dowser employed was one of the young Mullins;

that the depth he had estimated was not 40 ft. but 70–80 ft.; that the depth estimated by Mr Blake was 186 feet; and that water was actually found at 210 feet. This therefore was undoubtedly a failure of the dowser, even though the geologist had been out about 12% in his calculation, and, as General Buck adds, "No doubt I should have found water at that depth at the place pointed out by the diviner, as I was aware that if I went deep enough I should get water."

The other case of failure mentioned by Mr Blake, he described thus: "The late W. J. Palmer, of the Biscuit Factory, Reading, wanting a water supply at Kingwood House, Lambourn, Berkshire, employed a divining rod man, who walked over the ground and stated water would be found at a few feet beneath the surface over a certain area which he pointed out. I was afterwards consulted, and having inspected the site, and made some calculations, informed Mr Palmer that no water would be met with until the plane of saturation in the chalk was reached, which at the locality mentioned would be about 300 feet from the surface of the ground. Mr Palmer then decided to have a well dug, six feet in diameter, which was carried out by a man I know very well, and who supplied me with all particulars, and no water was found until the plane of saturation in the chalk was reached at about the depth I stated. This well was sunk in 1892." In another letter of Mr Blake's he adds that: "The Palmers are no longer believers in the divining rod, but strong believers in Geology and Hydro-geology."

Owing to the death of Mr W. J. Palmer it was unfortunately impossible to obtain direct confirmation or denial of Mr Blake's statements. It is interesting to note, however, with regard to Mr Blake's last-quoted observation, that the following reply was received to an inquiry addressed to Mr G. W. Palmer: "In reply to your letter, I write to say you have been entirely misinformed; my experience with the divining rod has, I am glad to say, been eminently satisfactory." It will be seen that the facts upon which Mr Blake based his position hardly justify so decided a *parti-pris*.

§ 6. GEOLOGICAL OPINION IN FAVOUR OF DOWSING

It is not to be supposed that no geologist approves of dowsing. That is far from being the case. Sir Archibald Geikie, the greatest geologist of modern times, wrote that while he was not yet convinced of the truth of dowsing, the evidence was so striking that he was keeping his mind open. Mr

Whitaker, who succeeded Geikie as President of the Geological Society, took up a similar attitude. J. R. Kilroe, G. H. Kinahan (both of the Irish Geological Survey), Ernest Westlake and the Rev M. H. Close (President of the Irish Geological Society), all helped Sir William Barrett's researches very materially by criticising the cases collected by him; they were all firm believers in dowsing. T. V. Holmes (President of the Geological Society), while not accepting all the claims of the dowser, granted the possibility of finding water by dowsing. Finally, and most interesting of all, Mr J. D. Enys (President of the Royal Geological Society of Cornwall) was himself a dowser, and has described his experiences. It will thus be seen that while most geologists are as opposed to dowsing as they are ignorant of its facts, there are some, and these among the most eminent, whose greater knowledge of the phenomena has necessarily converted them to a belief in them.

PART II

EXPERIMENTAL

CHAPTER IV

THREE NOTABLE EXPERIMENTS IN DOWSING

§ I. THE HORSHAM EXPERIMENT

SIR HENRY HARBEN, the owner of Warnham Lodge, an estate near Horsham in Sussex, found there was a scarcity of water on his property. To remedy this serious defect he called in the aid of an experienced local well-sinker and, at his advice, had a well sunk some 90 feet deep (well A on Fig. 15). From this well he got little water, indeed, in his own words, it was "absolutely useless." Accordingly the services of another well-sinker were secured and another well (well C) was sunk, in an adjoining field some 200 yards off. This was at the lowest part of the estate and at 55 feet down a small spring was met running into the well; the quantity was so small that the supply was quite insufficient.

Having spent a considerable sum uselessly in sinking these two wells, Sir Henry Harben was advised to employ the famous dowser John Mullins, whose achievements at Waterford will be recorded below. This he distinctly refused to do as he utterly disbelieved in him. On the contrary he determined to obtain from London the highest engineering and geological advice. His position as one of the directors of the New River Company and his ample means rendered this comparatively easy. Acting under such advice another well (well B) was sunk not far from well A, the first one. This well was of large dimensions and sunk to nearly 100 feet, with, however, little result as regards water; tunnels were then driven in various directions, and finally, after £1000 had been spent on this last attempt—made under the best scientific advice and with the most modern and approved engineering methods—the well B was abandoned.

Now, as a last resort, Sir Henry agreed to call in Mullins,

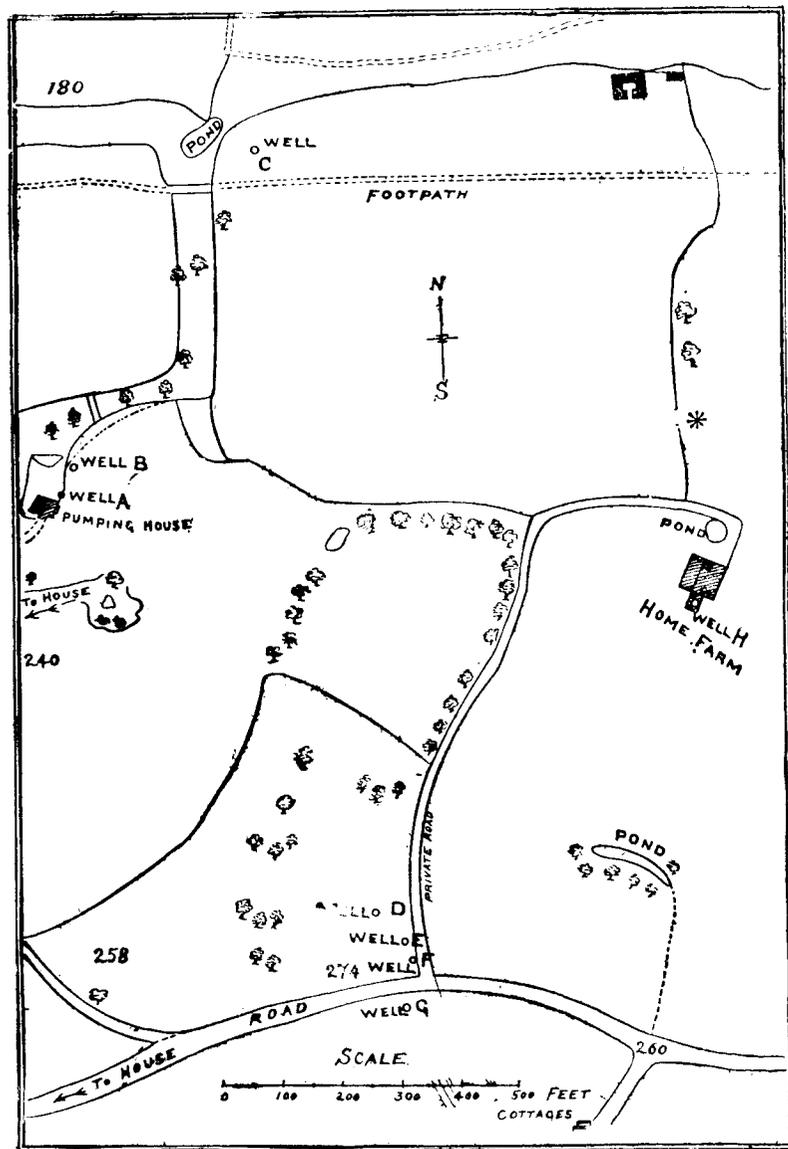


FIG. 15. WARNHAM LODGE PARK
 After the 25-in. Ordnance Survey Map: Sussex (II. 15)

THREE NOTABLE EXPERIMENTS IN DOWSING 67

who came shortly before his death. To prevent his gaining any local information Sir Henry met him at the railway station and drove him to Warnham Lodge, four miles distant. Mullins said it was his first visit to that part of Sussex, and there is no reason to think otherwise. Arrived at Warnham Lodge, Mullins traversed the estate accompanied by the bailiff and the head gardener, who superintended the work of the well sinking. He said that there was no water where wells A and C were situated, unless an immense depth were bored. As he came near well C, into which it will be remembered a small spring was running, Mullins was narrowly observed. Only Sir Henry Harben and the well-sinker knew the exact direction of the streamlet, and no hint of any kind was given, or could have been given, to Mullins. Suddenly the rod turned:

"There is a small stream here," he said, "flowing in this direction." The direction he indicated was absolutely correct.

Mullins then said that the depth of the well was between 50 feet and 60 feet, the actual depth being 55 feet. Dissatisfied with the small supply in this well, Mullins proposed to try the higher ground. From this it was attempted to dissuade him, as that part had been examined and rejected by the scientific experts.

"Never mind," said Mullins, "I am going to try it."

Towards the top of the hill the rod turned vigorously, and the spot was marked; 30 feet further on, absolutely on the crest of the hill and the highest point on the estate, it turned again.

"Call this No. 1," said Mullins. Twenty feet further it turned again. "Call this No. 2," Mullins went on, "and the first No. 3."

One of the men then remarked that water doubtless existed everywhere at a certain depth beneath the hill. Mullins tried carefully and said: "No. Nos. 1 and 2 are independent springs, there is no water between them, but you will find plenty of water at either of these places at 12 feet or 15 feet deep."

Mullins was then taken across the road to find a well for the supply of some cottages on the estate, about 250 feet distant from the last spots; he found a place where he said water would be obtained at a depth of about 40 feet. Here a well was subsequently dug, and at 35 feet deep a good spring was found. The water, however, was found to be chalybeate and the well was accordingly filled up. Mullins had indicated

at the same time another place for a well, 75 feet distant from No. 2 spot and some little distance from the cottages. Upon sinking here, water was found in sufficient quantity for the requirement of the cottages (well C).

The spots Mullins had marked as springs Nos. 1 and 2 on the crest of the hill were then dry; soon a compact sandstone was encountered and after sinking at each spot to a depth of 12 feet from the surface, a copious supply of excellent water was suddenly met (wells E and F). At No. 3 a good spring was also found at 19 feet down (well D). To the surprise of Sir Henry, Mullins had proved right in each case.

Sir Henry Harben, fortunately for our inquiry, then decided to go to the expense of testing Mullins's assertions, contrary to all geological probability, that no water would be found between wells E and F. By means of a powerful pump he had one of the wells pumped nearly dry; the water level in the other was unaffected. However, to leave no room for doubt, Sir Henry went to the further expense of tunnelling the intermediate 20 feet from the bottom of well E to the bottom of well F. No water was found between the two wells, the intermediate formation being dry. Still further verification of Mullins's statement was obtained later when, in order to run the water from the wells to the pumping house, which is on lower ground (near well A) a trench was sunk to within a foot of the bottom of the wells E and F. It was then carried 85 yards to the north of well E; 24 yards from E an offset, 8 yards long, connects the 2 inch water pipe, which was laid in the trench, to the well D. These various trenches were all dry to the bottom and no springs were intersected, except the one supplying well D.¹

Writing on the 8th of April 1897 Sir Henry adds another illustration of Mullins's ability. "He was walking with me towards my Farm Buildings [marked Home Farm on the map] trying his rod occasionally; when he came to the spot marked with an asterisk [see right-hand side of map], he stopped and said that here was another spring. I told him there *was* a well in the neighbourhood. Mullins then said, 'I shall be able to tell you whereabouts it is.' He walked to and fro with his rod and said, 'The spring runs that way, and the well is probably behind that chimney' [well H]. This was perfectly correct; a well with pump attached was in an outhouse behind the Farm building. There was no possibility of Mullins seeing

¹ The foregoing account was compiled from information supplied by Sir Henry Harben and verified on the spot by Sir William Barrett, Ernest Westlake, F.G.S., and T. V. Holmes, F.G.S.

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the well or pump, as it was entirely out of sight and in a closed building; nor had he left my side to make any inquiries. We had not yet verified his other predictions and this incident, together with his discovery of the direction of the spring running into the well C, and the depth of that well, impressed me much."

To make this case one of the most valuable in our records it only remained to secure geological opinion in order to discover whether the dowser's success could be attributed to some simple geological feature. For this purpose Mr E. Westlake, F.G.S., a very able geologist and anthropologist, visited the spot. He confirmed the facts put before him, even added a few details, and his report was wholly to the effect that Mullins's achievement was of a supernormal nature. Further application was then made to Mr T. V. Holmes, F.G.S., the President of the Geologists' Association for 1889-90, who had read a paper on the dowsing-rod before the Anthropological Institute in 1897.¹ This gentleman went to a great deal of trouble to investigate geologically a number of successes in dowsing, the present case amongst them; on this he reported as follows.

"The position of Warnham Lodge is not shown on the old Ordnance map on which the geological surveyors worked, but it evidently stands where the words 'Lit. Mays' appear on that map, about a mile N.W. of the village of Warnham, which is about 2½ miles N.W. of Horsham. Horsham stands on the Tunbridge Wells Sand of the Hastings Beds, while Warnham and Warnham Lodge are both on the overlying formation known as the Weald Clay, as the great bulk of it consists of clay. Topley, in the 'Geological Survey Memoir on the Weald District' (p. 101), gives a section of a 'well at Warnham, near Horsham.'

	ft.	in.
Bluish clay	7	0
Red sandstone		9
Bluish clay	20	0
Red sandstone		8
Blue clay	15	7
Hardened blue clay	2	6
Blue clay	31	6
Water-bearing bed	1	0

¹ "On the Evidence for the Efficacy of the Diviner and his Rod in the Search for Water," *Journal of the (Royal) Anthropological Institute* (1897), xxvii. 233-259.

² [William Topley, *The Geology of the Weald* (1875)].

	ft.	in.
Blue clay	35	0
Hard sandy clay	3	0
Blue clay, with fragments of other [formation (?)].	27	0
Red clay, with fragments of red sandstone (?).	8	0
	<hr/>	
	152	0

Topley notes (p. 396) that of 97 towns and villages on the Hastings Beds (which consist of alternations of sands and clays, neither decidedly predominating as regards the area they cover), 79 are on sandy sites. To obtain a water supply by means of shallow wells and pumps has been the chief cause of this selection, clay yielding no water. In the Weald Clay district, the most important of the subordinate beds of stone is the Horsham Stone, on which the village of Warnham and Warnham Court stand. The presence of one of these beds of stone, where it attains a thickness of a few feet, will be marked by the existence of a ridge, which will make higher ground than that where the surface beds are almost wholly clay. As water supply in such a district depends so largely on the presence of these beds of stone, the dowser naturally has a keen eye for the elevated ground, and *will* go there, to the horror of his backers at first, and to the enormous increase of their wonder at his powers, when a well is successfully sunk at the top of a hill, after failures down below.

There are signs of the presence of a bed of stone on the high ground where Warnham Lodge and farm buildings stand, and Topley mentions (p. 104) a bed of sand and sandstone ranging by Hurst Hill, Gearing's, *Little May's*, Charman's, and other spots to Rudgwick, which is evidently the stone in question. Whether in Yorkshire, Sussex, or anywhere else, where beds of stone alternate with others of clay or shale, the high ground is composed of the beds of stone, and the lower of the shales, and the former are waterbearing, the latter not.

I do not wonder that the non-dowsing advisers ignored the surface stone bed, and thought of (I suppose) going down to the Horsham Stone, or even the Tunbridge Wells Sand; or, perhaps, of tapping a sufficient number of waterbearing beds, which individually insignificant might collectively prove sufficient, and be free from possible dangers arising from surface pollution—dangers by no means uncommon in similar cases. The dowser's triumph is to find water, and to find it as

near the surface as possible; he has no further responsibility. But the geologist who should recommend water from a source easily polluted, and which gave rise to disease in persons using it, would be deemed to have shown a most culpable recklessness—at the very least.

However, the dowser in this case, after 'blasting and sinking' in hard limestone [or, rather, sandstone], obtained a supply of water at a depth of 12 feet, at spots known as E and F, and at 19 feet at D (p. 119), all these wells being only a few yards apart. The dowser, however, insisted that no water would be found between wells E and F, as 'both were independent springs.' One of the wells was pumped nearly dry, and the water-level in the other was unaffected. But this merely showed that there were no lines of bedding or jointing giving an easy passage to the water between the two wells. And the water from the stone for some distance around having been collected into the two wells, the space between them was likely to be a spot comparatively free from water. Of course, ultimately, a well midway between E and F would have become as full of water as they were. But the days necessary for this to take place, in the absence of a good system of jointing, were not allowed, but a tunnel was at once made connecting the wells E and F, and ensuring a better supply than could otherwise be obtained.

This stone was evidently an extremely hard and compact rock, very much more so than the chalk, but the best illustration I can think of to show the difference between the restricted circulation of water in jointed rocks, and its free percolation in gravel and sand is from the chalk.

In the *Essex Naturalist*, Vol. I., p. 254 (1887) there is a brief account of some 'chalk wells' in Buckinghamshire. These chalk wells were situated at a tile works, and consisted of some five or six shafts, about 70 ft. deep, which after piercing through the surface beds, entered the chalk to a depth of about 6 ft., and then widened out into bell-shaped chambers. The object of their makers was to obtain chalk for lime from the ground beneath the limited area of the tile works. The chalk being locally full of water almost to the top, these chambers were hollowed out as near the top of the chalk as possible. After a considerable amount of chalk had been removed from one of these chambers, it would become unpleasantly wet, and would ultimately be abandoned and another shaft sunk, and so on. The important point is that these chambers became unpleasantly wet only after some time had elapsed, though for their size, as compared with that of a mere well,

they must have been comparatively far more likely to be speedily flooded. I have no doubt that the Warnham well between E and F would eventually have had water in it, had sufficient time been allowed, just as in the case of the chalk chambers at the tile works. That Mullins fixed upon the spot midway between two wells as a dry place, seems to me simply caused by his experience of the behaviour of water in jointed rocks, not as showing the veracity of his sensations."

This criticism is less helpful than that sometimes put forward by geologists. It should be noted, in the first place, that the "explanation" suggested by Mr Holmes presupposes that Mullins had not only local knowledge, but also a geological knowledge of the locality. This is in the highest degree improbable, since so far as local persons knew (and, incidentally, according to his own statement) he had never been in that neighbourhood. Mullins, moreover, was well known to have never troubled himself in the least about gaining the advantage to be derived from even an elementary acquaintance with geological facts. However, granting even this point, as not being positively incontrovertible, there remains the fact that at Warnham Park there was absolutely nothing in the surface of the ground to indicate which was stone and which was Weald clay. The hill and its slopes, as well as the rest of the ground, were covered with vegetation, under which was a thick layer of alluvial soil. Moreover the water found, though from a shallow well, is an excellent, abundant and perennial supply. If its discovery was so very obvious as Mr Holmes pretends, why did not the experienced local well-sinkers and the eminent authorities who were consulted—aided as they were by geological maps and geological advice—indicate the fact to Sir Henry Harben and save him the fruitless expenditure of over £1000?

In a later communication Mr Holmes admits this point, writing: "As you say, there is no evidence of stone on the surface, but that would not matter to the dowser. He would see, as I saw, that there was a ridge capped by stone of some sort there, *i.e.*, by something harder than clay, which would be enough for his purpose. And the information which he would inevitably gather from Mr Harben [as he then was] and others would suffice without asking many questions."

Now, it is surely an affectation for an eminent geologist to say that an illiterate dowser would be able to discern any kind of geological trace as well as he. Moreover, how could Mullins know that the ridge was "capped by stone of some sort," when Mr Holmes himself states that "there was no

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evidence of stone on the surface"? As for the other point: Sir Henry and the men who followed Mullins round¹ categorically deny that they gave any hints of any kind.

To return to the matter with which Mr Holmes makes most play, the absence of water between wells E and F. It need only be said that Mr Holmes wrote his report before he knew of the various trenches dug from point to point as described above; the fact that these trenches were dug completely answers his objections—though this is in any case only a subsidiary point.

Here, then, we have a case in which, after costly failures on the part of orthodox authorities, the dowser, without a single error, indicated several spots at which water was to be found; indicated, moreover, places in which no water would be found; all his assertions being elaborately tested and triumphantly vindicated.²

§ 2. THE WATERFORD EXPERIMENT

This case is one of the strongest we possess. Attention was first drawn to it in 1891 by a letter from Mr W. Christie-Miller, the proprietor of Messrs Richardson's bacon-curing works at Waterford in Ireland, the scene of the events to be related. The details provided were, however, somewhat scanty and the remarkable aspects of the matter escaped attention. Some time later Mr J. R. Kilroe, of the Geological Survey of Ireland, whose report on the Carrigoona experiment will be quoted in the next section, came across a case the details of which were found on examination to correspond with the incidents related by Mr Christie-Miller, who was then found to be the proprietor of Messrs Richardson's factory. Interest was now aroused and it was decided to investigate the matter.

It is common ground that in all investigations depending on evidence human testimony has been found to be a very unreliable quantity. We are fortunate therefore in possessing in this case not only the accounts given by the principals, and also independent reports based on answers to inquiries, but contemporary documents. The report of Mr Kilroe has been already mentioned; it is as follows and dated the 23rd of

¹ It is an important point to be noted that nearly always the dowser takes the lead and is *followed* by the assistants, thus obviating the possibility of their giving any indications.

² In a letter dated the 30th of January 1905, Sir Henry Harben states that since the above experiments he had occasion to employ one of John Mullins's sons, who was successful in finding water both for Sir Henry and at Sachel Court, nine miles from Horsham.

January 1897: "In or about the year 1888, Messrs Richardson, bacon curers, of Waterford, required a considerable water supply and got professional advice, based upon geological grounds, as to where to obtain it by sinking. The amount procured on sinking proved entirely insufficient. This was surface water, and when the rock was reached it proved quite dry, giving a worse rather than a better prospect as the sinking progressed. The strata at the place are nearly vertical and the bedding much folded.

An English 'diviner' was engaged, and to hinder collusion, the chief clerk of the firm met him at the boat on arrival at Waterford; who also brought him to the works. There the diviner was accompanied by the head of the firm and his staff of clerks, as he went around the premises. He carried in his two hands a forked hazel twig, holding a branch of the fork in each hand, the stem extending from him in front horizontally. He almost immediately came to a spot over which the rod bent slightly and quite spontaneously, as well as could be observed. This spot was marked and the search continued. Similar indications appeared at two or three other places. At one, the effect was so manifest that the rod twisted completely round and *broke!*—also of its own accord. (The man had several of these rods with him.) The firm sank at one of the places indicated and obtained a copious supply of water.

Mr Budd, a local amateur geologist, ascertained the above particulars and communicated all to Mr Clark, of the Irish Survey, who gave them to me."

This account being only at third-hand it was natural to suppose that at the least many details must have disappeared on the way. Application was accordingly made direct to Messrs Richardson, who replied very courteously and, after some preliminary correspondence, sent the following memorandum on the 2nd of February 1897: "In the year 1887, we received an estimate for boring a 2½-inch artesian bore from John Henderson and Son, Glasgow. He started to bore on the 18th May, 1887, with jumper steel drills. The first 15 feet was clay, the following 17 feet was slaty sandstone, after which the rock became harder with the result that the rate of boring slowed, varying from 2 to 5 feet per day. When going through extremely hard rock, they bored (on Monday, the 18th June, 1887) only 4 inches. We continued boring until we had reached a depth of 292 feet, after which we widened the bore for 100 feet to allow a pump to be lowered, but the yield was not sufficient to justify our going deeper, so relinquished this bore.

We next started to bore, in 1888, a 7-inch bore hole at the bottom of a well 62 feet deep. This bore was executed by the Diamond Rock Boring Co., of London, and was bored by a revolving tube 7 inches in diameter having black diamonds set in a nose piece fastened to bottom of tube. We bored 612 feet with this size tube and then reduced to 6 inches and with the 6-inch tube bored 337 feet 7 inches, making a total depth bored of 949 feet 7 inches from the bottom of well, and from the ground level of 1,011 feet 7 inches. We had, during the process of boring, tested at intervals for yield of water but with no satisfactory result. We again tested at 1,011 feet 7 inches, and again failure, so relinquished this bore.

We then asked Mr Kinahan to come down—which he did, and suggested a spot to bore. This bore we started with a 4-inch tube diamond drill, and bored 40 feet through yellow sandstone when we came on blue slate for 8 inches; we then stopped and wired Mr Kinahan what we ought to do. In the interval we tested for water;—result, 230 gallons per hour, not one-tenth part of what we required. Mr Kinahan advised going on again. Went on 11 feet more, tested again, with the yield 180 gallons per hour, a loss of 50 gallons; wired Mr Kinahan again;—reply, give up boring—which we did;—another failure.

We then sent for John Mullins, the water diviner. He suggested that we put down a bore on a marked out line, which we did, with the result that we have an ample supply. See below (Fig. 16) for rough plan of wells."

These particulars are obviously of great interest and evidential value and it therefore became important to secure concordant testimony and geological opinion. This was fortunately available; the gentleman referred to in Messrs Richardson's memorandum was Mr G. H. Kinahan, at that time senior geologist to the Irish Geological Survey.¹ Now, the Mr Clark mentioned in Mr Kilroe's report, at the same time as he passed on his information to Mr Kilroe, mentioned the fact that he was doing so to Mr Kinahan. This gentleman accordingly wrote direct to Sir William Barrett while Messrs Richardson's reply was being awaited. Mr Kinahan, it appears, had made contemporary notes and preserved the correspondence relating to the case, which is of the greatest importance. His letter, of the 25th of January 1897, is as follows: "I am glad to learn through Mr Clark that you are taking up the Divining

¹ Author of *A Handy-Book of Rock Names* (1873); *Manual of the Geology of Ireland* (1878); *Valleys and their Relation to Fissures, Fractures and Faults* (1875); etc.

Rod question. I, therefore, through him, send you a rather interesting case. These letters [which follow] I give solely up to you, and you are at liberty to use them as you like. I should, however, let you know how I was connected with them. A bacon firm in Waterford (Messrs Denny and Co.) were looking for water, and their trials were unsatisfactory. My friend, the late Mr James Budd, advised them to apply to me. This they did, and as their case was a simple one, I easily put them right. Then another firm, Messrs Richardson's, was in a similar predicament;—they had a water supply, but not sufficient. They employed a borer who bored, I

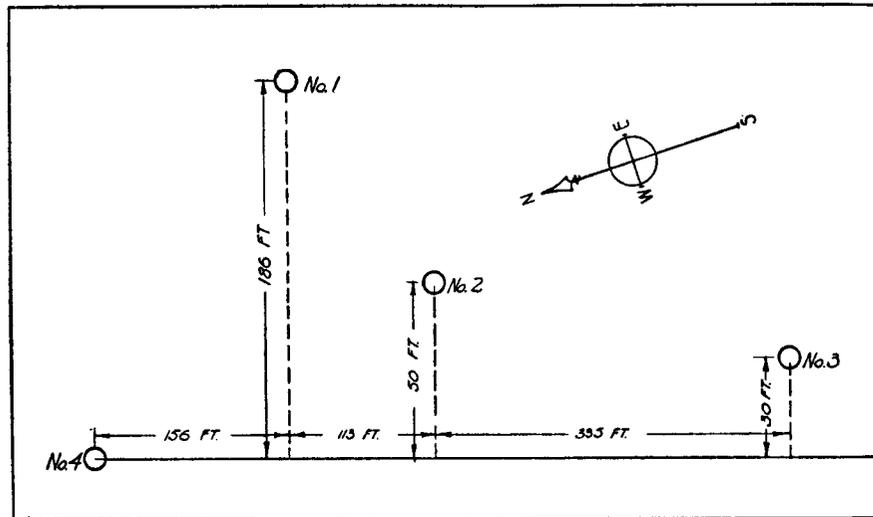


FIG. 16. THE WATERFORD EXPERIMENT: PLAN

- No. 1. First Bore Hole, sunk to a depth of 292 feet: a failure.
 No. 2. Second Bore Hole, sunk to a depth of 949 feet 7 inches from bottom of a well 63 feet deep; from ground level 1,011 feet 7 inches: another failure.
 No. 3. Bore Hole suggested by Mr Kinahan: third failure.
 No. 4. Bore Hole suggested by John Mullins, around which bore hole was sunk a 6-foot well, 82 feet deep. Yield from 3,000 to 5,000 gallons per hour depending on rainfall.
 Line from No. 4 shows course of spring as suggested by Mullins, anywhere along which line, he said, water would be found. The line runs N.N.E.

think, 1,000 feet, without finding water. They were then advised by Budd to employ me; when I visited their premises I found it was probably crossed by three water lines, one south, another at their well, and the third to the northward—as the strata was hard, impervious ordovician shale. It was evident that unless the bore hole was exactly on one of the water lines a bore was useless. I, therefore, advised sinking and driving.

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While they were considering my report, young Richardson heard of the water-man, and what happened afterwards you will know from the letters."

Enclosed was, first, a letter to him from Mr Richardson of the 24th October 1889: "In reply to your favour, re John Mullins, Colerne, Chippenham, Wiltshire, I will give you a short account of his doings here. The morning he came I had him met at the Milford steamer, in order to prevent his having communication with any one in Waterford, and making inquiries about our premises. I myself went with him when he began his searches for water. He had in his hands a hazel fork of this shape  holding an end between his fingers of each hand. He then walked about until the hazel fork twisted suddenly in his hands. He did this over and over again to test it, and marked several places for us to bore where he said he was certain we should find water, and gave the depths. One place in particular he pointed out to us and advised our boring, saying we should find about 1,500 gallons *per hour* at a depth of 80 to 90 feet. We procured the boring people, and the result of it was we obtained water at the depth of 79 feet from the surface. We tested to 1,672 gallons per hour, but we are sure there is more, only our pump could not test a greater supply. He [told us he] has six sons, and not one of them has this power.

It is a most curious thing, but must be genuine without doubt. I know several people in the north who had Mullins there, and found water where pointed out by him. It was from them I heard of Mullins in the first instance.

The rod often breaks with the force it turns in his hands. The greater the movement the more water is there, and by this he tells the depth. . . .

He holds the twig straight out in front of him, with the ends passing between his finger and thumb and coming out between his second and third fingers; backs of hands downwards."

The next letter is from Mr Budd, addressed to Mr Kinahan, and is interesting on account of its having been written whilst the boring experiments were in progress; it is dated from Tivoli, Tramore, Waterford, on the 3rd of September 1889: "Your being interested in Messrs Richardson's case here will be my apology for my inflicting on you the following authentic account of the late proceedings there.

Well, they pierced where you pointed out to a depth of about 40 feet, got a little water, and then came on blue metamorphic rock. Then the boring machine was, I believe, out of order,

and while waiting for some new parts from London the borers got some jobs in Clonmel; this delayed work here. Meantime young Mr R. heard in the North of a man named Mullins, I think from Chippenham, who had been most successful in finding water with his hazel twigs. He is one of a few who possesses this 'faculty'. He cannot communicate it, for none of his own sons possess it. They sent for him, and to prevent any collusion or prefatory inquiries, one of their clerks met him at the Milford boat, and walked up with him to the concern. He carried with him about a dozen fresh forked twigs as thick as a quill, each side of the fork 12 or 15 inches long.

He traversed the whole of the premises, marking out four places where water might be got. The premises are about 700 feet long [see Fig. 17].

No. 1 he said was the best place. No. 2 was not 20 feet from the place that you marked out (marked G.H.K.)

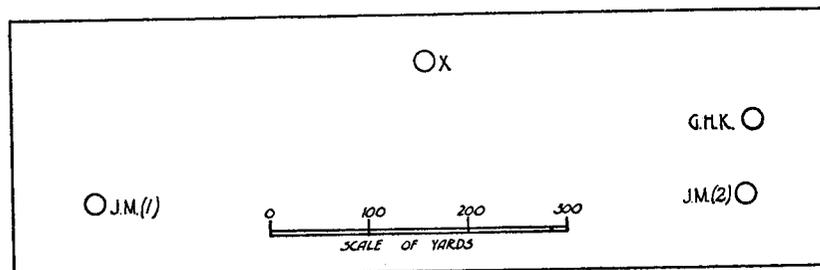


FIG. 17. THE WATERFORD EXPERIMENT: SECOND PLAN

Mullins's two wells, Mr Kinahan's well and X, the abortive 1,000 feet bore hole

He held the twigs near their ends, between his second and third fingers, as if you were going to write, the point of the fork pointing downwards. At No. 1 the point lifted itself up till it turned over backward and twisted itself till it broke! 'Water here not more than 80 feet deep,' said he. He used another and another twig. The clerks then held them with him, and held his hands, always the same effect. I saw to-day two of the broken twisted twigs.

Now for the result [at J.M.(1), which corresponds to No. 4 in Messrs Richardson's drawing].

The diamond borers pierced through 41 feet of boulder clay, then through 39 feet of our ordinary clay slate. Then on the 2nd [yesterday,] touched our old friend, the blue metamorphic rock, and stopped, sounded, and found 36 feet of water in their four-inch tube. They were told to pump, a steam one, which they did all night, 3 o'clock on 2nd to 9 o'clock on 3rd—18

hours—without any diminution of the supply, their estimate being 800 to 900 gallons per hour.

Arrangements were then made while I was there to pump into a cistern containing 270 gallons. After repeated trials the average was found to be 1,560 gallons per hour without the slightest sign of abatement. Today it is reported to me to be 2,000 gallons per hour. Good water, temperature 52°, an important item to Messrs Richardson's.

I would like to know what you think of this thing. To me it is wholly unaccountable. All I know is, they are singing 'Jubilate' at Richardson's. What would Professor Huxley say?"

Mr Budd gives additional particulars in the next letter, also addressed to Mr Kinahan and dated the 11th of September 1889: "I have been not only considering the bearings of the case, and it is an extraordinary one, but I have been making myself up on all the facts of it.

Mullins was never in the South of Ireland before, and certainly had no idea of Messrs Richardson's locality. As to reading faces: they had no expectation of success; indeed, the failure of your boring made them give up all hope, and one of their principal persons utterly scoffed at the idea of the twigs; their faces, they tell me, must have expressed only incredulity and curiosity. I can quite believe that some nervous or muscular force, voluntary or involuntary, affected the twigs, for certainly they could not move of themselves. But was this force derived from some innate faculty? Mullins made no pretence of magic; there was nothing about him of 'See now vot you *vill* see.' Quite in a business-like way he walked through the premises as each door was opened for him, most of the clerks *following* him, and stopping every now and then. Up to the present there has been no effect on other wells with them or elsewhere. As to his knowledge, he did not know whether there was *any* well in the concern, but he had the general idea, which every one in Waterford has, that they had bored and *utterly failed*.

The clerk who accompanied him from the steamer, and whom I cross-examined to-day, is a reliable man. He was warned to answer no questions as to wells, water, or strata. Mullins did not ask him a single question.

When M. was asked before he left about his successes elsewhere, he said he had often gone to places where there was *no* water, but when he *had* indicated water in any place, as far as he knew, it had always been found, but he made no boast of this, said only he could not account for it.

As to 80 feet, *no one* said this to him, nor did any one know the depth of the strata there. *Your* boring was only 41 feet deep. The well through which the 1,000 feet was bored was originally 60 feet deep, and it was only today that I learned for the first time, with some difficulty, that the steam pump well is 72 feet deep. This I learned from the clerk who manages the machinery; none of the others knew it, nor had ever asked.

As to the sailors¹;—as I said before, every one [here] knew of their boring, and failing, but no one outside the office but myself knows the particulars. They keep their business to themselves. I believe it was quite impossible that any sailor could know anything about their [Messrs Richardson's] concern, or indeed would care to know.

Well, he [Mullins] was written to, to come over and try his hand, as they were very anxious to get water.

He came, drove up to the concern, and they first brought him to the field you indicated. He walked about and said there was water in a spot about 20 feet *east* of yours. 'Oh,' said they, 'we tried near this and failed.' 'No matter,' said he, 'there *is* water here.' They then brought him through each of their yards and stores. In most of them he paused, and said, 'There is *no* water here,' but in *two* of them he said, 'There *is* water here,' and they marked them in red.

The last place they came to, to their surprise, he said, 'This is by far the best place I have come to. Mark it No. 1. Now mark the *first* place I went to No. 2, the others 3 and 4. I am sure you will get at least half the quantity you require at No. 1.'

He has the look of an honest John Bull master mason, has picked up a good deal of information going about, and is of quiet manner, but answers any question he is asked promptly and in the most straightforward manner. He said he could not tell the depth at No. 1, but probably it would be within 80 feet. Their since finding it, at exactly 80 feet, was a mere [!] coincidence. He left by the boat that evening. He asked no questions as he walked about, nor did they volunteer any information."

Having thus secured these different accounts, making the accuracy of the facts related unquestionable, it only remained to obtain a few further details. Messrs Richardson were again approached and kindly sent the following additional particulars, writing from Waterford on the 22nd of February

¹ [In reply to inquiry Messrs Richardson state that this probably refers to the sailors on board the steamer in which Mullins crossed over from England to Waterford].

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1897: "The Mullins line runs N.N.E. and almost in the direction of the bedding of the rocks.

This was merely [!] a coincidence as Mullins had no local knowledge whatsoever of the locality, it being his first visit to this part of the country, and we gave him no knowledge in any way, as to position of wells, or that we had bored. In fact we kept him in entire ignorance, until he had located his line.

The line as marked on our map, and position of well, is the correct position, and all the borings and old wells are to the east of Mullins's line except the final well, which of course is on the line.

Mullins's line was not theoretically straight, but was comparatively so. Mullins started with his twig (a light hazel fork) at the top of Hodges field, and worked down through the concern,¹ and when finished the marking and pegs were almost a straight line running N.N.E.

No. 1 Bore Hole,—sunk to a depth of 292 feet, cost £267 13s. 4d.; widening same down to a depth of 100 feet, cost extra £100, total £367 13s. 4d. [These numbers refer to Fig. 16.]

No. 2 Bore Hole,—sunk to a depth of 949 feet 7 inches from bottom of well, cost £916 16s. 6d.

No. 3 Bore Hole,—cost about £40, with pumping tests and delay, awaiting Mr Kinahan's advice.

The cost of a bore hole depends on the size of the bore, and depth, as the contractors will not bore a 100-foot bore at the same rate as the first 100 feet of a 5 or 600 foot bore. Carriage of engine and gear, and pumping test have to be paid for, and add also to the comparative cost of the shorter bore hole.

The No. 4 Bore Hole—bored on Mullins's line—was composed as follows:

First 38 feet clay, loose shingle 3 feet, yellow shaley sandstone 39 feet, last few feet slate and yellow shaley sandstone.

Mullins works his rod with the back of hands down, and holds each rod of fork between the second and third finger of each hand with the apex of the fork pointing to the ground, and each rod of fork passing over the second and first finger, and under the thumb, and held firm by thumb.

When the rod passes over any flowing water, the apex rises from the downward position, to a position with the apex of the fork in an almost vertical position and pointing upwards

¹ [The ground is covered with buildings and sheds, and Mullins had to go in and out of these in the course of tracing out the water line].

with a very perceptible jerk, although the diviner's hands are apparently inactive and without any movement whatever."

From this it will be seen that the cost of the unsuccessful borings and well sinking prior to Mullins's visit was some £1,324, an expensive experiment. One further difficulty remained which was settled by a note from Mr Richardson of the 11th of March 1897, in which he states that the surface of the well is 95 feet above low water level in the adjoining tidal river, while the bottom is 13 to 14 feet above it. Thus, as the level of the water in the well when not being pumped was 44 feet from the surface, it will be seen that the water level in Mullins's well is some 50 feet above the low water level of the river; the well is therefore not supplied by percolation from the river.

The whole of this evidence was then submitted to Mr J. R. Kilroe and to Mr G. H. Kinahan. The former made a full report, which follows:

"H.M. Geological Survey of Ireland, Dublin.

Notes on the Borings at Waterford.

The rocks of the neighbourhood are of Silurian age (Ordovician), and are in great part concealed by glacial drift. The drift area is indicated by stippling on the accompanying map (Fig. 18); the portions enclosed by chain (boundary) lines are those where the rock is devoid of drift, and appears at or comes very near the surface.

The strata consist of slates and grits in alternating bands; the former are comparatively impervious to water while the latter are more or less porous, and some may be sufficiently so to constitute reservoirs for underground water.

The beds of rock are set at a uniformly high angle—about 60° to the horizontal near Waterford,—technically called *the dip*: they are also much folded and contorted and dislocated by faults, as may well be observed along the sea coast not far distant, though no faulting, and but little contortion of the strata, seems to have been noticed at, or near, Waterford city.

The strata at Waterford, moreover, are *cleaved* in a direction which accords with that of the stratification; but stratification and faulting, in general, affect the location of underground waters, rather than cleavage, so that the latter is not of apparent import in our case.

The futility of the first three attempts to find water proves the absence from the rocks pierced of water-bearing strata, in other words, of porous sandstone or grit bands of any import-

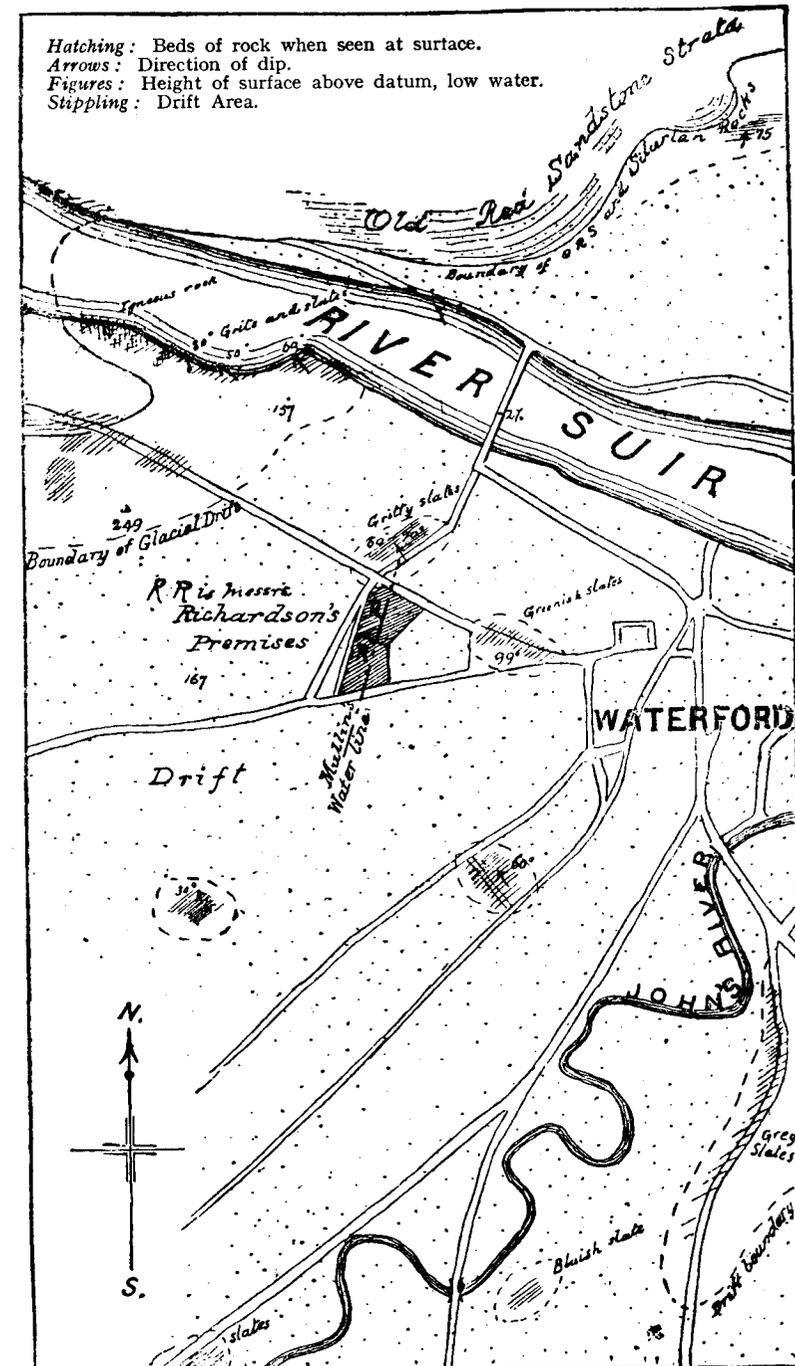


FIG. 18. THE WATERFORD EXPERIMENT: GEOLOGICAL MAP

ance. A particular case in which a thick sandstone band might be supposed to exist, concealed, notwithstanding the unsuccessful sampling afforded by the first experiences, is discussed below; about this, however, one cannot speak confidently without a more intimate knowledge of the ground.

The lack of water in those borings does not seem to me to be accounted for by concealed faults or breaks in the strata; for if the rocks were thereby sufficiently shattered to admit of leakage, and descent of the water from the ground tried, it would not descend lower than the level of the Suir, and the same conditions would with equal facility and greater probability admit of percolation from the river to the point reached by the borings.

The water in Mullins's well, however, stands at 44 feet from

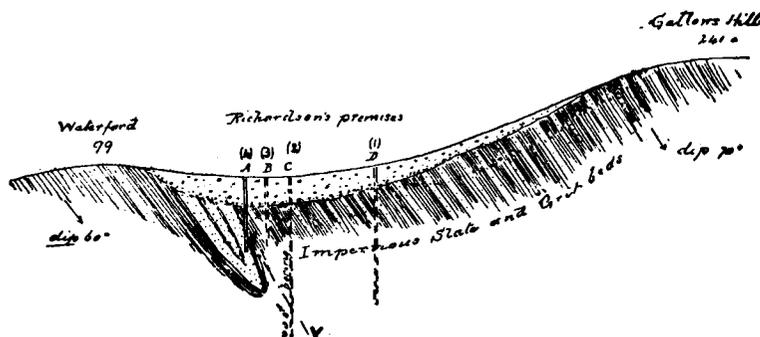


FIG. 19. THE WATERFORD EXPERIMENT

DIAGRAMMATIC SECTION along a vertical plane supposed to cut through the strata at Waterford, at right angles to Mullins's water line. The wells are numbered as in Fig. 16.

the surface, and is dependent on the rainfall. It cannot therefore be due to percolation from the river; and must collect beneath the more or less porous drift which covers the rock at Richardson's works (see section [Fig. 19]).

Assuming that water would be found at the other points indicated by Mullins, equally with that at which the successful boring was put down, we should have a wet zone stretching N.N.E.-ward, in which a copious supply would be, in fact *was*, tapped at some 80 feet below the surface.

This zone might be coincident with a line of fault in which water falling upon the sloping surface northwestward would collect; and such a supposition is favoured by the circumstance that it is not coincident with the direction taken by the outcrop of the bedding.

On the other hand, a break of sufficient dimensions to supply

over 1,500 gallons of water per hour would in all probability extend to and beyond the river, and admit of very great if not entire leakage of the water entering it, to a much lower level than 44 feet from the surface at all events; and no fault is represented here, on the published maps of the Geological Survey.

An alternative supposition is that of a porous stratum concealed beneath the drift, in the slight hollow at Richardson's premises. The only manner in which such a stratum could occur, consistently with the direction and amount of *dip* recorded for the beds in the vicinity, is such as that represented in the above section, drawn at right angles to Mullins's wet zone, and showing the relative distances from the latter of Kinahan's boring B, the 1,000 feet boring C, and the first one D. In this section the porous stratum and the thin grit beds are represented by dots, Mullins's boring by A, and the glacial drift by larger dots immediately beneath the surface line.

The stratum mentioned cannot be regarded as continuous (see line X—Y) according to the *dip* of the beds, as seen at the surface, for in this case it would have been tapped by the 1,000-foot boring. It therefore should assume a synclinal curve, and form a trough-shaped reservoir receiving the rainfall between the point marked 99, Gallows Hill (241Δ) and the water-shed south-westward. Such folding of the strata is common in Silurian rocks throughout the country."

The conclusion of Mr Kinahan is this: "The Waterford rocks are Ordovician with protrudes or intrudes of basic igneous rocks. From the wells above and below the premises there seemed to be two water lines crossing it, both of which our friend Mullins found by instinct, due either to his being able to smell water, or that water has such an influence on his nervous system that he can tell the distance and quantity when he is near it; unless he was a Sherlock Holmes who could draw conclusions from trifles that no one else could detect." In another communication Mr Kinahan put these facts more graphically: "As far as actual results went I failed, and the diviner 'wiped my eye.'"¹

¹ It ought perhaps to be added that in 1915 a gentleman named Edwin Fayle, of Kylemore, Orwell Park, Rathgar, Co. Dublin, wrote to the Society for Psychical Research to say that at the time of the incidents related he was living in the neighbourhood and heard a very different story; he implied clearly that the whole thing had been a failure. After correspondence it was discovered that he knew nothing of the facts, and that the case he had in mind was one at Clonmel; about this case, in which Mullins was alleged to have failed, no details could be obtained, but see p. 132, which may refer to the same incidents.

To sum up, we have here a case in which, under unexceptionable conditions, a dowser succeeded in locating the exact spot at which a water supply could be obtained in a rocky formation; he also succeeded in precisely stating the depth at which a sufficient supply would be found; and this was done after two independent attempts by engineers, and an attempt by the best geologist in the country, had uniformly and completely failed.

§ 3. THE CARRIGOONA EXPERIMENT

After prolonged study of all the available evidence on behalf of dowsing it became apparent that a thorough and personally supervised experiment was necessary. Owing to the expense involved and other considerations such a test is always a very difficult one. It was nevertheless determined that it should take place.

Certain precautions are necessary in such an experiment if any satisfactory evidence is to be obtained. The place chosen must be one entirely unfamiliar to the dowser, so that no previously acquired information may help him. The persons who accompany the dowser should be ignorant of the geology of the district in order that they should be unable even subconsciously to convey their knowledge to him. The dowser must not know beforehand where the experiment is to be conducted, so that he should not have any opportunity to make inquiries or to study geological maps. These conditions fulfilled, the dowser must be taken to the selected spot immediately on his arrival in the neighbourhood to avoid the possibility of his questioning the local inhabitants. So much for the dowser, but an equally important consideration is the geological nature of the selected site: this must not be uniformly water-bearing or waterless, the character of which might be discerned at a glance, and where he could not go wrong anywhere in predicting water or no water.

For the purpose of the experiment about to be undertaken, these conditions were all successfully met, the place selected—a mountainous region in the Co. Wicklow, Ireland, four miles from Bray—admirably fulfilling the geological conditions required, and a region it is believed no dowser had ever visited. The services of the well-known dowser, William Stone, were secured. On his arrival he had no idea where the experiment was to be made, nor was he told but taken straightway to the place.

The whole proceedings were personally directed and super-

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intended by Sir William Barrett, who was then Professor of Experimental Physics at the Royal College of Science, Dublin. He had taken a farmhouse in the neighbourhood and was thus enabled to be present throughout the proceedings. His friend, Mr C. St G. Lefroy, a geologist and an independent careful observer, took notes, and the facts were subsequently verified by other competent geologists. We may now proceed in Sir William's words:

It was Easter week, 1899, and the day was fine. Mr Stone told me he had never been in Co. Wicklow before, and I have no doubt that is quite true. Leaving our car in the Rocky Valley, we ascended the mountain road leading round a hill called Carrigoona, on the lower slopes of which there are patches of cultivated ground, but the quartzite rock of which the hill is composed juts out here and there, though the hillside is generally covered with two or three feet of alluvial soil, on which gorse and heather and bracken grow, clothing the mountain with a garment of beauty. The panorama from the mountain-side is also one of unsurpassed beauty, and stirred the emotions of my geological friends who afterwards visited the spot with me.

For the accompanying geological map of the district I am indebted to the kindness of H.M. Geological Survey. The field we first went to is on the eastern side of Carrigoona and is marked E on the map. The upper part of the map is due north. Having secured the necessary permission, I took Mr Stone first to the field, E, Fig. 20, rather over an acre in extent, and asked him to begin operations. He pulled out a slender forked twig from his pocket, and immediately walked round the field; at one spot the twig forcibly revolved and he said we should find plenty of water there, less than 15 ft. deep. The spot was marked, and after traversing the field two or three times he asserted that water was flowing from north to south along a line or region he traced out, but that at the side of the field very little, if any, water would be found.¹ "Bore anywhere along this line," he said (see dotted line in Fig. 20), "and you will get plenty of water, but very little or none over there," *i.e.*, on the east side of the field. The places were marked and subsequently fixed by measurement, so that the marks could be removed. All round the field was a rough stone wall, overtopped to a height of 8 ft. or 9 ft. by a thick gorse hedge, so that it was impossible to see a plateau of rock that flanked the east and west sides of the field beyond the

¹ The three dots on the field E, Fig. 20, indicate these places, and where the bore holes were subsequently made.

boundary wall; I mention this for a reason that will appear presently. The field was on the mountain side, it sloped downwards from north to south, was uniformly covered with grass, and had no trace of water anywhere on the surface.

From this field we crossed the mountain and went to an enclosed piece of the commons on the western side of Carrigoona, marked W on the map, Fig 20. Here, again, I asked Mr Stone to select two test places. He walked round the field,

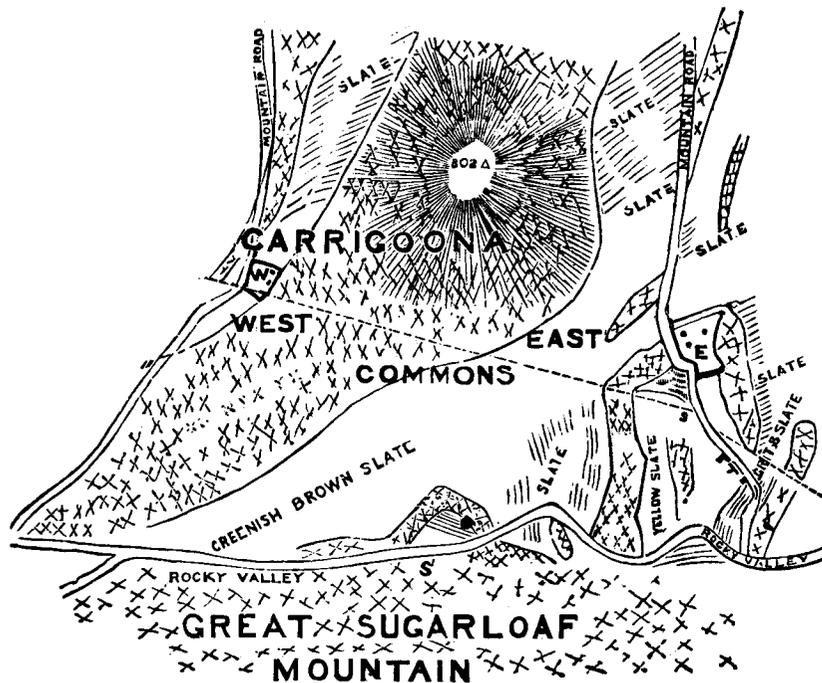


FIG. 20. THE CARRIGOONA EXPERIMENT: GEOLOGICAL MAP
Scale: Six inches to the mile.
xxx indicate quartzite.

but there was no motion of his forked twig. It so happened a friend had purchased this field in order to erect a summer cottage, and particularly wanted to find a spring. Noticing a patch of rank and very green grass I asked him to try that spot. "No good," he said, "it's no good boring anywhere in this field, there is little or no water." Pressed to try once more, he fixed on one spot as best to bore, but said only a little water, "of no use," would be found: this place was marked. It is the more northerly of the two dots marked in W, Fig. 20.

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Three weeks later a country gentleman, Mr J. H. Jones, of Mullinabro House, Waterford—who some years ago accidentally discovered that the rod moved in his hands, and had had some success in his own neighbourhood as an amateur dowser—kindly agreed, at my request, to try the same fields. Mr Jones had never been in that district before, and knew nothing of the places marked by Mr Stone. These marks had been carefully removed prior to Mr Jones's visit.

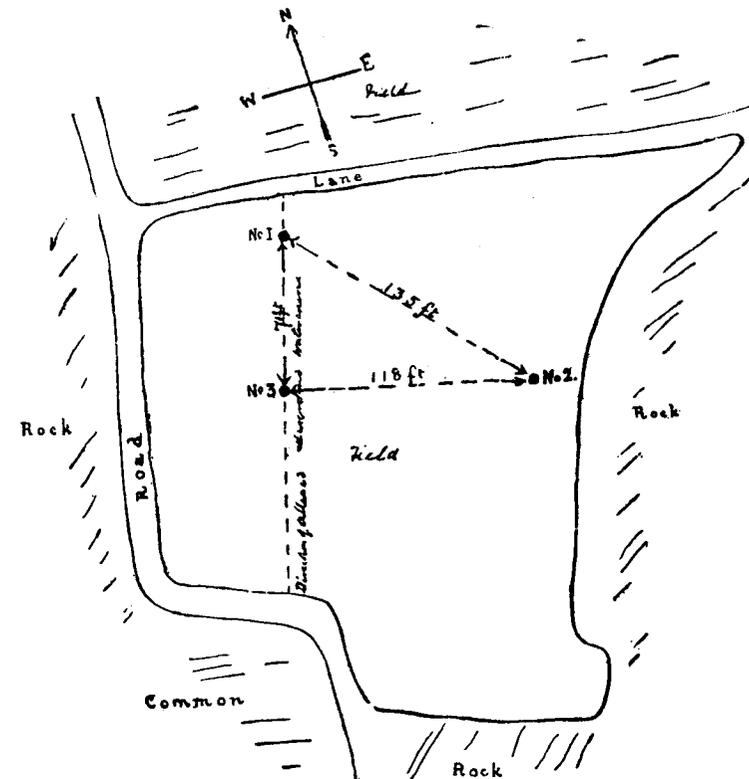


FIG. 21. THE CARRIGOONA EXPERIMENT
Plan of the field E in Fig. 20

As before, Mr Lefroy accompanied us, and we agreed to let Mr Jones go round the fields alone, so that no hint could be derived from any involuntary indications on our part. Mr Jones used a small, slender forked twig, which he held in the same way as the elder Mullins. We went, first, to the larger field on the east of Carrigoona. On completing his perambulation of the field we examined the places marked by Mr Jones.

The spot where the twig moved most vigorously with him, and where he was confident we should find water, was not a foot distant from the place selected by Mr Stone, as we found subsequently by measurement with the tape. This was at No. 1, in Fig. 21. Mr Jones also asserted the water course ran from north to south in the field, in the same direction as marked out by Mr Stone; but from the movement of the twig he asserted we should also find water a few feet on the east side of the place marked No. 1, but flowing towards Stone's line. We then crossed the mountain to the smaller field on the western side; after Mr Jones had traversed it with his "rod" he said much as Mr Stone did, that very little, if any, water would be found there.

It was not until July 1899 that the boring apparatus arrived. Mr Stone had kindly placed it at my disposal, so that the only expense incurred was for labour and the services of his brother, Mr E. Stone, who was a skilful working engineer. A four-inch bore hole was made in each case; a hardened steel "jumper" and the usual boring tools being employed. Fig. 22 shows the boring apparatus at work. Mr E. Stone is standing on the left of the picture, and the men are boring with the jumper. The thick gorse hedge is seen round the field. From conversation with the farmer who had tilled the eastern field for many years, we expected to reach the bed rock some 6 ft. below the surface, and I anticipated a laborious and costly boring if we were to get anything better than surface water. As I had taken a farmhouse for the summer on the northern slope of Carrigoona, I was able daily to inspect the result of the boring operations. We commenced at the spot marked No. 1 in Fig. 21, and a foot below the surface struck a very hard dry clay; this went on for a depth of 8 ft., with slow progress, until suddenly, after two days' work, a bed of sand was encountered, through which the "jumper" sank, and water rushed up the bore hole to within 4 ft. of the surface. After 4 ft. of sand a bed of gravel was reached, but the quantity of water was so great that the sides of the lower part of the bore hole were constantly washed in, and we could not sink deeper until a lining tube was obtained. As this could only be procured in London, we proceeded to test the east side of the field, where Mr Stone said little or no water would be got. Here No. 2 bore hole was sunk, and nothing but a hard clay, with stones intermixed in one part, was met with till the rock was reached at a depth of 12 ft., when a little water was found between the rock and the impermeable stratum above it. I made them continue boring to a depth of 1 ft. 6 in. into the



FIG. 22. THE CARRIGOONA EXPERIMENT: VIEW LOOKING NORTH

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solid quartzite rock, but no more water was obtained. We then began No. 3 bore hole, on what Mr Stone called the "water-line." The boring was similar in its results to No. 1, the water-bearing permeable stratum being struck 6 ft. below the surface, and abundant water rose in the bore hole. The boring was continued when a bed of soft plastic clay was reached,

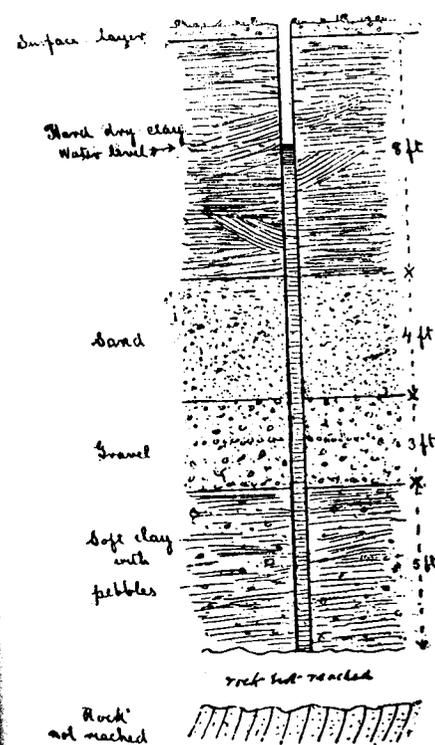


FIG. 23. THE CARRIGOONA EXPERIMENT

Section of No. 1 bore hole, 20 ft. deep; abundant supply zone to 4 ft. from the surface.

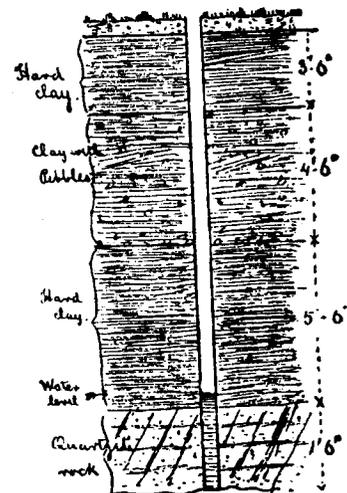


FIG. 24. THE CARRIGOONA EXPERIMENT

Section of No. 2 bore hole, 15 ft. deep; very little water, 12 ft. from the surface.

and after this a hard clay mixed with pebbles. I was astonished at not reaching the rocky bed, and determined to continue the boring; after we had gone to a depth of 22 ft. we were still in the clay, and were so impeded by the constant washing in of the sandy stratum that we had to abandon the boring, the lining tubes not having arrived.

Figs. 23-25 show sections of the different borings. The surface of bore No. 1 is 6 in. above the level of bore No. 2,

and 3 ft. above the surface of bore No. 3, as will be seen subsequently in the cross-section of the field (Figs. 28 and 29).

So far, then, Mr Stone's prognostication had proved perfectly correct, and we now moved the boring apparatus to the field on the western side. Here I made them sink a bore hole at a spot that seemed to me most likely to yield water, where the ground appeared moister, and was covered by a patch of rank grass. The boring No. 4, Fig. 26, proved difficult and

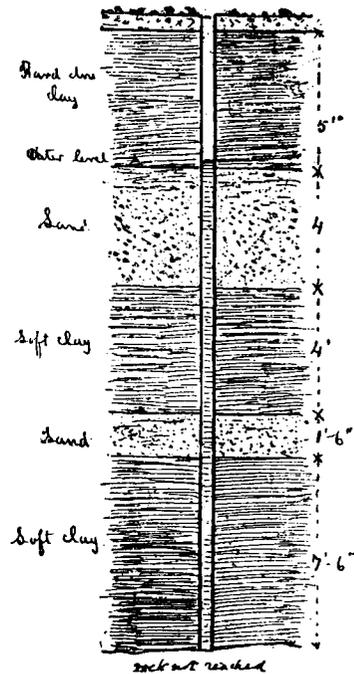


FIG. 25. THE CARRIGOONA EXPERIMENT

Section of No. 3 bore hole, 22 ft. deep; abundant supply zone to 5 ft. from the surface.

very tedious. Instead of clay a rocky débris mixed with clay was encountered below the surface-soil; at 9 ft. deep the bed-rock was reached, and, thinking we might strike a fissure it was bored to a depth of nearly 3 ft., but not a drop of water was obtained. Then I had a bore hole sunk at the spot fixed on by Mr Stone as likely to yield a little water, but "no use", as he remarked (this is No. 5 bore hole); here, after the shingle, we reached a hard dry clay, and continued boring through this until the rocky bed was encountered at a depth

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of 14 ft. from the surface, but *no* trace of water was found (Fig. 27). This field slopes sharply down from east to west, and No. 5 bore hole is at some 10 ft. lower level than No. 4, which is on the upper eastern side of the field. Finally, I had a small trial bore made at the lowest point in the field adjoining the mountain road, but only dry shingle, and no sign of water, was met with. Here, again, Stone's predictions were verified; there might have been a little water between the impermeable clay and the rocky bed when he made his trial at Easter, as it was then in the early spring, after rains.¹ The borings were all made in the long drought we had during the summer of the present year; it was, therefore, all the more astonishing

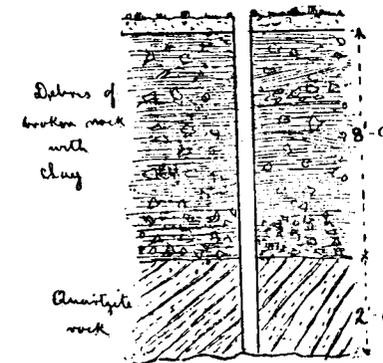


FIG. 26. THE CARRIGOONA EXPERIMENT

Section of No. 4 bore hole, 11 ft. 6 in. deep; no water.

to find such a good supply of water in the No. 1 and No. 3 borings in the eastern field.

After the perforated lining tube had arrived we were able to go on boring in No. 1 hole, but found a second bed of clay below the gravel, and reached no rock, though we went down 20 ft. All the water was therefore supplied by the permeable layer between the two impermeable clays. In order to test the quantity, I procured a pump and 15 ft. of iron tubing, and found that No. 1 bore hole yielded five gallons a minute, which, if the supply held, would be equivalent to over 7,000 gallons in the 24 hours. After pumping 10 minutes, however, the pump choked, and the water was then found to stand 8 ft. from the surface; it had been lowered about 4 ft. in the four-

¹ Subsequently, after the summer drought, Mr Lefroy noticed a little water at the bottom of this bore hole; see P.S. to his memorandum, p. 97.

inch bore hole. The water was flowing in all the time through the perforations in the lining tube, but not sufficiently rapidly to maintain a constant level, as the pump was a powerful one. The temperature of the water was some 20 deg. F. below that of the air. No. 2 bore hole contained so little water that we were able, in a few minutes, almost to empty the bore hole by lading out the water with a small tin can.

It was desirable, in order to decide the question as to the exact levels of the respective bore holes, that a careful survey of the field should be made. For this purpose my friend and former student, Mr J. A. Cunningham, B.A., kindly assisted

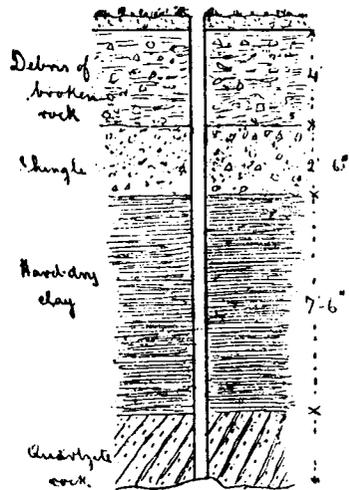


FIG. 27. THE CARRIGOONA EXPERIMENT

Section of No. 5 bore hole, 16 ft. deep; no water.

me in taking the levels shown in Figs. 28 and 29. In these diagrams the vertical scale is exaggerated five times the horizontal, the surface depression shown in Fig. 28 not being perceptible in the field. These diagrams illustrate the probable geological sections of the field from bore hole No. 1 to No. 2, nearly west and east, and also the section from north to south. It will be observed in Fig. 28 that the nearly dry bore hole No. 2 is actually a little lower than the water-bearing hole No. 1. Possibly water might be found between Nos. 1 and 2; in fact, Mr Jones predicted it would be a few feet to the east of No. 1. But this can only be settled by boring at intervals across from west to east; I hope to be able to do this eventually. As the bed-rock was not reached in bore

holes Nos. 1 and 3, its representation in both sections is in part imaginary, as is the lateral extent of the layer of sand in Fig. 29.

Such is Sir William Barrett's account of this remarkable experiment, and to it should be added, to enable the reader to form an opinion based on all the available facts, the following independent account given by the Mr Lefroy already referred to. This gentleman wrote:

"On the 2nd of April 1899, Professor Barrett invited me to accompany him and Mr Stone, an English 'dowser', to a field in the Rocky Valley, Co. Wicklow. We drove directly from Bray

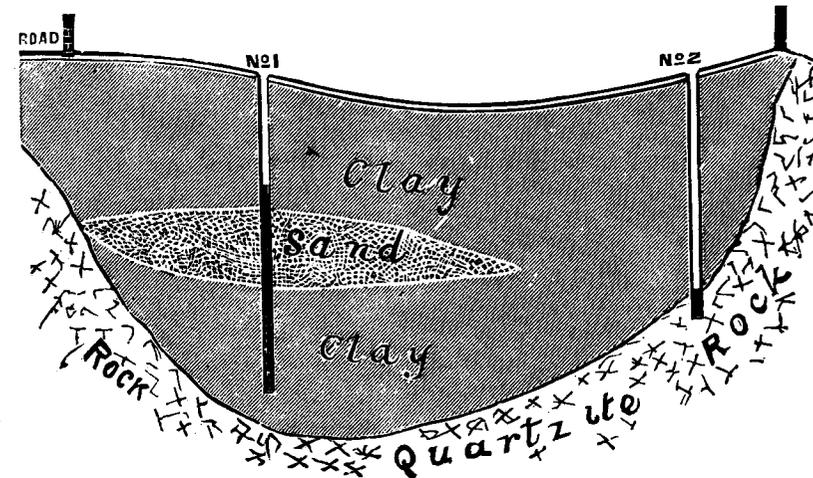


FIG. 28. THE CARRIGOONA EXPERIMENT

Section of the field, east and west. Horizontal scale: 1 in. = 60 ft. Vertical scale, exaggerated five times: 1 in. = 12 ft.

station to the field, which is enclosed by a high stone fence, partly covered by a gorse hedge. The configuration of the immediately adjacent land cannot be seen from the field, owing to its situation and the height of this fence and hedge. The area is between one and two acres in extent. Mr Stone had no opportunity afforded him of examining the surroundings of the field except upon the side of approach, nor did he, I fully believe, receive any information on that subject, to which he made no reference in my hearing, and was apparently indifferent. I watched him closely, but saw no sign of attention on his part to surface indications, if any existed.

He traversed the field in various directions, holding a fork of the divining rod between the forefinger and thumb of

each hand. His manner was that of easy confidence, and he readily maintained a conversation at the same time. At certain points the rod in his hands was violently twisted. One of these points, marked 'No. 1' on the plan, Fig. 21, he stated to be that most suitable for boring purposes and he declared that a sufficient supply of water for domestic use would be found there at a very moderate depth. To the best of my recollection he said not more than 15 ft., but of this I am not now certain. The other points at which the rod was notably contorted were in a line south from this, which he attributed to the existence of an underground watercourse.

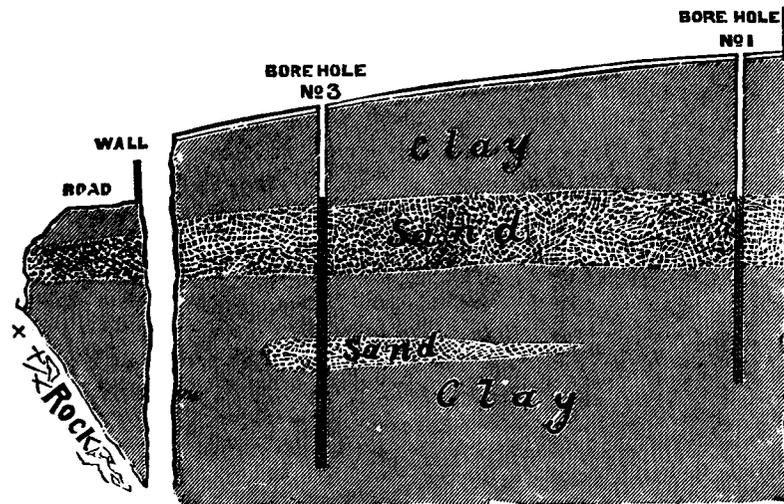


FIG. 29. THE CARRIGOONA EXPERIMENT

Section of the field, north and south. Scales as in Fig. 28.

The direction of this is shown on the plan by the dotted line.

The positions of these points Professor Barrett and I measured at once and noted on a rough plan. The line of the asserted watercourse was marked by taking the distances from the side of the field. Except on that line, only very slight movements of the rod were anywhere observable, and an area in the eastern portion of the field was designated by Mr Stone as practically waterless. The test boring subsequently made in this area is marked 'No. 2' on the plan.

On the 22nd of April, I again visited the place with Professor Barrett and Mr Jones, of Waterford, an amateur 'dowser'. The same conditions were repeated. He saw no more of the sur-

rounding land than was strictly unavoidable and appeared to pay no attention to that, or to any indications other than those furnished by the 'rod'. No marks had been left by which the places selected by Mr Stone as yielding water could have been identified or guessed at. Mr Jones walked over the field as Mr Stone had done, the 'rod' behaved similarly in his hands, and his results were practically the same. The difference of a foot or so in the 'best' point selected may be reasonably attributed to his crossing the line of the watercourse referred to at a different point.

From this field, which is on the eastern side of Carrigoona Hill, we went, on the day first mentioned, to the western side, and Mr Stone was asked to find a spring in a small field on that side. He walked over this field in the same manner with the rod, and said that no water, or so little as to be useless, would be found in it,—that there were traces of water at a certain spot, but that it would be 'no good boring'. Mr Jones also went with us to this other field and he confirmed what Mr Stone had said of there being little water to be found there.

Since the borings have been made, I have measured and verified their positions with Professor Barrett, and on the 5th of November 1899 I again visited Carrigoona, and made a careful examination of the borings. In the field on the eastern side, the one first tried by Mr Stone, I found the water in boring marked No. 1 in the plan [see Fig. 21] standing 6 ft. from the ground level. The water in boring No. 3, on the line of the watercourse alleged by Mr Stone to exist, stood 6 ft. 3 in. from the surface of the ground. The boring No. 2 was dry. In the field on the western slope of the hill I found the upper boring [No. 4] quite dry and the lower boring [No. 5] had four or five inches of water in it [Figs. 26 and 27]. These results agree with the predictions made by Mr Stone, and also by Mr Jones, before the borings were made."

The experimenter did not remain satisfied with the conclusive result of the experiment and with the concordant testimony of the witness; he proceeded to ask for the opinions of geologists on the facts put before them. It would, of course, have been fairer to the dowser to have asked for the geologists' opinion before the former's visit, since the results of the borings revealed to the competent observer the fact, hitherto unknown to these gentlemen, who were intimately acquainted with the geology of the district, that the field was on the site of an ancient and deep V-shaped depression or narrow valley between the rocks, probably an ancient river bed now filled with drift.

The first opinion invited was that of Professor Barrett's colleague Grenville Cole, F.G.S., the Professor of Geology at the Royal College of Science. He reported as follows :

"The Rocky Valley is cut by denudation through the ancient series of shales and sandstones, altered to slates and quartzites, which occur in the Sugar Loaf area, at Bray Head, and at Howth. Unless a fissure were fortunately struck, it would be very difficult to find water in this series. It is not a water-bearing series in itself, as is well known to residents at Howth, who are in the habit of collecting rain and surface water.

But in the Rocky Valley area, considerable deposits of glacial drift occur, varying from clays to permeable sands, filling all the ancient hollows carved in the slates and quartzites. A trained eye readily picks out, by contour and the green or cultivated patches, the position of the sands and gravels where they abut on the older series.

The heights are formed of slate and quartzite, on which heather and some thin bogs accumulate.¹ The rainfall on these is considerable, and soaks off down into the old waterways, carved before glacial times, in the rocky bed. As these hollows are full of drift, the drift, where sand and gravel prevail, absorbs the water. The supply at any point, by tapping the drift, must depend greatly on the extent of the impervious gathering-ground round about, and would, in any case, probably diminish in autumn after a dry summer.

The field selected for boring in the Rocky Valley shows a marked green surface, with the hard quartzite sloping steeply down close at hand on either side. It falls towards the valley, and so, evidently, does the old rocky bed under the infilling of drift. Water would accumulate in the infilling, and would probably flow slowly down along the middle line of the old hollow. Its constancy may be doubted, but can be tested satisfactorily after the present dry season (August 1899). A trained eye would certainly select the central line of the field, along the ancient stream-hollow, for boring.

I think a professional engineer would undoubtedly bore two or three holes along the line under which the two rock slopes at either side meet ; this line might or might not be along the lowest line of the hummocky surface of the field above, where the borings were made. I am clearly of opinion that a casual visitor who knew *anything* about general conditions of water supply would proceed a good distance from the obvious rock on either side before he predicted a fair water

¹ [This refers to the Sugarloaf, as there are no bogs on Carrigoona.]

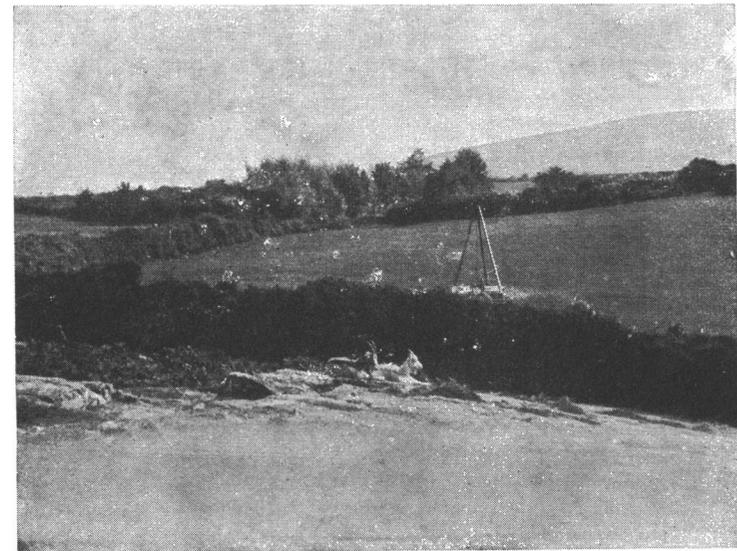


FIG. 30. THE CARRIGOONA EXPERIMENT : VIEW LOOKING EAST ACROSS THE FIELD

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supply. But I also feel with you that the rapid survey and determination in two minutes or so [by the dowser] show either exceptional powers of observation or confidence in some power not possessed by ordinary engineers."

Sir William observes on this report that the rocky contour immediately on each side of the field was *not* observed by Mr Stone, nor could it be seen from the side they approached. Wisdom after the event is too often the prerogative of the geologist in such cases. It would have required, adds Sir William, a trained geological eye, even after traversing the ground round about, to arrive at the conclusions stated by Professor Cole, who, moreover, had at his disposal the facts brought to light by the different borings. Sir William had been over the place dozens of times, having spent two summers in the neighbourhood, but before the borings were made, there appeared no evidence to him that the "hard quartzite sloped steeply down close at hand on either side," leaving a deep ravine filled in with glacial drift. As can be seen to some extent from the photograph reproduced in Fig. 30, to all appearance the local opinion seemed probable enough: that the field was simply a layer of a few feet of clay over a rocky bed which was nearly level from east to west.

Finally the opinion of Mr J. R. Kilroe¹ of the Geological Survey was obtained. This gentleman was not only a recognised authority on Irish geology, but one who had made some study of dowsing and was familiar with its phenomena, having previously investigated the famous Waterford case, which is given in an earlier section. Mr Kilroe came specially from a distance to inspect the field and reported as follows:

"Carrigoona Hill, rising to the moderate height of 802 ft. above the sea, commands one of the most attractive and varied panoramas in Wicklow. From its foot, eastward, spreads the park-like country containing and adjoining Kilruddery, the Earl of Meath's demesne, to the town of Bray and the sea beyond. North-westward the hill overlooks the Dargle Valley which separates it from the Dublin and Wicklow Mountains. Southward the eye is attracted by the valley of Killough, from which, on its east side, rises almost precipitously the Great Sugarloaf Mountain to a height of 1,659 ft.—this beautiful conical hill being separated from Carrigoona by the narrow, weird gorge known as the Rocky Valley. Further eastward the Little Sugarloaf Mountain bounds the landscape beyond the vale of Kilmacanoge.

The hills named above—Carrigoona, with the Great and

¹ Author of *A Description of the Soil and Geology of Ireland* (1907).

Little Sugarloaf—constitute a group standing above the general level of the surrounding country, a circumstance attributable to the greater resistance offered to disintegration by quartzite, which forms the hills, than by the slate rock which prevails in the lower ground. Bands of slate also occur with the quartzite; and the results of unequal denudation are apparent in the uneven—in some places, rugged—aspect presented by the higher ground.

The rocky bed is largely covered with a mantle of glacial drift, which, though chiefly occurring in the low ground, is of fairly general distribution, resting in various places on the hillsides, and partially filling hollows between crags. In these latter cases, the drift consists of local rock detritus, chiefly a mixture of sand, clay, and pebbles of slate and quartzite. Limestone pebbles also are interspersed in the drift which skirts the hill slopes; but few, if any, are to be found at higher elevations. The drift in the latter positions usually contains lenticular layers of sand and gravel, which form favourable reservoirs for underground water.

Alluding to the immediate topography of the ground experimented upon (E, Fig. 20), it is situated on the south-eastern slope of Carrigoona Hill, adjoining the Commons, that is, the heathery and rocky portion of the hill near its summit. Descending the slope, one observes crags of quartzite jutting upon either side of a hollow, which is partially filled with drift of the character described above. The south-eastern drainage of the hill would naturally in part flow along this hollow, and would rapidly disappear, were there no drift. The drift, however, intercepts the drainage, and would merely retard its flow were it quite porous in texture; but it is comparatively impervious with the exception of the sand and gravel layers; and whatever drainage-water percolates through, reaches and is retained by the layers, which consequently are ready sources of supply when tapped. These are almost horizontal, probably dipping more or less from the sides towards the centre, and somewhat basin-shaped when spreading to any extent over the area occupied by the field. Hence, when such a stratum is pierced, the water rises to a height in the boring corresponding to its head in the basin-shaped layer—higher than the layer at its centre; and practically to the same height in borings which tap the same source—as in the case of the two successful borings with which we are concerned here.

Judging, then, from geological data, the nature of the ground would suggest as the most promising site for a water-boring,

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a point, say, midway between the quartzite crags—perhaps a little nearer to the western crag than the eastern, say 40 yds. from the former and 60 from the latter. The successful borings [Nos. 1 and 3] have, on the dowser's advice, been put down some 22 yds. from the west side of the field (lying immediately between the crags) and some 70 yds. from the east side.

It is very improbable—at least, very difficult to understand—that a merely casual visitor to the place, however shrewd, if not versed in geological facts, could divine the existence of water in the field by a cursory inspection, much less indicate with any accuracy the spot and depth at which it would be found. The success attending the experiment here is rendered the more striking by the dowser's additional prediction that water would not be found in the other field at the west side of Carrigoona (W, Fig. 20); though, to the ordinary observer, there would appear to be at least as much probability of finding a supply in this place as in the one above described."

Thus we see that both these geological authorities agree, when all possible qualifications have been made, the one that the facts show "either exceptional powers of observation or confidence in some power not possessed by ordinary engineers," and the other that it is "very difficult to understand that a merely casual visitor to the place, however shrewd, if not versed in geological facts, could divine the existence of water in the field by a cursory inspection, much less indicate with any accuracy the spot and depth at which it would be found."

The possibility of the dowsers' success being explicable by geological observation being thus disposed of, as mere common-sense could equally well have done, there remains one possibility to be considered. If a plausible explanation is to be found, it is much more likely to be in the impression made upon the dowsers by some surface indication of water. Now it appears that although there were absolutely no indications of water in the experimental field, E, Fig. 20, yet on the way up to it there is a small spring (marked S in the map, Fig. 20) emerging from the rock, and flowing over the grass beside the road. This spring is not derived from the field, but comes from quite another direction, though a casual observer could not tell this.¹ A little beyond there is also

¹ There is a famous spring known as Silverwell, that gushes out of the quartzite rock at the foot of the Great Sugarloaf Mountain, about a quarter of a mile further up the Rocky Valley; it is marked S' in Fig. 20.

evidence of some feeble springs.¹ It is just possible that the dowzers may have subconsciously rapidly perceived all this ; but any conclusions drawn from the presence of these springs could only have an accidental relation to the spots eventually indicated.

As regards the second and smaller field, in which no water was found, there is in one corner of the field a hole some 6 ft. deep, with the débris from it lying about. This hole is quite dry and the nature of the surface-soil can be seen from the sides of the hole and from the débris, which consists of shingle and rocky débris. Mr Stone passed sufficiently near the hole to have examined it if he wished to, but he seemed not to pay the least attention. Here again, however, had he subconsciously observed it and drawn deductions from what he saw, he would have been on very unsafe ground, for the boring No. 5 revealed quite a different material beneath the surface than that in the hole and in No. 4 boring, only the latter boring being on the same level as the hole.

Moreover, which is most important of all, it must be remembered that the movement of the rod and the dowzers' conclusions from them were identical as between Mr Stone and Mr Jones. This places the possibility of ascribing the result to subconscious observation of the points mentioned, even had these been useful, beyond reason.

To sum up, we have seen two dowzers led independently to two fields in a locality unknown to both of them, and independently coming to identical conclusions, indicating where water would, and where it would not, be found ; we have seen these conclusions entirely upheld by practical demonstration in the form of borings ; and we have seen that there was no manner, geological or other, in which the information could have been normally obtained. We have thus an experiment which conclusively proves the reality of dowsing.

¹ Which probably have their origin in the outcrop of the layer of sand shown in Fig. 29 ; but this is not obvious as the turf at the spot is simply swampy, and a stretch of dry ground intervenes between this spot and the field.

CHAPTER V

TWO FAMOUS BRITISH DOWZERS OF THE NINETEENTH CENTURY

§ I. WILLIAM SCOTT LAWRENCE

AMONG the English dowzers whose activities are well known there were two who stand out because of the large number of their successes and because of the almost infallible nature of their dowsing. W. S. Lawrence was one of these, and the other was John Mullins. The former was born in Bristol on the 25th of July 1810 ; in 1893, at the age of 83, he wrote the following account of his discovery that he possessed the dowsing faculty.¹

“ My father was the contractor for building a new Rectory house at Winterbourne, Gloucestershire. In the contract he was to find a supply of spring water, and had to sink a well for such ; he had done this to about 40 ft. deep without success, when an old working man, a gardener, who passed the spot every day, stated it was quite useless to go on sinking, it being in the wrong spot. On being asked to mark the right spot, he went to the hedge of a field and cut a hazel forked stick, and on arriving at the well marked a spot about 15 ft. away from the well, and desired us to sink there, which we accordingly did, and at about 15 ft. deep obtained a valuable spring of water. I then was about 20 years of age, and asked him to allow me to try and see if the forked twig would act same with me, but he said it would [probably] be quite useless ; but if I would call on him next day at his cottage he would test me.

I did so, and he placed in my hands a small steel watch spring, and desired me to walk about the kitchen with such, and to his great surprise it acted with me similar to what it did in his own hands. This was to prove and ascertain if I had the power, as he knew there was a capital spring of water under the floor of the cottage ; he then stated his great sur-

¹ This account is from a letter dated the 5th of October 1893, and addressed to Mr C. E. De Rance.

prise, he said as many as 100 persons had been there previously, and never one [had the rod] acted with previous. From which time I have made use both of steel spring and hazel rod. I do not believe I have any power without the rod or spring to discover such.

You may make any use whatever of these remarks. . . . I am now in my 84th year, and write this without the aid of glasses."

This dowser died in June 1896, having made use of his faculty for nearly seventy years. Apart from his dowsing, Lawrence was an interesting character, independent and scrupulously honest. For many years he was in business as a stone mason; his two marriages, extending over a period of sixty years, made him the father of twenty-six children, seventeen of whom survived him. One of his sons was an able doctor, consulting physician at the Bristol General Hospital; another son, who also had the faculty, was a clergyman in the Church of England; and other sons held honourable positions in the business world.

That Lawrence himself was generally respected is obvious from the fact that for sixty-three years he lived at Bishopston, Bristol, and at Stapleton, close by; he was a Poor-law Guardian, Chairman of the Highway Board, and for twenty-one successive years he was elected Vicar's churchwarden, and he held other parochial appointments. His character is well shown by the following anecdote related by himself: "In our Parish church, with a capacity for holding only 250 people, there was a pew that would seat a dozen persons which was monopolized by a single old lady, while six other parishioners claimed the hereditary right to pews that could furnish no less than 110 sittings. This old corruption of the hereditary system I strenuously disputed, and fought the battle in London single-handed, and upset the whole of them at a cost to myself of £75, a large sum for me then to lose; but as it happily turned out, the circumstances which were revealed at my lawsuit caused the Bishop to build us a new church at his *own* expense, which, of course, remedied the evil."

W. S. Lawrence has the historic credit of having been the first to rate a workhouse. He writes: "When the Clifton Union migrated into my parish, and built a large workhouse on seventeen acres of land (already rated) for the benefit of thirty-five parishes, I as warden assessed the rate at £250—this caused a great stir. All the other guardians representing the other parishes were dead against me, and at a final stormy meeting the Chairman reproachfully exclaimed, 'The man

who would do such an outrageous act as to rate a workhouse would not mind rating his own mother; ' to which I replied, 'Certainly I would not, in my official capacity as warden, if it was my duty to do so.' This reply had its natural effect: the rate was passed, and so obtains to this day, each parish virtually contributing its equitable quota."¹

No apology is required for quoting these stories, for they illustrate the character of this remarkable dowser; the columns of the British press for many years bear witness to his vigour in defending his reputation when his dowsing achievements were ridiculed. We must now pass on to a consideration of a few of his successes; it may be noted that among those for whom he found water and who gave him testimonials were such individuals as the Duke of Grafton, Lord Spencer, Sir Joseph Weston, Lord Heytesbury, Lord Justice Fry, Sir H. W. Peak, Sir Greville Smythe, Sir Henry Selwyn Ibbetson, Lord Arthur Cecil, and very many others, and such companies as the Bristol Wagon Works, the Eagle Card Company, Devizes, the Tiverton Town Council, the Gloucestershire Dairy Company, the Great Western Railway, the Ely Paper Works, and many other breweries, tanneries, electrical and water works, farms, dairies, and so forth.²

First may be quoted a letter which gives a graphic account by an eye-witness of the muscular spasm which seems to lay hold of some dowsers (especially W. S. Lawrence) when they are over, or have reason to believe they are over, an underground spring. The letter is from Mr H. W. Whitaker, the well-known geologist. Mr Whitaker was not a great believer in the dowsing-rod, or in any practical good resulting from its use.

"We went yesterday and saw the divining rod used, and a stranger performance I never saw. The diviner, named Lawrence, an old white-haired, benevolent-faced man, walked about the place for some time, it appeared fruitlessly, holding between each finger and thumb a piece of flat steel wire bent round into a sort of horseshoe shape. This, he told us, would detect minerals as well as water, so that when it presently began to agitate as it did, scriggling, and wriggling, and twisting, and turning in his fingers, he could not say definitely that it was water he had come upon, until he took in his hand a

¹ These two stories are quoted by E. Vaughan Jenkins, in J. F. Young and R. Robertson, *The Divining Rod* (1894), pp. 135-136.

² A long list will be found in J. F. Young and R. Robertson, *op. cit.*, pp. 51-52; see also a list, with particulars, in E. R. Pease, "The Divining Rod," *Proc. S.P.R.* (1884), ii. 92.

strong forked hazel twig, holding an end of each fork in each hand, and keeping his elbows tightly down to his side. I can only describe the antics of that twig as a pitched battle between itself and him! It twisted, it knocked about, it contracted and contorted the muscles of his hands and arms, it wriggled, and fought, and kicked, until it snapped in two—and then—what made it painful to watch until you got used to it, the old man reeled, and clutched hold of any one nearest to him for a few moments. It evidently exhausts him very much, though afterwards I asked him what effect it had on him, and he said it only made his heart beat *most* violently for a short time. Certainly it has not shortened his life! Having found *that* spring (I must tell you the wire and twig will not act over *stagnant* water), the farmer asked him to try if there was a spring nearer home. He did not find one until, having gone into the garden, he suddenly came upon one close to the hall door. After that, he went further afield, and found two some distance from the house. He can also tell the direction the water takes underground and the probable depth they will have to bore for it. Mr C.'s lawyer was there 'to watch the case'; he was *most* sceptical, but was obliged to own that if they find the spring he must believe! He went behind Lawrence, and held his wrists with all his strength, to try and keep him quiet while the twig moved, but he could not.

I asked Lawrence how he found out he possessed the power, and he told us that 60 years ago he saw a cottager do it, so he tried himself, and found he possessed the same property. *We* tried, Lady D. and I, but needless to say, we could do nothing. Lawrence makes no mystery of it, though he cannot explain it; he says it is a gift. He was asked if he could mesmerise, and he said, no. He held the wire over Lady D.'s watch, and it wriggled just as it had done over the water."

In a later letter, dated May 1890, the lady referred to relates that, the farmer having expressed doubts as to the genuineness of the proceedings, Lawrence was taken again to the farm and *blindfolded*. The rod performed in exactly the same manner on reaching the spot where it had indicated the water before. They then dug, and found the spring at a depth of 15 ft.

Next we have a case obtained through the indefatigable ardour of Mr Vaughan Jenkins. Rumours having reached him of this case Mr Jenkins applied to Messrs Stephens and Barstow, Bristol Steam Joinery Works, who replied thus: "In the year 1879 we were building a house at Horsham, in Sussex, for Mr J. Renton of Guildford.

There were two wells on the property, but little or no water could be obtained from either (in fact water was very scarce in the neighbourhood generally), and it was thought desirable to sink another well.

As we had known Mr Lawrence for many years, and knew that he professed to be able to discover water, we communicated with and arranged with him to go to Horsham, hoping that if he should point out a place where we might sink, that the well would be a greater success than those already there.

Mr Lawrence proceeded to the place, but we cannot, from personal observation, give you an account of what took place, as no member of the firm was able to accompany him (we may here state that neither of us have ever seen him use the 'rod'), but we enclose you a letter from the man who was foreman upon the works at the time of Mr Lawrence's visit (he is still in our employ, and we wrote to him upon receiving your letter), in which he fully describes how Mr Lawrence proceeded.

You will see by Mr Martell's letter that he was in every way successful."

This was the enclosed letter from the foreman, Mr S. Martell: "He selected one, a hazel twig, and walked about with it. On coming to a certain place, he said, 'Here is the spring of water,' and the twig was violently jumping up and down, and he marked the place which was to be the centre of the well. He then tried the steel spring with the same result. On commencing to dig the well I was obliged to move a little on one side, as one of the new drains was in the way, and the centre of the well, as marked by him, became the *side*. On sinking down about 40 ft. the spring burst out as large as a hammer handle in the *very spot* that he marked for the centre."

Mr Vaughan Jenkins then applied to the architect who built the house, Mr Henry How, 52 New Broad Street, London, who replied: "With regard to the 'Divining Rod', in 1878 I erected a house at Rudgwick¹ for J. T. Renton, Esq; the site was on high ground, and the subsoil of stiff clay. During the progress of the works the contractor proceeded to form a well close to the new building, and *had bored a very considerable depth without coming to water*. Messrs Stephens and Barstow, of Bristol, were the contractors, and they advised that Mr Lawrence should be employed *to detect a spring*. I had heard

¹ [The house, first called Hedgecocks, then Oakwood House and finally (?) Oak Grange, and at the time of the latest inquiries in the possession of the Duchess of Santo Teodora, is four miles from Horsham and two miles from Rudgwick].

of him before, and was greatly interested as to his mode of procedure. He was shown where we had already bored. [Then follows a description of the process]. He said we *should find water, the position being only some few yards from the original boring*. We proceeded to sink at the place indicated by Mr Lawrence, and within some 14 yards from the surface we came upon a good spring of water, and which has, I believe, continued to supply the house from that time to this. I may state that there was an old well some 100 yards from the new building, but Mr Lawrence was not informed of this to my knowledge."¹

It will thus be seen that the two independent accounts agree in all details. About twenty years later Mr E. Westlake made a geological investigation of the locality; but in the meanwhile the house had undergone several changes of name and ownership; other wells had been sunk; and the report was in consequence indefinite.²

The next case is an illustration of the implicit faith in his dowsing power which Lawrence appears to have inspired in those who had employed him. The letter, which is too long to quote in full, is from the well-known well-sinker and contractor, Mr Mereweather, who subsequently found he also could use the rod, and had some success as a dowser.³ The following summary gives the chief facts:

The late Dr Fox, of Brislington, directed Mr Mereweather to sink a well to supply the Lunatic Asylum at that place. Instead of sinking at the spot suggested by the contractor, Dr Fox took him to the Park and after searching found an iron peg driven in the ground, where he told the contractor to sink the well. Dr Fox gave as his reason that Mr Lawrence had been over the ground with his divining-rod and fixed on that place. The well was sunk 90 feet through Penant stone and no water found. Dr Fox insisted that the work should go on, as he had absolute confidence that water would be found, but as the contractor's experience was dead against finding water there, he (Dr Fox) at last consented to a four-inch bore hole being driven; this was done and after 35 feet had been bored (125 feet from the surface) a large body of water was struck, which has supplied the Asylum ever since, has never failed, and could not be pumped dry.

Enough evidence has now been quoted to put Lawrence's

¹ E. R. Pease, *op. cit.*, ii. 103-104.

² *Proc. S.P.R.*, xv. 325-326.

³ He also founded the well-known firm of water-engineers, Messrs. Mereweather, of Long Acre, London.

claims as a dowser beyond question. But it will be interesting to conclude by quoting two or three of the many testimonials addressed to Lawrence that we have seen. The first is from Mr Samuel Lang of Bristol: "After vain endeavours to obtain a supply of water for my kennels, and sinking 130 feet deep, I was advised to send for you, who, by aid of your divining rod, in my presence, indicated the spot within 20 feet of the spot where I had sunk, and directed me to drive there, which I did, and obtained at 30 feet deep most plentiful supply. I have the greatest belief in your powers with the divining rod."

The next (from Messrs Evans and Owen, Ely Paper Works, Cardiff) is quoted in answer to an objection sometimes made that no *large* supply of underground water is ever found by a dowser. "At your request we have much pleasure in stating the result of your visit to our works. We sunk two wells in spots marked by you; in the first one we have a supply of over 20,000 gallons per hour at a depth of 31 feet; and in the other, about 300 yards away from the first, a supply of 12,000 to 14,000 gallons per hour of spring water."

Finally we have the following addressed to Mr Lawrence by Mr F. W. Newton, secretary of the Bristol Municipal Charity Trustees: "In reply to yours of yesterday's date, I am directed by the Trustees of the Bristol Municipal Charities to state that they have much pleasure in recording the fact that you were most successful with your divining rod in discovering water at the spot on their estate at Burnett, on which they afterwards bored, though the surface certainly afforded no evidence of the presence of water there."

§ 2. JOHN MULLINS

John Mullins was without doubt the most remarkably successful dowser of whom we possess records. Two of his most striking achievements, at Waterford and at Horsham, have already been described, and further examples are now to be quoted.

One warning must here be given: when John Mullins found that he was able to make a living with his dowsing-rod and when he found that two of his sons had inherited his gift, he formed a company under the style of John Mullins and Sons. This was about 1882. After that date when application for a dowser was made to the firm it was not always old Mullins himself who did the work. The two sons, further, were rather apt to take themselves the credit for the exploits of their

father. Consequently for many years after John Mullins's death triumphant reports of his failures were made by a number of well-intentioned persons ignorant of these facts. In practically every case such reports were found to refer to one of the young Mullins's.

John Mullins was born at Colerne, eight miles from Chippenham, in Wilts, on the 12th of November 1838. His father was a mason and John, the second son of eleven children, followed the same trade. In 1859 he was employed in the building of his house by Sir John Ould on the Ashwick Estate in Gloucestershire. A large supply of water was needed and Sir John was informed by a friend that there was a dowser named Adams living in Cornwall.¹ Adams was sent for and indicated a line along which he declared water would be found. There were a number of persons present, all of whom tried the rod. When a daughter of Sir John Ould took the rod into her hand and she came to the line marked by the dowser, it turned so violently that she threw it down in a fright. A well was afterwards sunk at the place and an abundant supply was found at 60 feet from the surface.

A few days afterwards, Sir John, much struck by the circumstances, decided to try all the men working on the building, numbering about a hundred and fifty. When it came to John Mullins's turn to hold the twig it turned so violently that it snapped in two. Mullins was accordingly dubbed a dowser, but he continued his work as a mason. One day Sir John came to him with a request for him to go to a farm where water was required. He marked a spot at which a well was later sunk and a spring yielding 200 gallons per hour was tapped at eighty-five feet. This was John Mullins's first use of the divining-rod, and after that time he was much in demand.²

John Mullins married in 1859 and continued in his occupation as a mason until 1882; from then to his death in May 1894 he devoted himself exclusively to dowsing and well-sinking. When he was the contractor for sinking a well at a spot indicated by himself by dowsing, he was willing as a rule to re-

¹ This was probably Charles Adams, of Rowberrow in Somersetshire.

² Cp. a little book by [Joseph and W. H. Mullins], the title-page of which runs: "The Divining Rod: its History, Truthfulness and Practical Utility, by John Mullins and Sons, Colerne, Box, Wiltshire. Under the Patronage of Her Majesty's Government. . . . Colerne 1894." See also a pamphlet with title-page as follows: "The Divining Rod and its results in Discovery of Springs. By J. Mullins, Water Finder. Under the Patronage of Her Majesty's Government. Printed at the 'Bath Chronicle' Office [c. 1880]."

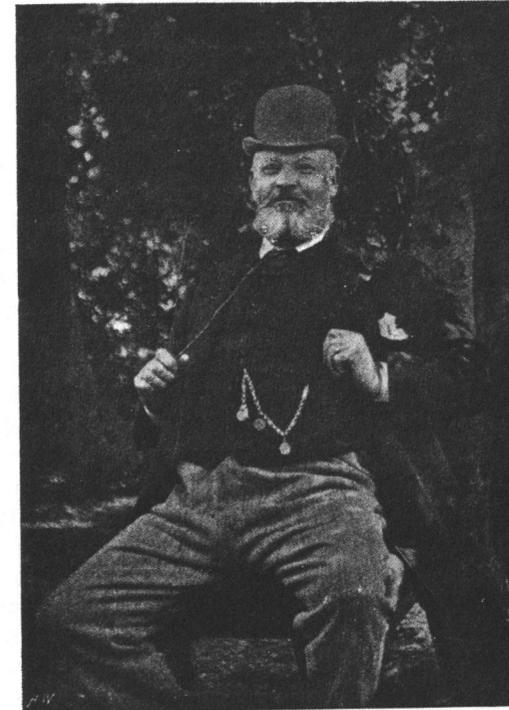


FIG. 31. JOHN MULLINS
The Implement and Machinery Review (1892), xviii. 15598

ceive no payment for sinking the well if a good supply of water were not obtained. When one remembers the heavy outlay involved in making a well, often through solid rock to a depth of 70 to 100 feet or more, this agreement is a forcible illustration of the faith Mullins had in his powers; a faith that appears justified by its works, for Mullins is declared to have located over 5,000 water sources and to have himself carried out work in connexion with 700 water supplies. After the death of old Mullins, his sons who carried on the business, and one of whom was himself a dowser,¹ but not nearly so successful, did not maintain the principle of "no water, no pay." They state, it is true, in a letter that they "do not generally make any extra charge for giving a guarantee of finding water; on three occasions only we charged 15 per cent extra on the contract for making a well." They enclose copies of some of their contracts for large amounts; several of these contain the clause "in the event of not obtaining a supply of 1,000 gallons per day of twenty-four hours, we will make no charge for the work done." But a thousand gallons a day is not a large supply, and judicious observation can generally find that quantity of contaminated surface water.

The manner in which Mullins invariably held and used his rod is thus clearly described by Colonel Thomas Waring, M.P., in a letter dated the 11th of November 1891: "I send you herewith two of the 'Dowsing' or divining rods, for discovering water or minerals; a fresh cut one (Fig. 32) and one after being used by Mullins (Fig. 33). The portion nearly twisted off the end of it (C, Fig. 33) will show the action; it was done while I was looking on, and no movement of the hand was made to occasion the twisting. In fact, if you hold the rod, or rather fork, as directed, such action, whether voluntary or the reverse, on the part of the operator is impossible. You pass the ends of the fork between the second and third fingers of the hand, palm upwards, and close the thumb and first and second fingers tightly on the points of the fork (A and B, Fig. 32) and hold it, apex downwards, out before you; when you come on the spring the apex of the fork bends forward and upward, and if one end be held tight and the other allowed to revolve it will twist itself nearly (or quite) off, as in the specimen (Fig. 33). The violence of the action, Mullins says, depends on the volume and proximity of the running water."

¹ This was H. W. Mullins; Joseph was also stated to be a dowser and himself records one or two cases in which he was successful, but no other instances have come to our notice.

The twigs sent by Colonel Waring are illustrated in the accompanying cuts; in Fig. 33 (the one actually used by Mullins), the end was nearly twisted off, only a shred of bark remaining at C. The twigs are of pliable green wood, about 15 inches in extreme length, three-sixteenths of an inch diameter at A and B, and a quarter of an inch diameter (not quite as thick as a cedar pencil) at the junction. Fig. 56 shows the rod actually held in the manner described.

A selection of specimens of Mullins's successes must now be given. One of the earliest of these we have on very good authority, that of General Sir Mildmay Willson, K.C.B., who writes as follows in a letter dated from Rauceby Hall, Grant-

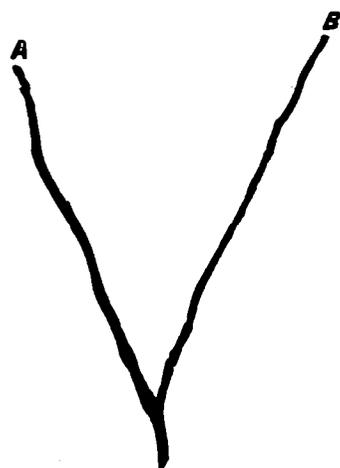


FIG. 32. MULLINS'S DOWSING-ROD BEFORE USE

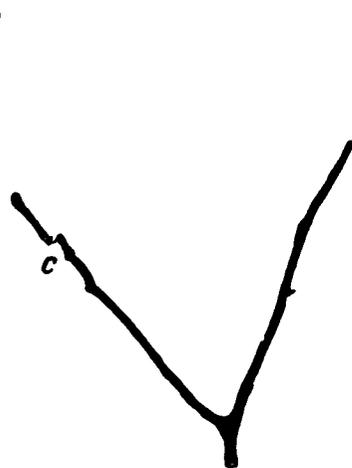


FIG. 33. MULLINS'S DOWSING-ROD AFTER USE

ham, the 30th of January 1905: "When I succeeded to my father's estate at Rauceby, Lincolnshire, in the year 1866, the parish was very badly off for water, and in dry seasons almost every drop had to be led from the brook about a mile away, so the first thing I took in hand was to try and get a good supply. There were one or two shallow wells in a spinney adjoining the east side of the village, so I started sinking a well on rather lower ground within about 30 yards of one of these wells, and perhaps 40 of the other. I almost immediately came on solid limestone rock, and after sinking 100 feet without finding a drop of water, I got a boring machine and went down another 250 ft. without success, when I stopped the work.

The following year Messrs Kirk and Parry, Railway Contractors and Builders, Sleaford, asked leave to sink a shaft through a deep bed of clay in the next parish, Kelby, hoping to find the same bed of soft stone as they quarry at Ancaster, and two men from this village were set to work on the shaft. After working for some days one of these men went sick, and Kirk and Parry sent Mullins senior to take his place. It was reported to me a day or two afterwards that Mullins had stated as soon as he arrived that it was most unfortunate that they had commenced where they did, as they had hit on the only spring on the hill side and that they would be drowned out before they went much further. However they were told to go on, and a few mornings afterwards on returning to their work they found the shaft 3 parts full of water; and after trying in vain to get the water out, they had to give it up, leaving their tools at the bottom.

This struck me as so extraordinary that I sent for Mullins; he was working then as an ordinary labourer at 2/6 a day. I employed him several days searching for springs on the estate. I first took him to my abandoned well of the year before. He told me if I went down 1,000 ft. I should not find a drop; he then pointed out two or three places in the afore-mentioned spinney where a limited amount of water would be found within a very few feet of the surface. Towards the west end of the village he pointed out several places where a good supply could be obtained all within 10 or 12 feet of the surface. I put three in hand at once, and in each case found water as predicted, and the supply has continued to the present day. One of these wells was near what are known as the Hollow Cottages. Mullins in putting his twig over the well pronounced there was no spring, but found one quite close to the side, and in his opinion only a foot or two deeper down. In sinking the new well, the 'circle' to carry the well bricks actually cut the edge of the old well. The bottom of the old well was on a hard bed of rock, on going through this in the new one a copious supply was found which has never failed.

Mullins at once jumped into notoriety and was much employed all round this district, by the late Lord Winchelsea [*sic*] and others. Amongst these the late Col. John Reeve had him over to Leadenham and tested his power of finding water in the following way. There is a reservoir on the hill connected with a pipe to the gardens; the water was purposely turned off when Col. Reeve first took Mullins across the park, but in accordance with his orders, was turned on as they came

back; the Twig at once gave a violent jerk, and Mullins followed the pipe right down to the garden fence.

In those days we were much interested in the Divining rod, and as Mullins showed that there were two or three strong springs that ran across the path leading from this house to the bottom of the garden, a good many people tried for themselves to see if they had the power, and certainly five or six found they possessed it, my sister being one of them, Miss Wordsworth, daughter of the late Bishop of Lincoln, another, the Hon. Mrs E. Pelham a third, as also my second horseman, Sumner by name. The stick acted so strongly in the hands of the latter that it was with the greatest difficulty we could get him to show its working, as he looked on it as something 'most uncanny'.

Since those days I have sunk some three or four more wells on spots originally pointed out by Mullins, but the marks having been lost, I have had to get somebody who could work the Twig to point out the exact spots. At the present moment one of my farm bailiffs at Kelby, Tebb by name, his wife, and I believe all his children have this same power.

I might add that my experience in this district is that all our springs are fissure springs, and unless you hit these off exactly you will not get a drop, except perhaps some surface water, even if you sink within a very few feet. These fissures run pretty nearly from W. to E., and generally parallel to one another, as I have been shown on several occasions by the man following the water for considerable distances.

Personally I cannot call to mind a single instance where Mullins proved himself wrong, but he refused to make trials except in dry times, as he told me that every under-drain that had water going down it would affect the divining rod. The last time I employed him was on the Hill-house farm on the late Lord Abinger's estate at Redford in Surrey, of which I was a Trustee. A good deal of money had been spent by the late Lord in trying to get water, and the tenant had given notice that unless he got a water supply he must give up his tenancy. Mullins came down and found an excellent supply, almost in the middle of the other costly failures.

During the seventies, Mullins was largely employed by most of the large landowners in this district with great success, and a large number of wells were sunk under his advice. All round here the limestone rock comes very near the surface and all the springs apparently are fissure ones, and quite near the surface, *i.e.* from 6 to 25 feet."

In a later letter, giving permission to reproduce his account,

Sir Mildmay Willson adds that on a subsequent occasion he employed Mullins on the Hill House Farm near Yewhurst in Surrey, where he succeeded in finding a plentiful supply after several other wells had been sunk without result. Sir Mildmay goes on: "I have employed my bailiff, Tebb, on three or four occasions; he has infallibly pointed out where there is water, but I suppose owing to want of practice is unable to estimate the depth."

Though a number of early cases of dowsing by Mullins are available, it has been possible to confirm only a few of them. We may pass on therefore to an example of somewhat later date, 1879. Details of this case are contained in a letter from Mr F. Bastable, 14 Foskelt Road, Fulham, and appeared in the *Carpenter and Builder* of the 30th of September 1892. The contractor of the Somerset and Dorset Railway, Mr T. A. Walker, here employed Mullins under the following circumstances: "At the Shepton Mallet Station, on that line, it was decided to sink a well close to the rails to supply water for the locomotives. We had sunk a depth of 250 feet entirely through blue lias rock as dense and hard as possible, and as dry as a bone, and began to look upon it as a forlorn hope, when Mr Mullins was mentioned as a man likely to help us in the matter. After much hesitation and fear lest it should turn out to be a hoax—we were very incredulous—it was decided to ask the advice of Mr Mullins, who came at once, and with very little trouble discovered for us close at hand that for which we had sought so long. . . . The most favourable spot was found to be about 50 feet from our well. Mr Mullins, from his observations of the action of the forked twig, advised us to commence and drive a heading about 50 feet down the well, and under [where the twig turned] we should have abundance. This was done, and when at that spot our miners had to rush out and up for their lives, leaving behind them their steel drills, hammers, clothes, etc. The well soon filled up, and when we left in 1879 the water was within 12 feet of the surface.

We procured two pairs of smith's tongs to see if the twigs did actually twist, and held them in a tight grip, with one pair securing the tips and the other the fork, but the contractions still went on between the points held. What the power consists of I am still at a loss to conceive; but this I know, not one of us present at the operation had any doubts afterwards as to his ability in discovering water in the earth."

In a letter to the *Daily Graphic* for the 30th of March 1892, Mr T. J. Hickes, of Truro, describes the same case. Both he and Mr Bastable wrote from personal knowledge of the facts,

but from memory, and it is not surprising that their figures differ. They agree, however, in all essential details, as the account is further confirmed by Mr F. J. Clark, F.L.S., who wrote to say that he was well acquainted with the case, which came to his knowledge at the time of its occurrence, his father being then a director of the line. Mr Clark added, "I went to see my father on receipt of your letter, and he tells me the account you have printed [as above] is correct, though his impression is that the well was not quite so deep." Mr Clark thought the depth was 100 feet.

No apology is needed for the length of the next relation, for it is not only one of the best general accounts of dowsing, but also a good instance of Mullins's successes, and still further illustrates the concordant discoveries of two independent dowers. The account is by Sir W. E. Welby-Gregory, M.P., Denton Manor, Grantham, and is dated the 28th of January 1883. This letter was originally addressed to Mr Vaughan Jenkins.

"In the spring of 1877 I was preparing to build a large country house on a new site, which I had selected on account, among other reasons, of its dryness. This site was on a large plateau of red loamy soil, resting on a bed of solid rock¹ several feet thick, in which there was no indication of water; and it was a problem where the water supply was to come from, as there was none apparent which could be brought to the house without great expense. While puzzling over this I heard that John Mullins, of Colerne, had been employed to find water at various places in the neighbourhood with very remarkable success; that he had been tested in almost every conceivable way, and that not only country gentlemen and farmers, but plumbers in the neighbouring towns had frequently called in his aid, purely as a matter of business, and I was at last induced to send for him. When he came, I asked him whether he required a twig of any particular wood, and he replied that almost any wood would do, except lance-wood and box-wood, which were too stiff. He then cut for himself from the nearest convenient tree, which I think was a sycamore, a forked twig in the shape of a Y of a foot or 18 inches long. I set him to work for a few minutes at first on my lawn, sending him over parts where I knew there was a current of water at a depth of a few feet, though none was visible or audible on the surface. He slowly quartered his ground like a pointer, bending forward and holding the twig about the level of his knees,

¹ The rock I believe is marlstone, and the thickness of the upper bed has been since ascertained to be between 7 and 8 feet.

point downwards, and tightly grasped an inch or two from the extremities of the prongs of the fork, with, if I recollect rightly, the thumb and fourth and little fingers of each hand below, and the fore and middle fingers above the twig. Whenever he crossed the water, of which I have spoken (a drain), the twig turned upwards in his hands, though he apparently resisted its doing so to the utmost; and the same thing happened at other parts of the lawn, where, though we did not know of any runlet, it was very likely that one existed.

I then took him to the kitchen garden, where we had always been much in want of water; and presently the twig stopped him at a spot apparently as dry as the rest, and with nothing distinctive about it. I asked him what amount he supposed there was, whether running or stagnant, and at what depth. He answered that he was certain there was water, and that it was running, for no amount of stagnant water had the slightest effect upon him; but that he could only guess at the amount and the depth from the force with which the twig turned up. From his experience he should say that it was a stream not thicker than a walking stick, and at a depth of from 20 to 30 feet. He traversed the rest of the kitchen garden without finding any more, and I next took him to the site of the new house. Here he soon indicated two lines, about 30 yards apart, along which he said water was flowing in somewhat greater volume than the rill he had found in the kitchen garden, and at a depth, he thought, of from 30 to 40 feet. This was all he could find there, and as this seemed hardly likely to be sufficient for my requirements, I felt that it must be looked for at a greater distance. To save time, I took him to a spot from which he could see the contour of the hills (about a mile distant from the house) from which most of our water comes, showed him what spring we knew of, and told him to choose for himself the best part to try for more. He unhesitatingly selected the upper part of a certain hill (which was afterwards pronounced by an eminent civil engineer to be unquestionably the most likely spot within sight to contain water), and thither we went. He tried the whole of that hillside over, without finding a drop, and we afterwards took another hillside with no better success.

It was now late, and Mullins was evidently becoming exhausted. I felt that I had seen enough to convince me that he was no impostor, and that whatever discoveries he made were due to some force over which he had no control, not to any power he had acquired by experience or observation of making good guesses at where water was likely to be; but I

was not satisfied that he had found anything for me which promised to be of any practical use; so I dismissed him to tea in the housekeeper's room. After tea several of the servants whose curiosity was excited got him to exhibit his art to them, and tried whether they themselves had any power with the twig. My gardener, Joseph Towers, found that it worked in his hands nearly as strongly as in those of Mullins himself. I took no further action then in the matter; but described what I had seen to the civil engineer before referred to, who, though by no means altogether pooh-poohing it, assured me that from his knowledge of the geological formation of the country, he could say confidently there was no chance of finding a water supply under my new house at a depth of less than 120 or 130 feet; and his opinion was confirmed by another geological authority who was then in the neighbourhood. So I virtually gave up all hope of deriving any benefit from Mullins's assertions. Some weeks later, however, my gardener came to me and said that he was in great want of water in the kitchen garden; that he had tried repeatedly with the twig over the place where Mullins indicated a rivulet; that it invariably turned up at the spot, and that he was quite convinced there was water there. If I would allow him, he could sink a well with the garden labourers, so as not to involve any additional expense. I consented to this; the well was sunk to a depth of nearly 20 ft., when water poured into it freely, and it has supplied a long range of hot-houses ever since.

I had previously decided upon bringing down the main supply of water to the new house in pipes, by gravitation, from a considerable distance; but as this was a heavy work, necessarily taking much time, the question of a supply during building had become urgent, and on the strength of what had occurred in the kitchen garden, I set Towers to traverse the new site, where the lines of water indicated by Mullins had been marked by pegs 60 yards or 70 yards apart, and just visible above the grass. These lines Towers and his twig emphatically confirmed, and I proceeded to test him. I had the projecting extremities of the prongs of the twig held tight by pincers, so that there could be no voluntary action on Towers's part when crossing the marked lines. Despite of this, the point of the twig twisted itself upwards, till the bark was wrinkled and almost split, while the strain and pressure upon the muscles of the man's hands were most apparent. I then blindfolded him, and turned him loose. The result was precisely the same. Whenever he crossed Mullins's lines, up went

the twig. The presumption now appeared to be so strong in favour of the twig that I determined to disregard the geologists, and have a well sunk on one of the lines. This was done; at the depth of about 28 ft. the water rushed in, and rose till it stood about 8 ft. deep, at which it now remains, having, in the meantime, fully supplied all the requirements during building the house, which were probably not less than 1,000 gallons a day for three years or more, and since that having acted as an ample reserve to the house for all purposes whenever the distant supply for any reason has had to be shut off. I may add that I have since had occasion to sink a shaft for a lift between the two lines indicated by Mullins, some 12 yards or 15 yards from either, and to a depth considerably greater (10 ft. or 12 ft.) than the well. As no water came into this, though the formation was precisely similar, and the well has not been affected by it, I am satisfied that, had I not employed Mullins, I might have sunk wells in any number to no purpose under my house, unless I had happened to hit upon the rills indicated by him with such perfect precision."

One part of this valuable case being the successful tracing of underground pipes, it will be interesting to quote a similar experimental case. It is taken from *The Garden* of the 11th of April 1885. The writer is Mr W. Crump, head gardener of Earl Beauchamp's estate, Madresfield Court, Malvern: "Many successes in finding water on Earl Beauchamp's estates could be named; in fact, not a single failure is known. Amongst the most recent consultations with Mullins was one concerning a well that had been sunk 116 feet without finding water. Mullins selected a spot a few yards distant, where, at a depth of 50 feet, an inexhaustible supply was found by him. He again selected a spot, naming water at 30 feet deep, and it was found at 27 feet. Many other instances could be mentioned, and so certain is he of his power that he offers to dig the wells without charge if proved wrong in his judgment.

Mullins was engaged to find some water on an estate at Madresfield last week, and on the day before his visit we prepared for him a series of severe tests. No. 1 was to send him into a field which he had never seen before, in which a six-inch socket glazed pipe drain conveyed a stream of water to supply the moat. On the surface there was not the slightest trace of this drain, the depth of which was about three feet. All being in readiness, Mullins commenced to cast about with his twig, when, to every one's astonishment, the moment he came upon, or over the water, up went the twig to the perpendicular. He further proved the exact subterranean posi-

tion of the drain again and again. No. 2 test was similar to the last, but the pipes in this case were of iron rather deeper. Nevertheless the result was equally satisfactory; of course every member of the party tried to use the rod, but amongst them only one young lady had any influence over it."

These facts are confirmed in several letters from Mr Crump and, as regards the tracing of the underground pipes, by the Rev. G. S. Munn, who conducted the experiments, in the following letter, dated the 24th of February 1897 from Madresfield Rectory, Malvern: "In reply to queries respecting Mullins and water-finding, I may say that I was told off to test Mullins on his first visit to Madresfield. Snow was on the ground two or three inches deep, entirely obliterating all external indications of water. Knowing the locality well, I took him alone in a line across two places beneath which water ran. One of these had been laid down so many years before that I believe it was known only to myself. In both cases the rod turned up exactly on the spot. I won't trouble with other instances where, as in the above, all collusion and deception was quite impossible, except to say that on one of Lord Beauchamp's farms, which had been very short of water for many years, after much searching, he indicated a spot where water would be found at, so far as I remember, from 20 to 30 feet below the surface. A well was sunk through the rock; the water was found, and I believe there has been an ample supply since.

On the last occasion Mullins was here, a considerable number of persons came to see his performances; many tried to see if they had the power. When all had failed, I persuaded one of my daughters to take the rod, and to my great surprise, it acted in her hands as well as in Mullins's. She has used her power on some few occasions to find water for friends, and also to convince those who have doubted the possibility—as I did, entirely, before I was convinced.

If you saw the rod act when in the hands of those who have the power, you would see at once that no possible action of the hands could produce the results."

Yet another case of this nature is the following one, which is additionally interesting because Mullins also succeeded in finding hidden gold. Mr W. R. Bruce (one of the Masters in the King's Bench Division of the High Court of Justice in Ireland), wrote as follows from Rockford, Blackrock, Co. Dublin on the 6th of May 1897: "I engaged Mullins to come here for a day on his way back from my brother's, where I had seen him try for water. To test his powers I took him into

my yard, across which a small pipe ran underground, supplying the house with water from the main. Before doing this I turned the cock and stopped the flow of water. Mullins passed the pipe and the rod gave no sign. While he and the persons about him were engaged in this, I went into the house unobserved, and having turned on the cock suggested his again making a circuit of the yard. He did so, and when he crossed the pipe, the rod turned up, the water then not being stagnant, but flowing through the pipe. There were certainly no signs in the yard to show that a pipe had been laid under the ground, and I am convinced there was no audible sound of running water, and nothing in my action to give Mullins any hint on the subject.

I put him to another test; he said that gold had the same effect as water. While he was in the house getting his dinner, I went out and hid half-a-sovereign in the ground on the marked line of a tennis ground. I am certain no one saw me do this. I then took him out and told him to try and find the coin, which was some place under the line. He did find the coin. I am certain that nothing in my face or manner gave him any indication of where it was, and it was absolutely impossible for any one to have discovered it by eyesight. In fact, I had some difficulty in finding the exact spot myself. I should add that in going round the tennis ground the divining rod turned up two or three times before Mullins arrived at the spot over the coin. This he accounted for by saying there was water there, which is quite comprehensible."

At the beginning of the above case it is stated that Mullins was on his way back from Mr Bruce's brother. There also Mullins had had a success, and also in finding coins as well as water. Mr S. Bruce, of Norton Hall, 3 miles north of Campden, in Gloucestershire, records this series of successes on the part of Mullins. They are notable for the detailed manner in which his predictions were fulfilled and also because Mr Westlake investigated the circumstances on the spot and confirmed the facts as stated by Mr Bruce in his letter dated the 23rd of April 1897: "With reference to Mullins, it is about 12 years since he came here. I believe he had never been here or in the neighbourhood before. We sunk at three places pointed out by him, and got water at each of them. The sub-soil here is blue lias clay, and goes down a great depth. A friend of mine, who bored near here 5 or 6 years ago, got down over 1,200 feet before he got through the clay; this clay is quite impervious to water, the neighbouring hills are oolite brash.

This house is built on a levelled or terraced slope. When

Mullins first got to work at the hall door, before he had gone 10 yards he stopped and said there was water there, but it was not a convenient place to sink, so we went on. It was some time before he got to another place, which was in the stable yard; there he said we would find water at about 30 feet. When we came to sink, we got to water at about the depth he said, which rose at the rate of about 6 feet a day (that is, 24 hours) till we had about 20 feet in the well of about 3 feet diameter. We then tried another place he pointed out, with a similar result. Then the men who were sinking for me, local men, said that any one would know how to find water there, that there was water anywhere along the bank, meaning the slope on which the house stands. I told them to go and pick a place and try. After some discussion, they sank close to my lodge; when they had got 30 feet down they had not got water, and they said there was no use going further, as they were then down into the blue clay; at the end of a week there were not 6 inches of water in that well.

We then tried another place that Mullins had marked close to the house, and about 20 yards from the place where he first stopped by the hall door. Mullins had told us we would find a very strong spring here, about 20 feet down. When we got about 12 feet down, we got signs of water, and when we got 17 feet the water came so fast the men could not sink any further; it was a case of getting out three buckets of water to one of clay.

The men that were sinking had up to now rather scoffed at Mullins's theories, but now the head man said, 'This man must know something more than we do after all, for the water is coming through a vein of gravel not bigger than my hat, and if we had been 3 feet one side or other of it we would not have got a drop; these men were well sinkers by trade. This well did not hold out when we got a long spell of dry weather, and I always think that there is an underground connection between it and the well in the stable yard, and also with another one in the house yard, and this well being the shallowest of the three gives out; probably the vein of gravel runs on and connects with the others. Once, in a very dry time, —1887, I think,—it was the well in the stable yard failed, and we had a lot of water from a pond filled into it; we found that the well in the *house yard* rose as we filled into the one in the *stable yard*, and the water was dirty like pond water. I don't think I can give you any more information on the matter.

Mullins also found a half-sovereign that I had buried in a

walk we were then making. I would have lost the half-sovereign if it had not been for him, as I was so careful not to put any mark lest he might notice that I was not able to find the place myself, and when he stopped and said it was under his foot, I thought he was wrong, but there it was!"

These successes are the more remarkable when it is remembered that this part of Gloucestershire is very badly watered, with springs few and far between. Next we have an example in which Mullins not only found water in the usual way by dowsing, but located an underground pipe and also succeeded in re-finding the spot he had marked, after he was blindfolded. This case, from the collection of Mr Vaughan Jenkins, is the following, which is not only recorded at first-hand by a responsible personage but which contains some interesting experiments. The account is by the Hon. M. E. G. Finch Hatton, M.P., later the Earl of Winchilsea, writing from 23 Ennismore Gardens, S.W., on the 29th of February 1884: "Hearing that J. Mullins possessed the power of finding springs of water, by means of a forked twig held between his hands, I desired him to come over to Haverholme Priory, near Sleaford, where I live.

This is what happened. First he cut a forked twig from a living tree, and held it between his hands, the centre point downwards and the two ends protruding between the fingers of each hand.

He then stooped forward and walked over the ground to be tried. Suddenly he would stop and the central point would revolve in a half circle until it pointed the reverse way. This he stated to be owing to the presence of a subterranean spring, and further that by the strength of the movement he could gauge the approximate depth.

My brother, Hon. Harold Finch Hatton, and I each took hold of one of the ends, protruding as stated above, and held them fast while the phenomenon took place, to make sure that it was not caused by a movement, voluntary or otherwise, of the man's own hand or fingers. The tendency to twist itself, on the twig's part, was so great that, on our holding firmly on to the ends, the twig split and finally broke off.

The same thing occurred when standing on a bridge over a running stream.

Stagnant water, he states, has no effect on the twig.

Though now convinced ourselves of the man's good faith, and of the automatic—or rather independent—action of the twig, we resolved to test Mullins in various ways, of which the following is an account.

First we established it on good authority that Mullins had no previous acquaintance with Haverholme.

1. I took him on to the grass in front of the house, across which the water-supply pipe passed. There was no indication of its presence on the surface, nor did I previously mention its existence to Mullins; on crossing it, the twig moved in the manner described, and he could trace the water to right and left by its means, along the path actually taken by the pipe.

2. On our way to the kitchen garden Mullins discovered a spring on the open lawn, whose existence was unknown to me, it had been closed in so long, but was subsequently attested by an old labourer on the place who remembered it as a well, and had seen it bricked in many years before.

3. On reaching the kitchen garden I knew that a lead pipe, leading water to a tap outside the wall, crossed the gravel path at a certain spot. On crossing it the twig made no sign. I was astonished at first, till I remembered what Mullins had said about stagnant water, and that the tap was *not running*.

I sent to have it turned on, re-conducted Mullins over the ground, when the twig immediately indicated the spot.

When Mullins had passed on, I carefully marked the exact spot indicated by the twig. When he had left the garden, I said, 'Now, Mullins, may we blindfold you and let you try?' He said, 'Oh yes, if you don't lead me into a pond or anything of that sort.' We promised.

Several sceptical persons were present who took care the blindfolding was thoroughly done.

I then re-conducted him, blindfold, to the marked spot by a different route, leaving the tap running, with the result that the stick indicated with mathematic exactness the same spot. At first he slightly overran it a foot or so, and then felt round, as it were, and seemed to be led back into the exact centre of influence by the twig.

All present considered the trial entirely conclusive of two things.

First, of the man's perfect good faith.

Secondly, that the effect produced on the twig emanated from an agency outside of himself, and appeared due to the presence of running water.

My brother, Mr Harold Finch Hatton, is present as I write, and confirms what I say.

It is true that one of the Misses Wordsworth tried the twig, and was surprised to find that an influence of a similar nature, though not so strong, was imparted to it.

I merely give facts, without attempting to explain them.

No doubt it will be long before they are generally admitted—probably not until scientific (?) men cease to gratify their vanity by denying the existence of everything they cannot explain or account for fully.

It appears to me to be due to some occult form of magnetism, requiring a high conductive power in the operator. Mullins says he feels something akin to an electric shock each time, and that his arms ache all night after many experiments."

Mr G. Troyte-Chapyn-Grove, F.S.A., is the owner of 7,000—8,000 acres in the West of England; in his property are some valuable dairy farms in Wilts and Dorset. They were so badly supplied with water, that his tenants were in great difficulties. Mullins was then called in, and, in Mr Grove's words, "He was most successful in doing so ["in discovering some sources of water with his Divining Rod"], with hardly one failure, and having bored at the spots indicated, and within a few feet of the depths he stated, I was fortunately able to supply the Dairy Farms with excellent water to the great content of the Dairymen and the complete satisfaction of my tenants." Mr Grove goes on to say that since that time he has had no occasion to employ a dowser, as his bailiff at the Home Farms was found to be an excellent dowser, and successfully found water for farms and cottages. This fact is verified by a quite independent communication from Mr John E. Holland, of Wanham, Bampton, Devonshire, who states that the bailiff's name was Rhoades.

The reader will remember the striking manner in which Mullins found water at Waterford. Encouraged by this success Mr Christie-Miller, the proprietor of the works supplied at Waterford, employed Mullins on several subsequent occasions, detailed by Mr and Mrs Christie-Miller in a number of letters from 1891 to 1897.

In June 1891 Mullins went by invitation to Broomfield, near Chelmsford. Here he indicated a number of places where he declared water would be found. At one place he stated that water would be found at 40 feet and he also indicated the direction of the flow. A well was sunk and a supply reached at 40½ feet; the direction was found to be as predicted. In another place Mullins indicated water at between 50 feet and 60 feet; a strong spring was met at 40 feet.

Mullins's next visit was at Kircassock, Lurgan, in Ireland. He marked seventeen springs. Of these two were tested. In the one Mullins had predicted a given supply (not specified in the record) at 15 feet; the stated supply was encountered at exactly that depth, and was used to supply cottages. In

the other case Mullins foretold water at 60 feet; a small supply was met at 40 feet and the well was satisfactorily deepened to 60 feet.

In one of her last letters Mrs Christie-Miller writes: "We are unable to quote an instance of failure with the divining rod, and can therefore speak most confidently in favour of water finding by the twig. We have seven wells sunk after marking by Mullins with his rod."

A case from the same neighbourhood as the Waterford triumph is the following. Mr J. H. Jones, a gentleman living at Mullinabro, near Waterford, who afterwards found that he was himself a dowser, writes in a letter dated the 3rd of January 1900: "Some few years ago, a friend and neighbour of mine, after trying in vain to obtain an unpolluted water supply for his house, decided to enlist the services of Mr Mullins, the dowser. I was asked to witness the experiments and was glad to do so.

Mr Mullins, on his arrival at Waterford, per steamer, drove rapidly to his client's house and in a few minutes indicated an underground water supply near the house quite unconnected, as he alleged, with the flow to a polluted pump-well in the stable yard; he pointed out a favourable spot for sinking, where subsequently a splendid supply of pure water was found at about 30 feet deep."

It will be seen that the success in this incident was the finding of a pure water supply; the same applies to the next two cases to be quoted. The former of these may be thus summarised: Mr Charles William Nasmith, the head of a well-known firm of chartered accountants in Manchester, needed a new supply of water at his house, Mereleigh, Chelford, Cheshire, owing to the fact that the only well he had was only 18 feet deep and had been condemned. He accordingly employed Messrs Timmins, a local firm of well-borers; working from the geological chart of the neighbourhood, they recommended a certain spot not far from the condemned well. At considerable expense a boring to a depth of 480 feet was made, but without success so far as water was concerned.

Mr Nasmith then applied to John Mullins, who was a stranger to the locality. Mullins found water under the lawn and traced the underground flow to the kitchen garden; here he indicated a spot only 10 feet from the 480 feet bore. He declared that good water would be found at not more than 40 feet from the surface. He asked to be allowed to undertake the necessary work, agreeing not to charge for the work if his predictions were not substantiated. As a result the well was made and

at 36 feet a good supply of water of excellent quality was found. This success was all the more remarkable since it was so near the deep boring and not far from the disused well.

The well-borers disputed these facts, declaring that the water in Mullins's well was only surface water and not fit for use. Mr T. V. Holmes was asked to make a geological report, but was unable to offer any conclusive opinion. Mr Nasmith re-affirmed his statement that there was a good supply of water and that it was of perfectly good quality; and he, having to use the water, may be allowed the last word. Moreover, if the supply was merely surface water, the same quantity should have been obtained in the deep boring on reaching the depth of Mullins's well, which had not been the case.

The last of the cases to be quoted in connexion with the finding of a specially required supply of pure water is the following. In the *Somerset and Dorset Notes and Queries* for June 1897, the Editor, the Rev. C. H. Mayo, M.A., published a letter from Mr H. W. Hoskyns, dated the 2nd of January 1889, concerning an experience in dowsing. Application for further information was made to Mr Hoskyns, which he readily gave and allowed Mr Westlake to make a geological examination on the spot.

Having an impure supply of water on his estate, North Perrott Manor, Crewkerne, Somersetshire, he sent for John Mullins, who, by means of the rod, fixed upon the best site for sinking a well, estimating the water to be about 25 ft. below the surface. The well was sunk, solid rock was soon encountered, and after 25 ft. below the surface had been reached, and a considerable thickness of rock pierced, still no water was found. Suddenly, however, when 25½ ft. had been reached, an inrush of water took place, so rapid that the men had to be hurriedly withdrawn from the well; the water rose 23½ ft. and has thus stood, 2 ft. from the surface, ever since, even in the driest summers. An old well some 20 ft.-30 ft. deep and about 18 yards distant, contained water that was so polluted that it could not be used, though the well had been cleaned out several times. The spring found by Mullins at a less depth has given a constant supply of pure water. In another part of the estate, about 50 yards further west, Mullins indicated another well, which, sunk to a depth of 18 ft., gives a fair supply.

The first well was sunk in the Inferior Oolite, and the water rushes rapidly at 25½ ft. through a joint in the rock. The well gives a supply of pure water so constant that it is full even when the river is nearly dry; the water is probably

dammed up by a downthrow of Fuller's earth, which passes close to the farm.

Among Edmund Gurney's papers were found several communications on dowsing. Here is one which relates to Mullins written by Miss C. I. Burton from Longner Hall, Shrewsbury, on the 31st of January 1888: "On the 22nd of December 1887, we sent for Mr Mullins, the water-finder. He was driven from the railway station to the Weir Hill farm, where water has been scarce (and sometimes altogether absent) from time immemorial; and the consulting engineer thought it useless to make any further search.

Mr Mullins having cut a number of twigs from nut trees, held one by the two prongs and proceeded to walk over a field—it sprung up suddenly and broke; he said, 'There is water at a depth of 60 feet.' He then followed the spring up a ploughed field and marked the spot where we were to dig. He said we should find a strong spring from 35 to 45 feet down, but if we failed at that depth we were to go on; he then took his fee and departed. We sunk to a depth of 45 feet and began to despair and doubt Mr Mullins's powers extremely. However, we went on through a seam of coal, when suddenly, at 48 feet, the water rushed in and is now 29 feet in depth."

Mr Gurney thereupon wrote to Mrs Burton the following letter, which is quoted as an illustration of the vast amount of letter writing that he undertook and the admirable way in which he seized the main issue of an investigation.

"26, Montpelier Square, S.W. February 5th, 1888.

Dear Madam,—Very many thanks for your account of the water-finding. But one would need to know one thing. Had there been ever digging to as great a depth as 48 feet before? If not, we cannot be sure that water might not have been found at numbers of other places, had the digging been continued to that depth; and so the evidential value of the case is left doubtful. Would you kindly let me know this? and believe me, yours very truly,

EDMUND GURNEY."

Mrs Burton replied: "Yes, we had dug before deeper than 48 feet, about 200 yards nearer the farmhouse 50 years ago, and some water unfit for use was found. Last year we sank a very deep well also near the house; blasting through the rock we came to what is called a 'pocket' of water and all the water disappeared and the well remained dry, the foul gas being too strong to continue the work."

It was learned from Mr R. T. Glasebrook, F.R.S., the Bursar of Trinity College, Cambridge, that Mullins had been successfully employed on one of the estates of the College. Inquiries were addressed to Mr Reginald Woolley, the College agent, who replied as follows: "We determined to try the dowser,—who had been successful for my firm elsewhere,—before undertaking experimental boring.

I met John Mullins at the Farm (Walkeringham) along with the tenant, on the 16th of May 1893. I took him to the place which would be convenient as the site of a windmill pump to supply the farmstead. He soon passed a point at which the twig turned up strongly. He estimated the spring as fairly good, and from 60 to 70 feet deep. He marked other points, but we bored only at the first. A spring was found at 45 feet 9 inches, and others at about 80 feet, the depth to which we went. These springs yield an ample supply.

A point of interest is that the contractor for the boring, who was a local man quite unconnected with Mullins, stated that if the boring had been driven a few inches from the point fixed, the first spring would have been missed."¹

In reply to a query with regard to the other successes mentioned by Mr Woolley, his brother (Mr T. C. S. Woolley) replied on the 24th of June from South Collingham, Newark: "We have employed the late J. Mullins for other clients than Trinity College, Cambridge, with satisfactory results.

I made use of his services in Gloucestershire on Lord Leigh's estate, where he found us an excellent and invaluable spring of water.

It may interest you to know that in one spot where he indicated water, I took the twig in my own hands and went over the same spot with no result.

He then took hold of my wrists without touching the twig himself and when we together walked over the same place, the twig turned up in my hands. This was, I suppose, caused by muscular action on my part, but if so, it was certainly, as far as I was concerned, perfectly unconscious action. My mental attitude was one of neutrality!"

Finally may be quoted the following testimonial, which shows the scale on which Mullins was successful, having been instrumental in the discovery of 25 wells for one client. This letter from Mr W. D. Little, estate agent to the Earl of Jersey, is addressed to Mr J. Mullins from the Estate Office, Middleton Park, Bicester, Oxon., and dated the 20th of August 1890: "In reply to your letter of inquiry, I have much pleasure in

¹ [How the contractor knew this is not stated].

informing you that since August 1884 I have had upwards of 25 wells dug on sites where you had found springs by means of the dowsing rod, and in every instance an abundant and unfailing supply of water has been obtained. These wells have been sunk on the estates of the Earl of Jersey in the counties of Oxfordshire, Warwickshire, and Middlesex, and on the Charterhouse Estate in Wiltshire. I send you a copy of a letter which appeared in *Farm and Home* in 1885."

The following is the letter Mr Little addressed to the journal he names: "As it may, perhaps, interest some of the readers of *Farm and Home*, I venture to send a statement of the practical results of seven wells sunk during the autumn of 1884 on the Earl of Jersey's estate at Middleton Park, near Bicester, Oxon., on sites located by John Mullins, of Colerne, Chippenham, Wilts, by means of the dowsing rod. I may preface the following statement by saying that the unprecedented drought of last year was most severely felt in Oxfordshire, and water had to be carted a considerable distance at great expense for several months, for all descriptions of stock. Mullins's search for water was made during the last week in August 1884, and the sinking of the wells was proceeded with as soon after as possible.

No. 1 was sunk 22 yards from a well sunk in 1879, which had proved to be useless even for supplying two cottages only. At a depth of 18 feet an abundant supply of water was obtained on the spot selected by Mullins. No. 2 was also sunk to substitute a well made in 1879, which, although in a position likely to yield plenty of water, had turned out useless. At a distance of 60 yards from the old well, the new well, sunk on a site selected by Mullins at a depth of 12 feet 6 inches, yielded more water than two ordinary portable pumps would keep down, the continued drought not seeming to affect it in any way. No. 3 was a well that had gone dry, and was deepened on the strength of Mullins's recommendation with a satisfactory result. No. 4, a well sunk to supply the mansion with drinking water; it is 49 feet deep, and has an excellent spring with the water standing about 25 feet deep in the well, the diameter of which is of large size. It is proposed to further increase the inflow of water by boring at some later period. No. 5 was sunk to supply two cottages. Although situate in a district proverbially dry and badly off for water, a good supply was found at a depth of 30 feet. No. 6—this is perhaps the most remarkable well of the seven alluded to in this notice. At a depth of 13 feet 6 inches a spring (whose existence was not even suspected) was found that has been proved, after being tested by steam pumps for several days, to yield between

20,000 and 30,000 gallons of water per diem; and this after an abnormally low rainfall during the year. No. 7—at a depth of 18 feet an abundant supply has been found, and, like the wells Nos. 1 and 2, has been sunk to substitute a well that cannot be relied upon."

An instructive incident arose out of these successes; Lord Jersey was so impressed by Mullins's performance that he determined to arrange an experiment. Mullins consented and the experiments were duly made at Osterley Park under the guidance of Sir James Crichton-Browne and in the presence of the Earl of Jersey, Sir Herbert Maxwell and others. These gentlemen, learned in their own departments, knew nothing of dowsing and accordingly the tests they devised were of little use. At one point Mullins was asked to allow himself to be blindfolded; he consented, but Sir James Crichton-Browne, in a heavy-handed way, insisted on stuffing the bandage with cotton-wool (a necessary precaution, certainly, when tactfully done). Mullins became irritated, tore off the bandage and "vowed that he had practised his profession for thirty years without once having had his honesty called in question, and would not submit to have it doubted now." "Don't you believe my word?" said he, not scientifically it is true. But Sir James's answer was not more scientific: "I believe nothing but what I see"!

This curious attitude of mind is reflected by the Right Hon. Sir Herbert Maxwell himself; for, having recorded the incident, he concludes with these strange words, almost incredible as coming from so learned and able an observer: "I don't believe in the divining rod, but I don't deny that its virtues are genuine [!]; and were I in straits to find water, I should employ a professional water-finder—rod and all—if there remains one so successful as Mullins was."¹

The mass of evidence thus far presented on behalf of John Mullins should enable everyone to come to a conclusion with regard to his possession of the dowsing faculty.² It will be asked whether there is any information regarding any possible

¹ Sir H. Maxwell, *Memoirs of the Months*, i. 103-106; cp. vi. 171-174.

² Among persons of position, in addition to those already cited, for whom Mullins successfully dowsed, may be mentioned Lord Salisbury, Sir Robert Roper, Lord Exeter, Lord Stanhope, the Dukes of Rutland, Grafton, and Beaufort, Lord Knutsford, Lord Leigh, Lord Yarborough, Lord Brownlow, Lord Heytesbury, Sir J. O. Poynder, M.P., and very many others, in addition to innumerable commercial concerns, homes, asylums, and the like. Mullins also discovered the spring at Catley Abbey which is described as "the only British natural seltzer water spring," while dowsing for Mr H. Chaplin, M.P.

failures of Mullins's. If such cases had been at all numerous they would have undoubtedly reached Sir William Barrett, who made numerous inquiries in all the districts visited by Mullins in England and Ireland. A number of reports of failures were certainly received, but very few bore investigation. They were found to be due to other dowzers, or to one of the young Mullins's, or not to be failures at all, or only to be partial failures, or even to be striking successes. One case of "complete failure" was advertised; it was stated that the Hastings Board of Guardians had employed Mullins with the result of a complete failure. Inquiries showed that the failure was far from complete, the facts having been that whereas Mullins had predicted water at 80 feet it was not found until 200 feet had been sunk. Of such failures there are certainly a few, perhaps ten or a dozen, not more, known to us. The astonishing fact remains that even if all his known failures were to be multiplied fivefold they probably would hardly amount to five per cent. of the successes he had, for the reader is again asked to remember that only a small proportion of the successes known to us are reproduced in these pages.

As an illustration of the caution that must be exercised in accepting failures as well as successes may be quoted this case. A great failure on the part of Mullins was reported from Carlow; the details seemed complete, and various critics made play with it. Here is the result of an investigation on the spot which Mr J. R. Kilroe was asked to make; writing on the 16th of July 1900 from the office of the Geological Survey of Ireland, he says: "I have made inquiries about Mullins at Clonmel, as promised, and found, to my disgust, that the people there made the poor man drunk and turned his performances into a laugh!"

CHAPTER VI

NOTABLE CONTEMPORARY BRITISH DOWZERS:
PROFESSIONAL

§ I. WILLIAM STONE

WILLIAM STONE is a native of Burbage in Wiltshire, and has had a wide and successful experience as a dowser, describing himself in his characteristically modest way as "the most successful water finder living," and stating himself, fairly accurately, to be "under the distinguished patronage of Her Most Gracious Majesty the Queen, and their Graces the Dukes of Northumberland, Grafton and Buccleuch, and all the leading nobility."¹ His business is that of a well-sinker and water-engineer. Stone is a very shrewd business man, not marred by any undue sense of modesty, and has a very inflated notion of his own importance. He is, however, very generally respected, having been Rector's churchwarden and a District Councillor of his parish, besides Chairman of the Technical Education Committee for his district. In his advertisements he does not forget to mention that he is a Freemason and an Oddfellow, and makes casual references to his kindness of heart and charitable nature.

But these are trifles; his solid achievements as a dowser cannot be questioned, as the Carrigoona experiment, described in detail above, shows well enough. It is only fair to say that Stone submitted himself to this long and wearisome experiment, not only without fee but at considerable inconvenience to himself. What is worse is that he is often guilty of wild exaggeration and even occasionally of direct misrepresentation. An example of this must be quoted as a warning. On being requested to quote some examples of his dowsing successes, Stone described, amongst others, a case at Arreton in the Isle of Wight, writing: "My visit to the Isle of Wight was to a village called Arreton. Several attempts had been made, at

¹ The quotations are from the title-page of his catalogue: *Water! Water! Water!* (Spilsby [1899?]).

great expense, to obtain a water supply to this village without success, and upon my arrival I was told by the old men that I should never find a spring of water in their neighbourhood. I said, 'Well, you must wait and see,' and I started to work with my rod in hand, and in a few minutes I discovered a spot, beneath which a good supply of water was flowing, and all the company who were with me were astonished, and said that was a spot they thought water would never be found at; I, however, guaranteed a spring at 10 feet, and the work was entrusted to me to carry out, which I did, and my men tapped water at 9 feet, which quickly rose to the top, and I laid it on to the Rectory and village by gravitation. A well had been sunk within 20 yards of this spot, to a depth of about 50 feet, and not a drop of water was found."

These details were substantiated by reports in several newspapers, including *The Morning Post* for the 20th of September 1892. In *The Daily Graphic* for the 18th of April 1892 appeared a photograph of Stone standing by a powerful jet of water,¹ under the heading "A Water Wizard in the Isle of Wight," together with the statement that the spring had proved more than sufficient to supply the wants of the village. Mr Ernest Westlake investigated this case on the spot and found that Stone had been so sure of getting water that he had built a large reservoir and laid pipes to the cottages before he had got any. At that time there were four inches of snow on the ground, and with this and other temporary supplies, when the tap was turned on at the cottage, a powerful jet was got. By this Stone had himself photographed. Unfortunately, however, after a few minutes the supply ran out, and not a drop had been obtained since!

Such cases, however, are exceptional, not more than a very few having come to light after the most exhaustive investigation. Before quoting instances in which Stone has been successful it will be interesting to reproduce his own account of the manner in which he discovered that he had the faculty of dowsing: "I was invited by a friend who had some suspicion that I possessed the power of a 'diviner' to try the rod; I did so, and when walking with the rod in hand I felt a peculiar twitching in the rod, and hearing that the rod would turn with any one who had this feeling, I was determined to stop it, if possible; but, to my astonishment, the rod twisted itself over until it broke in my grasp; a good spring of water was found to be running beneath. I was, of course, some time before I would

¹ This photograph is reproduced; it shows Stone's manner of holding the rod.



FIG. 34. WILLIAM STONE

take hold of the rod and try it, as I was an unbeliever, and after I found I possessed the power, I was a long time before I would practise it, though I had numerous invitations.

Since then I have discovered thousands of springs of water with my divining rod, and can openly say that I have never failed to find water at the spots I have indicated. In numerous cases I have been called in after great expense had been incurred without success; also in many instances I have discovered water within a very few yards of the unsuccessful operations. I may say that I have discovered over a hundred springs within a radius of about 30 miles of where I am now living. I still feel a peculiar tingling sensation passing through my body, when standing immediately over springs of water.

The power to use the rod is not, I think, hereditary. My father did not possess the power, but I have a little daughter who possesses the power to a slight degree."

It should be noted that Stone does not work on the principle of no water, no pay. He states that he is willing to undertake work on the terms of only charging out-of-pocket expenses, in addition to his fee, if water is not found. This is an unsatisfactory system, for there is nothing to stop the borer going down to prodigious depths until he does find water; complaints against Stone in this respect have, in fact, been received.

On Stone's statement that he never had a failure being questioned, he replied, "I would frankly tell you, if I could recall a single failure, but I do not know of even one that I have had." This, however, is not quite correct; Stone, like other dowsers, has had occasional failures. It is certainly true that the number of these is very small compared to that of his successes. In his catalogue and book of testimonials are very many tributes to him, of which only one need be quoted (it is from the Arthur's Hill Brewery Company, Newcastle-on-Tyne): "The success which has attended the sinking and completion of our well affords another striking proof of Mr Stone's marvellous power in the use of the divining rod. He visited us in May 1894, and with his divining rod directed us to a spot where he said we would find water about 40 feet from the surface. His prediction was correct, for after sinking 41 feet, we came upon a spring of beautiful water, large enough to supply our wants at this brewery. We need scarcely say that our confidence in Mr Stone's ability is beyond doubt, and he fully merits the fame which he has achieved in this district.

In reply to inquiries Mr Higginbottom, the writer of the above letter, answered: "Before engaging Mr Stone no attempts had been made to find water by boring. I cannot believe Mr

Stone's success in our case was a mere chance. His prediction as to the depth at which we should find water was about accurate.

These replies answer your questions. I may now add that the experiments were made inside and outside the brewery ; the strongest indication of the presence of water exhibited by the twig in the hands of Mr Stone was in *a cellar*, the floor of which was covered with cement about three inches thick. Having in my own mind perfect confidence in the power of Mr Stone I did not even bore, but at once proceeded with the sinking of the well with the result that at a depth of 20 feet we came across good feeders ; but at 40 feet, predicted by Mr Stone as the depth at which we should find a good supply, we found all the water we wanted and now can draw 3,000 gallons per day. In order to put Mr Stone to a further test I took him to a back street about 25 yards from the brewery where very many years ago there was a pump (but of which Mr Stone knew nothing) and on the very spot where it stood the twig denoted the presence of water, but not of sufficient quantity for our requirements." This last fact was quite independently substantiated by a correspondent writing in connection with another case, that of the American Steam Laundry Co., of Newcastle-on-Tyne.

Stone was asked to furnish particulars of any case in which, as he stated in the communication quoted above, he had been called in to find water with the rod "after great expense had been incurred without success." He replied that he had not kept a list of all these cases, but quoted a few that he remembered. Here is one, in his own words : "Colonel Grantham, West Keal Hall, Spilsby, dug to the depth of 50 feet for a water supply for a house, without success, and sent for me to come and test with my divining rod. I did so, and tested, and about ten yards off where his deep sinking had been carried out, I discovered a beautiful spring of pure water at a depth of 30 feet. The water came in so strong when tapped, that the men had great difficulty in bricking the well."

Inquiries were made and Captain Grantham, Colonel Grantham's son, who had taken great interest in the experiments, substantiated the details. It appeared, however, that Stone's 30 feet was really 42 feet, and his "about ten yards" should have been 15 yards. And this is characteristic of Stone's accuracy as to facts and tendency to exaggerate in details. Captain Grantham added : "There is an under-drain running a small run of water across the drain in front of my house, with nothing to indicate the place ; I got him to walk along

the drive with his rod ; as soon as he stood over the drain the twig turned over."

A striking case occurred at Sherburn-in-Elmet, Yorkshire. Mr Walter Colley, of Leeds, the owner of the property, had a well 70 feet deep from which he had obtained a good supply of water for fifteen years. Then an artesian well was sunk near by and Mr Colley lost his water, though he bored a further 90-100 feet from the bottom of the well. Stone was then called in and, 15 yards from the useless well, indicated a spot where water would be found, he stated, at 60 feet. A well was sunk and a good supply was in fact encountered at 62 feet. These facts are vouched for by Mr Colley himself and it remains remarkable that an entirely distinct supply of water should have been tapped at a lesser depth and at only 15 yards distance from the first supply. The water was met in a layer of gravel and clay after sinking for the stated depth through the magnesian limestone.

Among the testimonials addressed to Stone is one from a firm of land agents, Messrs Bolan and Co., of Palace Chambers, Westminster. They write : "Having employed William Stone on several estates of which we have the management, in various parts of the country, with great success, we have pleasure in recommending him to the notice of noblemen and gentlemen desirous of finding water on their estates, and we can testify to his efficiency in carrying out any works entrusted to him in connection therewith." The value of a dowser to land agents and the like is well illustrated by the following case, in which the assistance of Stone induced the purchase of an estate. Stone's account is as follows : "A large hall called Preston Hall, Uppingham, Rutlandshire, had been standing empty for several years through not having a water supply. Major Codrington, of 110 Eaton Square, London, went to look at it with the view of purchasing, and when he found there was no water on the place he refused to purchase, but agreed he would wait and see if I could find water. I was, therefore, sent for, and upon my arrival I met Major Codrington and the agents of the estate. They had also a gentleman from London to meet me who is a leading geologist.

I at once tested with my rod, and said a spring of water would be found flowing at about the depth of 60 feet. The geologist said water would be found at 20 feet anywhere about the place, and he said to the Major, 'If you don't find water at 20 feet, don't sink deeper whatever you do, for you won't find water until you get to 150 feet.' It was decided to have a trial for the water, and the well is now sunk ; not a drop of

water was found at 20 feet, so the well was carried deeper until it reached 60 feet. Just at this depth, to the inch, a beautiful spring of water was tapped, which yields an abundant supply for all purposes, and through this result Major Codrington has purchased the estate.

Nine wells had been sunk on this estate before I visited it, without success, and useless wells are on each side of the well I have just sunk. My sinking plant is still on the spot and the well is just completed and open for inspection."

The geologist referred to refused to allow his name to be mentioned, but Major Codrington kindly confirmed Stone's statement as follows: "Stone's account is substantially accurate. There are a few details which are not quite accurate, however. There was water on the place, but the supply was insufficient. The geologist did not imply that water was to be found at 150 feet, but he merely said, 'The clay is 150 feet thick at least, and there is no water in it.'

At about 60 feet the clay was noticed to be very wet, and the actual supply of water comes from a point 66 feet below the surface of the ground, where there is a band of rock about 7 or 8 inches thick.

I sent a piece of this rock to the geologist, and he pronounced it to be a band of limestone, such as frequently occurs in the upper lias clay.

I may say that the soil which lies above this clay, and which is from 20 to 25 feet thick, is known as 'Northampton sand.' All the old wells are merely dug in this, but they have apparently been neglected for years. They nearly all contained some water, but, as I have said, the supply has not been sufficient for the place." Major Codrington goes on to say that, the analysis of the water being satisfactory, he purchased the property.

Here is an example of the money that can be saved on occasion by the use of a dowser. Mr Stevenitt, for many years Superintendent of Police in the Lincolnshire Constabulary, requiring water at his house, Minting, Horncastle, spent £200 in boring 290 feet, to no purpose, beyond getting some salt water at 135 feet. He then applied to Stone who indicated a spot in a field, about 20 yards from the stock yard and 45 yards from the useless boring. At 42 feet a supply ample enough for Mr Stevenitt and his neighbours was encountered. Mr T. V. Holmes comments: "In Lincolnshire the gratitude for good water at 42 feet on the part of Mr Stevenitt is most intelligible."

Another of the cases brought forward by Stone is the following: "I discovered a spring in an estate in the North of Ireland for a gentleman who lives at Newcastle-on-Tyne, after he had spent an enormous amount of money without success. Upon my arrival on the scene, I pointed out a spot where a spring of water would be found, after walking about five minutes. Water *was* found at this spot, less than 20 feet deep, and the previous sinking and boring had been abandoned after being put down to the depth of about 50 feet with no results. This had been done in the same field I discovered the spring in at 20 feet deep."

The name and address of this gentleman (Mr J. McKay, 6 Brandling Park) were obtained and application for details was made to him; he replied as follows: "In reply to your letter of the 13th, with reference to Mr Stone and his 'divining rod' (whom I employed on my place in county Down, in 1895), before employing him I had quarried through 17 feet of granite for water without success. I then sent a man from Northumberland with proper appliances to bore through the granite, still hoping to find water. He worked for several months. In December 1894 he reported to me that he had found a good spring. In June 1895 we had no water; after a great deal of expense it had turned out a complete failure. In December 1895 I sent for Mr Stone, and I must confess my faith in him was not very great at first, but I was soon convinced he could point out where there was water. He did so on several places on my land, and on one spot where he said there was a good spring, we started and quarried down some 20 feet in hard granite; we found a splendid spring and we have a great supply of water. Through all the long drought last spring and summer, when most of the springs in the neighbourhood were dry, ours showed no signs of diminishing. Where Mr Stone found the spring was not near where we thought we had a spring; in fact, I would never have looked for one in the place he pointed out.

I have great confidence in Mr Stone and his divining rod, and I am very pleased to recommend him. He has been successful in finding water in several places in Northumberland and Durham to my knowledge."

In a later letter Mr McKay supplies further particulars, as follows: "(1) The depth of the old well quarried was 17 feet deep. We then bored through hard granite 29 feet, in all 44 feet. There is a lake a little distance from where the well was sunk. We were 6 feet 6 inches below the level of this lake. We expected to have a good supply of water on account

of this. The depth we quarried where Mr Stone pointed out was 23 feet, and we got a good spring.

(2) The locality where the land is situated is in South Down, between Rathfriland and Castlewellan (about midway). Cabra Towers, Cabra by Newry, is the postal address, and the nearest railway station is Ballyronev *via* Scarva."

We may now conclude this selection of examples of Stone's successes with the following interesting case. The Hareby Estate at Spilsby in Lincolnshire consists of about 1,000 acres

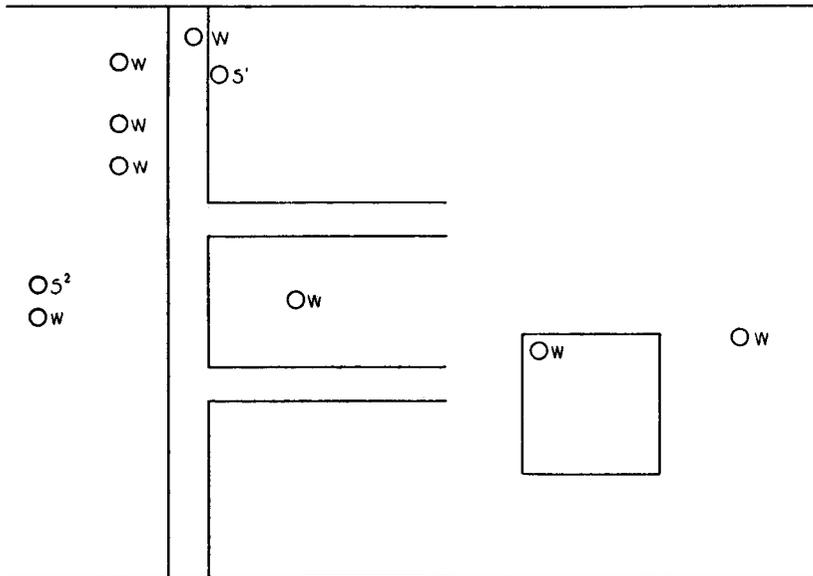


FIG. 35. PLAN OF WELLS ON THE HAREBY ESTATE

Wells marked W are those sunk before Stone came and are practically useless, though considerably deeper than S¹ and S², the wells sunk by Stone. S¹ is 7 feet deep and supplies the house and other buildings; S² is the well 15 feet deep and is 3 yards from an old well which is 28 feet deep and which has no water.

of land, on which are built a small village, a large mansion, farm premises and a church. To procure the necessary water supply, always a difficulty in this county, eight wells had been sunk with no success. Accordingly the owner of the property was put to great expense, two water-carts having been in constant use for bringing water from a distance. Stone was then called in and indicated two places where he declared water would be found. One place was close to an old and useless well 80 feet deep; here an ample supply of water was found at 7 feet deep. The other spot indicated by Stone was 3 yards

from a useless well 28 feet in depth; here a supply of about 20,000 gallons per day was found at 15 feet. All the other old wells were considerably deeper than this. These facts are substantiated by independent statements made by Stone and by the gentlemen who successively owned the property. This was one of Stone's most striking successes.

§ 2. BENJAMIN TOMPKINS

The career of Benjamin Tompkins, now of Ivy Lodge, Thetford, dates from 1891, and he is, with William Stone, the most successful professional English dowser living. Prior to the date mentioned Tompkins was a tenant farmer; on his farm he had been to some expense in trying to obtain a good supply of water for his cattle and at last was advised to send for Mullins and get the aid of the dowsing rod. This he did; Mullins came and found a spot where he said a plentiful supply of water existed at a depth of less than 30 feet. A well was sunk and at 15 feet deep a strong spring was tapped, which has yielded an unfailing supply ever since. After Mullins left, Tompkins tried his own skill, and found the forked twig also moved in his hand. He traversed another part of his land, and found three spots where the twig turned vigorously. Mullins was asked subsequently to try the same ground; he came during Tompkins's absence from home, tried over the place, and fixed on the same spots that Tompkins had found, and privately marked, unknown to Mullins. This led the former to test his own powers in other ways, and, having gained confidence, he was asked by Messrs Smith and Marshall, of Chippenham, to try if he could find a spring on Lord Methuen's estate, as a well already sunk had proved useless. Tompkins tried, and after a long search the rod moved at a certain spot on a hillside, where he predicted a good supply of water would be found. A well was sunk, by blasting through 9 feet of solid rock, and at 18 feet a spring was struck, which rose some 9 or 10 feet in the well. Messrs Smith and Marshall afterwards wrote as follows to Mr Tompkins: "The decision you arrived at was perfectly correct, and it is our opinion that if we had made the well 6 feet either way to the right or left of the spot you marked, we should have missed the water, which is now abundant." Messrs Smith and Marshall subsequently vouched for these facts as "perfectly correct."

Arising out of this success Tompkins was next engaged by Mr Charles Maggs, a Wiltshire county magistrate, and proprietor of the Melksham Dairy Company, who required a large supply

of pure water for his butter factory ; in a field close to the buildings he had had a well sunk to 21 feet and bored a further 18 feet, but no water was found. Tompkins was then asked to dowse and indicated a spot at the other side of the field, exclaiming, " Here it is ; and a good head of water too ! Not running away, but just ready for tapping, and as soon as you strike it, it will come surging up." He further stated that the water would be found at 25 feet. A well was accordingly sunk and at 22 feet a spring was encountered which rose to within 12 or 15 feet of the surface. These details, which are contained in letters from Mr Maggs, show therefore that in the same field as a useless digging 39 feet deep, Tompkins found an ample supply at 22 feet.

Encouraged by these initial successes Tompkins now advertised in the press and received many engagements in most parts of the country, and as far afield as South Africa. We have seen a considerable number of testimonials tendered to him voluntarily ; these show that he has been employed by such individuals of responsible position as the Dukes of Beaufort, Grafton, and Marlborough, Lords Bathurst, Brassey, Camoy, Chesterfield, Cowley, Dunraven, Lansdowne, Londesborough and Long, and a large number of other private persons, these in addition to a number of Parish, Rural District, Town and County Councils, and many Architects, Estate Agents, Waterworks, Land and Railway Companies, Engineers and Factories, as well as several Colleges. Among those for whom Tompkins has successfully dowsed within the last year or two are the Dearn Valley Water Board, Bolton ; the Norfolk Dairy Farmers' Association, Norwich ; and Lord Yarborough, Conisborough Castle, Yorkshire. Of this last case Mr W. L. Cole, Lord Yarborough's agent, states (1st of December 1924) that this was the fifteenth occasion on which he had employed Tompkins, who had never failed. It is not claimed that in all, or even in most, of these cases Tompkins obtained results which could not have been equally well obtained by a geologist or an experienced well-sinker. But these names do show the trust reposed in a man avowedly practising an art unrecognised by science, a trust that could only have been obtained by repeated and constant success.

A few examples of such successes have now to be quoted. The following letter is from the Rev. G. Booker, M.A., and gives particulars of Tompkins's dowsing for water at Woolhope, Herefordshire : " In reply to your queries, my brother in his lifetime tried to deepen a small well at his lodge gate ; and he lost the very insignificant quantity of water which he had.



FIG. 36. BENJAMIN TOMPKINS DOWSING IN SOUTH AFRICA

There was on a high level, not far from the stable yard, a small well ; but there was no quantity of water in it ; quite insufficient for the supply of the house, and much more of the stables and gardens. The principal supply of the house and stables, etc., was drawn from two ponds used as reservoirs to collect the surface water from the rain, and a so-called land spring on a neighbouring estate. There was trouble about the water supply almost every summer. Under these circumstances, I, being a trustee of the estate, had Mr Tompkins's work as a water-finder brought under my notice. I communicated with him at once, and he came, and without any trouble or delay found two springs, one of which, more convenient in position, we adopted, and found water, sinking through the hardest blue-stone, at $51\frac{1}{2}$ feet. Mr Tompkins in reply to an enquiry of mine when he found the spring, named 50 to 55 feet as the probable depth we should have to sink ; you will see that the actual distance was between his two limits.

As to your third question [whether any prior attempts to find water in the neighbourhood had been made without the aid of a dowser] I have heard of attempts being made to sink wells and get water in the immediate neighbourhood of my son's property ; but without success.

The *latter* part of the sinking in our well had to be done with dynamite. The water came in too quickly for the use of gunpowder. When last I enquired, there were 25 feet in the well, and the workmen are now fixing a wind-pump to lift the water from the well and force it to the house and stables. There may be charlatans amongst the so-called water-finders : but Tompkins is a genuine man and may be trusted."

Mr Booker, on request, kindly sent the following further details : " The spring was found on the 19th of September 1893 : but the well was not sunk for some months after that date, as Tompkins was very busy ; and when he got to work he had to proceed by blasting with large charges all the way down. It was past midsummer in 1894, I think, before he finished the well, and had a head of water of 30 feet. I said 25 in my last, but it is recorded as last mentioned. The parish where the well was sunk is that of Woolhope, which is in County Hereford, and distant (speaking roughly) equally from Hereford, Ledbury and Ross. It is, you may be aware, well known to geologists from its presenting a sample of the silurian formation ; and is, I believe, mentioned by Sir Roderick Murchison in one of his works.¹ Tompkins's success on my son's estate got him employment on the Earl of Chesterfield's, which is

¹ [Sir R. I. Murchison, *Siluria* (1867), pp. 107 *et seq.*]

close at hand. If you were to see him at work you would not doubt him. It is most interesting to see him following the run of the spring."

The following case is an extremely valuable one, not only on its own account but because of the notes with which Mr Westlake enriched it. This case was recorded by Mr T. W. Pickard, the steward of the estate in question, which comprises Toy Farm. He wrote in 1899: "About 30 years ago a well was sunk at the Farm for some distance, and then abandoned on account of bad air. After this another well was dug, 167 ft. deep, but no water was found. Some short time before 1893 I personally took the depth; it was then quite dry, and the old men living at the place never remembered water there.

In 1893 Mr Tompkins, of Chippenham, was engaged. I purposely met him at the station and drove him to the place. He had no idea to what part of the estate he had to go until he got there, and he had no private conversation with any of the men there. He went over the ground tracing all the springs to one point, 450 ft. from the old well and from 8 to 10 ft. above it, and said that water would be found at a depth of 70 ft. I have marked on the enclosed tracing [Fig. 37] from the 25-in. map, as near as I can recollect, the lines he traced (they form a star of six sinuous lines over 100 yds. long).

After he had found the place for the new well I took him to the old well, which had been covered up with strong timber; to mark the site there was a small heap of mould on which cucumbers were growing. I sent him over this with his twig, which made no movement. I then told him he had been over an old well several times: I told him the depth, and asked him how he thought it possible to find water nearer the surface such a short distance away. He replied that the old well was out of the run of the springs.

We dug at the spot selected, and the first 20 ft. of chalk was rubbly [probably decomposed]. Nearly 70 ft. down we came on a level bed of solid flint about 6 to 9 in. thick; and at 70 ft. on open fissures mostly vertical, which were wet as though water had recently passed through; there was a very slight dribble at the time.¹ At about 118 ft. we struck two springs on opposite sides of the well giving a strong supply, and sunk an additional 6 ft. before the water gained the upper hand. The well is 124 ft. deep, in ordinary white chalk with

¹ Through one of these, according to Mr Sherlock, a young man at the Farm, a draught of air came with such force as to be heard at the surface, showing an open fissure of great extent. He said the well takes an hour to pump out, and refills in twelve or less.

flints, which continued to the bottom. The well holds 12 ft. of water, the same as when first dug. The water at the bottom came through vertical fissures and horizontal veins, and principally from the west side from the directions Tompkins had named from either end of the plantation (an enclosure on the hillside to the W. and S.W.). We have since bored some 20 ft. to obtain a better supply, but I do not think it has improved it. The old well has been filled in with the chalk, etc., from the new one."

These are Ernest Westlake's comments: "This I regard

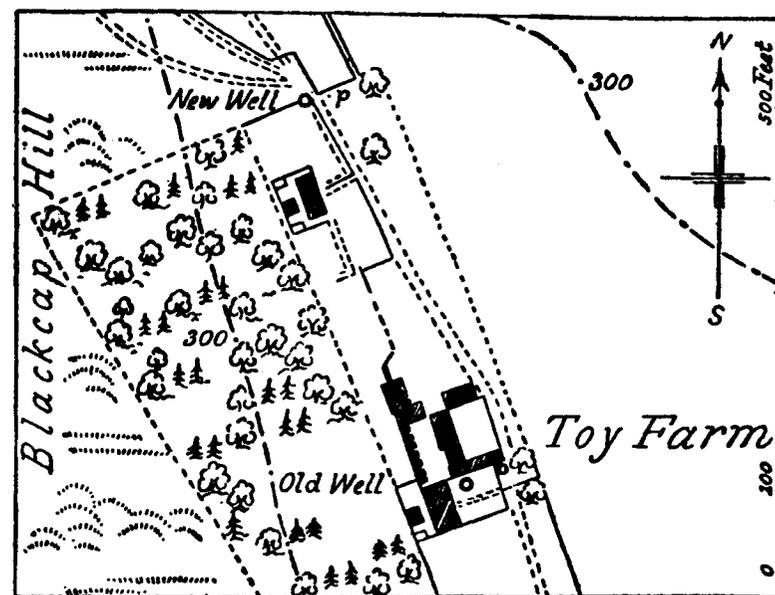


FIG. 37. MAP OF TOY FARM

From the 25-in. Ordnance Survey Map: Sussex (LXVII. 12)

as the best case I have yet met with in favour of the dowser. The farm is situated in a remote hollow of the Sussex downs, midway between Glynde and Newhaven. The valley of which it is a ramification falls into the sea at Bishopstone, three miles to the south: half-way down the Newhaven Water Company are pumping a considerable supply from wells. The old well was close to the farm, and the level of the ground at the well is about 260 ft. above the sea.

The new well is 150 yds. further up the valley, and about 22 ft. above the old well. Hence the water standing 12 ft.

deep in the new well has a level of no less than 77 ft. above the bottom of the old well. The new well is in chalk with flints. On the heap from it, shown in the photograph [Fig. 38], I found a spine of *Cidaris sceptrifera*, which is common in the zone of *Micraster cor-anguinum*, so that the thick flint-bed 70 ft. down is probably the strong and constant *M. cor-anguinum*-tabular described by Dr Rowe as occurring between Beachy and Seaford Heads about 62 ft. above the zone of *M. cor-testudinarium*.¹ According to this reading the new well is sunk entirely in the *M. cor-anguinum* chalk and to within 8 ft. of its base; which last may account for finding some other fossils, as two or three specimens of *Holaster placenta*, which are commoner in the lower zone. The bottom of the old well is similarly 57 ft. deep in the zone of *M. cor-testudinarium* and 52 ft. above its base—it being 109½ ft. thick on the coast.

Water in the chalk usually lies at a gentle gradient which is, however, modified by the density of particular beds, and by the presence of fissures. In the lithology of the beds as seen on the coast there is nothing to explain the absence of water in the old well, or its preferential occurrence in the new well, which is doubtless due to fissures. Water in chalk usually flows in fissures, i.e., in the main planes of jointing, which in this district, as shown by the direction of the valleys, run N. and S., and E. and W.

The narrow valley, approximately N. and S., in which the farm lies, is slightly sickle-shaped. The house with the old well is about the middle of the handle, so to speak, and the new well at the ferrule end, the valley at this point being contracted by a slight bulge from the east, which may, and probably does, indicate the position of an underground fissure. With this may be taken the fact, noted by the steward, Mr Pickard, that the water flowed into the well from the sides of the valley rather than from its upper end.

Whether Mr Tompkins noticed a slight surface feature of this kind—I did not myself till I was leaving and saw it fore-shortened—and, if he did, whether he drew the right inference from it, may be doubtful. I think a geologist at any rate would have taken no account of it, but would have advised deepening or tunnelling the old well."

The next case, from Mr Codrington H. Crawshay, D.L., J.P., of Llanvair Grange, Abergavenny, is instructive because of the precautions taken to prevent any local knowledge being

¹ A. W. Rowe, "The Zones of the White Chalk," *Proceedings of the Geologists' Association* (1899-1900), xvi. 322-323.



FIG. 38. GENERAL VIEW OF TOY FARM AND THE VALLEY

gained by the dowser. Mr Crawshay writes: "For the last four months I have been almost without water (and in consequence could not have my family home), and I now find that my predecessors were short every summer. Having ascertained from Mr Tompkins his fees, I wired for him to come, and met him at the station myself, so as to prevent him speaking to anybody who knew my place. He at once started work, cutting a V-shaped twig from a white thorn in the garden. He soon came on a stratum of water, and, following it up through my smoking-room, eventually came on the spring at a distance of 86 yards from the house. As my readers may imagine, I did not believe him, and told him I wanted to see the water. He immediately offered to sink the well on the condition of no water, no pay, which offer I closed with. After arranging terms, which were the ordinary well-sinking charges, *plus* the fee for finding the water, he started sinking the well, and at a depth of 14 feet struck a very strong spring—so strong that it was impossible to sink deeper than 18 feet, as no pump was able to keep the water down so that the men could work. Since then I have connected my engine, etc., to the well, and I am glad to say that I now have an abundance of water, and I find it impossible to lower the well more than 2 feet 6 inches. The water never rises more than 5 feet at the most."

In reply to inquiries Mr Crawshay states that this excellent supply, reached at 14 feet, was indicated by Tompkins within 80–90 yards of a useless well over 60 feet deep. Mr Crawshay adds that during this visit he also indicated water under the kitchen: "This afterwards proved to be true, as the following November the spring burst through the floor, and nearly flooded us out, and I had to cut a drain to run the water off." This fact was quite independently recorded by Sir Henry Harben. Mr Crawshay concludes one of his letters (28th of May 1899): "I am sure there are many people who, like myself, would greatly benefit if they only believed in water-finding by the so-called divining-rod; in fact, I can never repay Tompkins for the service he did me at Llanvair."

In view of this success it is interesting to note that Tompkins revisited the locality some time after. The Rev. W. J. C. Lindsay writes from Llanvair Rectory: "The snow was on the ground when the 'diviner' came here the first week in February 1895. There was the usual walking over the grounds round the house, with the forked hazel rod in his hands, which occasionally gave an upward movement that, he said, indicated the presence of water. At last the evolutions of the

rod became so marked and vigorous, that it almost skinned the fingers of the holder, and he said a strong spring would be found here. This was at a distance of some 250 yards from the house, and at an elevation rather above the level of the top of the house. A well was sunk and water found at a depth of 34 feet, the water rising to as high as 29 feet in the well. During all the dry weather we have had an abundant supply, and little pumping, as the cisterns are mostly filled by gravitation."

Nothing is known of the local conditions of this case and it is therefore of little evidential value, but it should be noted that the fact of snow being on the ground disposes of the possibility of the success being due to the observation of natural or geological phenomena.

The following letter appeared in *The Farmer and Chamber of Agriculture Journal* for the 18th of October 1897. The case is interesting as the artesian well-borers were attempting to bore through the Oxford clay, whilst the dowser, as in many other cases, evidently found a permeable surface stratum, of sand or gravel, above the clay. The letter is from Mr G. W. Bennett, of Tiddington House, Oxford. "Being without water for my garden and stable, except what was fetched by water-cart some distance day by day and caught from rainfall, and this altogether unsatisfactory, I experienced a great difficulty in getting a proper water supply, and eventually decided to employ a firm of artesian well-borers to bore for water for my use in 1883. A spot was decided upon, and a boring put down to a depth of 312 ft., which cost me over £300, and no water was obtained; all I have for my money is the piece of parchment containing the sections of the boring and a few samples of the formation. . . .

I engaged Mr Tompkins to search my property for a water supply . . . and instructed him to carefully test my stable yard, as this was the site I was most anxious to find water on. After carefully searching this property he reported that no water existed there, and that it would be simply useless to attempt to obtain water here. I then informed him of what I had previously done, and the amount of money I had uselessly spent. Thus the water-finder proved correct in his first test.

A move was then made into the gardens, and, after going over them, the water-finder reported a stratum of water was running across the corner of the garden, and was an overflow from a spring above. He traced up this stratum of water. The twig he was using was a white thorn cut in the shape of a V, which he held by the two prongs apex downwards. As he walked over this stratum of water, the twig kept rising

in front of him until he came to the head of the spring¹ in the upper part of the paddock above, when it turned completely over and over, and so strong was the upward movement of the rod that it bent considerably in its frantic endeavour to turn over, and on being held firmly by the water-finder, it broke off in his hand. Naturally, we were all surprised and astonished at such a remarkable occurrence.

I instructed Mr Tompkins to prepare me an estimate to sink a well four feet diameter in the clear, and to supply and erect a wind engine and storage tank. The well was put in hand, and at a depth of 30 ft. water was struck. The well was steined up before sinking deeper, and a strong pump put down to keep the water under, and before sinking many feet it became necessary to put on seven men to keep the water going. From the inrush of water the bottom men were working up to their knees in water, and the moment the pump and buckets stopped they were in danger of being drowned out. The work proceeded under these circumstances for a week or so, until it became useless to continue the work owing to the abundance of water; 10,000 gallons per day being the yield of the spring at a depth of 37 ft., and this site is at a higher elevation than my stable yard. I cannot speak too highly of Mr Tompkins's practical success, both as regards his finding water and the satisfactory way in which he has carried out the work."

Inquiries elicited from Mr Bennett the information that the well had never gone dry and that it had been sunk through 3-4 ft. of surface mould and 25-30 ft. of gravel. This proves that the dowser had in fact tapped a spot on the Oxford clay which was covered by a stratum of water-bearing gravel. Mr T. V. Holmes tries to explain away the dowser's success by attributing it to his usual "practised eye." It is curious, however, if the gravel-capping was visible to the eye, that Mr Bennett's gardener and the well-sinker should both have failed to perceive it.

Finally may be quoted an interesting account of a very good case by the Rev. W. H. Seddon, which we owe to the kindness of Mr C. M. Gere. Mr Seddon writes (21st of December 1904): "I have made a tracing [Fig. 39] of the ordnance maps of the district which will show the lie of the land and the position of the various springs and wells; and also enable

¹ [This is an absurd but favourite expression of Tompkins, who is under the delusion that underground water originates in a reservoir, and that the higher up you trace the "spring" the more copious will be the supply.]

you to follow the course taken by the 'dowser' in his operations. He [Tompkins] started from A on the right of the map, followed the road round to B and returned on this track to C. As he returned he indicated three channels along which water would be found, shown by the three dotted lines on the map, and these channels he followed down to their common meeting-place where the well is now dug. He gave the probable depth as 35 ft. (but said he might be out as much as 10 ft. if there was black clay about, as there is), and the probable volume as between 500 and 700 gallons per diem. Water was

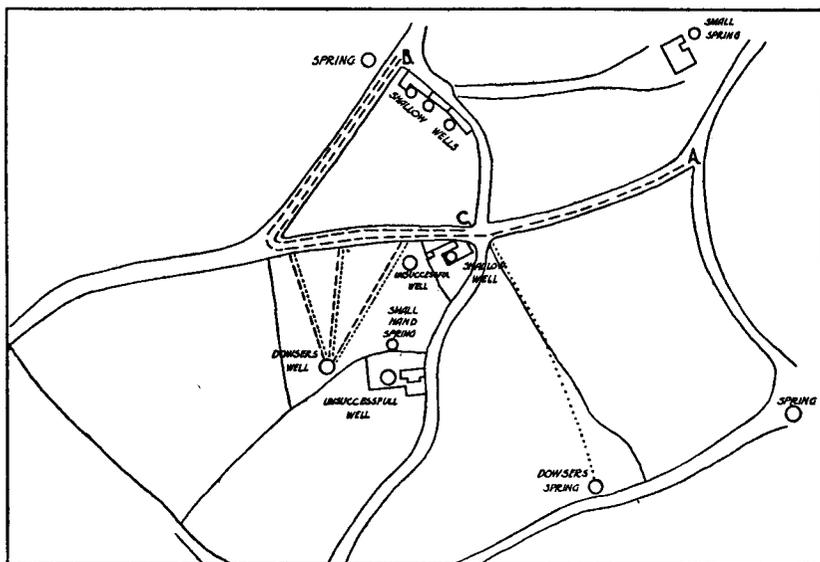


FIG. 39. MAP TO ILLUSTRATE THE REV. W. H. SEDDON'S CASE

found at 26 ft. and the well continued down to 35 ft. and the amount of water as gauged at bottom 500 and 600 gallons per diem. Two wells had been previously dug on this property at points indicated on the map to a depth of 28 ft. and 18 ft. respectively, but abandoned as useless in stiff black clay. At the point indicated by the dowser very little black clay was found, and the water runs in a stratum of grey 'claybats' which I have not seen elsewhere in this locality.

The dowser used a forked white thorn twig, holding the forked ends loosely in his closed and upturned hands, and the twig appeared to bow to right and left as he went along when he believed water to be flowing, and when he got to the point

where the streams met it turned rapidly in his hands and twisted itself almost to pieces when we—the bystanders—took hold of the loose ends. Several of us, myself among the number, took the twig and held it as the dowser held it without obtaining any result. You will note that the position in which the twig is held, with fingers closed and hands upturned, has the effect of tightening the sinews so that the slightest further stretch upon them is acutely felt. I took note of this fact and afterwards went over the same (and other) ground as the dowser, with my hands in this position but without a twig, with the result that I find that a very distinct aching sensation is set up as one (presumably) passes over underground currents. In this way I have picked up without difficulty the streams indicated by the dowser, and have indicated water in other places when I was afterwards told that wells or springs existed. On the map you will see a [spot marked 'dowser's spring,'] indicating a spot where the dowser tells us there is water and that a well might be successfully dug. This spot he marked by cutting out a turf. The other day, starting from the corner of the meadows immediately opposite the point marked C on the map, I followed the line indicated by faint and infrequent dots and landed on the spot where the turf had been cut, though I certainly had no remembrance of its whereabouts, or indeed was thinking at all about it before I found it. . . ." These last observations are interesting but, of course, of no value, as Mr Seddon was present when Tompkins gave his indications.

Though Tompkins states in print that he never fails, he agrees in correspondence that he has had a few failures and readily gives the names and addresses of those who employed him on those occasions. If Tompkins had restricted himself to the practice of his art nothing but praise could be given to him, and he could be allowed to rest contentedly on the laurels he has well earned in many years of successful dowsing, not to speak of the silver medal accorded to him in 1906 by the Wirral and Birkenhead Agricultural Society. Unfortunately Tompkins has fallen into that trap for dowsers, the attempt to explain what he does. He writes: "I feel a tingling sensation, and the twig begins to quiver when I get on to a running stratum of water, and when over it the twig rises immediately. It does not move for surface water nor water in pipes or drains, only natural live water, as I term it. The moment I cross a stratum of water I feel a sort of bracing sensation, which passes up my legs, back, and shoulders, and down the arms to the twig; when I get off the water course I feel the loss

of this power, till I cross the water again. When I get over the exact spot the twig revolves over and over, and I am powerless to keep it still."

Basing himself on these sensations Tompkins has evolved a theory of water-finding, into the details of which we need not enter.¹ As will have been observed from the last-quoted case, he believes that underground water always flows in streams; that these streams, if traced far enough, converge to a "head"; and that this head is the proper place for sinking a well. His own perception of the water he ascribes to the magical "electricity." These theories Tompkins defends with vigour; thus, he writes in a letter: "I much regret you think my expression of the 'Head of the Spring' absurd, but I can give you proof I am correct also that I am under no delusion; that water underground originates in a reservoir. . . . My theory was the result of many years of careful study and practice. . . ."

It must be agreed, none the less, that these notions are absurd. But this does not affect Tompkins's great success—in which he has such confidence, and rightly, that he is willing to work on the no water, no pay principle, subject only to a higher fee.

§ 3. LEICESTER GATAKER

Gataker began dowsing about 1890 and has had a very successful career. The son of a Captain in the Bengal Staff Corps, he was educated at the Bath College. Soon after leaving he discovered to his surprise that a forked twig revolved in his hands in the same way as it did with a local "diviner." Gataker stated that whenever he was over a spring of water a sensation not unlike a slight shiver came over him, chiefly in his arms; the forked twig or wire that he sometimes held, then revolved and continued to do so—independently of his volition—so long as he remained over the water. In conversation Gataker added that this sensation was very marked, usually beginning in the pit of the stomach, so much so as often to produce a feeling of sickness. This agrees with what other dowsers have declared.

Judging from his sensations, or from the movement of a rod, Gataker asserted that by practice he became able to estimate not only the whereabouts of underground water, but also its

¹ See his *The Theory of Water-Finding* (1892), now in its third edition, as *Springs of Water* [1925].



FIG. 40. LEICESTER GATAKER DOWSING WITH HIS BARE HANDS

depth and volume. Repeated trials having satisfied him that his success was not due to a mere "fluke" Gataker determined to make water-finding his business, his health not permitting him to continue the sedentary life of a London office. In addition to finding water he made a business of well-sinking and the like; he was willing to work on the terms of no water, no pay, but in that case added 25% to his charges. Gataker was first established at Weston-super-Mare and later removed to Bath. He describes as his "sole agent in Ireland—C. Eyre Townsend, J.P., F.S.I., Mount Coote, Killmallock."

The most interesting aspect of Gataker's dowsing is the fact that he does not ordinarily use any kind of rod, but his hands only, in the manner shown in Fig. 40. His procedure is thus described by an eye-witness: "His procedure appears to be a rapid survey of the ground. He walks along with a quick step, with his hands hanging by his side, until (according to his statement) he strikes a stream of water, when he at once becomes visibly agitated. With outstretched hands he appears carefully to feel his whereabouts, until he ascertains the direction the stream is flowing and follows it up. Then he marks the spot of greatest supply and estimates the depth and quantity likely to be obtained."

Another account, which supplements the one just quoted, is furnished by Mr G. F. Tregelles of Barnstaple, who writes: "On the 28th of October 1896, I went down to Ilfracombe to join a party of members of the Ilfracombe Local Board, who had engaged Leicester Gataker, of Weston-super-Mare and Bath, to look for additional supplies of water for their reservoir. . . ."

Gataker, who is a young man, did not use the forked twig, but walked about with long strides, holding out his hand, or hands, palm down, and every now and then making a dash or lurch to one side, diverging right or left, sometimes walking straight, and sometimes in a circle, and at last, if satisfied, digging his heel into the turf at the chosen spot. He seemed to be *following a sensation*, which is what he professes to do, and he looked very like a dog following the traces of a rabbit over the grass.

On questioning him he said that when over a hidden spring, even with arms folded, he felt a tingling all through his body, and still more so when one or both hands were extended. The depth and quantity of water he estimated by the intensity of this feeling, coupled with experience."

Gataker frankly confesses that he had experienced failures, estimating them at 10% of all his cases. It will be seen, for

there is no reason to doubt his statement, that he was far from being as successful as, say, Mullins. It should be noted, however, that Gataker employed an assistant named A. W. Wills, who often did the dowsing when Gataker was asked for. It seems probable that some of the failures were due to this less able assistant. Though Gataker is so frank regarding his failures, he is a very shrewd business man and not averse to enshrouding himself in a little helpful mystery. Thus, when engaged in some work at Richmond, during the course of which he was obliged to dowse in an adit, he made statements which are thus reported: "Mr Gataker was closely questioned as to whether the stream of running water in the channel of the adit might not affect his judgment. To this he replied most positively in the negative, saying that it might affect the twig, but that by 'a new dodge' which he had discovered about ten months ago, in working with his hands, he could absolutely eliminate that disturbing influence. He could also discriminate between natural and artificial currents, and could even tell if there were two springs, one immediately beneath the other, and could divine the depth and quantity of each."¹ This is the sort of thing that can only provoke well-deserved contempt.

We must now pass on to a consideration of some of Gataker's successes; he was himself asked to furnish examples of these and replied by giving brief particulars—drawn up in a competent and business-like manner—of some two dozen cases.² In each case the full name and address of the client was given, and all the cases were followed by direct inquiries, with the result of substantiating practically all Gataker's claims.

Mr Arkwright of Hampton Court, near Leominster, requiring a supply of water, had sunk by advice a well to the depth of 72 feet; this well had given out by the summer of 1894. Gataker was then called in and declared that a supply of water would be reached at a depth of about 40 feet at a spot only eight yards from the useless well. A well was accordingly sunk at the place indicated by Gataker and after going down 53 feet through hard marl (with the exception of a six-inch bed of stone 6 feet from the surface), water was reached, which stood from three to three and a half feet in the well. These facts are vouched for by Mr Arkwright's agent, Mr H. A. Ashworth.

On his estate Millways, Launceston, in Cornwall, Mr John

¹ *Richmond Times*, 11th of January 1896.

² See also a pamphlet: "Leicester Gataker, Expert Water Discoverer" [Bath 1896?].

Geake had sunk a well to 25 feet for the purpose of supplying 20 acres of grazing lands. This well was found insufficient and was deepened from time to time until it reached a depth of 55–56 feet and had been bored to 86 feet; even then it often dried up for three or four months in the year. Gataker was asked to come, and after going over the place declared that if the well was of the depth it was stated to be there ought to be water in it. On examination it was then found that the well had not been sunk vertically and that its apparent depth of 55–56 feet was not its real depth. Gataker gave instructions for the well to be sunk 10 feet lower and for a heading to be driven for 15 feet in a given direction. When this was done a supply of water was reached which two previous bores to 80 feet and 86 feet had failed to tap, and a sheet of water 10 feet deep was created at the bottom of the well and in the heading. Mr Geake, in describing the facts, concludes: "The water is of excellent quality, and we have raised the rent accordingly." [!]

Gataker was several times employed by Sir James de Hoghton, of Hoghton Tower, near Preston in Lancashire, the facts being attested in several letters by Mr Walter de H. Birch, the agent. In a field close to Hoghton Station Gataker marked a spot where he declared water would be found at from 10 to 15 feet; a boring was made and water reached at 10 feet. At Hardshaw Hillock, Walton-le-Dale, Gataker indicated a place where water might be found at from 20 to 25 feet. Here, in March 1895, a bed of sand was reached after sinking through 22 feet of stiff marl, and a large supply of water obtained in it. At a neighbouring farm, Leigh House, Walton-le-Dale, Gataker indicated a spot where he estimated water at 30 to 35 feet deep. Mr Birch writes that "after getting down 30 feet of exceptionally hard clay and marl, the well-sinkers were beginning to lose heart, and the tenant suggested that a rain-water tank would answer his purpose, but continuing to sink, they struck a vein of sand at about 31 feet, with a good supply of water."

Gataker had five other similar successes on these estates; in addition occurred the following incident. He marked a spot where he declared water would be found at 12 to 18 feet; after sinking through quite dry sand to beyond that depth, Gataker was again consulted and stated that there must be a quicksand, which had thrown him out. This quicksand he declared to be at a depth of from 60 to 70 feet, and when a boring was undertaken from curiosity a quicksand stratum was in fact met at a depth of 72 feet.

The Brewery, Belfast, requiring a supply of water, Mr Thomas R. Caffrey, its proprietor, employed a dowser, whose name we have been unable to discover; at the advice of this dowser four wells were sunk, in only one of which water was found. Recourse was then had to Gataker, who marked two places. In one, where he stated that water would be reached at 150 feet, his assertion was verified. On a second visit he said that if the well were to be sunk a further nine feet a still greater supply would be reached. This was done and found to be the case, the quantity obtained being increased by 2,000 gallons a day. In the meanwhile the second place marked by Gataker was also sunk and 9,000 gallons a day was obtained. Both wells were eventually sunk to 197 feet in order to maintain a maximum supply of water, and Mr Caffrey stated that "it would have been a saving of many hundreds of pounds had I known Mr Gataker when I first started looking for water."

A large supply of water appears to be necessary in the manufacture of beer, for here is another brewery case. The facts are described by Mr H. D. Yorath, the manager of Messrs Lloyd and Yorath, Ltd., of 23 High Street, Newport, Monmouth. It appears that in this case it was Gataker's assistant, A. W. Wills, who dowsed. He located several supplies of water, and recommended that a well should be sunk at one of these. Here, he declared, a supply of 800 gallons per hour would be found at a depth not exceeding 300 feet. At 120 feet 720 gallons per hour was reached and at 285 feet, when boring was stopped, the supply had reached 1,200 to 1,500 gallons per hour. This supply did not give out under continuous pumping.¹

It will be convenient to add here one or two more examples of the success of this assistant of Gataker. The following account from General R. H. Jelf, of Offcote Hurst, Ashbourne in Derbyshire, shows how closely Wills imitated his teacher. General Jelf writes that "being 700 feet above the sea, it was most important to me to find water, and if possible in one of the very few fields that stand above the house.

I tried to get Mr Gataker, but he was ill and could not come, and instead sent an Assistant (name unknown) who had never been in the country before.

I showed him the field where I should like to find the water, and he strolled about with eyes closed, and fingers *extended* (no rod) until at last he seemed to strike a line like a hound. He said, 'Yes, there is a good stream within 100 feet below the surface here, running in such and such a direction' (point-

¹ Cp. "The Champion Dowser," *Land and Water* (27th of May 1899).

ing down towards the bottom of the [word illegible] which you know). The ground, as you know, falls away in that direction, and I remembered instantly that that corner of the field was nearly always wet. (But the dowser had never been near there.)

I sunk a well at the point indicated, and though it is nearly the highest point in the country round, at about 50 feet such a splendid supply of water was found that the well fell in!

I sunk another in the same line that he had indicated, but with more care, and after putting in a bottom at 60 feet, I got a head of 14 feet permanently in the well, sufficient to supply our house, and to give considerable aid to two farms.

(Unfortunately after three years or so an earthquake displaced the strata, in my opinion, and water *now* only stands at 8½ feet.)

I should mention that after finding the line *without* a rod, he plucked one out of the hedge and showed that it did work as they claim. But he *found* the water without the rod, by some kind of sensation apparently."

The next example is also interesting as showing the dowser's success in distinguishing free water from water in pipes. It is described by Mr J. W. Pichard of Oatlands, Lancaster, and has reached us through the kindness of Professor J. W. Graham. "Water Divining is quite a trade now. There are several firms in England, I believe, who undertake to find water by this means. The man who I had over was the Assistant of a man called Gatacre [*sic*], a relative of Gatacre of the Boer War, and they make quite a business of Water finding, undertaking to make wells anywhere where they say water is, on the principle of No water at or just before the depth they say, no pay,—so that you see they are pretty certain that they are correct in their statements.

In my instance, there were several places pointed out to me, and I chose one and sank a bore hole, and struck water at, I think it was, 39 feet, where I was told I should find it at 40 to 50 feet deep, and it rose to within 68 inches of the surface. I had a pump put down, and found their estimate of 60 gallons an hour was rather under the real quantity. Unfortunately the water was unfit for domestic use, as on having it analysed it was found to contain too much free ammonia. . . .

I think the most interesting part of my experience with the diviner was when I took him to a place where I knew there was water, and also knew its source. When we got there he said, 'What's the use of getting me to find water for you when you have a spring there sufficient to supply several

houses?' The water was bubbling up out of the ground, so I said I thought he might tell me at what depth it was, or how deep I should go. After about 20 mins. or half an hour he gave it up and admitted he was beaten; he said he could see the water, but there was no spring. So I sent him over the hedge and he soon found a place where he said there were thousands of gallons but no spring. I then told him he was on the track of the Manchester Thirlmere Waterworks, and the water he saw was a leakage from that.

I can give more and fuller particulars if you still think it worth while, but as it is such a common occurrence now to employ these Water Diviners, I hardly see where the interest would come in. . . ."

To return to Gataker himself, Mr Gilson Martin had sunk a well in a favourable spot to a depth of about 45 feet in order to find water at Chatsworth, Chesterfield, the Duke of Devonshire's estate, of which he was the agent. This attempt was unsuccessful and Gataker was invited to dowse. The latter marked a spot 300 yards from the useless well and on much higher ground; here he estimated that water would be found at 60 to 70 feet. At 69 feet a supply was encountered, contrary to Mr Martin's expectations; so gratified was he that he voluntarily increased Gataker's fee!

We may now conclude with an account of a striking success on the part of Gataker in yet another brewery, Messrs Montgomerie and Co., Bermaline Maltings, Haddington. Mr John Montgomerie, the managing director, writes that they had decided to make an artesian bore in a certain part of their property. Before doing so they called in Gataker, who marked two spots 70 yards apart. He guaranteed that from either of these two places they would get a supply of 20,000 gallons per day at a depth of 100 feet to 150 feet. "We put down a 4-inch bore at the first spring, and are pleased to say that at a depth of 102 feet we are getting a supply of about 100,000 gallons per day, and the water is coming up with great force." Mr Montgomerie enclosed a "journal of bore" as follows:

	Ft.	In.
Forced material	1	3
Sand	4	0
Bound gravel	3	1
Hard bound gravel	4	0
Sand gravel	5	3
Gravel	2	5
Boulder clay	6	0
Gray faikes	5	6
Faikes	1	6
Fireclay	18	7
Faikes	3	7
Sandstones	4	10
" hard	9	4
Faikes	16	6
Sandstone	4	6
Faikes	1	6
Sandstone	2	3
Marl	7	8
Sandstone	1	2
	<hr/>	
	Ft.	102
		11
	<hr/>	

Mr Montgomerie is of the opinion that no water would be found between the two places marked by Gataker and instances the fact "during the excavations for the new bridge here, there was dug out a hole 40 ft. square by 13 ft. deep alongside our mill dam, with only about 3 ft. of an embankment between the water and the hole. We naturally expected that this hole would be filled up with water rising through the gravel bed; but to our surprise not a drop of water came up. Any water that found its way into the working came in at the north-east corner—that is furthest, from the river."¹

¹ In addition to those mentioned above, Gataker has dowsed for such individuals as the Dukes of Westminster and Bedford, the Marquises of Ailsa, Anglesey, and Londonderry, Lords Strathmore, Home, Windsor, Llangattock, Archdeacon Chapman, and many justices of the peace and other persons of position; such responsible bodies as the Winchcombe, Menai Bridge, and Burnley District Councils, the Colne Corporation, the Charmouth and Whittle-le-Woods Parish Councils; and many architects, land agents and commercial firms.

CHAPTER VII

NOTABLE CONTEMPORARY BRITISH DOWSERS :
AMATEUR

§ I. MISS CLARISSA MILES

AN amateur dowser whose achievements are of exceptional interest is Miss Clarissa Miles. This lady has made extensive and successful experiments in thought-transference in conjunction with Miss Ramsden, and has also had some experiences in what is called clairvoyance. The following letter written by her fully explains her procedure and her ideas in the matter. She writes from Lissadell, Sligo :
 “. . . I daresay that on occasions the rod may move or not according to a preconceived idea. That I do not know anything about. But that the spring has power to force that rod up in your face, absolutely against your will, is clearly demonstrated by the following simple experiment which was tried on me the other day by a man in Suffolk, who wanted to prove to a sceptical brother, in a practical way, the power of water over the rod. He pared away the wood from the rod, about 2 inches or so from the forked part, to make them equally thin on both pieces of wood. Then he told me to hold both ends as firmly down as I could, and walk over the spring. Nothing that I could do would prevent both ends of the rod turning upwards at the thin parts and looking me in the face. You could see where they nearly cracked in half afterwards. This I could show you any time, only the wood must be fresh.

Never since I began finding water in 1891 have I ever mistaken surface water for spring water. Lord Monteagle's letter saying that, owing to so much surface water about, it would be better to try no more divining, clearly proves to me how ignorant he is of the power of the diviner to discriminate between the two. I have found it on occasions most necessary to warn people about surface water. Witness enclosed letter. I asked Captain Greer to write out all particulars about sinking for the water for the hospital, as I had never heard exactly what took place until now ; only I knew they had had some

bother, although I had warned them most particularly about surface water, so I send it for your perusal, but do return it to me. Personally I am most pleased at not going to look for water at Lord Monteagle's, as it is only to verify what has been found by other people. I like trying new ground, although it would have been very interesting in some ways, because I wanted to show you more clearly my special way of seeking for hidden springs. . . . It has been dawning on me how I find water. It is entirely by looking on the surface of the ground. I get violently attracted to certain spots . . . the rest of the ground seems to disappear and I see only the spots where the water is. Like when I hold a letter in my hand the room all fades away and I see nothing but the vision. When in a seeing state I can't judge distances, so I made Captain Greer tell me how far off it was I spotted the new place where he is going to sink a well for his new house ; he said 400 yards. Here there were several heads of springs close together. In another place Mrs Greer stood on the exact spot I described to her on a hill 150 yards away. When I am very clairvoyant, houses and hedges are no barriers ; I see, I know, I feel a spring is in that direction. In an open field one glance is sufficient to shew me the exact spot. It saves so much trouble training your second-sight to find the springs like this. I have not the faintest idea if anyone else finds the springs in this way because I have never spoken or described it to anyone except you, and Captain and Mrs Greer. I have on occasions pointed out, like in Suffolk the other day, exactly where the springs were, but unless I followed it up with the divining rod, I know not a single soul would believe me. Shaking convinces them more. You may not believe a word of all this. I daresay not. But I have proved it over and over again that this is the way I find water and by none other. I only go by results. Here is always a large supply of water, and I have never found any of the wells go dry, not even in those dry summers.

I send you an account of another well (that I got by mere accident) I found for Lady Guendolen Ramsden's son. She is my great friend. I spotted that one in the same way like all the rest, only by looking. But I can't see springs when they have been tapped. I tried at the hospital, I would not let Mrs Greer tell me where it was ; there was nothing to mark the spot outside, but I walked straight to a head of spring about four yards off. This Captain Greer quite well remembers my marking some years ago. For me all this is intensely interesting, because every time I am discovering

new things. Also the depths, I find I arrive at that also, I sort of see and feel, as well as by the measure you despise. On an average I am pretty correct. But that is the difficulty. I told the Ramsdens about 50, that was 60 feet deep. . . ."

The account by Captain J. H. Greer alluded to in this letter is as follows, dated the 6th of September 1903 from Crostantown, The Curragh, Co. Kildare: "The Woods and Forests Department offered a site on The Curragh for the building of the hospital for a small rent. Before accepting this offer the committee responsible for the building had to assure themselves that a water supply to the hospital could be secured.

Miss Miles, hearing of these circumstances, kindly consented to endeavour to find by 'divining' whether a spring existed, underground, in the portion of land embraced in the proposed site for the hospital. (This occurred in the winter of 1896-97: I think January 1897.) She came here and visited the proposed site with Mrs Greer and me. She went backwards and forwards over the site with the divining rod, and for some time could not find a spring, though she informed us that there was a large deposit of surface water (she thought about 15 ft. under the surface). After considerable search she came on a genuine spring, which, after measuring, she said was about 45 to 50 ft. underground, and quite separate from the deposit of surface drainage. By my orders a well was sunk on the spot over which Miss Miles declared the spring existed. At 17 ft. we came on an apparently plentiful supply of water, which resisted an endeavour to pump it dry, lasting for eight hours, and we were convinced, in spite of Miss Miles's caution about the surface water, that this was the spring, and we actually built in the well and connected the water supply to the hospital. This supply, however, turned out to be surface water. On analysis it was declared to be of moderate quality, and was used only for washing, drinking water being obtained from a house close to the hospital, which was then a small institution.

In the following spring the well, which had contained 4 to 5 ft. of water, went dry, and then for the first time we realised that Miss Miles must have been correct in her diagnosis, and that we had made a well to contain what was merely surface drainage.

I sunk through the bottom of the well with an Artesian borer, and found at 43 ft. a strong spring of perfectly pure water, which has provided the hospital with a perfect water supply ever since."

The finding of water for Mr J. F. Ramsden, Lady Guendolen

Ramsden's son, is contained in two independent letters. This, from Lady Guendolen, is as follows, written to Miss Miles from Byram, Ferrybridge, Yorkshire (19th of January 1904): "You wish me to write what I remember of the day you went to find water for my son near Brackley. You were anxious to find water above the house and farm yard, so we walked in that direction. I think you were holding the rod in your hand but I was following you. (It was the first time, I think, I had seen that field; it was all new to me, as it was to you.) After crossing the farm yard and one small field we came to a gate and the moment we passed on you said 'Up there to the right'—you found a spring in a few minutes—but not being satisfied with its strength you said 'I will try still further up, up near the hedge still on the right,' the instant you reached it you exclaimed 'This is strong enough for the whole house and village too, I should think!'—you then said the depth to reach the water would be from 50 to 60 feet. I think this is all. My son can tell you the rest."

The other and independent statement is from Mr Ramsden, dated the 12th of June 1904 from Turweston Manor, Brackley, Northants: "In the summer of 1902 Miss Miles, at my request, tried for water in the fields near the house here, which was at that time very insufficiently supplied with water. Two places were marked, and I was told water would probably be found at 60 ft. or less. A well was dug and at a depth of 54 ft. water was found. In order to get a masonry foundation for the well lining an attempt was made to lower the level of the water which had risen 5 to 6 ft.—at first with two handpumps, subsequently with a powerful pulsometer which in a week's continuous working never at any time lowered the level of the water more than 1 ft. Eventually the well lining was built upon steel rails laid under water.

I may say that there are wells within a hundred yards which ordinarily give a very poor supply of water, and are sometimes almost dry—though they are of almost exactly the same depth."

Many other cases of Miss Miles's success could be quoted, but two or three further instances must suffice. Thus Colonel H. le P. Trench writes from St Huberts, Gerrards Cross, Buckinghamshire: "Some five years ago there was a very (otherwise) desirable residence which I was anxious to relet, but it possessed one drawback. The well, which had sufficed for the requirements of its successive occupants since it was built (towards the end of the 18th century) had of recent years been found insufficient to meet the requirements of modern

sanitation, and, during the two or three dry summers which had just passed, it had become necessary to supplement the supply by water carts.

The lady, whose tenure of the premises was just about to expire, was the widow of the late Colonel Miles of Burton Hill. Their daughter Miss Clarissa Miles, hearing of my difficulty, told me that in her native country 'water finding' was successfully practised by people possessed of the gift, who were called 'Dowsers,' and that she herself had tried and found that she was possessed of the gift, which she kindly offered to put in practice, with a view to solve my difficulty. We accordingly, at her request, cut for her a young hazel fork in the form of a 'merry thought', and with this in her hand, she searched the land adjoining, with the result that at a distance of about thirty yards from the site of and on higher ground than the old well, she indicated a spot under which she told me I would find a plentiful supply of water. I accordingly employed men, and have obtained a good supply of water without fail ever since."

After describing the experiment with Miss Miles which he had carried out, Colonel Trench proceeds: "On a distant part of my property I was anxious to erect a couple of labourers' cottages, and I asked Miss Miles to ascertain for me if I should find water near them. She examined the place, and showed where I should find water, and told me the spring was 42 ft. below the surface. I proceeded to build my cottages, the builders obtaining water for their purposes from a surface drain, the weather having been wet. When I had finished the cottages, I proceeded to have the well sunk. Neighbours were somewhat severe in their animadversions on my having built without first having found the water. I, however, told them that my previous experiences of the power of Miss Miles to locate water, were such, that I had not the slightest doubt on the subject.

I had to go abroad, but left directions with my steward to employ the local well-sinkers. They protested against the idea that water would be found, saying that my steward would only be wasting his master's money. At 20 ft., at 30 ft., at 35 ft., and at 40 ft., they renewed their protests, but were told it was no business of theirs whether my money was wasted or not, that they would be paid for their work. They worked on, still under protest, and when one day they had reached 41 ft. 6 in., having passed through about 30 ft. of chalk, and time to adjourn for dinner having arrived, they made use of an uncomplimentary expression regarding the

persistence of my steward, the man handling the pick sticking it in the bottom of the shaft with a big big D!! When they returned after dinner, there was 5 ft. of water in the well, and it steadily rose to a height of 16 ft., at which it has remained ever since."

In the following case Miss Miles, while locating the site for a well, also discovered a buried and long lost cistern for Mrs Batson of Hoe Benham, Newbury, who writes thus: "I was anxious this summer, 1905, to lay on a small supply of water to a part of our flower garden which suffered much from drought, and Miss Miles very kindly consented to seek for a source that would suffice for our wants. I wished also to locate the site of the spring from which pipes were laid on for the supply of our house some fourteen years since. All record of this site had been lost, even the plumber who had laid on the water being uncertain about its exact position and unable to indicate it. Miss Miles very quickly assured us of the whereabouts of this supply cistern, and a post was driven into the earth at the place suggested by her. She also indicated another spot at which, as she asserted, water sufficient for our [flower] borders would be discovered within a few feet of the surface. Here also the place was carefully marked. The following morning the ground was dug out, and a spring of water was found within about six feet from the surface at the spot where Miss Miles had advised us to dig for our supply. The crown of the lost cistern also appeared to sight at the expected place. I must confess to some previous scepticism, but in both these instances we have had undoubted evidence as to Miss Miles's gift in divining the existence of water, and I am now as completely convinced as before I was incredulous about it."

Among Miss Miles's other successes may be mentioned one at Rosses Point, Sligo, which earned her a public testimonial; but this account may be concluded with the following letter from Mr Richard Myddleton of Chirk Castle, North Wales: "Miss Miles, while on a visit here in October 1896, was kind enough to shew me her power of finding water with a hazel wand—underground—which she did with very marked success. The wands were common forked 'hazels' selected at hazard by the gardener. I first asked her if she could find the position of an old well in the courtyard of the Castle here, which had certainly not been used for 150 years, and which no one now living had ever seen opened—the position of which I was approximately aware of, and which, as well as the whole courtyard, was uniformly covered over with gravel surface,

there being nothing in any way to indicate the existence of a well or of water.

The courtyard is about 175 feet long, by 130 wide. Miss Miles walking slowly across the courtyard, and holding the wand in front of her, very soon indicated an underground current of water, and shortly afterwards, following this, very unmistakably and strongly indicated the old covered up well—which is probably 60 or 70 feet deep, and situated rather (though not quite) in a corner of the courtyard, not a likely place for its position.

I then asked Miss Miles if she could find two underground currents of water in the Deer Park, of which I suspected the existence, as the springs break out below a steep hillside nearly 150 feet (or more) below where we were walking, and quite out of sight—the surface being very dry and solid, there being no rushes or any indications of springs on that surface. Miss Miles after walking about 200 yards came across one, and after an interval of about 150 yards or more, another underground flow of water, both of which break out in springs below the hill. Miss Miles was a stranger to the locality, and I gave her no hint as to where she might expect to find indications of water. I may add that one of these springs has lately been utilized and turned into a fish hatchery, and I am told is producing a flow of 300 gals. of water per minute.

On another occasion I asked Miss Miles if she could find some additional springs in a meadow of mine which supplies water for the reservoir of the Chirk Water Company supply. This she did, and found two springs which we did not know of, and which have been turned to good account, and now supply a constant extra quantity of water to the above mentioned reservoir."

§ 2. MR FERGUS CARSTAIRS ROGERS

In August 1920 Mr F. Carstairs Rogers, M.B.E., M.S.A., an architect of Gordon Chambers, Stockdale Street, Kimberley, South Africa, addressed us an interesting communication the relevant parts of which follow: "The writer has had considerable experience and success in divining for water, but instead of using the hazel twig, which is unprocurable in Griqualand West, he had recourse to twigs obtained from Pepper, Apple, Peach and other local trees, as well as twisted grass and even fencing wire. Using the medium of the pepper twig, he successfully located water on virgin ground at the

Homestead, Kimberley, for Mr E. W. Mowbray, who, when sinking a well on the spot located by means of the forked twig, found the stream to supply the quantity of water and to be at the depth indicated by the diviner.

Some three years later the writer, after inspecting a bore-hole with water divined by him at Leukop in the Orange Free State, proceeded to a distant farm, accompanied by two other diviners, and, when walking over the veldt, with his thoughts concentrated on water finding, repeatedly felt a curious trembling sensation in the nape of the neck. The sensation reminded him of a similar feeling he experienced some years before when travelling at night on the Kaap Plateau in a post cart. He remembered complaining to the driver of the post cart of this feeling and was assured that such a feeling was usual with the driver when passing over a vlei or underground water. Hoping to find a new method of divining, he invited his companions to follow him at about 10 yards distance, and when he held up his hand, on experiencing the sensation described above, he asked them to use their rods at the spots indicated by him. A couple of hours was spent in experimenting in this line, and whenever the trembling sensation was felt by the writer the other diviners corroborated by means of their rods.

Since then the writer has discarded the rod for locating water, and only uses it when determining the depth. The depth is gauged by approaching the underground stream, after its direction is found, at right angles, and when the rod begins to rise or deflect, according to the quantity of the water a mark is made and the distance to the stream measured in feet. Double this measurement gives the depth of the stream under the surface of the ground. The quantity of water is determined by the rod which, if it deflects, means a quantity less than 5,000 gallons per 24 hours, and if it rises, a greater quantity according to the intensity of the sensation. Incidentally it might be remarked that the writer has never accepted any remuneration whatever for divining, but only insists that, when divining at a distance, he must be taken, free of charge, to and from the spot where his services are required.

Mr J. J. T. King, secretary of the Griqualand West Board of Executors, invited the writer to divine for water in the grounds adjoining his residence in Egerton Road, Kimberley. The writer agreed to divine but, as he had recently undergone a serious operation, told Mr King although he was confident of locating a stream, if one existed, he could not rely on the accuracy of the depth, as, when using the rod to ascertain the

depth, pain disturbed the sensation. Two streams were traced and the point of intersection noted. Mr King happening to meet Mr W. Nicol of Farm Napier, Orange Free State, referred to the divining already done and asked him also to divine but without giving him any information. Mr Nicol by means of the twig, located the streams pointed out by the first diviner and the point of intersection of the two streams tallied. In boring, the first stream was struck but the lower and stronger stream indicated by the writer was not encountered at the depth he gave, at any rate no increase in the supply of water was noticeable. Mr Hetzel was then called in and, when shown the bore-hole, assured Mr King that the streams were there, and asserted that the lower stream would be struck about 40 feet below the depth indicated by the writer. In due course the second stream was also struck and yielded a copious supply of water.

The writer was motored out by the Chairman of the Central Salt Pan Company, Limited, to the Salt Pan on the farm Zevenfontein in the Orange Free State, about 28 miles N.E. of Kimberley, to divine for water. In the Pan workings, the writer was shown a well 52 feet deep, but absolutely dry, and was asked if there was any water in the vicinity. Strolling about near the dry well he felt a sensation in the neck and eventually discovered two streams at approximately 52 and 78 feet deep. The intersection of these streams was pegged and found to be 24.6 from the edge of the well in an easterly direction. A drive was made from the bottom of the well in the direction of the peg and, on tapping the top stream, a flow of water of about $\frac{3}{4}$ of a million gallons per 24 hours was the result. Nothing further was done in regard to the lower stream. Mr Nicol checked this divining with his twig.

The writer was also successful in distinguishing between fresh and brine streams on the same pan. The sensation experienced when locating brine is in the temples instead of the neck as in the case of water. Mr Hetzel reported that he had divined six streams of brine in the Salt Pan at varying depths to 26 feet within a distance of 71 feet and, after corroboration by Mr Nicol and the writer, a cutting was made and the six brine streams found.

In South Africa, where there are vast extents of land suffering at times from severe droughts, farmers and others have had resource to the divining rod with excellent results, and no doubt, in other continents similarly situated, the services of the diviner are requisitioned."

With this very interesting communication, with many of

the theoretical statements in which we, however, disagree, Mr Rogers enclosed declarations attesting to the truth of his relations. These declarations were all duly signed and sworn before a Commissioner of Oaths or a Justice of the Peace and date from July 1920. They are from Mr J. J. T. King, J.P., Secretary of the Griqualand West Board of Executors Trust and Agency Company, Limited, Mr K. C. Elliott, Vice-President of the Kimberley Chamber of Commerce and Chairman of the Central Salt Pan Company, Limited, Mr A. J. Thomson, J.P., Manager of the Kimberley Branch of the National Bank of South Africa, Limited, and Mr E. W. Mowbray, the owner of the Steam Laundry at the Homestead, Kimberley.

After further correspondence Mr Rogers sent a number of other cases in which he had successfully dowsed for water; he enclosed the following certificates, which speak for themselves.

" I, Wietsche Marthinus Snyman of Klipdam, make oath and say :—

(1) That I am the owner of the farm ' Karrepan ' in the district of Barkly West in the Union of South Africa.

(2) That I had to abandon the Homestead on the said farm through my well, approximately 56' 0" deep, giving out.

(3) That Mr F. Carstairs Rogers, M.B.E., of Kimberley, at my request and free of charge, divined for water on portion of the said farm ' Karrepan ' and located three converging streams of water meeting at a point 21' 6" from the edge of the well and at a depth of 50' 0" below the surface of the ground. He recommended a drive being made from the well at the 56' 0" level.

(4) I drove a tunnel accordingly from the bottom of the well, namely 56 feet, and tapped a strong water as located by Mr Rogers. I am using a 3" pump, driven by a 6 H.P. petrol engine, as well as two windmills, and when all these pump continuously they only reduce the water by two feet." [Dated the 21st of July 1921].

" I, John Jeffrey of Kimberley, make oath and say :—

(1) That I am the Chief Caretaker at the Head Offices of the De Beers Consolidated Mines, Limited, Kimberley, and that I own the property known as Hope Farm at the corner of Ennor and Howie Roads, Kimberley, and in extent about 4 $\frac{1}{4}$ morgen.

(2) That, at my invitation, Mr F. Carstairs Rogers, about three years ago, visited the above mentioned property and

pointed out two spots where he assured me I should obtain good supplies of water. The first spot was about 20 or 30 feet from a well that had practically given out, and the second spot towards the northern end of the property and over 100 yards from the first spot. At the second spot Mr Rogers said two streams intersected at different levels and would yield over 5,000 gallons of water per diem. I bored as directed and found the supplies of water as promised by Mr Rogers, and approximately at the depths he gave.

During boring operations at the second spot and when approaching the lower stream, the driller reported that, when lighting his pipe near the borehole, some gas from the borehole ignited with a loud explosion, accompanied by a rumbling under the surface of the ground. When I visited the property about a week later, I saw the gas ignited and also heard a loud rumbling below the ground near the bottom of the borehole. I drew a sample of the water from the borehole, which, on settling, shewed a film of oil on the surface, but I took no further notice of the occurrence as I was given to understand that it was caused by marsh gas." [Dated the 22nd of April 1921].

" I, Gustave Hauff of Kimberley, make oath and say :—

(1) That I am Chief Draughtsman to the De Beers Consolidated Mines, Limited, in the Kimberley Office, and am owner of the farm ' Excelsior ' in the District of Jacobsdal, Orange Free State.

(2) That, at my invitation, Mr F. Carstairs Rogers, M.B.E., of Kimberley, accompanied me to the above farm during the month of February 1921, for the purpose of divining for brine.

(3) That Mr Rogers pointed out a spot in the northern portion of my farm on the edge of a vlei where he assured me a strong stream of weak brine would be found at a depth of fifty feet.

(4) That I bored as directed and struck a strong stream of weak brine at the depth indicated." [Dated the 21st of April 1921].

" I, William Bumford of Kimberley, make oath and say :—

(1) That I am Revenue Clerk to the Kimberley City Council and that I own a property on Stand No. 35 R in Schmidt's Drift Road, Kimberley.

(2) That, at my invitation, Mr F. Carstairs Rogers, in September 1919, visited my property and pointed out a spot

in my garden where he assured me I should obtain a good supply of water. I thereupon put down a 6' diameter borehole and at a depth of 135 feet, and obtained a good supply of good water. I have not tested the supply, but my 10 feet windmill, having a tower of 25 feet with 2 $\frac{3}{4}$ " cylinder, has failed to empty the bore-hole, although it has been kept constantly going, only being stopped when the weather was too boisterous." [Dated the 9th of February 1921].

" I, Johannes Jacobus van Rensburg of the Farm Leeuwkop, Orange Free State, make oath and say :—

(1) That I am the owner of the Farm Leeuwkop, situated in the Orange Free State some 12 miles east of Kimberley, Cape Province, and that I entered into possession of the Farm in the month of November 1920.

(2) That I formed a new outspan, and requiring water to supply to draught animals, asked Mr W. Nicol of the adjoining farm, Napier, to divine for water. Mr Nicol called in Mr F. Carstairs Rogers, M.B.E., to assist him and between them they pointed out some spots where they asserted water would be found with a minimum of 15,000 gallons per diem at a depth of 50 feet. Boring operations were immediately started and one borehole made with the result that at 50 feet a copious supply of water was found estimated at 30,000 gallons per day." [Dated the 2nd of February 1921].

" I, Peter Dewar of Middel Plaats North, make oath and say :—

(1) That I am a Builder and Contractor, and the owner of the Farm Middel Plaats North in the Division of Kimberley, Griqualand West.

(2) That owing to a scarcity of water on my farm, I invited Mr F. Carstairs Rogers, M.B.E., of Kimberley to divine for water. He visited my farm in the winter of 1918 and indicated a spot within 25 feet of a dry well, 20 feet deep, and about 40 feet from a large dam which held my sole supply of water. He assured me I should get a minimum of 5,000 gallons of water per diem at a depth of 35 feet. In spite of the ridicule of the neighbouring farmers, who said I would only get soakage from the dam, I sunk a well in accordance with Mr Rogers's directions, and obtained a copious supply of water which enabled me during the severe drought of 1919 and the early part of 1920, when the dam was absolutely dry, to keep my Homestead and garden going and to water over 1500 head of large and small stock, without diminishing the supply. When

the drought was broken in February 1920, the heavy flood broke the dam wall, which has been rebuilt and completed only last week." [Dated in December 1920].

Further information being requested about the last quoted striking case, Mr Rogers kindly sent the following additional particulars in a statement from Mr Dewar: "Distance from the large Earth Dam to well 64 feet. Distance from the Dry Well to new Well 14 feet 3". Depth of new well from ground level to bottom of well 38 feet. Water rises in well to 20 feet in 24 hours. Diameter of well 5 ft. 6". Formation, limestone conglomerate. Water comes up through the bottom of well, sides being dry. Had no rain on Farm since 30th of April 1921, until today 25th of January 1922, today soft rains. Large Earth Dam dry since end of July, 1921, and no water in same at present time. Have erected a 30 feet Mill with 10 feet wheel 3" Cylinder and 1½" delivery pipe pumping into a stone reservoir 35 feet long × 20 feet wide × 5 feet deep. This waters at present 100 head of cattle, 70 head of donkeys, 20 head of horses, 50 sheep, also irrigates my garden, orchard, and lucerne beds. I have 1,200 feet of piping laid on from the reservoir to water troughs in camps and kraals and to taps for watering trees. I have planted 150 trees this season (gums and poplars) and these are also irrigated from the reservoir."

Finally may be quoted two more successful cases of Mr Rogers's, the latter of which he considers his greatest achievement.

"I, Ronald Percy Love of Kimberley, make oath and say :—

"That I am the Secretary of the Divisional Council of Kimberley.

That in October last I approached Mr F. Carstairs Rogers, M.B.E., of Kimberley, and asked him if he would divine for water on a certain plot of ground, 44 acres in extent, on the farm Bultfontein in the Division of Kimberley, and which I desired to lease from De Beers Consolidated Mines, Ltd., if sufficient underground water was available.

Mr Rogers willingly acceded to my request and pointed out a certain spot where he assured me I should get 5,000 gallons of water per diem at a depth of 66 feet.

I accordingly sank a well at the spot indicated and struck water at a depth of 15 feet. I discontinued sinking operations at 25 ft., at which depth I secured a supply of about 2,000 gallons per 24 hours, and quite sufficient for my requirements for some time to come.

The spring from which the water rises can be clearly seen, and is in the form of a pothole almost in the centre of the well.

Mr Rogers declined to accept any consideration for his services." [Dated the 12th of January 1922].

"I, John William de Kock, [J.P.], owner of the farm, Spring Valley, District of Mafeking, Cape Province, do hereby certify that on the 29th of July 1921, Mr F. Carstairs Rogers, M.B.E., of Kimberley, whilst on a visit to this farm for the purpose of divining for water, located a spot 33 yards in length, which he said carried a large water supply at about 12 feet from the surface.

During the month of August 1921, I had a trench cut 33 feet long and sunk on the same to about 6 feet from the surface, when water was found coming from the bottom of this trench. This work was continued during September and October to about 9 feet down, the water supply increasing all the time. During December 1921 and January 1922 the trench was sunk down to 13 feet and the work had to cease last Saturday, 14th inst., owing to the water being too strong to cope with it fully. Since ceasing this work, the water has risen up to 6 feet from the surface.

I do not consider the real supply has yet been found, as the water still comes from the bottom of the trench. To test it fully a power pump will have to be erected before any further sinking can be done." [Dated the 16th of January 1922].

CHAPTER VIII

OTHER CONTEMPORARY BRITISH DOWSERS :
PROFESSIONAL

IT would have been impossible in a volume of reasonable size to consider, however briefly, the achievements of contemporary dowsers abroad. Even restricting the field to Great Britain and Ireland, it is impossible to quote examples of the dowsing of all the practitioners of whom we have records. But in addition to the foregoing detailed account of some of the outstanding dowsers, it seems desirable to add a case or two from each of a few other notable dowsers. To make a selection from such dowsers is an invidious task, and the cases that follow have been chosen principally on account of the interest of each case as illustrating one aspect or other of dowsing and they are by no means a series of the best cases known to us, nor do they represent the most successful dowsers only. Among the many other dowsers who could well have claimed a place in this chapter may be named Thomas Hawker of Somerton, Charles Milham of Assa, in Canada, Tom Heard of Taunton, F. H. Buckingham of Norwich, John Pattmore of Chard, W. Robertson of Claydon, Bucks., C. B. M. Chambré of Dungannon, W. N. Pogson of Kilpauk, in India, F. Webb of Yeovil, Allan Butcher of Hythe, W. Cabbage of Botolph Claydon, William Edwards of Marshfield, Roberts of Henfield, Rodney Kitcher of Brockenhurst, Hants., R. A'Barrow of Stalbridge, Charles Adams of Rowberrow, H. Bacon of Newport, Essex, H. Chesterman of Bath, Stokes of Newbury, Berks., W. Mereweather of Bedminster, R. W. Robertson of Llanelly, R. Rothwell of Cardiff, G. Elson of Crewkerne, R. Pavey of Cheddar, and many others.

§ I. THOMAS WILLIS, OF GLOUCESTER

The water supply at Meredith, near Gloucester, depended until 1887 on a well 54 feet deep near the house of Sir W. Wedderburn, M.P. In the year mentioned, as a result of

several dry summers, the supply in the well gave out. Under these circumstances Sir W. Wedderburn decided to sink a new well. He had heard that a local dowser had been successful in finding water in a farm at Rudford, and he accordingly asked the dowser to come over. This was Thomas Willis, a cabinet maker in Gloucester, who used a straight rod about eighteen inches long or a steel wire. He was not a regular professional dowser but accepted a small fee if he was successful. He went over the ground and marked two places near the dry well. Sir W. Wedderburn writes that when Willis was dowsing "the muscles of his arms appeared to work and twitch as if he was holding the handles of a mild galvanic battery, and the wand or wire, from being straight between his hands bent into a sort of bow and worked round like a crank, rotating upwards when passing the holder's body."

At the second place marked by the dowser, about 50 yards from the old well, a well was sunk. He had estimated that water would be found at 25 to 30 feet, and after sinking for 30 feet through red marl water began to trickle in, and at 47 feet a big supply was obtained. By levelling it was ascertained that the bottom of the new well was two feet above the surface of the water in the old well; there was therefore no connexion between the old deficient supply, which provided a gallon in ten minutes, and the new supply which gave a gallon a minute.¹

§ 2. CHARLES SIMS, OF PILTON

The following is an important case from an evidential point of view. The *Bristol Times and Mirror* for the 16th of June 1891 states: "The Anglo-Bavarian Brewery at Shepton Mallet needed a large water supply; accordingly excavations had been made to find water, but without success. About two years since, during an exceptionally dry season, it became absolutely necessary to obtain a further supply of brewing water; hence several boring experiments were made on the property. At the suggestion of a gentleman in the locality, the services of a 'diviner' were obtained, and although the principal members of the firm professed to have no faith in his 'art', yet he was allowed to try the fields on the company's property, and those on the neighbouring estate, and discovered the well now used by the brewery.

¹ These facts are related by Sir W. Wedderburn in a report dated the 1st of January 1888, and confirmed in a letter of the 19th of February 1897.

. . . The soothsayer, who carried the divining rod, a hazel branch, was Mr Charles Sims, a local farmer, and a notable discoverer of wells in the district. Operations were immediately commenced, and, after excavating and dynamiting through the rock, to the depth of 50 feet, a magnificent spring was discovered in a fault of the rock, which proved to be of exceptionally fine water, and of even a finer quality than the town's supply."

Inquiries were addressed to the Brewery, and Mr J. Clifford, its manager, answered: "Replying to your letter in regard to a local diviner, we had one of the name of Sims, from Pilton, who successfully denoted a spot on our ground where we have had an abundant supply of water since. . . ."

The writer of this letter also has had some considerable experience with Mr Lawrence of Bristol, who was one of the most noted divining rod men in the West of England. He also was successful in denoting a supply for a Bristol brewery with which the writer was connected; and in numerous other instances in the neighbourhood. Mr Lawrence bore a very high reputation. We believe he died a few months ago at a ripe old age."

Having written to ask if a previous boring had been made, and if so, to what depth, and with what result, the following account was received: "Replying to yours of the 14th, a boring was carried out to the extent of some 140 feet *without success* on another portion of our premises, before it was successfully done at the spot indicated by the water-finder; here a well was sunk and abundant water obtained at a depth of 40 feet."

§ 3. THOMAS HARES AND JOHN BLAKE

Mr George H. Pope, Treasurer of the Merchant Venturers of Bristol, asked Mr W. G. Hellier, of Wick St Lawrence, near Weston-super-Mare, the bailiff of that body, to give some account of his experience in dowsing. Mr Hellier did so and sent the following statement: "I should as soon think of planting a tree with its root upwards, as I should of digging a well for water without employing a 'dowser.' I never knew the rod to fail in the hands of Thomas Hares or John Blake, but I have heard of many failures in the hands of supposed dowsers. Thomas Hares used to find both water and minerals by the rod, but he told me that a watch spring would not do in his hands for finding water, though it was all right for minerals.

The following facts are within my own knowledge.

Within 200 yards or so of Rectory Farm house, at Locking, near Weston-super-Mare, four wells have been sunk, the position of which is marked on the enclosed rough tracing from the parish map. For No. 1 well, the spring was found by Thomas Hares. After walking over the field in different directions, with the rod in his hand, he crossed the fence, and, whilst on the top of it, the rod kept turning. He marked the spot of the spring, and on that spot I removed the fence and sank the well where the fence had stood. There has been a constant supply of water in it, even all through last summer, when there was a general drought.

For No. 2 well, the spring was found by John Blake, on the

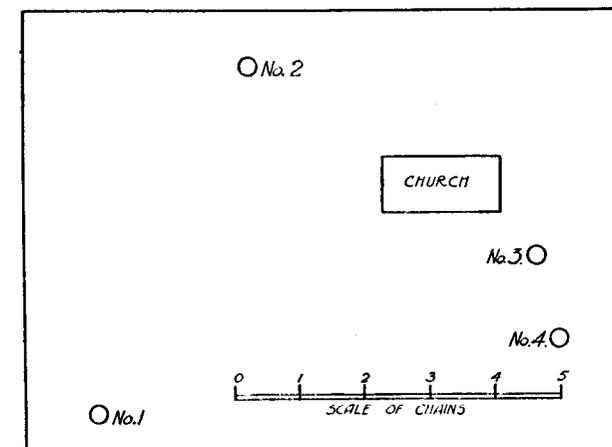


FIG. 41. THE FOUR WELLS IN LOCKING PARISH

lawn of the Vicarage, opposite the drawing-room window, a most unsuitable position. I sank the well and there is a plentiful supply of water, with no lack last summer.

No. 3 well was sunk without a dowser. It is 10 feet deeper than No. 1. There was no water in it all last summer, and I should not think it has 6 feet of water in it now.

No. 4 well was also sunk without a dowser, because the place was thought likely for water. It is nearly as deep as No. 1. There is water in it for about 9 months of the year, but last summer it was quite dry.

Water was wanted at Edbrook Cottage, in Fiddington, near Bridgwater. There was a good spring in a field 200 yards away, and the dowser traced it over field, fence and roadway, and marked the spot for a well just opposite the door of the cot-

tage. I sank the well there, and the tenants have never had to go elsewhere for water since.

Whilst the dowser was tracing this spring, walking backwards and forwards across the line of its course, I hid my pocket compass in the long grass in his track, and, when he came to it, the rod turned over, and he said 'There is summat here.' I am certain that he did not see the compass until afterwards, when I showed it to him hidden.

The most striking case I know of is on Sandford Green, in the parish of Winscombe, Somerset, where Thomas Hares offered to sink his well for nothing, if he did not come to the spring. There was already a well on the green, but it had scarcely any water during the summer months. The well sunk by the dowser was so near it that the sinkers threw the dirt *as they dug it out from the new well* into the old one. The water rose to within 6 feet of the top of the new well. This was some 30 years ago. The spring was the talk of the neighbourhood at the time, and it is still a noted one.

I could go on telling yarns about dowsers, but all that I have written has come under my own observation, and I can vouch for the truth of it."

From inquiries the depths of the wells were ascertained to be as follows in February 1897 :

No. 1 well, Church Farm, 20 feet.

No. 2 well, Vicarage lawn, 31 feet.

No. 3 well, dry, 33 feet.

No. 4 well, Garden, about 12 feet.

It was not possible to gather further information about the case at Edbrook Cottage ; regarding the wells at Sandford Green : the one sunk at the spot indicated by the dowser was, in 1897, 33 feet deep and had then 19 feet of water—the old well had been filled up in the manner described, and its depth was not ascertainable.

§ 4. RICHARD ANTHONY, OF YELLING

Mr Montague Price had sunk a well to a depth of 150 feet at The Node, Welwyn, Hertfordshire, and obtained a quite insufficient supply of water. He then called in Richard Anthony, of Yelling, Huntingdonshire, a farmer who had accidentally discovered that he had the dowsing faculty. Anthony advised Mr Price to drive a heading from the bottom of the well in a given direction that he marked. The well-sinkers found, before they had carried this heading 6 ft., the inrush of water so great that they had to stop, in spite of a

steam engine which kept going night and day with powerful pumps. Mr T. V. Holmes, being asked to report on this case, declared that the driving of a head would have been what any engineer or geologist would have recommended. But if so, why did not the engineer in charge of the works recommend it? And how could an engineer or geologist have indicated the exact direction in which so large a supply was reached before six feet had been driven? In other experiments, in similar chalk formations, headings were driven great distances under the advice of the best geologists and engineers, and yet to a large extent failed to accomplish their purpose.

On the same occasion Anthony found water in another place and for an opposite purpose. Mr Price writes in one of the letters in which he describes the above case : "After trying every device for keeping water out of an accumulator house, which always seemed to be rising, in spite of a concrete floor 6 inches thick, the same diviner told me exactly where a spring caused the trouble. We tapped it from the outside, and now the place is perfectly dry.

I held one side of the forked rod myself and the 'diviner' the other, and when we came to water [alleged underground water] the strain was so great on my fingers I was obliged to ask him to stop. From the position of the rod it was absolutely impossible for him to produce the pressure, which increased with the strength of the stream."

§ 5. JOHN STEARS, OF HESSLE

Stears was for many years in business in Hull as an engineer, and had done other work of a semi-scientific nature. For some time he was honorary secretary of the Hull Field Naturalists' Society and is much respected by all who knew him. He described his own sensations as follows : "My experience has been most satisfactory (extending over 20 years), and I have always found water where the rod indicated it, also iron pipes. In some towns I have mapped out their position for the purpose of repairs, and the pipes have been found exactly where I stated, some even left deep where a road had been raised.

I may say that I notice a different sensation with waters and metals ; there is a chilly feeling creeps up my legs when the rod shows water.

My powers vary with health ; if tired I lose the power ; provide the animal system with a fresh supply of food, and back the power comes. I do not like blindfolding. It seems to interfere with that calmness which is desirable, but I have tried

it on roads where I denoted water ; having been taken backwards and forward I have been started in the middle of the road and stopped at the part previously marked. Darkness does not interfere with the power in the least."

Stears found himself so successful that he became a professional dowser and removed to Westholme, Hessle, Yorkshire. The following is a typical example of his success. Mr John Letts, of Rillington, near Molten, in Yorkshire, had made a boring to a depth of 120 feet without finding water ; 5 feet away was an old boring about 20 feet deep, contaminated with manure. At 30 yards from these places Stears selected a spot at which a bore was made and a good supply of pure water encountered at 84 feet. On the accompanying plan (Fig. 42) the dotted lines show the underground courses traced by Stears, C being the old contaminated well, B the waterless well and A Stears's successful pure well. Stears declared that D was the underground course supplying C and A, the useless B thus being off the course. We need not concern ourselves with the value of such theorising : it remains true that Stears scored a striking success.

§ 6. HENRY SMART, OF EVERCREECH

The following case from Somersetshire is given in *The Western Gazette* for the 10th of February 1893. Evercreech is at the foot of the Mendips : " A well has recently been sunk on the premises of Messrs W. Roles and Son, of Evercreech Junction, on the site of the proposed milk factory. Mr Henry Smart, head gardener at Pennard House, was successful with the divining twig (or rod), and a well was sunk to a depth of 60 feet, when a spring was found which yielded no less than 15,000 gallons of water in ten hours. Water came at such a rate that a powerful pump had to be erected temporarily by Messrs Hill and Son, of Bruton, and was kept working day and night in order to keep the water down for the purpose of walling [the well]. At the present time there is 50 feet of water in the well, the supply increasing daily."

Messrs Roles were written to to know if a well had been sunk previously, and if the above statement was correct. They replied that the account is quite correct, and added, " We had previously sunk a well without the use of the rod, to nearly the same depth, but it was *unsuccessful*. Six yards from this useless well the diviner found the spring which now yields enough to supply a small village if required."

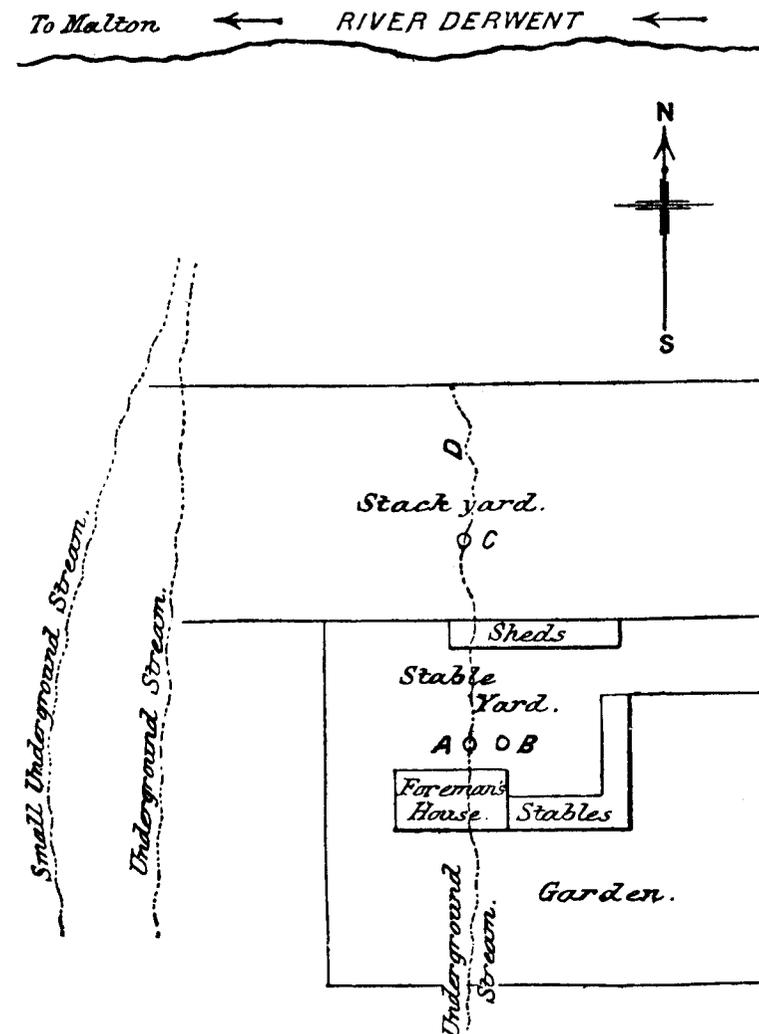


FIG. 42. PLAN OF BUILDINGS AT RILLINGTON

§ 7. H. W. GOLDING, OF BRAINTREE

The following is from *The Daily News* for the 22nd of May 1894 (the case having also been reported in *The Daily Telegraph* of the same date, and in *The Essex Herald* and other newspapers): "The divining rod has again been used in Essex with success, this time on the estate of General Thompson of Wethersfield Place, near Braintree. Some years ago General Thompson had a field surveyed by an eminent engineer who, after testing the ground with boring apparatus, expressed an opinion that no water was obtainable there. Hearing, however, of the success of the divining rod in the immediate neighbourhood, the General invited Mr H. W. Golding, of Bocking, to walk over the field, with the result that at two places which Mr Golding marked water was found at less than 10 feet from the surface."

On inquiry it was found that General Thompson had died since the above experiments were made. His widow stated that the report was correct, emphasizing the fact that Mr Golding accepted no payment. Sir William Barrett then had an interview with General Thompson's son, Mr J. Wycliffe Thompson, who had been present during the dowsing. Mr Thompson stated that his father made the experiment *on purpose to test* in a systematic manner the value or otherwise of the indications afforded by the divining rod. Accordingly, in the first instance a boring was made to find water by advice without the use of the rod. Mr Thompson stated that the boring was made to a considerable depth, but he did not know the exact depth. No signs of water were found. Then Mr Golding was invited over, and, cutting a forked twig, traversed the ground. Presently the twig turned vigorously and, following its indications, he professed to trace an underground spring running not far from the experimental boring to a point some 50 yards away. The course indicated was staked out, and, after Mr Golding left, a well was sunk in two places, chosen at random *on the course so marked*. The result was that water was found in both places at a depth of some 10 feet. Mr Thompson was certain the first boring was "far deeper than this", and said that no doubt whatever was left in the mind of General Thompson and others present of the reality and practical value of some peculiar faculty for discovering underground water afforded by the movement of the rod.

Golding has worked almost exclusively in Essex, and we have a number of reports of his successes in that county. Among the most interesting of these was one at Shalford for

the Council Schools; here the County Council took exception to the employment of a dowser and sunk a bore-hole to a depth of 40 feet on other advice. No water was found and Golding was then called in, finding a good supply at a depth of 17 feet.¹

§ 8. H. W. MULLINS, OF BATH

Although no conclusive evidence exists to show that the faculty of dowsing is hereditary, yet in several instances one or more of the children of notable dowsers do possess the "gift." H. W. Mullins, a son of John Mullins, is a case in point. Many cases of his success have been investigated, but the following recent instance must suffice. During 1921 the water supply of Bath was found to be quite inadequate; various attempts to increase the supply having failed, the position in 1922 had become serious. Two plans were considered, either of which would have cost £100,000 and have taken three years to carry out. Before one of the schemes was adopted it was decided to call in Messrs J. Mullins and Sons, of Railway Place, Bath. H. W. Mullins, one of the famous John Mullins's sons, acted on this occasion; he went in great detail over the whole ground and made a full report, which was submitted to the Bath Corporation on the 7th of March 1922. In this report Mullins recommended that sinkings should be made, especially at two places which he indicated. These recommendations were acted upon, and Messrs Mullins commenced work at these two places.

At the first site Mullins had estimated a yield of about 40,000 gallons per day at a depth of 12-15 feet below the surface; water was actually found to the extent of 144,000 gallons per day at 10 feet deep. At the second site the dowser had estimated a daily yield of 50,000 gallons at a depth of 15 feet; at 7 feet a supply of 52,000 gallons was obtained. These quantities were measured early in 1922 after rains. In each case the water was found at the base of the Midford Sands.

Later other spots were tried and in the words of Mr J. Basil Ogden, the Town Clerk of Bath, who has kindly supplied this information, with a copy of the report, "In every case he has found water at the spot where his twig caused him to expect it to be located." In the same letter, dated the 3rd of November 1923, Mr Ogden says that the Corporation "have every reason to be satisfied with the work of Mr Mullins which he

¹ See also Golding's pamphlet *Water Finding in Essex and District* [1907].

has undertaken for us." Mr Jules Dent Young, the Bath Waterworks Engineer, reports on the 22nd of November 1923: "I have at different times of the year gauged the springs collected by Mr Mullins. I find that Mr Mullins has underestimated the maximum yield in many cases; he has been fairly accurate with the average yield, but has in most cases considerably overestimated the minimum yield. The total yield when gauged in the middle of October was 319,536 gallons a day; this is the lowest they went to this year, in June they were yielding 681,840. At the present time the yield is over 900,000 gallons."

The following report appeared in *The Bath Herald* for the 14th of March 1922. It will be seen that the cost of the finding of water by the dowser was £5,463 as against £100,000, and the time a few months as against three years: "Moving the minutes of the Waterworks Committee at the City Council today, Councillor A. G. F. Spurr (the chairman) asked permission to amend the charge by meter to consumers to read—'from 1/6 to 1/8 per 1,000 gallons, as from the March quarter readings.' He also moved that the tender of Messrs Mullins and Sons for executing the work at Weston at £5,463 be accepted, and that a contract be entered into under the Common Seal. He said he felt that there was no need for him to take up a lot of the Council's time in advancing arguments of the need for increasing their water supply after their experience of the past few months, but he would like to make a few remarks. The committee were blamed at the end of last season because they did not take steps earlier to remedy the situation. They were in an exceedingly difficult position. They could have adopted either of two schemes that would have each cost at least £100,000, and would have taken at least three years to carry out. The committee were anxious not to do the wrong thing; they did not wish to rush the Council into spending a large sum of money like that without they were quite certain that they were adopting the right scheme. When the Council gave them permission to call in an expert, they called in Mr Mullins, whose name was suggested to him by Mr Councillor Stone, and he was very grateful to him that he suggested that name. He could not speak too highly of the way in which Mr Mullins went to work. He threw his whole energy into the question, and the result was that when the Council asked them to bring a report up at the beginning of this month they did so, but at the same time a great part of it was already carried out—the first part—and today he thought there was running into Monkswood reservoir at least 400,000 gallons

from the springs that Mr Mullins had discovered. It had always seemed an extraordinary thing to him that in past years the Bath City Council had engaged the services of eminent geologists and engineers, who had surveyed the country all round for miles. In one of the reports they picked out five places at varying distances from Bath, and yet they seemed to have missed the water which was just under their noses. Mr Mullins came along with his twig, and he said: 'There are 50,000 gallons here, and 70,000 gallons there,' and so on. He thought when that waterworks work was finished they ought to erect a statue to Mr Mullins, holding his twig in his hand."

§ 9. THOMAS HEIGHWAY, OF LLANDRINDOD WELLS

Thomas Heighway, the proprietor of the Park Pump Room, Llandrindod Wells, is another example of heredity in dowsing, for his father, John Heighway, was also in his day a successful dowser. Thomas Heighway said that when he dowsed and got over an underground spring his nervous system was so much affected that he did not recover from it for some hours; accordingly he did not dowse much. It is interesting to note that his father did not suffer in the same way. The example of Heighway's success to be quoted is particularly interesting, the discovery having been of mineral water, and the details of it, and of the dowser's forecast, having been communicated during the course of the actual diggings.

Captain Penny Lloyd, of Glasbury, R.S.O., had been looking for sulphur mineral water, but without success. He then called in Heighway, who went over the ground and traced three underground water-courses, on each of which he indicated the spot most suitable for sinking. In No. 1 (Fig. 43), when the well had been sunk 35 feet he went down it and declared that the water would come in from the south side. This was correct, for the vein of rock holding the water was encountered at 75 feet and was found to run from west to east, so that if the well had been sunk 3 feet more to the north, the supply would not have been obtained. This was a sulphur spring, as was No. 3, in which the supply was encountered at 52 feet below the surface and 6 feet into the solid rock. No. 2 well was a still more striking success; Heighway had foretold a strong spring of chalybeate water, and in fact at 32 feet so strong a supply was encountered that it overflowed the well. On the accompanying map the dotted lines show the courses indicated by Heighway, and the section is of the course A—B.

§ 10. S. T. CHILD, OF IPSWICH, SUFFOLK

Child, who has recently died, was one of the most successful of the dowsers of this century. He practised all over the country and visited Portugal during the famine of 1907, achieving a striking success at Evora. Another of his more notable

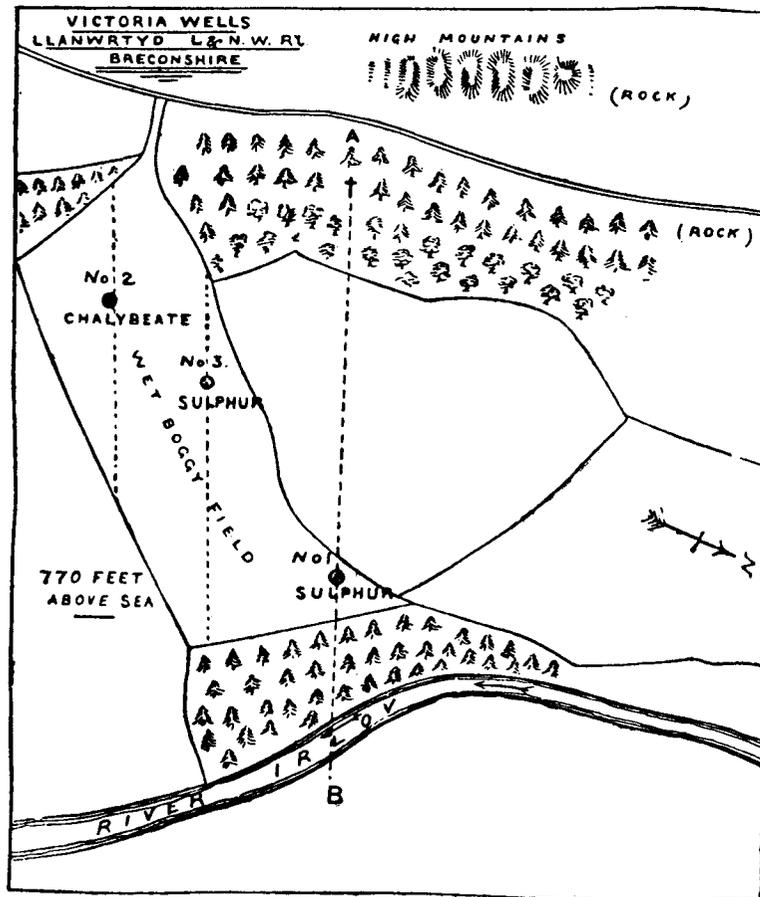


FIG. 43. PLAN OF HEIGHWAY'S THREE WELLS

successes was the discovery of the springs at Woodhall Spa, Lincolnshire. The following account of experiences has been kindly supplied by Mr S. L. Bensusan, who is well known as an authority in rural matters and who has had other experiences with dowsers. He writes: "I heard of Mr Child in 1906 as a man who could find water and I sent for him to see

if he could discover some for me on my country home at Duton Hill near Dunmow. I remember driving down to the station to meet him on a hot summer day and wondering at the long frock coat and silk hat which seemed a little out of place. He used wands of willow or hazel and the clock spring and so far as I remember he examined the land walking North to South because, he said, rivers would be running from West to East. He traced several subterranean streams and marked two places where I would be likely to find water. The first one failed, or perhaps we did not go down deep enough. At the second attempt we discovered a good spring which did not cease to supply the house until I sold the property in 1920.

A friend of mine, the late Mr A. P. Humphrey of Cambridge

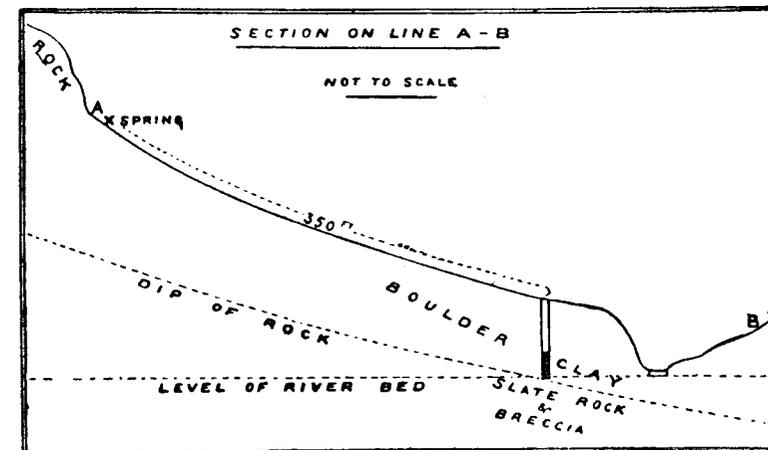


FIG. 44. SECTION OF THE SAME

University, came to see the test and suggested that he and I should each hold one wrist of Mr Child while he held the wand and passed again over a field under which he said water was flowing. Mr Child agreed and we each held a wrist so tightly that there was no play for the wand. To our surprise just before we passed over the marked ground the wand broke in his hands, entirely without his control.

Later Mr Child told me that he learned of his gift when he was a boy. The landlord of the Suffolk village in which he lived sent for a dowser to find water and this man invited all the village children to see if they had the gift. Mr Child was the only one in whose hands the wand responded. Later in life, by reason of this gift, he was able to buy a cottage on a piece of land supposed to be far from water and consequently

very cheap. He had found out first that water was present. One of his recent journeys had been to Portugal, where he had discovered water in certain vineyards. He told me he had been tested by various scientists and that if he stood on a sheet of plate glass over running water his wands and springs refused to act. He appeared both to Mr Humphrey and to me to be an honest, straightforward and simple minded man." ¹

¹ See also Child's pamphlet *Water Finding* [1910].

CHAPTER IX

OTHER CONTEMPORARY BRITISH DOWSERS: AMATEUR

THE comments at the head of the previous chapter apply also to the present one. For convenience the interesting case of the American boy Guy Fenley has been included under this heading. Among the amateur dowsers who may be named here in the same way are Dr Foxley Norris, the new Dean of Westminster, Capt. J. P. Dixon of Tiverton, Mr Batten of Ilminster, Mr H. G. Flanagan, F.L.S., of Komgha, Cape Colony, Mr Geo. Gillingham, J.P., of Reading, Mr J. H. White of Shepton Mallet, Captain Chapman of Caistor, Mrs Greig of Okehampton, Dean Ovenden, Andrew Lang, the late Duke of Argyll, Lord Farrer, Sir Richard Harington, Bart., Mr J. H. Jones of Mullinabro, Mr J. Stenson Hooker, Mrs Henry Pim, Major J. H. Wedderburn Maxwell, Colonel R. W. Aldworth, Rev. J. R. Blunt, Rev. J. G. Jenkins, Mr R. Robertson, Mr F. J. Young, Archdeacon Earle, Mr E. M. Hippisley, Colonel King-Harman, Judge Spink, Mr R. G. D. Tossill, Mr G. H. Ward-Humphreys, and many more.

§ I. WALTER WYBURN

Mr F. J. Clark, F.L.S., writes from Netherleigh, Street, Somerset: "A few years ago I was appointed along with Walter Wyburn and the late A. R. Grace, of Bristol, a sub-committee of a Charitable Trust Committee belonging to our religious body [the Society of Friends]. One object of this committee was to get water for a farmhouse belonging to the Trust at Chelbro', in Dorset, about 25 miles south-west of Yeovil. We spent several days in a fruitless search for water, or for any likely place to sink a well. However, we made an attempt in the most likely spot, according to our local geological knowledge, and sunk a well 20 feet. Alas! no water was reached. At length Walter Wyburn suggested trying the divining rod, as he found to his surprise he could use it with some success.

We agreed ; he had cut a forked twig and tried over all the ground. After a good deal of perambulation the rod indicated a strong spring in a neighbouring wood. Accordingly we had a well dug at this spot, and to our delight found a capital spring ; pipes were put down, and a constant supply for the house has been given ever since."

§ 2. MR KEMP, OF TAUNTON

An able dowser is Mr Kemp, of Woodcroft House, Norton Fitzwarren, near Taunton. This gentleman was for many years stationmaster of the Norton Fitzwarren Station on the Great Western Railway. When he retired he built a small house there ; there was no water, but he succeeded in finding a supply by dowsing. Mr Kemp has possessed the gift since his boyhood in Barnstaple, and has often used it. He is a straightforward man and willingly answers all inquiries. Appended is an example of his achievements.

In the autumn of 1913 Mr F. S. Arnold, of Northway House, Taunton, the owner of some property near Taunton, required a water supply. Mr Kemp was called in and indicated two flows of water, 14 feet apart, which he stated to cease sharply at a given spot. On one of the courses a well was sunk and water was found at 43 feet, after 10 feet of Sandy Red Loam, 6 feet of Red Clay and 27 feet of Red and Grey streaked Marl had been pierced ; the water rose about 26 feet. On two sides of the water courses marked by the dowser are visible streams, but in each case the ground slopes sharply down from the well to the stream, the spot being part of a ridge extending for several miles in a southerly direction from the foot of the Quantock Hills. The most striking part of the dowser's success in this case is the fact that it was found later that there are two geological faults 30 ft. to 40 ft. down, corresponding to the two lines indicated by the dowser.

§ 3. AN OFFICIAL OF THE GOVERNMENT OF NORTHERN IRELAND

Towards the end of 1923 the Greenmount Agricultural College in County Antrim, Ireland, required a very much increased supply of water. Several attempts were made in the usual way but with no success. Accordingly Mr Herbert E. Broderick, the assistant engineer of the Office of Works in the Ministry of Finance of the Government of Northern Ireland, whose duty it was to provide the water, applied to Sir William

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Barrett. Sir William advised that William Stone, the dowser, should be employed. There was some objection to this course, especially as Stone's charges seemed heavy ; it was found, however, that an official of the Government had some ability in dowsing. Accordingly, after a conference at the Ministry, instructions were given for the experiment to be tried with this official.

The dowsing took place in the presence of Captain B., M.C., B.Sc., A.M.I.C.E., of the Office of Works and of Mr Marshbanks, the principal of the College. The dowser indicated several places, and when wells were sunk at these spots, a supply of 1,500 gallons a day, a sufficient supply, was obtained at once. "The engineering staff," writes Mr Broderick, "is very gratified that their excursion into the 'occult' has proved so successful."

The principal of the College, who had expressed his complete scepticism, was induced to try his hand with the rod, and was found to be himself a good dowser !

§ 4. THE BOY LOCKYER

In an early volume of the Proceedings of the Society for Psychical Research,¹ Mr E. Vaughan Jenkins published an interesting case of dowsing. The date of this case was 1853, but contemporary notes were kept, from which Mr Jenkins later extracted voluminous additional particulars ; the incidents may be summarised as follows :

Mr Jenkins having purchased some land for building purposes in Christchurch Road, Newport, Monmouth, the absence of a water supply necessitated his sinking a well. Guided by the best advice, a site was carefully chosen and a well commenced. When the well-sinkers had reached 51 feet, and no water found, it was decided from the nature of the ground, a hard, compact marl, it would be useless to proceed further. A consultation of local experts was held, and the conclusion arrived at that there was no chance of obtaining water in that neighbourhood. Thereupon the foreman of the masons (a Cornishman) suggested using the divining-rod. He said it was in common and successful use for the purpose of finding water in his county, and his own son, eleven years old, had the power of using the rod in a remarkable degree. Mr Jenkins, though at that time very incredulous, consented. The lad was sent for, and with a hazel rod he crossed and re-crossed the ground several times. At one spot the rod began to revolve, and

¹ E. R. Pease, "The Divining Rod," *Proc. S.P.R.* (1884), ii. 106-107.

continued to do so with such force that the lad was obliged to let it go, when the rod flew to some distance. Whereupon the father of the lad, George Lockyer, said, "I will stake my life we shall find a good spring of water under this spot. I will undertake to sink the shaft myself, and no water, no pay." Accordingly, a well was begun the next day on the spot indicated by the "rod." At the depth of 48 feet, so strong a spring was struck that the men employed had to beat a hasty retreat, the water rising to a depth of 10 feet in the well, and subsequently to 15 feet, and remains at that depth at the present time, constantly yielding an abundant supply. The lad neither asked nor expected any payment. The father stated that he himself also had the power of using the "rod" when he was a boy, but he lost it when about 16 years old.

The discovery of this water supply led to the old site for the house being abandoned, and a new site fixed on close to the abundant supply of pure spring water that was obtained. The relative position of the two wells, marked O O, is shown in the annexed plan, Fig. 45, drawn to scale. The old site is marked S', and the abandoned well shaft W', the new site is S'', and the new well W'' adjoins it. The plot A belongs to Mr V. Jenkins. The owner of the adjacent plot B, which slopes somewhat steeply to the S.W., shortly after began to build two villas at B, and to sink the well W adjoining. He declined, indeed ridiculed, the use of the divining rod, and informed Mr Jenkins that he was confident of getting water at 20 feet depth, but feared, as the land was so much lower, it would drain off the supply from Mr Jenkins's new well. Upon getting this information Mr Jenkins asked the youthful dowser to go over the ground again and see if he could trace the direction of the underground water. This the lad did, and asserted, on the evidence of the rod, that water would be found on the West side of the new well W'', but that little would be found on the South or East side of it; the North side had already been tried and abandoned. The father of the lad thereupon assured Mr Jenkins he had no cause for anxiety from the proposed well at B.

Accordingly at B a shaft was sunk, but no water was met with at 25 nor even 50 feet. Eventually the well sinkers went down to 100 feet, and still no water was found. A boring was then made 25 feet deeper, and at 125 feet water was struck, but though the boring was continued still deeper, the water never rose beyond 18 to 24 inches in the well; a fair supply was, however, obtained. The water at Mr Jenkins's well at S'' was, and still is, entirely unaffected by the well at B. The soil

at B was the same as that in the abandoned well shaft at S' in the plot A, viz., a "hard, compact marl." Three pairs of villas were subsequently erected on the plot C, and three wells sunk as shown at W, W, W. Water was obtained at 50 feet

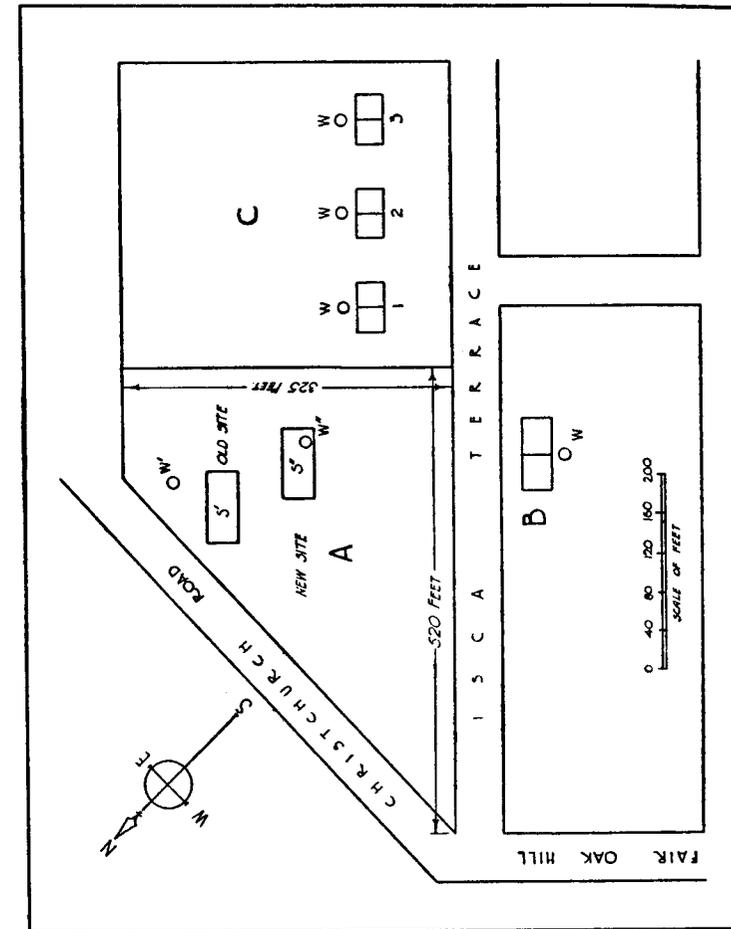


FIG. 45. PLAN OF A SITE IN CHRISTCHURCH ROAD, NEWPORT, MONMOUTHSHIRE

depth, but the supply "was poor, and is not sufficient to keep the wells from running dry in a very dry summer." These wells were therefore a comparative failure.¹

¹ It was the success of this experiment that led Mr Vaughan Jenkins to devote much of his time for over 40 years to collecting evidence on the use of the dowsing-rod.

§ 5. COLONEL HUGH ROSE

During the Great War Colonel Rose on several occasions rendered great service by means of dowsing. A couple of examples are appended, each followed by comments by Colonel Rose. The first one is recorded by Captain J. C. Dufresne, R.E., late Officer-in-charge of Water Supply for the — Corps, who writes to Colonel Rose (2nd of November 1916) as follows: "It is with sincere pleasure that I recall the circumstances under which you helped us out of a difficult situation by showing me where I could obtain a good supply of water in Long Valley—to the N.W. of Albert. I may say that it was the first time I had seen the gift of Water Divining put into actual practice.

Long Valley is merely a depression, running from N. to S. in the chalk plateau about a mile to N.W. of Albert. As it offered good cover from enemy observation, it was decided to concentrate a large number of horses at the spot, but as it is most important that horses should not interfere with traffic by crossing the main roads to water, the necessity of a local supply of about 1,000 gallons per hour became apparent, and to be of any use it had to be found within a week.

That water existed we knew, for, where the valley crossed the Albert-Amiens Road, it was found within 20 feet of the surface,—yet at the northern end of the valley near Bouzin-court, a well had been sunk to a depth of 65 feet without results, and a bore-hole 100 feet deeper still gave insufficient results, after weeks of hard work.

Hearing of your mystic powers I begged your assistance and you very kindly accompanied me to Long Valley. I think this was about June 20th. With your magic spring you went over the ground, getting various indications from time to time by the uncanny movements of the little clock spring you carried. At last coming to a place where the spring seemed to turn over and over, you told me to dig there.

It was also curious that you were able to trace the direction from whence the water was coming, the flow being from the N.W. and not down the centre of the valley. I put three shifts of well diggers to work next day; the result being that on the fifth day at a depth of 41 feet water began to come in from the N.W. side of the well (not a drop of water had come in before this), and on taking out another foot of chalk—or at a depth of 42 ft.—we struck all the water we needed; the water level rising to 4 ft. in the well. With continual pumping of 800 to 1,000 gallons per hour we could only lower the water level 7 inches.

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I have recently heard that the well you located at 'Rose Water Point' (near Mametz) is going strong and giving 4,500¹ gallons per hour, and has saved the situation in that district. 'More power to your arm.' "

Colonel Rose comments: "The weather on the morning of June 20th was the very reverse of favourable for the task, as a cold wind was blowing, with rain showers at frequent intervals.

Captain Dufresne showed me, roughly, whereabouts he would like to have a well, and after about half an hour's search around I struck into an 'indication' on some ground above the nullah and to the W. of it.

This streak I traced back in a N.Wly. direction for some 200 to 250 yards, then turned and worked back on the 'run-down' (or hidden fissure in the chalk) to a spot in the valley where I mapped out a pretty large 'spread' of some 20 to 24 feet in diameter. Exchanging the delicate clock spring for a stoutish hazel twig, I tried hard to keep the latter from turning, but it fairly beat me in the centre of the 'spread'.

So I carefully marked the middle of this area, and told Captain Dufresne that with that as the centre of his well he could go ahead with his digging, which he did."

The second case to be quoted is recorded by Captain J. W. Blow, R.E., Field Engineer in charge of Advanced Water Supply for the — Corps, in a letter to Colonel Rose dated the 15th of January 1917: "During the month of August, 1916, I received orders from the Chief Engineer of the — Corps, to provide a large water supply for horses and troops to be camped in the vicinity of Botton Wood. On the map I fixed the approximate desirable position of the necessary well from a military and geological point of view, and was making arrangements for a careful reconnaissance of the ground when my friend, Capt. Dufresne, R.E., informed me of the valuable aid you had given him in determining the position of a well in Long Valley. This decided me to consult you on this important matter. You very kindly consented to accompany me to the spot, and, to cut a long story short, after searching for several hours under difficult and trying circumstances, as stated below, you located a series of fissures in the chalk, indicating me an entirely new position. A well was sunk at this point to a total depth of 59' 6" giving a yield of over 10,000 gallons per hour—a quite exceptional yield for a comparatively shallow well in chalk formation. The above is, I think, of

¹ [Over 10,000 gallons per hour. The pump is only capable of lifting that amount.]

scientific interest showing the valid assistance Water Divining can give to the geologist. The valley at the time was full of Batteries in action, and was receiving considerable enemy attention. Your difficulties were further increased by the large amount of metal about in the shape of buried unexploded shell."

Colonel Rose observes: "At the request of Captain Blow I commenced to search considerably higher up the valley than the spot where the present well, known as 'Rosewater Point,' was located. Four or five small patches of water were come upon, but none showing a sufficient quantity to warrant the sinking of a well.

I may mention that in my hands the clock spring, or forked rod turns for metals if held level, with the U, or tail, pointing towards one's body, upwards and forwards. With water just the contrary.

All the time I was working (over 4 hours) the spring kept flicking over for metal. What with the din of howitzers firing projectiles at very close range right over one's head, while the Boche replied by Crump 'overs' to my right and left, and with the heat caused by a steel helmet on a still sunny day, the task was a somewhat tough one.

While working along the line of a brae I struck across a small 'run-down.' Some officers were lying on the slope outside a small tent. I traced the 'run-down' up to the brae from S. to N. and found that, by a strange coincidence, the fissure passed right under the tent. This fact I verified by a second trial from N. to S.

About 40 yards further E. I struck a satisfactory parallel 'run-down', and found that the other fissure merged into this one at a certain point. Where they joined a stake was put in, and with that as centre the well was dug, with the results mentioned by the water expert, Captain Blow, R.E."

§ 6. THE BOY GUY FENLEY, OF TEXAS

In 1901, Guy Fenley, the 14-year-old son of a highly respected citizen of Uvalde, Texas, accidentally discovered his ability to find underground water while walking with his father over the pasture of a ranch near Uvalde. This boy appeared to be able to state the approximate depth of the water as well as the direction of its flow, and to describe the strata between the water and the surface. In order to test his powers, Mr Fenley took his son to a field at night: the boy indicated a spot where he stated water would be found at a depth of 200

feet. It is alleged that water was in fact found at 187 feet.

This being a very dry country, where the lack of water is one of the most serious difficulties to be encountered, the news of this boy's faculty soon spread. Mr Thomas Devine took him to his ranch in the northern part of Uvalde county, where thousands of dollars had been spent in vain efforts to find water. Guy was taken to a large pasture and after two hours indicated an underground stream. This he followed for over a mile, marking a number of spots. It is stated that in each instance a fine flow of water was found. The boy was also alleged to have found water in the ranch of F. K. Moore, in Edwards County, and to have refused 500 dollars for his trouble.

Young Fenley was soon overwhelmed with requests from all parts of Texas to find not only water but oil. Only one more case need be quoted; the details appeared in American newspapers as follows. Judge W. Van Sickle of the State Legislature had asked the boy to come to his ranch in Brewster county. This gentleman, on being interviewed, made the following statement: "That Guy Fenley, this 14-year-old boy, is possessed of an X-ray sight cannot be questioned. He has demonstrated his ability to see underground streams of water, no matter what their depth may be, on a number of occasions, and the stockmen of West Texas have ample proof of his power in this line. I engaged him to go to Brewster County and locate two wells on the ranch which is owned by D. J. Combs and myself. This ranch is situated in a very dry country, known as the Glass Mountains. We had made a vain search for water on this ranch, having sunk a well to a depth of 607 feet, at a cost of \$1,500, without striking water. This boy has already located two wells on the ranch, one at a depth of 250 feet and the other at a depth of 400 feet, both containing an abundant supply of pure water, and well-drilling outfits are now at work sinking other wells on the ranch, with no doubt about securing water.

There can be no longer any doubt about this boy's wonderful power of sight, for the reason that instances are numerous and notoriously known where his X-ray gift or whatever it may be called has been proven beyond a doubt. He comes of a splendid family and has fine connections. He is a modest, handsome, blue-eyed boy, and to all outward appearances there is nothing about him to distinguish him from other boys of the same age. While locating the wells in Brewster County he romped and played with other boys whose acquaintance he made.

Without citing the numerous cases and giving the names of parties for whom he has been successful in locating wells, I will say that if there is any doubting Thomas, such person can verify the truth of all my statements concerning the wonderful power of this boy by writing to anyone in Uvalde, Sanderson or Alpine, Texas. He cannot tell the exact depth of the water below the surface, but he approximates its depth as any other person would guess at distances above the ground.

I am unable to explain this wonderful power—this extra sense—possessed by this boy, but that he has it there can be no question. He is bright and intelligent and when in school at Uvalde he stood at the head of his class in mathematics.”¹

These facts were confirmed by the Hon. John N. Garner, of Uvalde, and its representative in the State Legislature. Direct application was also made to Judge van Sickle, who vouches for his statement to the press, in a letter dated the 6th of February, 1901.

¹ *Seattle Post-Intelligencer*, 7th of February 1901; *Illustrated Buffalo Express*, 2nd of February 1901; etc.

CHAPTER X

EXPERIMENTS WITH TWO OR MORE INDEPENDENT DOWSERS

THE best justification of the dowser's claims is naturally his success. If it can be shown, as we believe the foregoing pages amply show, that the dowser not only has a very large percentage of successes in the investigations he undertakes, but that many of these successes take place subsequent to the failures of geologists and engineers, the best possible case on his behalf is made out. But beyond this direct pragmatical test, interesting experiments may be designed in order to ascertain whether the indications given by the dowser are in fact founded on something outside of himself. Of such experiments there are two of especial importance, to which the ensuing chapters are to be devoted. The former of these is one in which two or more dowsers are taken over the same ground, but quite independently of each other, and their indications compared. Under such a test even the most accurately scientific opinions might be expected to fail not infrequently, but, on the contrary, in dowsing under such conditions we have a number of striking successes and hardly any failures. Professor Gabriel de Mortillet, the distinguished anthropologist, himself a dowser, says emphatically: “This much, however, is certain, which I can affirm as the result of experience: that the point chosen by one diviner will also be chosen by others brought from a distance, and completely ignorant of the preceding experiment.”¹

These statements have now to be substantiated by quoting illustrative cases. Accepting the reality of a dowsing faculty, whatever its nature, we must agree that if two dowsers quite independently of each other fix upon the same spot as likely to yield water, a good *prima facie* case is made out for the probability of actually finding water in that spot. Such an experiment, however, loses much of its point if a well is not

¹ *L'Intermédiaire de l'Association Française pour l'Avancement des Sciences* (1896).

sunk at the indicated place. A case of this kind nevertheless retains some value and such an incident may therefore be quoted. This experiment was carried out by Lieut.-Colonel G. L. le M. Taylor, 6 College Lawn, Cheltenham. This gentleman, while Tompkins was in the neighbourhood, asked him to try and find water in his garden. Colonel Taylor describes how Tompkins "traced the line of an underground stream and I marked it with pegs (about four inches long) driven in quite to their head; one spot *g*, Fig. 46, he specially noted.

I told Mr Chesterman about my experiments with Mr Tompkins and asked him if he would go into my garden and try

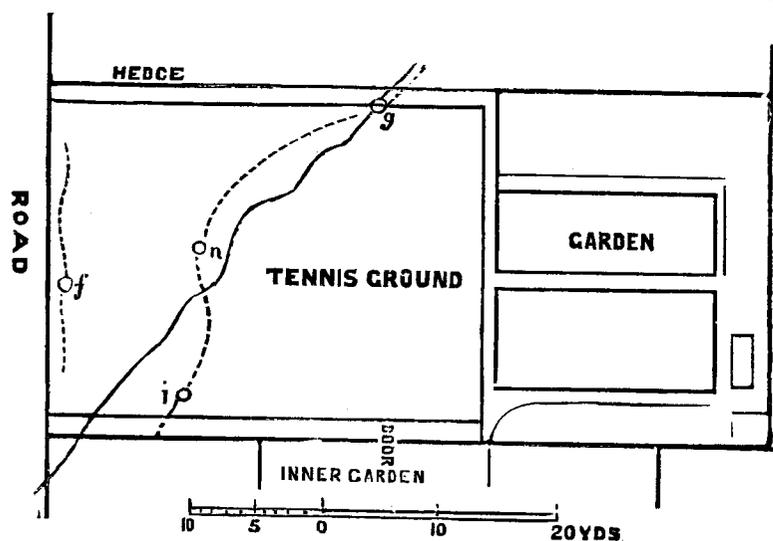


FIG. 46. PLAN OF THE GARDEN BEHIND COLONEL TAYLOR'S HOUSE

The continuous line indicates the stream found by Tompkins. The dotted lines mark Chesterman's indications.

to locate a stream found by the latter. He kindly consented. It was quite dark when we went out, but it made no difference; in a short time he found water at *f*, Fig. 46, and said the stream ran parallel to the road. He then, passing up by the hedge, found the rod turn at the point *g*, when he said he was crossing a stream. I put down my hand to mark the place with a peg when it came into contact with the end of the peg I had previously put in to mark the spot Tompkins had selected. It was much too dark for either of us to see the pegs even if we had searched for them. Chesterman then walked down the centre and afterwards the inner edge of the tennis ground and crossed the stream at *n* and *i* respectively. The dotted

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line on the plan of my garden will fairly represent the flow of water underground as indicated by Mr Chesterman.

How far, from these experiments, it may be considered that the subterranean streams influenced these two men I cannot say; I think, however, something more than chance must have dictated their choice of ground."

Our agreement with this opinion must be greatly strengthened by the next case, admirably described by Mr F. J. Clark, F.L.S., in which three dowsers independently fixed upon three different spots all obviously on the line of a fissure in the strata of the Blue Lias. Writing from Netherleigh, Street, in Somerset, in September 1896, Mr Clark says: "Some twenty years ago an opportunity presented itself to me of testing the value of the indications given by the divining rod.

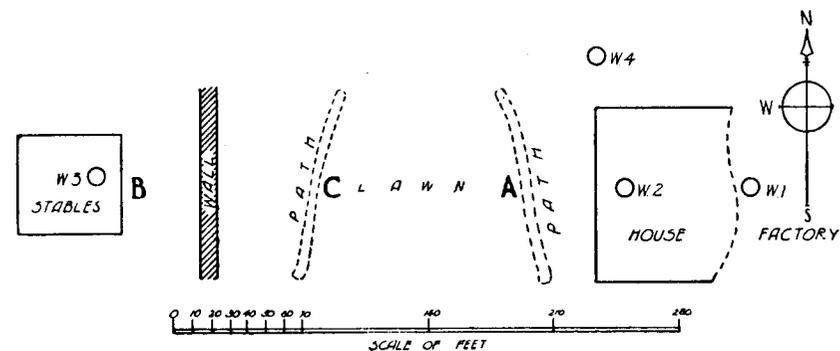


FIG. 47. WATER FOUND BY THREE INDEPENDENT DOWSERS: PLAN

The then manager of our local gasworks, Mr Stears, found he had the power of using the rod; ¹ others in our neighbourhood also tried, and an old workman I knew well, Simon Seymour by name, was equally successful. I got Mr Stears to go over my ground, and the rod indicated water at the spot A on the rough plan (Fig. 47). Some little time after I tried Seymour, who knew nothing of Mr Stears's experiment. Seymour found the rod indicated water at B. Curiously enough a neighbour and member of our body (Society of Friends), Walter Wyburn, a Poor-Law guardian, found he also could use the rod. I invited Wyburn to my place, and asked him to try where he could find water. He did so, and the rod indicated water at C; he had no knowledge of what the others had done. Now

¹ J. Stears later removed to Yorkshire and, as we have seen, became a professional dowser.

it happens that a well had been sunk for our factory at W¹, and a good supply of water obtained at about 40 feet depth. Another well, in the cellar of my house, at W², gave us a supply of water at about 35 feet, and a third well at W³, on higher ground, and about 280 feet distance, supplied the stable yard; this well was only about 27 feet deep. We had also since sunk a well at W⁴, some 60 feet North of W², but had got little or no water from it even at a depth of 50 feet. We tunnelled about 20 feet in the direction of W², and found rather more water coming in. It seems, therefore, that a fault or fissure running East and West existed in the strata of the Blue Lias, and along the fissure water could be obtained. This conclusion is rendered very probable from the fact that, if we pump a large supply of water from the factory well, W¹, it completely drains W², and perceptibly affects W³. Now it was just when the three dowsers crossed this line the rods indicated water beneath. Their trials, as I have said, were made independently, and they had no knowledge of the position, or (so far as I know) the existence of the wells on my place. I may also mention that the late rector of the parish found he too was an expert with the 'rod,' and on trying my grounds with it he also hit upon *the same line* of underground water, but I am not sure whether he knew of the other trials I have related."

We must now pass on to cases in which a well was actually sunk at the spot marked by the dowsers. First we may consider one in which W. S. Lawrence was one of the dowsers, the other being the late R. Rothwell, a gardener of Cathays, Cardiff. Mr A. A. James (who describes the events in several letters) of the Cardiff Malting Company, Limited, East Moors, Cardiff, requiring a supply of water, called in Lawrence, who pointed out a spot at which he declared water would be found at 20 to 25 feet. Some time after Mr James made the acquaintance of Rothwell, who had then recently discovered the dowsing faculty in himself. Rothwell knew that Lawrence had indicated a place for sinking, but had no idea of its whereabouts. Being left entirely to himself, Rothwell soon marked a site, the precise spot found by Lawrence, and estimated that water would be found at 28-30 feet. The dowser then traced the "spring" into an adjoining property, where, in fact, two years previously water had been accidentally found at 26 feet. In the upshot a well was sunk at the place marked by the dowsers, and water was found at 18 feet below the surface, the well being deepened, in order to obtain a larger supply, to 24 feet.

In another case in which Lawrence was one of the dowsers, the identity of the other dowser employed remains unknown.

Lady Dorothy Nevill sent to the *Pall Mall Gazette* for the 13th of February 1897 an account of the successful dowsing for water at the Convent of the Holy Child at Mayfield, in Sussex, a place which was once the palace of Sir Thomas Gresham and has other historical associations. This account has been supplemented with letters from the Superioress of the Convent, from Lady Dorothy, and from other independent persons. There being a need of water, the aid of an amateur dowser was sought. He traversed the grounds, and fixed on a certain spot where he said water would be found. Before digging a well W. S. Lawrence was called in some time after and selected the same spot. Accordingly a well was dug, and at 30 feet deep water was found. Subsequently they wanted a well nearer the house and sunk at another spot which both the amateur and professional dowsers had fixed upon. Again water was found, and on boring to 270 feet a big supply was obtained.

As might have been expected from his remarkable record, John Mullins played a part in several of these independent dowsing experiments. One such case is of particular interest in that the second dowser was his son, H. W. Mullins, and in that the spring here discovered is described as "the only British natural seltzer water." Here, while dowsing for the Right Hon. H. Chaplin, M.P., John Mullins, after indicating a spot at which a well was afterwards sunk and the supply of seltzer water obtained, professed to trace the underground path of the water. He declared that the water flowed to the further side of a certain hedge at a depth of 120 to 130 feet. Eight years later H. W. Mullins was called in, as his father had died in the interval. He was told "that his father asserted the seltzer spring flowed under a hedge on the other side of the field in which we were then standing, and he was asked to indicate the place. Starting at one end of the field he walked close by the hedge side. He had gone about 100 yards when the twig began to ply, and digging his heel into the ground, he thus marked the spot." On digging being begun at this spot a stake was dug up with which Mr E. G. Allen, who superintended the experiment, had eight years before marked the place indicated by John Mullins. Water was found here at a depth about five feet less than that stated by the dowsers.¹

In this case both the dowsers were professionals, and we may now consider a couple of cases in which the dowsers were

¹ *The Lincolnshire Chronicle*, 8th of June and 23rd of August 1895, and vouched for by Mr E. G. Allen.

Mullins on the one hand and an amateur on the other. In the first of these cases the amateur was the Archdeacon of Totnes.

Mr H. D. Shrine, J.P., D.L., the Deputy-Lieutenant of Gloucestershire, of Claverton Manor, near Bath, having given some account¹ of his experience with the rod, was asked to give a fuller relation. This he did in the following letter: "In reply to your questions relating to my experience of the use of the divining rod for the discovery of water, the facts are these:—About twenty years ago, intending to build a cottage residence on the top of Warleigh Hill, adjoining the hamlet of Conkwell, I employed a man named John Mullins, a reputed spring-finder and well-sinker living at Colerne, Wilts., to find water, which he did by means of a forked twig of hazel or thorn. He was, so far as I know, an entire stranger to the place, and could not have known anything about the springs. I took him to the top of the wood in a flat field, the subsoil of which for a great depth was known to be oolite rock. He pointed out by means of his forked twig where water was, in his opinion, to be found under the surface, but at what depth he did not pretend to say. In every instance where he said he found water, there was to my knowledge a spring low down in the wood in a line with the spot indicated.

He afterwards made some attempts to find water on the lawn in the front of the house, and traced a spring upward to a spot on the grass plot in front of the greenhouse where, some years before, in moving a large arbutus tree we had found a spring of water. To test the man's water-finding powers more closely, before I allowed him to sink the well, I invited my friend and neighbour Mr Earle—late Rector of Monkton Farleigh, and now Archdeacon of Totnes, who had the gift himself, and who had found several wells by this process—to meet Mullins in the field near Conkwell. He did so, and though unaware of what places Mullins had selected, they both agreed in a very remarkable manner in the spots where the hidden springs were; the forked twig turned with him at the same places as with Mullins. On this conjunction of their discoveries I decided to sink a well, and at a little over 80 ft. deep we came to a bed of yellow clay and found water. The bed was however too thin, and the men sank the well to over 100 ft. deep, when they came to a blue marl or lias, and we have a fair supply of water about 4 ft deep."

This concludes the present case, but it will be interesting

¹ *Proceedings of the Bath Natural History and Antiquarian Field Club* (1889), vi. 424.

to quote the rest of Dr Shrine's letter, which proceeds as follows: "Since then and quite recently Mullins has found for me several springs in Claverton and sunk two wells, in one of which the water was found not more than 6 ft. below the surface where we had no idea there was any. In each instance of his finding by the twig a spring on the hill he traced it down to an existing spring unknown previously to myself. He also found for us the course of several drains, the lines of which had been forgotten by the workpeople, and in every case was right and saved us much trouble in digging.

It certainly appears to me that Mullins is himself a believer in the divining rod, and if it is a mere trick or deception it is strange that he could not communicate it to his own son who works with him.¹ The twig on the approach to a spring curved upwards in his hands without the least appearance of action on his part."

We have a still more interesting case in this class, ably recorded by Mr Vaughan Jenkins. Here the amateur whose findings corresponded with those of John Mullins was a young girl. Mr Jenkins's record was made in a letter addressed to the *Abingdon Herald*, as follows:

"Some time ago there appeared in a contemporary a short paragraph, which only recently came under my notice, giving the information that 'Miss Wood, a daughter of Mr George Wood, of the Vallets, and agent for the Whitfield estates, near Hereford, had again been successful in finding water at Lugwardine by means of the (so-called) divining rod.' Being desirous of obtaining full and authentic particulars of this young lady's experimental operations, I addressed several specific enquiries, with special reference as to how and when Miss Wood discovered that she possessed the dowsing, or 'so-called divining' faculty, to her father, who very kindly sent me the following interesting details:

'Whitfield Estate Office. February 4th, 1890.

In reply to your letter of the 15th ult., I beg to say that in January last (1889) Mrs Greathed of Whitfield, who is sister of the late owner of the estate—C. M. B. Clive, Esq.,—wrote to Mullins, the well-known water-finder by the use of the divining rod, asking him to come to Whitfield for the purpose of making some trials there. Mrs Greathed requested me to conduct Mullins to various elevated places on the estate,

¹ This was probably Joseph Mullins; another son did inherit the faculty. Mr Shrine states in the earlier account referred to that his own two sons have the dowsing faculty.

which I did in company with several persons, including Mrs Greathed herself, Mr Percy Clive, the future owner of the estate, etc. I took Mullins to several places where I knew there was water running *through* the earth, *but not the slightest trace of it on the surface*. I did not tell him that I knew there was water anywhere. I merely took him to the gates of the different fields and asked him to try in each case. He quickly spotted each place to a great nicety, without the slightest hesitation.

The next thing was for each of the company to try with the rod, but not one of us had the "faculty" excepting my little daughter May. Subsequently the rod indicated water in several places, both in the hands of May and Mullins—May finding it first sometimes and at other times Mullins.

I suggested that we should not make a trial by sinking wells until the autumn, when springs here are generally very low. Well, we made a trial in November last at a spot where Mullins said the water would possibly be found at a depth of 40 or 50 feet. We came on water at 40 feet. I may mention that previous to sinking this well the rod in my daughter's hand indicated the presence of an underground spring there. May is now thirteen years of age. She has proved successful in numerous cases; four wells have been sunk where she said there was water, and each one was a success, viz., one at Ledbury, one at Lugwardine, and two at Whitfield. Hitherto, all her predictions have proved invariably true. Two wells had been unsuccessfully sunk at Lugwardine previous to my daughter's visit there, the deepest of which was 16 feet. The place where May indicated water is distant 42 feet from this abandoned well, and at 11 feet deep a superabundance of water was found, and pipes are now laid to convey the water to the Vicarage, which is, I believe, several hundred yards away. As regards her *modus operandi*, she holds the forked hazel twig downwards when in search of water, and when she comes on a spring the twig quivers and rises upwards, sometimes from her body and sometimes towards it, until it comes to a perpendicular position. She practises the rod as you suppose, viz., as an amateur only, being only too happy to use her powers for the benefit of friends and neighbours.

G. WOOD.'

In confirmation of the foregoing statements, the following letters may be quoted: The Rev. Francis Curtis, rector of Coddington, near Ledbury, writes: 'The spring has been found at the Stone-house 57 ft. below the surface, exactly at the

spot indicated by Miss Wood. She said she thought the depth would be as much as 50 feet. So the event proves her judgment to have been very correct. We are very glad that we availed ourselves of her gifts.' The Rev. A. C. Lee, of Lugwardine Vicarage, Hereford, writes: 'The well sinker came to me an hour ago with the welcome intelligence that he had come upon a strong spring of water, at the depth of 11 feet, on the spot Miss Wood "found" on Monday, and which, you will remember, I marked with two sticks, and which was thought to have the strongest indications. Previous to Miss Wood's visit two wells had been sunk, but no water found.'"

This report by Mr Vaughan Jenkins was sent to Mr G. Wood who replied on the 9th of May 1896:

"The report enclosed is quite accurate. My daughter May has been requested to go to very many places to find water since the report you send was written, and has always been successful. I have often been glad of her services myself."

This statement was subsequently endorsed by Mr Percy A. Clive:

"Tower of London, April 24th, 1897.

I can vouch for the accuracy of the statement made above by Mr G. Wood, who is my estate agent at Whitfield. I saw Mullins 'find' water in several places, where his findings were afterwards proved to be correct. I, as well as others, tried to find water in the same way, but had not the power. But when Mullins held my wrist, and I held the twig over running water, it turned round in my hands with such force that when I held it tight it broke. Miss May Wood has been very successful in finding water; and seems also able to make a pretty accurate guess at the depth at which it will be found."

The next case is one in which the dowser who agreed with Mullins is unknown. The facts are recorded by Mr C. Leeson Prince, F.R.A.S., of The Observatory, Crowborough Hill, Sussex: "I must confess that I have been converted to belief in the power of the divining rod, and for the following reasons. Some eight or nine years since a stranger called upon me respecting a contemplated local improvement, and upon leaving me he said that he was a person who made use of the divining rod to find water. I took him into my garden and asked him to point out where water would be found. After

wandering about over nearly an acre of ground, he came to a spot which he said would be successful. He then left me, and I thought no more of it. About three years since, a lady bought this property of me, and, having a large establishment, she was rather apprehensive of not finding a sufficient water supply. I pointed out to her the spot where it had been stated to me that water would be found. She did not, however, pay much attention to this, and dug for water in another part of the property; but she was not successful. Without having any further conversation with me, she sent for a 'diviner,' who, after walking about in various directions (and without her having mentioned to him what the other person had said), told her that she would find abundance of water if she dug down at a certain place which was within a yard of the same spot which the former person had pointed out. She accordingly acted upon his information, and at a depth of rather less than twenty feet she found an ample supply. When the lady saw the twig point downwards in the man's hand, she expressed a wish to try if it would act in the same way in her hand; which, of course, it did not. He then told her that if he put his hand upon hers it would, which it accordingly did. I may say that I report this case from personal information of the facts. Only a few weeks since I heard of another successful case, in an adjoining parish, precisely similar to the above in every particular."¹

On application Mr Prince added the particulars that the lady mentioned was a Mrs Gresson, the property being between Mr Prince's observatory and that of Dr Roberts, F.R.S. The first dowser was John Mullins.

We may now conclude our relation of cases in which John Mullins was one of the dowsers concerned by quoting one of the best on record. Here the agreement was not merely between two dowsers, but between several. It is fortunate that this most interesting case has been recorded by that able geologist, the late Mr E. Westlake, F.G.S., after very careful investigation. The pains that he took are amply shown by the following account. While he was in the Isle of Wight in 1897 for other purposes he took the opportunity of investigating a case that had been reported in the local press. He described his researches as follows: "I found that, though three or four eminent geologists had been previously called in, they had altogether failed to find water, while the three dowsers had been as uniformly successful. As the strata at the point in question are as well known to geologists as any in England, this

¹ *Notes and Queries* (1896), 8 S. x. 345.

result was rather unexpected, and I have therefore taken some pains to get at the circumstances. After visiting the place on four occasions, and through the kindness of Mr Milman Brown, the Chairman of the District Council (who has revised this account), and others concerned, I am now able to give the main particulars, which to make intelligible I will preface by a few words on the geological situation.

The Shanklin reservoirs are in the Gault Clay a mile south of the town, at the sources of the small stream which issues in the Chine. The collecting ground is the southern mass of the Chalk and Upper Greensand, the water issuing at the base of the latter where it rests upon the Gault. The valley is a right-angle facing the north and east, due to the main joints in the Greensand, which runs E. and W. and N. and S. The dip of the strata is 1 in 45 ($1\frac{1}{4}^\circ$) south. Along the sides of the valley the Greensand has a local inward dip of from 2° to 8° , due to the slipping out of its base upon the Gault, forming fissures which increase in size as they descend. On account, however, of the tendency of the water to run southwards, the valley is unfavourably situated for springs, and on its sides one only has been utilised, viz., on the south side just below the top cottage, The Retreat; the remainder are in the copse at the head of the valley.

Greatwood Copse, the scene of the water-finding, occupies a semi-circular hollow a quarter of a mile wide at the angle of the valley (Fig. 48). The effect of this hollowing is that the Greensand, which extends for a quarter of a mile to the north, obtains in the copse a slight southern face traversing the fissures aforesaid, and it is here that the springs take their rise. The well (to be described presently) which was sunk at a spot indicated by J. Mullins, the late famous dowser, is placed in this southern face—the very best place, geologically speaking i.e., on the above theory that the main supply comes from the north-east corner of Shanklin Down. As the consumption of water in the town has been continually increasing (in 1898 it was about 50,000 gallons a day), while the supply has never been large (about 40,000 gallons in September, 1898), there have been continual efforts to augment it, which, as far as they relate to our inquiry, are as follows:

The first wells in the copse, Mr Brown informed me, were sunk in 1875 by the London engineers, Messrs Quick. The east well, 150 yards west of the road, is 55 feet deep, and held (September 1898) 9 feet of water; its cover is 411 feet above Ordnance Datum (i.e., above sea-level). The west well, 20 yards further in, is $420\frac{1}{2}$ feet O.D., and $65\frac{1}{2}$ feet deep, with

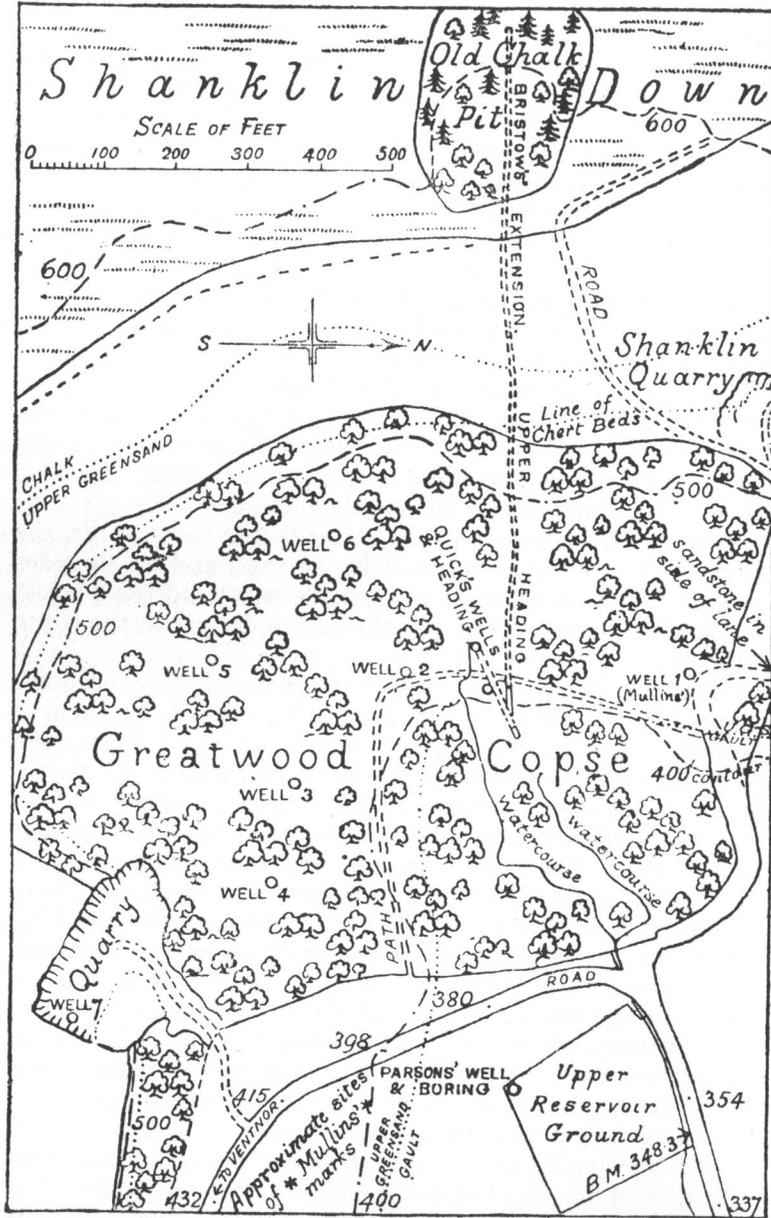


FIG. 48. THE SHANKLIN EXPERIMENT : MAP
 After the 25" Ordnance Survey Map, Hampshire (XCIX. 9), the Geological Survey Map and local surveys.

10 feet of water. There is thus a difference of only 1 foot in the bottoms of the wells. They are connected by a sub-water heading so as to form virtually one well, and by a middle heading for syphoning purposes, the floor of which averages 383 feet O.D. They supply, I am informed by Mr E. C. Cooper, the town surveyor, about 4,000 gallons a day. The water, when syphoned, stood (September 1898) at 365 feet O.D. When not syphoned it stood (December 1899) at 382 feet O.D. ; in winter it rises till it overflows the outer sill of the middle heading at 388 feet O.D.

The upper heading, which is close by, was driven without expert advice above a wet place in the copse, and followed the water in a westerly direction for a distance of from 400 to 500 feet. This heading starts at a level of 401½ feet O.D., at a

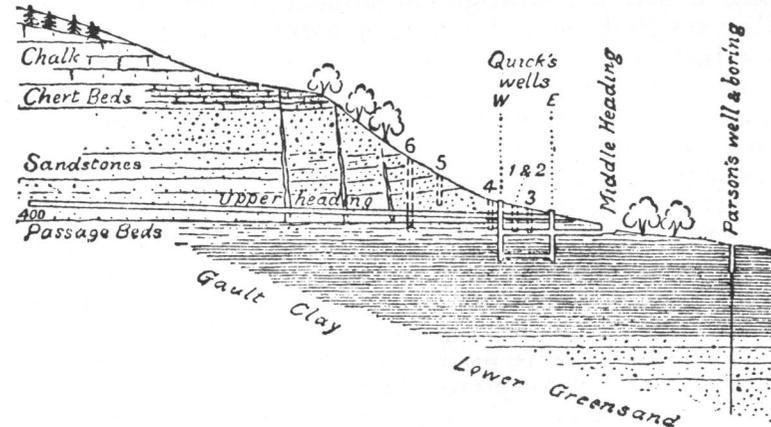


FIG. 49. THE SHANKLIN EXPERIMENT : SECTION

point 15 yards west of the middle heading and 18 feet above it. (See Fig. 49.)

About 1878 Mr H. Bristow, F.R.S., F.G.S., of the Geological Survey, was consulted by the Board, and visited the spot. On his advice the upper heading was extended to a point about 900 feet west of the entrance directly under the old chalk pit on Shanklin Down, but without getting any appreciable addition to the flow of water. When I measured it in December 1899, the quantity was 9,000 gallons a day, which, however, is below the average ; the turncock, Mr Whittington, said when the flow was good it was double this. That hardly any water was found in Bristow's extension is probably due, as pointed out by Mr Topley, F.R.S., in a subsequent report, to its having been driven ' at too high a level ' ; ' water,' he

adds, 'might be found by a well or boring at the far end, but would probably not rise into the heading.'

In 1885 the Board consulted two other geologists, Mr W. Topley, F.R.S., of the Geological Survey, whose report in May of that year I have just cited, and Mr Mark Norman, author of a geological guide to the Isle of Wight, but their schemes of sinking to the Lower Greensand were not only costly but problematical.

In 1893, as a last resort, the Board called in Mr John Mullins, the well-known Wiltshire dowser, who marked several spots in the field to the south of the reservoirs, but the conditions were too onerous for them to sink there. On their own land, however, by the S.W. corner of the upper reservoir, which was from 50 to 100 yards to the north of Mullins's marks, they sank a well 30 feet deep, but without getting water. Then they got Mr Parsons, the Brading harbour-master, to bore at the bottom of the well for 97 feet—i.e., to 127 feet from the surface—but he got no water, only bad air, which suffocated him, his son, and his men, who were all found dead in the well one morning in July. Mr Thom, of Manchester, continued the boring from 200 to 300 feet deeper into the Lower Greensand but after diminishing the bore from 8 to 4 inches the Board refused to sanction a further reduction and the boring was abandoned. The borehole is now disconnected. The well has a supply from surface soakage of from 400 to 800 gallons a day, which is not used. I may remark on the foregoing that Mullins's marks, being on the outcrop of the Upper Greensand, offered a reasonable prospect for finding water, whereas the site chosen for the well at a level of 373 feet O.D., being on solid Gault clay, could have only a little from surface percolation.

In 1895 the Board consulted Mr A. Strahan, F.G.S., of the Geological Survey (who had re-surveyed the district), on the prospect of obtaining a supply by a deep boring on the same site. In his report of September of that year he says, 'I do not think there is a more favourable site, from a geological point of view, in the immediate neighbourhood.' His plan, like that of Messrs Topley and Norman, was to sink some 400 to 700 feet, and pump from the Ferruginous Sands below the sea-level; 'but this,' said Mr Brown, 'would have cost us a great deal, and he could not promise us anything certain when we got there.'

Returning to Mullins's operations, it appears that after he came, early in 1893, two members of the Board, Messrs Brown and Bailey, who had found the twig turn in their hands,

started dowsing in the copse on their own account. They each found the twig turn at certain places nearly coincident; one of these places they found to be the same spot previously fixed upon by Mullins. At this spot (No. 1, see map, Fig. 48) they sunk a well 26 feet deep, and at two points of their own (Nos. 2 and 7) they sank wells 28 feet and 64 feet deep. Though No. 1 is only 100 yards to the north of the headings and No. 2 only 40 yards south, a good supply of water was found in the three wells. No. 1 supplied, at first, 7,000 gallons a day; No. 2, about 10,000 gallons. No. 7 required, at first, nine days to pump it out; at the present time, however, it only supplies about 2,000 gallons a day. In 1895, again following the twig's indications, they sank four more wells (Nos. 3, 4, 5 and 6), in all of which water was found. Nos. 3 and 4 have supplied from 1,500 to 2,000 gallons a day. No. 5, when dug, had 2 feet of water which ran freely, but has since failed. No. 6 (72 feet deep) has not been connected to the reservoir. These additional supplies, though quite inadequate for a growing town, had, said Mr Brown, kept them going for the time being. The height of the ground at these wells (Nos. 1 to 7) I found, by levelling from St John's Church, to be 415, 415, 413, 419½, 447½, 465 and 466 feet O.D. All the wells are now covered over, except No. 7, but I have ascertained their respective depths to be, approximately, 26, 28, 28, 30, 33, 72 and 64 feet; their bottoms are, therefore, approximately, 389, 387, 385, 389½, 414½, 393 and 402 feet O.D. Hence, except in No. 5, the water lies at levels between the middle and upper headings, showing the dowsed water to come from the same stratum as that in the other wells and headings. In No. 7 the water stands at 416½ feet O.D., so that the exhaustion of No. 5 is probably due to its not having been sunk deep enough.

The geological position of Parsons's well is in the Gault clay, which is penetrated after the first 100 feet, the remainder of the boring being in the sandstones of the Lower Greensand (Neocomian). Quick's wells and the middle heading are in the passage-beds between the Gault and Upper Greensand, which pass into one another insensibly. The upper heading is mostly in the Upper Greensand, the base of which, according to the Geological Survey, is a little below the path in the copse, and coincides nearly with the 400 feet contour. The dowsed wells start in the Upper Greensand, and, except No. 5, penetrate to the passage-beds.

Tabulating the results obtained by the professionals and dowsers respectively, we have:

THE DIVINING-ROD

ENGINEERS' AND GEOLOGISTS' RESULTS

		Supply when good.	Supply at worst.
Quick's east well	55 ft.	} syphon.	4,000 gals. per day. —
Quick's west well	65 ft.		
Submerged heading	60 ft.		
Middle heading .	120 ft.	} flow.	20,000 ,, ,, ,, 9,000 gals.
Upper heading about	900 ft.		
Parsons's well and boring, not connected, about .	300 ft.		
Total	<u>1,500 ft.</u>	<u>24,000 gals.</u> ¹	<u>9,000</u> ,,

DOWSERS' RESULTS

No. 1 well		Supply when good.	Supply at worst.
(Mullins's)	26 ft. flow	7,000 gals. per day.	1,250 gals.
„ 2 „ (B. and B.'s)	28 ft. „	10,000	
„ 3 „ „	28 ft. „	2,000	0 „
„ 5 „ „	33 ft. „	1,000	„ „ „
„ 4 „ „	30 ft. syphon	2,000	„ „ „ ?
„ 6 „ „	72 ft. not connected . }	?	„ „ „ ?
„ 7 „ „	64 ft. pump	2,000	„ „ „ ?
Total	<u>281 ft.</u>	<u>24,000 gals.</u>	<u>1,250</u> ,,

The dowsers' first total includes the first flows (always exceptionally large) for Nos. 1 and 2; in the second total, which I took in December 1899, after a very dry season, most of the wells had gone dry. Thus, for comparison with the engineers' total, the dowsers' first total is too large, and the second too small. To compare the water found by them respectively, we ought properly to have figures either for all the first flows, or for some time when the springs were high enough to get flows from all the wells. Mr Cooper writes (July 11th, 1900): 'I think if you put the value of the [dowsers'] wells at their best as a third the value of the headings, you will then be stating their [relative] value very fairly.' According to this estimate, and taking the amount of excavation into account, the dowsers obtained nearly twice as much water per foot as the other water finders. Of the success of the latter, five-sixths was due to empirical means, one-sixth to the engineers, and none to the geologists who went either above or

¹ This estimate agrees, Mr Brown tells me, with a measurement of 25,000 gals. made by the surveyor, Mr Colenutt. Parsons's well is surface water and not used.

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below the proved water-bearing bed. The dowsers on the other hand went straight to the point by putting their wells into the water-bearing bed itself.

The relative professional failure, however, does not entitle the dowsers' results to pose as mysterious. The top of the Gault is typically water-bearing: the well-known landslip at East End, a mile or two distant, is due to the water in this very bed, the level of which in the copse was known from Quick's two wells. The probability, therefore, of *some* water at this horizon no geologist would doubt. What they did doubt was whether a useful quantity would be found in the copse by driving or sinking at haphazard: thus in his report Mr Topley says, alluding to Mr Bristow's attempt, 'Galleries have been driven into the Upper Greensand for the purpose of intercepting springs . . . and I cannot recommend any further experiments in this direction.' The subsequent experiments of the dowsers, introducing *ex hypothesi* a new method of discovery, do not throw light on the problem of haphazard sinking, except in so far as the doubtful utility of wells Nos. 5 and 6 tends to show that a useful quantity of water is *not* to be met with everywhere. The results of the experiments may be considered under their (1) qualitative and (2) quantitative aspects:

(1) The finding of some water in all the dowsers' wells if claimed as evidence for dowsing involves the assumption that water could *not* be found everywhere by sinking into the passage beds. Between this and the geological deduction that it probably *could*, there is no direct evidence to decide. Quick's wells, though supporting the geological view as far as they go, are close together, and inadequate for comparison with the dowsers' seven distributed over the copse.

(2) The 50 per cent. superiority of the seven dowsed wells assumes that Quick's wells represent the average of as many trials by ordinary methods; granting this, the superiority seems too slight to exclude accident. In support of the dowsers' opinion that they had a faculty for pitching on the right places, Mr Brown mentioned that in one or more wells they came on loose rubble like that filling the fissures in the adjoining quarries, which made him think they had hit on a 'vent' (water-bearing fissure): this was confirmed by Mr Young, the sinker of wells Nos. 2 and 7. Failing an examination of the wells at the time, we can now only judge of the extent of this feature from its probable consequences in an increased supply, so that it does not add to the evidence. Hence the dowsers' success cannot I think be pressed in

either aspect, for want of proper terms of comparison. There remains the broad result that for equal amounts of work *the dowsers got twice as much water as the engineers, while the geologists got hardly any.* As regards surface signs of water in the copse I did not notice any in relation to the dowsed wells, and have given the dowsers the benefit of assuming there were none. But the absence of a reason for digging somewhere in particular may lead to digging nowhere, and in such cases the rod may succeed by supplying a motive for digging. The sceptic may urge, 'the dowser turns the twig and fortune does the rest.' We see, however, that geological explanations of dowsers' successes do not necessarily show that the geologists would have found the water themselves."

It will be agreed that this report could hardly have been couched in more conservative and moderate language; it thus leaves an all the stronger impression of the dowsers' triumph. We may next consider a case which is thus recorded in a letter dated the 18th of January 1905:

"The soil of which I write is boulder clay over Oxford clay, notably a non-bearing water strata. A few years ago a water finder 'divined' water in a village where it was much needed and had never been found before, as wells dug in the district never fill. Two wells were dug at the spots indicated by the water finder, and abundant springs were found.

Amongst the village crowd that followed the water finder and tried their luck with the rod, the only persons who were found to possess the same power were a farmer and his young son.

Some time afterwards the original water finder was asked to 'divine' water for a village a few miles distant, and in a large field, after following what he described as the circuitous course of an underground stream for some distance, he came to what he said was known by water finders as a 'knot' in the currents.

A few weeks later some of the village residents being anxious to examine into the bona fides of the neighbouring farmer, got him to come to the field, where they blindfolded him and turned him round several times, and then giving him a rod asked him to find water. After moving about for a little time he got on to the same track as the water finder, and followed it about in the same manner, coming at last to the 'knot' which sorely puzzled him, and pulling off the handkerchief from his eyes he exclaimed that he did not know what it meant. This farmer had not been present when the water finder came, and had never been in the field before

or heard about the 'knot,' and he was only blindfolded to ensure that he did not receive any hints from the countenances of the bystanders. The course followed by the original water finder had not been marked out, but in the opinion of those present and most competent to judge, it was exactly the same as that taken by the farmer.

On one or both occasions the water finder and the farmer were accompanied by neighbouring gentry, clergyman, ladies, land agents, etc.

I may add that the water finder of whom I write is convinced that his power has to do with electricity, as if he stands on glass placed over a spring his rod refuses to act. Also he experienced the very greatest discomfort when travelling by the tube railway, so much so that he could only bear it by putting his feet up on to the opposite seat, and getting out at the first stop."

The writer of this letter, Miss C. Cochrane, Hon. Secretary of the Cambridgeshire Committee of the Rural Housing and Sanitation Association, adds that the dowser in question was Benjamin Tompkins, the place at which the two successful wells were sunk being Yelling, Hunts., the farmer mentioned being Richard Anthony of the same place, a dowser of whose later achievements we also possess records.

The following is an interesting first-hand account of the discovery of a supply of water by the noted dowsers Thomas Young and Thomas Day. The relation is by Colonel Young of Woodlands, Congresbury, in Somerset. "For many years I have been dependent on rain for my water-supply, and those who do the same will know how unreliable this is. Plenty of rain may fall each year, but (with the exception of thunderstorms) it is seldom enough to run off the surface of roofs in sufficient quantity to fill tanks.

In 1885 I moved to Clevedon expecting to let this place easily, but the want of spring water prevented my getting a tenant.

In 1888 I returned and determined to get water if possible.

Higher up the hill, about a mile East of this house on a property named Woolmers belonging to the Trustees of the Queen Elizabeth Hospital, Bristol, is a well that has never been known to be dry, and I hoped that possibly the spring might run this way. I sent for Thomas Young who lived at Rowberrow, and was noted as a successful dowser.

Mr T. J. Scoones, civil engineer, and Captain Rathmay, late 62nd Regiment, were present, and we started for the well at Woolmers. With T. Young the fork twists on crossing a

stream, and commencing at the well we soon had a row of pegs at about 50 paces interval marking the course of the spring down hill, due West, in a line with my house. Proceeding about 800 yards we suddenly lost it, and carefully dowsing over the last peg marked, we found the stream turned due South under a limestone hill off my property.

I was of course greatly disappointed, and quite hopeless of any result, asked Young to dowse over a field called Taylor Hill. Almost immediately he struck on a stream and on the rise of the Hill (exactly 300 yards from my house and several feet above it), the stick twisted considerably.

Here a well was sunk 22 feet deep. This filled in the winter, but soon became dry in the summer, and in September, 1889, (Thomas Young had died), Thomas Day, another noted dowser who also lived at Rowberrow, descended the well with me. The twigs were much agitated, and, one after the other, if not allowed to twist, snapped off.

Day said, 'There is a lot of water under here.' He undertook the sinking and sunk 30 feet more, when the water came in so fast he had to leave, and ever since, even during this dry summer (1893) I have had plenty.

Of dowsing itself I can offer no explanation. I am contented with the result."¹

To this account the Rev. H. H. Winwood, M.A., F.G.S., adds the following note: "The well in question was sunk through the New Red Marl which here rests on the carboniferous limestone, and apparently the water was found before the limestone had been reached. It seemed an unlikely place to meet with a spring."

Water was required for a new convent at Thomastown, co. Kilkenny. As the finishing touches were being put to the buildings a spot was selected and sinking operations were begun. The men had worked for some time without success and, beginning to fear that they might fail, the Administrator of the parish, the Rev. John Roe, consulted the architect, Mr Hynes, of Cork. This gentleman advised him to bring over Gataker or his assistant. "At first," writes Mr Roe, "I laughed at the idea, and though I had heard and read a little about the divining rod, I was most sceptical as to its results. After some persuasion I communicated with Mr Gataker and he sent over his partner, Mr Wills, at a cost of £10. When he arrived he looked at the site already selected, and after some evolutions of his rod said he should *abandon* it, as there

¹ *Proceedings of the Bath Natural History and Antiquarian Field Club* (1897), viii. 61.

was only a very, very small ripple, and at great depth. He then went through the whole field with his rod and marked out two or three places where an abundant supply of water could be obtained, but selected a rather elevated spot in preference to the others. He said we would most certainly get water at about 80 feet and so many gallons per hour. By a most singular coincidence Mr Jones came on the scene accompanied by a mutual friend, Mr O'Connell (engineer), Kilkenny . . ."

This Mr J. H. Jones, of Mullinabro, near Waterford, was a gentleman who, having seen Mullins locate the site for a well in his neighbourhood, which turned out remarkably successful, was astonished to find the rod also moved in his own hands. He writes as follows: "I began experimenting with the rod as a sceptic—and thoroughly prejudiced against it, and thinking that its action in a diviner's hands was a mere trick or sleight of hand—but I am now convinced that the thing is genuine, and that the rod is moved in consequence of some action or influence produced in persons susceptible when near or over subterranean water."

It will be remembered that Mr Jones, in the Carrigoona experiments, independently pointed out the same places that Mr Stone indicated as water-bearing or waterless. Mr Jones has had several experiences of this kind of which the present one is a case in point. A Mr Roe invited Mr Jones to have a try with his rod, and he pointed out the same spot, and traced out the water in the same line as Wills had done. A 6 ft. well was accordingly sunk at that spot and a good supply of water was encountered at 75 feet.

In 1899 Colonel E. A. Ollivant settled at Elliotts, Nuthurst, Horsham, in Sussex. He had the water supply analysed and found that it was of bad quality. He called in Mr Roberts, a builder of Henfield in Sussex, who was known as a dowser. Mr Roberts indicated several spots, particularly one where water would be found, he declared, at from 28 ft. to 30 ft., and a bigger supply at about 60 feet.

It so happened that that year the Nuthurst Rectory was let to a Mr Atree of Brighton, who was an amateur dowser. This gentleman was asked to come to Elliotts. He was not taken to any particular spot (this had also been the case with Mr Roberts) but allowed to walk over various fields. He indicated several places that had previously been noted by Mr Roberts, and also pointed out the spot which had been strongly recommended by the first dowser, though Mr Atree could not be sure about the depth.

Col. Ollivant, encouraged by this striking concordance,

sunk a well ; at 28 ft. a fair supply was struck. The well was then lowered and between 59 ft. and 60 ft. a fresh supply was tapped, which stood 28 ft. in the well. From the accompanying sketch it will be seen that there were several useless wells close by and also a couple of ponds, the unanimity and success of the dowsers thus being the more striking.

These accounts may now suitably be brought to a close with one in which both the dowsers concerned were amateurs. The Rev. J. R. Blunt, of Bugbrooke, Weedon, in Northamptonshire, thought that he possessed the dowsing faculty, as he found that the rod moved in his hands when over water. He

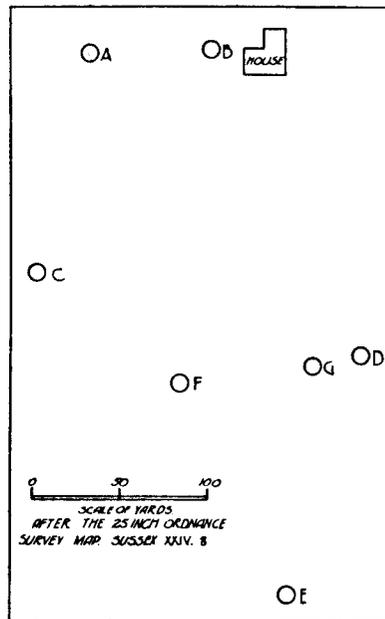


FIG. 50. PLAN OF ELLIOTS, NUTHURST

A, B, D and E are old wells 26 feet, 40 feet, 35 feet, and 30 feet deep respectively, all giving a small supply of bad water. C is the dowsers' well, 59-60 feet deep and containing 23 feet of pure water. F is a large pond and G a small drainage pond.

had, however, not had any opportunity of putting this faculty to the test by experiment until he was asked one day to try and find water for Sir W. Grantham, who wanted to dig a well on one of his farms at Barcombe in Sussex. Mr Blunt began, writes Miss Grantham, "by cutting a twig out of the hedge, of hazel or blackthorn, V-shaped, each side about 8 inches long, then taking hold of one end in each hand be-

tween the thumb and first finger, and pointing the angle to the ground, he walked about the field in which my father proposed digging a well, and at two spots the point of the twig turned right up exactly reversing its previous position ; in fact so strong was its impulse to point upwards, that we found that unless Mr Blunt relaxed his hold the twig broke off near his fingers."

The places indicated by Mr Blunt were marked and a boy of about 12 years old, who was believed to have the faculty, was taken over the ground. He had not witnessed the previous performance nor was he told anything, but his twig moved at the same places. At one of these spots a well was accordingly dug by Judge Grantham and a good supply of water was encountered at a depth of 15 feet.¹

¹ The facts are contained in independent letters from Mr Blunt, dated the 8th of July 1893, and from Miss E. L. Grantham, dated from 100 Eaton Square, S.W., the 1st of February 1893.

CHAPTER XI

EXPERIMENTS IN BLINDFOLDING THE DOWSER

At the beginning of the previous chapter it was stated that two good tests could be applied to the pretensions of the dowser. One of these, the comparison of two or more independent dowsers' indications was studied in that chapter. The other of these two tests consists in blindfolding the dowser after he has located underground water, and then causing him to again search the same ground. The indications given under these conditions should then agree with those first given. For if there be, as all dowsers and most of their supporters believe, a subtle influence exerted by underground water upon the dowser, then blindfolding should make no difference. The same remark applies if the dowser be endowed with some supernormal sensibility or clairvoyance, provided always, not merely under blindfolding but throughout all such experiments, that the dowser is at his ease and joins heartily in the experiment.

In all experimental work it is essential for success that the instruments you employ are suitable for the purpose in view and also in good order. Having selected the proper instruments, the mental atmosphere in physical experiments does not affect the results, as we are dealing with non-living matter, but the physical conditions are all important. In experiments with living beings the physical surroundings (except in so far as they produce discomfort) are unimportant, but, as we are now dealing with living instruments, our experiments are sure to fail or be inconclusive if the instrumental appliances we have to employ are out of order; and they are very apt to be deranged by a sudden change in the psychological conditions. Modern physical and chemical research has taught us the profound influence exerted by an imperceptible difference in the materials we are dealing with; the tendency of all psychical research is to reveal that an influence quite as profound is exerted by an imperceptible difference in the mental apparatus we employ. Though this may seem quite reasonable and obvious

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to most of us, it has taken physicists 200 years to learn the former truth, and we should not therefore be surprised if those to whom psychical research is new overlook, or even ridicule the latter.

Some years ago Sir Ray Lankester published an account of some experiments he had made in blindfolding a dowser, a lad named Fred Rodwell, and a good deal of public interest was excited by what Sir Ray and many others considered to be his complete exposure of the trickery of dowsers in general and of this lad in particular.¹ Now, while we have no wish to be apologists for this dowser, as similar experiments which Sir William Barrett made with him were only partially successful, yet it must be remembered that Sir Ray Lankester, though

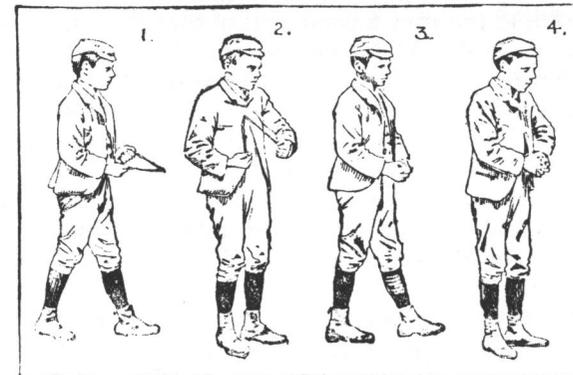


FIG. 51. FRED RODWELL DOWSING WITH A ROD AND WITHOUT
The Graphic (1889), xl. 547.

a distinguished naturalist, is not an equally distinguished experimentalist. His scepticism regarding phenomena that do not lie within the range of his experience might almost be termed ferocious and, on the occasion referred to, it can hardly be said he dealt with the living instrument as gently as he would have dealt with his microscope.² Upon this point we may quote from a letter written by Mr T. V. Holmes, quite as keen a critic as Sir Ray Lankester, but somewhat better informed in all that relates to the subject of the present research. Mr Holmes writes: "With regard to the experiments of Pro-

¹ Cp. *Diversions of a Naturalist* (1919), pp. 392-394.

² Taking his statements for what they are worth, the elder Rodwell refers in a letter to Professor Lankester's (as he then was) harsh treatment, the boy having almost been "frightened to death." "I charged," he goes on, "my son never to submit to anything of the kind again."

fessor Ray Lankester on the alleged power of Rodwell, I am very decidedly of opinion that no result of any value could be obtained unless the boy was quite at his ease, and that he would require much more tact and geniality to put him at his ease than a man would. Now the impostor, or semi-impostor, shows his hand to the genial man, and is rigidly on his guard in the presence of the ungenial, as though 'sweetness and light' never co-existed in the same person."

With this sagacious observation we may pass on to the consideration of some experiments in blindfolding the dowser. It will be necessary to say at once that records of such experiments are comparatively few. The use of two independent dowsers is an ordinary commercial precaution readily undertaken by many persons; but to blindfold a dowser is a set experiment and requires a good deal of tact and other qualities which few possess. It is natural therefore that such cases should be fewer than others. But there are at any rate enough to make out a very good case. For instance, Mr W. J. Brown, of Middlehill House, Box, in Wiltshire, who had a good deal of experience in employing dowsers, writes: "After Mullins has indicated water I have blindfolded him and turned him round and round, but wherever after this he crossed the spring up went the rod directly. I conclude by saying I believe in him thoroughly."¹

Of Lawrence also there is similar evidence, but unfortunately of no evidential value as the ladies concerned do not wish their names and addresses to be given. These ladies, A and Lady B, describe Lawrence's motions in searching for water and how he eventually indicated a place for sinking. Later doubts having been developed as to the genuineness of the proceedings, Lawrence was again taken to the farm and blindfolded. The rod performed in exactly the same manner on reaching the spot where it had indicated water before. They then dug and found water at 15 feet below the surface.

In a letter addressed to Mr F. W. H. Myers, Judge William Ward Spink, of Vernon, Okanagan, British Columbia, wrote (27th of February 1893): "I see that your Society take some interest in the divining rod. We made some careful tests on this matter last year. The rod works in my hands. I was rather sceptical, and thought that my own mind might work in some unknown manner on the rod and cause it to turn

¹ In T. Forder Plowman, "The Divining Rod," *Proceedings of the Bath Natural History and Antiquarian Field Club* (1889), vi. 415. Cp. the accounts by Sir W. E. Welby-Gregory and by the Earl of Winchilsea in the section on Mullins.

down where I fancied there ought to be water. I was blindfolded and led about with the wand, for about an hour at least, until I could not hold the wand upright without great pain. Each time the wand dipped, a peg was driven into the ground to mark the spot. I was walked in all directions, and passed over the same ground again and again, but in no instance did the rod fail to dip when it came to a peg. I have sunk two wells on the credit of the wand, and in both instances have found water, in both these instances contrary to the advice of the well-sinking experts. The power appears to increase rapidly with use. When experimenting with the rod over a water hose, I had the water turned on and off several times, and could distinctly *feel* the jar that one hears in such cases."

On being requested to give particulars of the two discoveries he mentions, Judge Spink states in a subsequent letter (dated the 4th of November 1893) that he had since succeeded in locating a third supply. He was having a house built and as his rod did not move over the proposed foundations, he decided that there was no fear of water being encountered. But a hundred feet in one direction from these foundations Judge Spink located a water supply at a depth of 25 feet, and a hundred feet in the other direction, on the summit of a slope a hundred feet high, he found another supply at a depth of 85 feet. The other well was some distance away, and 20 feet deep. Water having thus been found on either side of the foundations by means of the rod, it was feared that water would also be found when the foundations came to be dug. But here also the rod was justified, for the soil was perfectly dry.

This case has been quoted first as an illustration of the curiously elementary error which has obliged us to reject fully two-thirds of the experiments in blindfolding. It will have been observed that Judge Spink describes himself as being "blindfolded and led about." Now it is obvious that if the blindfolded dowser is in contact with a person who knows the whereabouts of the spot previously indicated, that person must almost inevitably give, unconsciously of course, some indication to the dowser. Whether this takes place by some involuntary contraction of the muscles or otherwise is, for our present purpose, immaterial. A general rule must be laid down that an experiment of this kind in which a spectator of the whole proceedings is in contact with the blindfolded dowser is vitiated and useless.

Experiments of a better type, including one in blindfolding, were carried out by Mr F. Napier Denison, of the Toronto Meteorological Observatory, and are thus described by himself:

"With regard to the experiments with the 'divining rod,' I made a full note of them at the time and copy the following from my note-book: *June 19th, 1898.* Rode over to Mr Harris's residence at Clarkson, 18 miles west of Toronto. At dinner Mr H. told the following story: 'Last year my well near the house became dry; I sent for a well-digger to increase depth. Before doing so he asked permission to explore with a hazel wand to ascertain if another spring would be found deeper before going to the expense of digging. He said he had discovered a stream which would flow into the well from west to east, a few feet below present level. The well was then deepened, and, when down 3 ft., water *did* flow in from the west, so rapidly it was difficult to pump fast enough to enable men to lay the bricks. Ever since there has been a good supply of fine water. It was at this time I found the hazel wand would turn in my hands also. The stick was Y-shaped, and held firmly by both hands with thumbs turned outwards.'

After dinner I got Mr Harris to cut a forked plum stick about 20 in. long—he had used a hazel before and felt sure plum would not work; however he grasped the plum switch firmly, as explained, holding it vertically before him. As he approached the well, the stick began to turn down in jerks until when over the stream to west of the well the rod turned so much that the bark was twisted near his hands. Mr Harris is a powerful man and endeavoured to hold the rod in its original position. I then got him to explore other parts of the lawn and at 100 ft. from latter the rod again turned down. I then *blindfolded* him and allowed a sceptic in the party to turn him round about several times and then lead him in different directions; but when he came over the first and second spots, where the rod turned before, it again twisted down. He was once more turned about and asked to walk as requested *not* in contact with anyone, but the same results occurred. He then tried an ordinary willow, and also a lilac twig, with good results. When a *dry* stick was used he obtained no action.

Finally, I bent a galvanised wire thus:  . When Mr

Harris held this like the twig, it not only moved downwards but twisted round to such an extent as to form a loop thus:

 which assumed its natural shape as he moved away from stream.

I also got him to follow a stream for several hundred feet. Mrs Harris tried without any result, but when Mr H. grasped her wrists as she approached the spring, the rod turned forcibly. One daughter, aged 15, had also the power. When Mr H. held the rod and Miss H. grasped his wrists, there would be a momentary increase in the vigour of the rod twisting, and when the daughter held the rod and her father grasped her wrists, a similar action occurred.

Out of the twelve persons who tried the above experiments, two had the power well developed, two slightly, while the remaining eight almost *nil*. When the weaker members used a rod over 4 ft. long, their slight muscular action was clearly shown by the far end of rod turning down. When Mr H. held the rod exactly perpendicularly, it sometimes turned inwards until it pressed heavily against his chest. At the end of the experiments Mr Harris's hands were considerably blistered."

It is to be hoped that these experiments were continued, as this letter shows Mr Denison to be a careful observer. It will be noticed that Mr Denison distinctly states that in his second experiment the blindfolded dowser was not in contact with any one, and yet was equally successful. This is therefore an important and excellent experiment, and more evidence is much to be desired. It will also be observed that Mr Denison says a dry stick would not work, but any forked twig would do and also wire. This is the experience of many others who can use the rod and who usually attribute this phenomenon to the dry stick being a non-conductor of electricity. But the reason for the frequent refusal of a dry stick to act is in all probability to be found in the fact that such a stick, not being so supple and elastic as a green twig, cannot respond to the slight muscular movements which produce the motion of the rod.

The dowser J. Stears happening to be on a visit to Ireland in July 1892 Sir William Barrett requested him to submit to some tests of his powers, to which he readily consented. Sir William describes these tests thus: The experiments were made in the private pleasure grounds opposite my house, at Kingstown, a place entirely new to Mr Stears, who had never been in this neighbourhood before. Cutting a forked twig, Mr Stears started from the point marked A in the accompanying plan, and walked to and fro until he reached the point marked with an asterisk, when from the sudden and vigorous movement of the twig he asserted that a considerable spring of water was underneath this spot. There was nothing what-

ever to indicate that such was the case, but on inquiry from the gardener (who was not present during the experiment) I learnt for the first time that the very spot upon which Mr Stears had fixed was the site of an old well, now completely hidden beneath the level greensward.

I now begged Mr Stears to walk slowly over the ground, and if the rod indicated any other springs, to allow me then to blindfold him and so retrace the ground. Mr Stears consented, and with this object he moved in the direction of the dotted line. The rod moved at the points marked X¹ on the plan (Fig. 52). At the point B, Mr Stears, notwithstanding

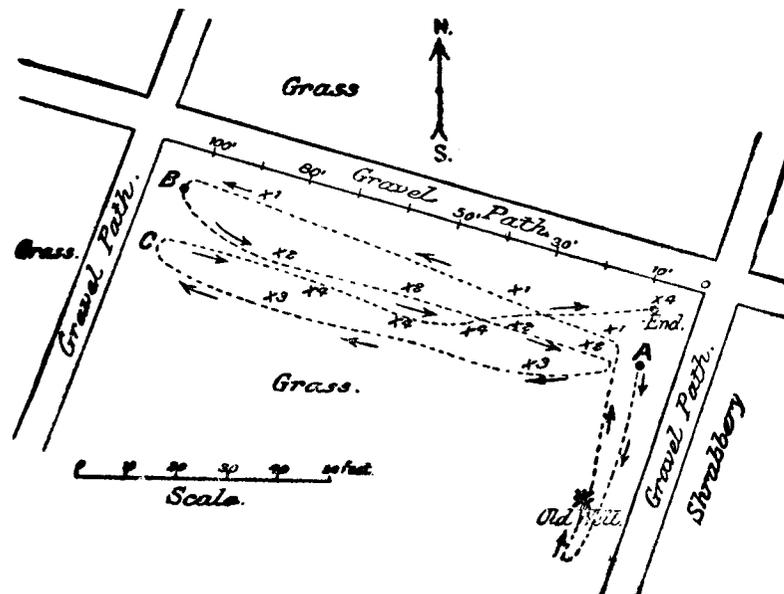


FIG. 52. PLAN OF EXPERIMENTS WITH JOHN STEARS

the very reasonable objection he had made in his letter to me 18 months before,¹ was carefully blindfolded, and endeavoured to retrace his steps: the rod moved at the points marked X². He now asked me to let him try the same course with his eyes closed and the bandage removed. This I did, and the rod moved at the points marked X³. Finally, at C, he consented

¹ [This is the relevant passage in the letter referred to: "I do not like blindfolding. It seems to interfere with that calmness which is desirable, but I have tried it on roads where I denoted water; having been taken backwards and forwards I have been started in the middle of the road and stopped at the part previously marked. Darkness does not interfere with the power in the least."]

to be again carefully blindfolded, and once more he retraced his steps, the rod moving at the points marked X⁴. It will be seen that these points do not coincide, but in two or three places they are nearly in the same straight line,—approximately N. and S. It is possible that there may be underground water in this direction, as Mr Stears subsequently declared there was from the movement of the rod, and tracked out the supposed course of two or three imaginary streams."

Of course this experiment loses much of its value in that no sinking was undertaken, but its importance can be judged from a careful examination of the plan, which shows a substantial agreement in the dowser's different sets of indications.

An experiment in blindfolding a dowser, in this case Stone, is recorded in *Morton's Lincolnshire Almanac* for 1899; supplemented by several letters from the writer of the account, Mr F. C. Withnell, the facts were as follows. In 1897 the late Mr Beavis Dunham commissioned Stone to find a supply of water at his farm, High Toynton, near Horncastle, Lincolnshire. Mr Dunham determined to submit Stone to a severe test; when Stone arrived he soon indicated a spot where he asserted a plentiful supply of water would be found at 25 feet. The spectators, carefully observing Stone, "candidly informed the diviner that they believed the turning of the twig was due to some sharp movement on the part of the holder." Stone then allowed himself to be completely blindfolded, and Mr Withnell writes: "After Mr Stone was blindfolded, I and the late Mr Beavis Dunham simply led him away from some paraphernalia that was on the ground and against which he might have stumbled, and then, releasing our hold, we allowed him to take whatever course he chose to take, assuring him, on his own request, that we would carefully watch him and give him a warning shout if in his peregrinations he appeared likely to blunder against the hedge. As he walked about free from obstructions, we neither touched him nor called out to him." Under these unexceptionable conditions Stone happened to pass two or three times over the spot he had previously indicated, and each time "the twig curled as before." To make the experiment quite conclusive a well was then sunk on the site and an excellent supply of water was found at a depth of 34 feet, a supply which had not given out after several years.

Finally may be quoted an experiment with an otherwise unknown dowser. The reader will remember the description in an earlier chapter of Mullins's success at Crewkerne, Somersetshire, in finding a good supply of pure water. This case

had an interesting sequel, which is thus described by Mr H. W. Hoskyns in a letter to Andrew Lang: "Mullins having on his visit here, in 1888, given several (half-a-dozen or so) indications of water in the lane by the two cottages, I had pegs put in on the strip of grass land opposite these indications, and thrust in very low, so as only just to be seen when looked for, and not showing above the grass, so that the cottage children should not pull them up or displace them. Some rather long time after, when I had made up my mind to go to the further expense of making a draw-well (not a deep one) for the cottages, having meanwhile heard that a labourer on my estate, one George Elson, had the dowsing power, I went with him myself, had him bandaged *tightly and deeply, well over the nose*, and in addition made a steady man keep his hands over the bandage, whilst Elson walked down the lane in question, holding the twig. At each halt that he made, the twig turned downwards for water, I looked for Mullins's peg, but the grass had grown over them and they were all quite undiscernible. So I made Elson and his guide (for being completely blinded, he stumbled occasionally) scrape a mark on the road surface with their boots. When we had come to the end of the lane, I returned with these men and one or two others (Elson being then unblinded) and we all made close search for the Mullins pegs, *every one of which, without exception*, proved to be *immediately* opposite one of Elson's boot-marks on the road. This uneducated labourer could have had no geological, or even rule-of-thumb, knowledge of water-bearing strata, for the place was quite strange to him."

It will be seen that this case satisfies two of the best tests, in that we have here the concordant findings of two independent dowsers and in that one of them was blindfolded. The only objection that can be raised to this extremely interesting test is that the guide, who kept his hand on the bandage over the labourer's eyes, might have known where the pegs were placed, and unconsciously tended to arrest the dowser at the right spots. This is likely enough if the pegs were discernible, but Mr Hoskyns distinctly says they were not, and as some time had elapsed since Mullins visited the place, no one seems to have remembered the exact spots where the pegs had been put. Mr Hoskyns states that Elson's guide knew nothing whatever about Mullins's pegs; involuntary guidance is therefore excluded.

A test of this kind is of such importance that it was thought well to spare no effort to repeat it. Accordingly Mr Westlake, who was living near Crewkerne, was asked to repeat, with

Mr Hoskyns's permission, the blindfolding experiment with Elson. Mr Westlake reports: "On the 24th of April 1900, I went with Mr Hoskyns and his agent, Mr Slade, to Pipplepen farm. I walked down the same lane with Elson to a little stream at the bottom, a distance of 1,050 ft., in the course of which his twig turned seven times. I then carefully blindfolded him, and on retracing our steps, the twig turned ten times, five of which corresponded nearly or quite with his first marks, as under:

Elson's first marks when not blindfolded.	His second series when blindfolded.	Difference.
206 feet 2 inches . . .	(1) 206 feet 8 inches (2) 326 feet 7 inches	+ 6 inches
406 feet 6 inches	(3) 429 feet 5 inches (4) 564 feet 3 inches	
648 feet	(5) 651 feet (6) 680 feet 6 inches (7) 742 feet 9 inches	+ 3 feet
762 feet	(8) 877 feet	+ 5 feet
872 feet	(9) 934 feet	+ 3 feet
931 feet	(10) 985 feet	none

Elson was not held, and was only told (to prevent accidents) to keep to the right or the left. The results may have been somewhat impaired, first, by the steward, Mr Slade, who accompanied us, having touched Elson with a stick (with a view to guiding him straight) at the points 1 and 5, immediately after which the twig turned, and, second, there was more or less conversation, at Nos. 8, 9, and 10, Slade informing Elson that he had passed the cottages (a landmark between 7 and 8), that the point 8 he had just indicated was the well (by the roadside), and so on.

In view of such sources of error, I think Mr Hoskyns's experiment much better than mine, but, as I understand that some of those who took part in it *had* seen Mullins's pegs when they were put in, one cannot feel certain that the experiment was an absolutely conclusive one.

In the afternoon, I made a further trial with Elson in an orchard at North Perrott, where he had previously indicated two springs. Slade remained at a distance. Elson having found the points, I blindfolded him and, starting him from a little distance and directing him by voice, I got him to cross

his marks. He thereupon re-found the spots *three times*, his marks at one of them being only a yard apart. It is possible he may have been able to reckon the distance ; and I noticed also towards the end of the experiment that the bandage had slipped a little, and I could see the upper corner of his left eye, so that he may have been guided by the trees. Thus the result was probably inconclusive.

Elson's hands and arms are very muscular ; he uses stout hazel forks and grips them very hard, and they turn downwards with corresponding strength, usually breaking, sometimes at the fork, but generally on one side ; he then takes a fresh grip nearer the fork, and so on, till the stick may be used up to within an inch of the fork. When it turned over the stream his forearm muscles were strongly contracted. He says it usually makes his left thumb numb, and that he feels the effects in his biceps the day after. Mr Slade said Elson had found water for many of the neighbours, and had never had a failure. The farmer also told me Elson had predicted water at another point half a mile to the east at 30 ft., and that it was found at 27 ft., and rose to within 5 or 6 ft. of the surface."

PART III

THEORETICAL

CHAPTER XII

THE MECHANISM OF DOWSING

§ I. THE DOWSING-ROD

THE reader has now had ample opportunity for verifying our statement that there is an endless variety in the instruments used for dowsing. Under this head we might reasonably have considered what may be called mechanical water- and mineral-finders. There are numerous articles of this kind patented in Europe and in America. Thus T. Fiddick, a professional English dowser has invented what he calls a "dowsing cone," but which is nothing more than a *pendule explorateur*. M. Henri Mager, in France, has an elaborate instrument to which he has devoted much trouble. Then there are Schmidt's "Apparatus," W. J. Bodenhamer's "Vibrator," Fred. H. Brown's "Electro-Terreohmeter" and "Electro-Geodetic Mineral Finder," Mansfield's "Patent Automatic Water Finder," and many others.¹ In the U.S.A. particularly there is a large number of such mechanical oil and petroleum finders, and many advertisements such as this can be found in the press of that country : "Rods for locating gold and silver, lost treasures, etc. Guaranteed." W. Edwards, of Draycott, near Cheddar, in Somerset, has even invented a ring which, when worn, prevents the dowser from feeling any untoward sensations ! With these we do not propose to deal ; the inventors of these instruments usually treat them as being of quite supreme importance and refuse to impart details of their principles. Messrs Mansfield (formerly of Liverpool, and later of New Brighton) even returned an exceedingly impertinent letter to such a request. It is, in short, difficult to take such instruments, and the claims made on their behalf, quite seriously.

¹ See e.g., Lilian Whiting, *Canada the Spellbinder* (1917), pp. 138-140

To go to the other extreme we find that some dowzers such as Leicester Gataker, A. W. Wills, the lad Fred Rodwell (shown in Fig. 51), and others, dispense with all instruments, and use only their bare hands, either stretched out horizontally to the earth or clasped together.¹ This, however, is unusual for several reasons: because dowsing without an instrument is not very attractive to the popular mind and the dowser, naturally enough, is averse to losing any measure of attention. Another reason is a better one: whatever be the causative influence that enables the dowser to find the hidden water and the like, it undoubtedly operates through the dowser's subconsciousness. Consequently some autoscope is necessary to enable the dowser to become aware of the indications of his subconsciousness. The rod serves this purpose, precisely as does, in similar cases, the planchette and the many other articles used for such purposes.



FIG. 53.
WILLIAM STOKES'S ROD.

After M. R. Cox, *Papers and Transactions [of] The International Folk-lore Congress, 1891* (1892), p. 440.

The rod itself can be of many shapes, examples of all of which can be found in the illustrations in this chapter and throughout the book. We have straight rods which are simply laid across the hands and across the extended fingers. There is the slightly curved rod as used by Bleton and Pennet, which can be laid across the hands or held by them. There is the more unusual kind used by Mr R. Robertson, a successful amateur dowser; this gentleman simply held a three or four foot stick outstretched in one hand. Then there are various steel or other metallic articles used, such as watch-springs, and such eccentric articles as candle-snuffers, or a German sausage, and so on. But what is most often used, though not so often as to form a majority of cases, is some kind of forked rod. Such a rod may be simply a natural one formed of a twig branching into two, or it may be a more solid manufactured article resembling a spur, such as is shown in Fig. 53. But the distinguishing characteristic of these forked rods is that such a rod has three extremities, which correspond to the angles of an imaginary triangle, of which two are held one in either hand, the third one pointing away from the body. Into the question of the manner in which the rod is held we must now enter.

¹ See also W. Leaf, "Vis-Knut," *Proc. S.P.R.* (1908-1909), xxi. 142, 146; *Journ. S.P.R.* (1897-1898), viii. 264.

§ 2. HOW THE ROD IS HELD

William Cookworthy, a dowser of two centuries ago, gives a description of the method he had found best for holding the rod, and says that "after numerous experiments he has good reason to believe the effects of the divining rod to be more than imagination," remarking that he believes all persons could use the rod, though "some have the virtue intermittently." He used either a forked hazel twig or two straight twigs tied together in the shape of an X, and continues: "The most convenient and handy method of holding the rod is with the palms of the hands turned upwards, and the two ends of the rod coming outwards; the palms should be held horizontally as nearly as possible, the part of the rod in the hand ought to be straight, and not bent backwards or forward. The upper part of the arm should be kept pretty close to the sides, and the elbows resting on them; the lower part of the arm making nearly a right angle with the upper, though rather a little more acute. The rod ought to be so held, that in its working the sides may move clear of the little fingers. The position of the rod when properly held is much like the figure annexed [Fig. 54] where the distance between the four downward lines is the part that is supposed to be held in the hands.

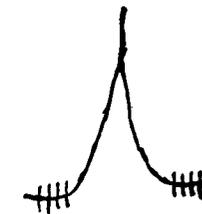


FIG. 54. WILLIAM COOKWORTHY'S ROD.

From his "Observations on . . . the *Virgula Divina*," *Gentleman's Magazine* (1751), xxi. 507.

The best manner of carrying the rod is with the end prolaided [*sic*] in an angle of about 80 degrees from the horizon, as by this method of carrying it the repulsion is more plainly perceived than if it was held perpendicularly. But after all the directions that can be given, the adroit use of it can only be attained by practice and attention. It is necessary that the grasp should be steady, for if, when the rod is going, there be the least succussion or counter-action in the hands, though ever so small, it will greatly impair and generally totally prevent its activity, which is not to be done by the mere strength of the grasp, for, provided this be steady, no strength can stop it."

It is interesting to note that the foregoing description of the way of holding the rod closely resembles that given by Agricola in *De Re Metallica*. Agricola's work is the earliest detailed account we have of the use of the *Virgula divina*, and refers, of course, only to its use in finding mineral lodes. In like

manner the learned Jesuit de Chales, in his great work *Mundus Mathematicus* (1674, ii. 190) gives a similar description of the way the rod is held. The following is a translation of the passage, which is of great interest, as it is one of the earliest references to the successful use of the rod in finding underground water: "They hold it [a forked branch of hazel] with both fists, in such a way that the outer part of the fists turns downwards, *i.e.*, the two little fingers face each other. Thus each branch being grasped firmly in each fist, they walk to and fro. . . . When they come perpendicularly over underground water, the branch, however strongly it is held, turns upside down; that is, the vertex points downwards, so that the forked sides are twisted; but it does not succeed with all persons. . . . Once on a certain occasion I purposely hid

some money in the earth, which was found by a certain noble person by the hazel twig in my presence. The same person used to find springs so surely that he would trace the whole course of underground water."

A detailed account of the manner of holding the dowsing-rod is also given by Pryce in his *Mineralogia Cornubiensis* (1778, p. 118). Pryce says: "It is very difficult to describe the manner of holding and using the rod: it ought to be held in the hands, in the position shown [in Fig. 55], the smaller ends lying flat or parallel to the horizon, and the upper part in an elevation not perpendicular to it, but 70 degrees, as shown.

Alonso Barba directs the rod to be fixed across the head of a walking stick in the form of a T, and the end which is nearest the root will dip or incline to the Mineral Ore.¹ . . . The rod should be firmly and steadily grasped; for if, when it hath begun to be attracted, there be the least imaginable jerk, or opposition to its attraction, it will not move any more, till the hands are opened and a fresh grasp taken. The stronger the grasp the livelier the rod moves, provided the grasp be steady, and of an equal strength. . . .

A little practice by a person in earnest about it, will soon give him the necessary adroitness in the use of this instrument: but it must be particularly observed, that as our animal spirits

¹ [There is no mention of this in Alonso Barba, *Arte de los metales* (1640).]

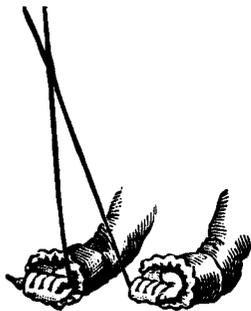


FIG. 55.
A ROD HELD AS DIRECTED
BY COOKWORTHY.

W. Pryce, *Mineralogia Cornubiensis* (1778), p. 118.

are necessary to this process, so a man ought to hold the rod, with the same indifference and inattention to, or reasoning about it or its effects, as he holds a fishing rod or a walking stick; for if the mind be occupied by doubts, reasoning, or any other operation that engages the animal spirits, it will divert their powers from being exerted in this process, in which their instrumentality is absolutely necessary; from hence it is that the rod constantly answers in the hands of peasants, women and children, who hold it simply without puzzling their minds with doubts or reasonings. Whatever may be thought of this observation, it is a very just one, and of great consequence in the practice of the rod."

The remark in the last paragraph is interesting, and Pryce's observation is confirmed by the quite independent testimony of many others. If the dowsing faculty be some subconscious perception of which the rod is the outward and visible sign, we should expect to find "doubts or reasonings" fatal to the successful use of the rod.

We have already referred to the excellent picture (Fig. 10) by A. Crowquill of a dowser at work given in Phippen's pamphlet on the rod (1853). Here also the arms are held tightly to the sides of the body, but the prongs of the fork pass between the index and next finger of each hand. Miss Cox, in her notes on the rod, shows (Fig. 53) Stokes holding the rod pointing downwards with

the prongs grasped by the fists. Mullins, however, whose success as a dowser was the most remarkable in modern times, always held the rod as shown in Fig. 56. This is much the same way as Tompkins is shown holding the rod in

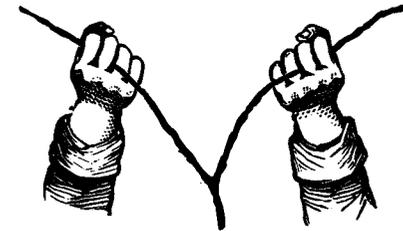


FIG. 56.
THE ROD AS HELD BY JOHN MULLINS

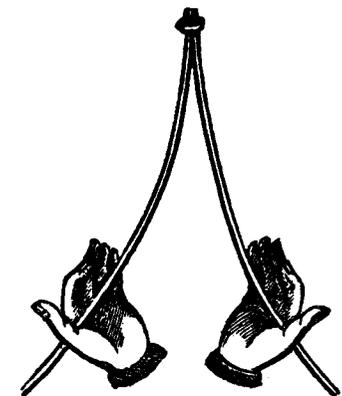


FIG. 57.
THE ROD AS HELD IN THE UNITED STATES
"The Divining Rod," *The American Journal of Science* (1826), ii. 202.

Fig. 36 ; this might indeed be expected since he learnt his art from Mullins. On the other hand, Stone is seen in Fig. 34 to be holding the rod in quite another manner. Again, in the *American Journal of Science*, in the course of a lengthy article on the rod, a picture is given showing how the rod must be



FIG. 58. AN ALUMINIUM POCKET-ROD AS USED BY MESSRS J. F. YOUNG AND R. ROBERTSON

held, and here the prongs of the fork pass between the thumb and forefinger of each hand (Fig. 57). Messrs Young and Robertson, both amateur dowsers, in their little book on the rod give illustrations showing their way of holding the rod : they have sent a little waistcoat-pocket forked rod made of aluminium, which they recommend to be held in the way shown in

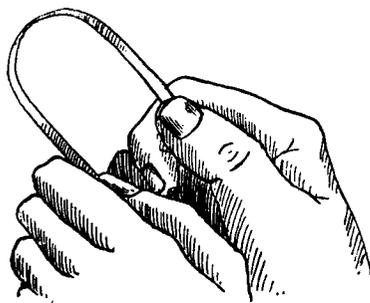


FIG. 59.
ANOTHER KIND OF METAL ROD

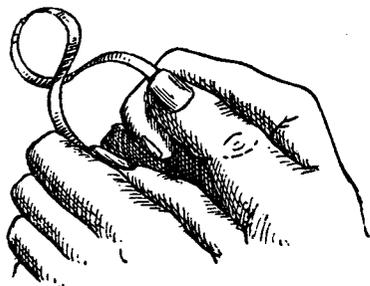


FIG. 60.
THE SAME ROD AS IT IS ALLEGED TO
TWIST WHEN OVER WATER.

G. H. Stokes, "A Water Wizard [S. T. Child]," *The Ibis Magazine* (September, 1910)

Fig. 58. They also use a straight rod or wand some three or four feet long, as already mentioned, which they hold inclined in the right hand, the thinner end being held in the hand and "the eye resting on the top of the thick end." This, they assert, dips down over an underground spring.

Many pages could be filled with descriptions of the manner in which various dowsers hold their various rods. But no descriptions could give so clear an idea of the diversity that exists in this respect as the accompanying illustrations. The manner of holding the rod varies with the dowser, and obviously, in itself, is of no importance. Both in the nature of the rod and in the manner in which it is held, the determining factor is the degree in which the rod is a sensitive indication of the muscular tremor which determines its motion. For this purpose it is of course important that it should be held in a position of tension or poised equilibrium. We shall revert to this subject in the next chapter.

§ 3. THE MOTION OF THE ROD

To an onlooker who sees a dowser at work for the first time one of the most startling things is the sudden and apparently spontaneous motion of the forked twig, a motion so vigorous that one of the limbs of the twig is frequently broken, though the dowser is apparently doing his utmost to restrain its motion. The common explanation of an incredulous public is that this is merely a trick on the dowser's part to mystify his dupes, but the evidence adduced in this volume shows that this view is quite untenable. (We refer to honest dowsers: impostors exist here as elsewhere.) The only alternative recognised by scientific men is that the motion of the rod is due to an involuntary muscular action. Few will be disposed to dispute this proposition. When the rod is held in most of the ways described above or shown in the illustrations, it is in a sensitive state, and an almost imperceptible movement of the hand or hands will cause it to move.

But it is true that this is not always the case ; when the rod is held as it is by Tompkins, for instance, we have found from personal experiments that it is most difficult to produce any motion of the twig without a very visible movement of the hands. Moreover this is not all. Both with practised professional dowsers like Lawrence and Mullins and with amateurs like Lady Milbanke and the Rev. J. Blunt, the rod not only rotates, but one limb is frequently twisted off completely. Thus the Rev. Martin R. Knapp, writing of a dowser whom he does not name, says : ". . . the twig showed vigorous signs of animation. When his hand was being twisted in his efforts to keep the twig steady, I cried to him to hold fast, with the result that the twig twisted itself into two pieces." Mr Enys, F.G.S., who is an amateur dowser, states "the rod broke short

off in front of my hands, and did so a second time in the same place," *i.e.*, where underground water existed. Miss Grantham (daughter of Judge Grantham), describing what occurred with the Rev. J. Blunt, states "so strong was the impulse, that we found unless Mr B. relaxed his hold, the twig broke off near his fingers." Lady Milbanke had the same experience. Mr Budd, a geologist, describes what occurred with Mullins when he came over underground water at Waterford. He writes: "Mullins held the forked twig between his second and third fingers as if you were going to write, the point of the fork downwards. At No. 1 [the spot where a large supply of underground water was found] the point lifted itself up, until it turned over backwards and twisted itself until it broke . . . The clerks then held [another forked twig] with him, and held his hands, always the same effect." In another place, seeing the frantic motion of the twig when Mullins came over underground water, a gentleman tried to stop its motion by gripping the twig in two places with smiths' tongs, "one pair securing the tips and the other the fork, but the contortions still went on between the points held."

Numerous independent witnesses of unimpeachable integrity and some with high scientific attainments testify to this automatic and apparently irresistible motion of the twig in the hands often of a complete novice. We have already quoted Mr Enys, the President of the Royal Geological Society of Cornwall, who also states that the clerk of his Parish Council, on finding the rod suddenly twist in his hands, called out, "It is alive, sir, it is alive!" Mr Enys adds: "This exactly describes the sensation when the rod moves." Mr Dixon, a large fruit-grower in California, states: "I held the stick as tight as I could to prevent its moving, but it twisted right round." Mr Denison, of the Toronto Meteorological Observatory, gives a careful record of the violent twisting of a forked plum stick or bent wire used as a dowsing-rod by an amateur dowser. Mr G. W. Bennett, of Oxford, refers to the frantic motion and ultimate breaking of the twig "held firmly" in the dowser's hands. Mr Montague Price states: "I held one side of the forked rod myself and the 'diviner' the other, and when we came to water [alleged underground water] the strain was so great on my fingers I was obliged to ask him to stop. From the position of the rod it was absolutely impossible for him to produce the pressure, which increased with the strength of the stream."

The usual practice, after watching a dowser at work, is for some of the onlookers to try if the forked twig will move in their

hands. Generally speaking, one or more, out of perhaps ten or twelve persons, discover to their astonishment that the twig curls up in their hands at the same places at which it did with the dowser. Here is such an experience. Mrs Minnie Hollands writes as follows from Dene Park, Tonbridge: "In answer to your note of inquiry about the divining rod, the whole thing is rather a long story, but the practical result of the water dowser's visit was to find water which now supplies the house. One of my daughters found she had the strange power which moves the divining rod, and it works for her now quickly over any spring. It is most interesting, as you can feel the rod if you take one side of it and take one of her hands, she holding the other end of the rod—it struggles up, and would break off altogether if you did not allow it to move. My daughter has since found several springs on the estate, where we have sunk wells. They have stood us in very good stead these last dry seasons."

A similar experience is given by Miss M. Craigie Halkett, who published some excellent photographs of a dowser at work in *The Sketch* for August 23rd, 1899. Miss Halkett writes from Lauriston, New Eltham, Kent: "The man depicted in the photographs is not a water-finder by profession. He is a tenant farmer residing at Catcott, a village near Bridgwater, and merely exercises the art to oblige his neighbours. Several of the country people in this neighbourhood (Somerset) have the gift. It has never been known to fail."

Personally, I was rather sceptical on the subject, but was converted by the stick turning in my hands when standing over a spring. There were about six persons present at the time; all tried it, but it would turn for no one excepting the man in the picture and myself. I experienced a sort of tingling sensation in my arms and wrists, but otherwise was quite unaware when the forked stick began to turn, it seemed to go over so quickly." Miss Halkett does not say how she knew she was "standing over a spring" when the twig turned in her hands: this is very characteristic of the statements of dowsers.

These facts are so curious that they have been adduced at some length, and the reader will have observed other instances in the foregoing pages. We do not propose to discuss them at this point, but only seek to establish the fact that the rod does often move, sometimes violently, without the volition of the dowser. Whether all the cases can be attributed to unconscious muscular action, as we claim, must be considered in the next chapter.

§ 4. TRANSMISSION OF THE MOTION OF THE ROD

We have now briefly to consider what may appear at first sight a group of still stranger phenomena. That is, the fact occasionally noticed that when the dowser lays hold of the wrist or hand of a person with whom the rod will not turn, the twig instantly moves. This apparent transmission of involuntary muscular action was noticed by Thouvenel to occur with Bleton a century ago. Thouvenel states that when Bleton placed his finger on the hand of a person with whom the *baguette* would not ordinarily turn, the rod instantly rotated when they approached underground water. The



FIG. 61. THE ROD AS USED BY AN EIGHTEENTH-CENTURY GERMAN DOWSER
J. G. Krüger, *Geschichte der Erde* (1746), pl. I. 2

Count of M. confirms this from his own experience.¹ A few years later Amoretti, the Italian scientist, discovered the same thing when Pennet touched his hands. He writes that the rod then turned against his (Amoretti's) will whenever he stood over veins of metal.

We do not lack modern confirmation of this observation. Thus Mr Duncan A. Morton writes: "I took the V-shaped wand in my hand, and passed it over running water without any result. Mullins laid his hands on my wrists, and grasped them firmly, when the twig instantly began to turn, and continued turning while it was in my hands." Mr Percy Clive states that when he held the rod and Mullins put his hands

¹ *Mémoire* (1781), p. 59.

on his wrists, the rod "twisted round in my hands with such force that when I held it tight it broke." Mr Cecil Woolley, of Lincoln, agent to Trinity College, Cambridge, writes, again of Mullins, that the latter having gone over the ground and indicated water in one spot, "I took the twig in my own hands and went over the same spot with no result. He [Mullins] then took hold of my wrists without touching the twig himself and when we together walked over the same place, the twig turned up in my hands. This was, I suppose, caused by muscular action on my part, but if so, it was certainly, as far as I was concerned, perfectly unconscious action." Lord Burton makes a very similar statement in a letter to the *Pall Mall Gazette*, for the 20th of February 1897. There can thus be no doubt of the reality of this curious fact, which seems to occur most conspicuously only with notable dowsers such as Bleton and Mullins, and it forms another item in the complete group of phenomena relating to dowsing which must be covered by any theory put forward.

§ 5. THE SENSATIONS OCCURRING IN DOWSING

Nearly all dowsers assert that when the rod moves in their hands, or when they believe that underground water is beneath them, they experience a peculiar sensation, which some describe as felt in the limbs like the tingling of an electric shock, others as a shivering or trembling, and others as an unpleasant sensation in the epigastric region. With all there is more or less of a convulsive spasm, sometimes of a violent character. This *malaise* is very marked in some cases, but not experienced in others. That these physiological disturbances have a purely psychological origin is obvious from the facts that they are not experienced when the dowser is off duty, that is, when he has no suspicion that he is in the neighbourhood of underground water, and that like effects are not produced by the much greater masses of visible water in rivers, lakes and the sea. The interesting point is that these psychophysiological phenomena have a real existence; they exist among dowsers in all countries, and can be traced back, as historical investigation shows, for upwards of two centuries.

Let us briefly note the principal facts. In the first place it is not, as some imagine, only when the "diviner" is in the presence of underground water that this physiological disturbance occurs. We have seen that when Jacques Aymar was sent for to trace, by means of his rod, the murderer of the Lyons wine merchant, Aymar was taken into the cellar where

the murder was committed; suddenly his *baguette* moved violently, he was seized with convulsive spasms, and his pulse rose as if feverish.

A century later another distinguished French physician, Dr Thouvenel, independently noticed much the same thing with Bleton. Thouvenel gives a detailed medical report of his own long-continued observations, and states that when Bleton believed he was over a subterranean spring he was seized with an extraordinary *malaise*, which affected his diaphragm and produced a sense of oppression in the chest; at the same time a shivering set in and the pulse fell, his body trembled and, in a word, he exhibited "all the characteristics of an attack of convulsive spasm."¹ Similar symptoms manifested

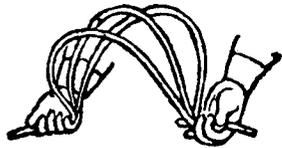


FIG. 62.
THE MOVEMENT OF THE ROD
From Luigi Sementini, *Pensieri e Sperimenti sulla Bacchetta Divinatoria* (1810), p. 21

themselves in the Prior of a convent at Autun, who was an amateur dowser and contemporary of Bleton. A few years later the Italian *savant*, Amoretti, noticed the same symptoms occur whenever the lad Pennet came over a vein of mineral ore or of coal. Amoretti states that a surgeon, Sanzio, an amateur dowser, found his pulse accelerated twelve to fifteen beats per minute

when the rod moved in his hands.

Dr Mayo, F.R.S., Professor of Anatomy and Physiology in King's College and in the College of Surgeons in London, describes corresponding symptoms which he observed in 1847 in a youth with whom he experimented. The lad had never seen a "divining rod" before, but when Dr Mayo instructed him how to use it, and made him walk over a spot where he had reason to believe an underground spring existed, the forked twig twisted round, much to the lad's astonishment, and at the same time Dr Mayo states the lad declared that "he felt an uneasy sensation which quickly increased to pain at the pit of the stomach, and he became alarmed, so that I bade him quit hold of the rod, when the pain ceased. Ten minutes later I induced him to make another trial; the results were the same."² As Mayo was apparently unaware of Thouvenel's writings, he could hardly have anticipated or suggested the *malaise* experienced by his subject, and the effect observed was doubtless due to the same psychological cause as in the previous cases.

¹ *Mémoire* (1781), p. 53.

² *On the Truths contained in Popular Superstition* (1851), p. 18.

Abundant modern instances of a similar physiological disturbance and convulsive spasm occurring with various dowsers in different countries have reached us. Thus Mr J. F. Young says: "I have noticed, when divining, unpleasant and peculiar symptoms always occur when I am over an underground spring; often a convulsive feeling and staggering comes on." The sensation in this case, however, may have been due to suggestion or unconscious imitation, for this dowser's father, Mr Robert Young, had also been an amateur dowser. He wrote that whenever he came over an underground spring, so violent a trembling seized him that he had to be supported or he would fall. His daughter supplemented this statement by writing: "One day I asked father to point out to me the spring in Gough's close; he walked to and fro, and when he came to a certain spot he reeled and staggered and said the spring was below. To test the reality of his indication I privately marked the spot where he said the spring was. I then took him to the far end and blindfolded him carefully, then led him about the field by a circuitous route. Directly he came on the spot I had marked, he reeled as before and would have fallen if I had not held him up. Directly he came off the place he was all right." Of course, this interesting experiment was to an extent vitiated by the fact that Mr Young was led.

John Stears writes: "My feeling when I am on a stream is not pleasant, I can only describe it as being the same as produced by reading of a railway accident." Thomas Heighway says that he does not dowse much because his nervous system is so much affected that he does not recover for some hours. Still more interesting is the following letter from Leicester Gațaker: ". . . when I am near the spring I get a distinct feeling or shock, which is greater when I am over the spring proper, thus I judge the depth at once, but the volume by the duration of that shock. . . ." The sensations felt by other dowsers, especially Lawrence, have been described on previous pages.

There are some sceptical persons who would explain these phenomena by asserting that these different dowsers conspire to exhibit similar symptoms as a bit of stage business in order to impress the onlookers. It is, we think, unnecessary to waste time in disputing such a belief if any one cares to hold it.

How, then, are we to explain these curious pathological phenomena? The facts are certainly incontestable and, we venture to think, deserve more attention from physiologists

than they have yet received. They are not, however, peculiar to the use of the so-called divining rod, but are found to exist more or less conspicuously in other cases of motor automatism. Pierre Janet, for instance, has drawn attention to very similar convulsive phenomena and physiological disturbances as associated with other phases of automatism.¹ Prior to this, however, Sir William Barrett pointed out that in trials with the "willing game," which is one phase of these varied automatic phenomena, curious physiological disturbances were often produced, such as dizziness, hysteria, and incipient trance.² In fact, a *malaise*, manifesting itself in different ways, and with different degrees of intensity in different subjects, is a usual concomitant of motor automatism and its allied phenomena.

The singular connection of visceral sensation, a visceral consciousness as it were, with a particular psychical state is familiar to us all in emotion, and forms the basis of the James-Lange theory. Emotion, in fact, is a *feeling* excited by an idea or train of ideas, and therefore the sensations experienced by the dowser are strictly emotional disturbances. Whether emotion is primarily a cerebral process, as some physiologists maintain, the visceral or vascular disturbance being secondary; or whether, as other eminent physiologists hold, the psychical process of emotion is secondary to the excitation of the visceral organs, through certain stimuli causing the discharge of a nervous impulse into those organs is a matter that does not concern us here, albeit physiologists may find in the facts cited some fresh light thrown on this controversy. The points of interest to us are that the *malaise* or other sensation felt by the dowser is probably an emotional effect, and the fresh evidence afforded of the nexus existing between emotion and muscular action, whether this latter be conscious or, as with the dowser and his rod, unconscious.

Furthermore, in many cases where subconscious acts are performed, as M. Janet points out, a state of partial catalepsy supervenes. Catalepsy, as Dr Ochorowicz has shown, is a state of mono-ideism,³ that is, a "mental condition which concentrates every action upon one single and dominant idea and is not counterbalanced by any other." Now this is precisely the condition of the dowser when he sets himself to dowse, and in some few cases he passes into a state of complete catalepsy when the idea culminates. It is not, therefore,

¹ *L'Automatisme psychologique* (1889), pp. 208 *et seq.*

² *Proc. S.P.R.* (1882), i. 57.

³ "La suggestion mentale," *Revue Philosophique* (1887), xviii. 122.

a question of underground water or mineral ore, but merely the result of a suggestion producing a state of mono-ideism.

The *malaise* felt by the dowser is therefore in all probability an emotional disturbance, the mind being dominated by a single idea and the subject being a person on whom suggestion is operative: using the word suggestion in the sense of an impression or influence exercised without the knowledge or consent of the subject concerned.

We have now narrowed the issue down to this problem: how does this subconscious suggestion arise in the case of the successful dowser? Here we enter upon the final stage of our inquiry.

CHAPTER XIII
THE RATIONALE OF DOWSING

§ I. OBSOLETE THEORIES

UNTIL that attitude of mind which produces what is called scientific method had become established as the only proper manner in which to approach any problem, there arose from time to time, according to the fashion of the moment, a variety of explanations of the varied and numerous mysteries of nature. One of these, and one the mystery of which increased in men's minds in proportion to its value and wide application, was the dowsing-rod.

The earliest theory put forward in explanation of the phenomena of dowsing was that of sympathy. It was alleged that when the heavy-laden branches of some tree bent to the earth, they did so not in obedience to the laws of gravitation but to those of sympathy. It was alleged that there exists some innate affinity between certain objects, as between the heavenly bodies and the processes of nature, the moon and the fluctuations of the waters, and the like. Thus this theory was not altogether based on empty speculation; it was when they began to apply this hypothesis to matters for which they had no evidence, that these early investigators went astray. One example of their error, the idea that there existed a special sympathy between the wooden bough of the tree and subterranean metals, led to a further error in interpreting the facts of dowsing. It led to the obviously absurd error that the dowsing-rod moved towards the earth in the hands of the dowser when he passed over metals (for this was the only use of the rod in the sixteenth century and before) because of the attraction exercised by the hidden metal on the sympathetic wooden rod.

The next theory saw the light in France towards the end of the seventeenth century. Various known as the atomic or the corpuscular theory, it is, if anything, even more fantastic than the one just described, though it is obviously based on it. This theory is graphically shown in the accom-

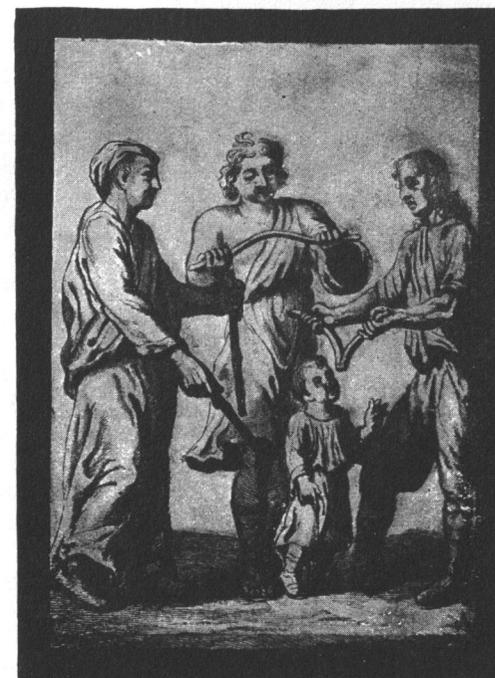


FIG. 63. RODS AS USED BY FRENCH
SEVENTEENTH-CENTURY DOWSERS
[P. Lebrun] *Lettres* (1696), p. 133

panying illustration, but to make the matter quite clear we cannot do better than quote the worthy and learned William Pryce on this subject: "The corpuscles . . . that rise from the Minerals, entering the rod, determine it to bow down, in order to render it parallel to the vertical lines which the effluvia describe in their rise. In effect the Mineral particles seem to be emitted from the earth; now the Virgula, being of a light porous wood, gives an easy passage to these particles, which are also very fine and subtle; the effluvia then driven forwards by those that follow them, and pressed at the same time by the atmosphere incumbent on them, are forced to enter the little interstices between the fibres of the wood, and by that effort they oblige it to incline, or dip down perpendicularly, to become parallel with the little columns which those vapours form in their rise."¹ We have already seen how this theory was enlarged in order to encompass the activities of Jacques Aymar in tracing murderers, it being decided that the body of a murderer gave off a special kind of corpuscular emanation which was named *matière meurtrière*. Nor have these ideas failed to find contemporary adherents.

Before the corpuscular theory had arisen and for long after its popularity had failed, the official religious dogma in regard to dowsing was the usual simple and comprehensive one: if the rod did good it was due either to divine inspiration or to the action of angels, if no result was achieved then the movements of the rod were due to the direct interference of evil spirits or even of the devil himself, as we can see in figure 9. This plain alternative was supplemented sometimes by the introduction of merely playful demons, who regarded the moving of the rod as a pleasant pastime.

The theory of sympathetic affinity and attraction outlived the name which it originally bore and we find the principle behind this theory transmogrified into Reichenbach's Od-force, or radio-active force, or dynamic force and the like. These new names were principally due to the fact that, as we have seen, the divining-rod was a familiar object long before the dowsing-rod became an object worthy of serious consideration. Naturally, therefore, the first explanations that were forthcoming smacked very strongly of this occult ancestry. Later, however, the occultists were in rather a difficulty; for, having claimed the rod as an occult phenomenon, they could not reconcile that claim with the disappearance of the theory of sympathetic affinity. How these writers then transferred the onus of the responsibility to science can be judged from

¹ *Mineralogia Cornubiensis* (1778), p. 114.

the following passage from Mr A. E. Waite: ". . . the ordinary divining-rod . . . is an instrument of natural magic and not of pneumatic art. This is substantially equivalent to saying that if its curious properties are really established facts, they are unappreciated phenomena of ordinary science and belong, like the loadstone, to the domain of magnetism."¹ This comparison of the rod to the loadstone is, of course, meaningless, but the magnetic theory itself has received very wide support.

Still later, with the general use of electricity, this further phenomenon was used and at the present day a majority of dowzers affirm with the most dogmatic emphasis that the phenomena they produce are due to electricity. In Germany

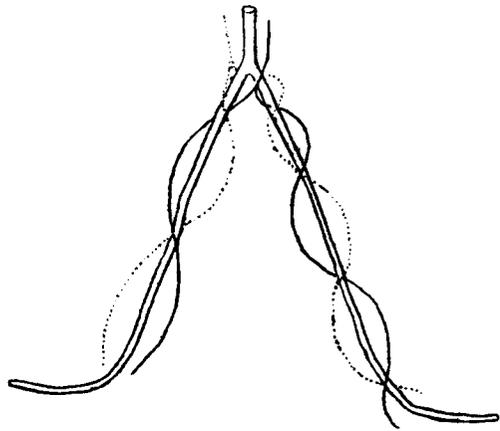


FIG. 64. "CURRENTS" PASSING THROUGH A ROD.

Count J. de Tristan, *Recherches sur quelques effluves terrestres* (1826), Fig. 7

most students of this subject are making heroic attempts to prove this assertion; they combine as a rule the theories of magnetism and electricity, and their ideas amount to this: that underground water exerts magnetic attraction on the dowsing-rod on the same principle as the magnet on steel. De Tristan² spoke of these magnetic currents as *effluves terrestres*, and held that water gave off, in addition to the magnetic currents, certain electrical currents which, passing through the hands of the dowser, formed a circuit with the earth whenever the dowser and his rod pass over water, the two currents passing through the rod as shown in Fig. 64. On this basis a

¹ *The Occult Sciences* (1891), pp. 151-162.

² Count J. de Tristan, *Recherches sur quelques effluves terrestres* (1826).

considerable number of mechanical appliances have been invented and are used by their inventors.

A novel theory has been put forward by Sir W. H. Preece, who writes: "The proper use of electric currents can show the existence of water and of metallic veins, but the so-called 'divining-rod' has nothing whatever to do with electrical or magnetic phenomena as far as I can conceive. I have come to the conclusion that it is mechanical vibration, set up by the friction of moving water, acting upon the sensitive vertical diaphragm of certain exceptionally delicately framed persons [which causes the phenomena of dowsing]."¹

These theories, whatever their intrinsic value may be, do at any rate attempt to explain the matter rationally, but there are many theories which are hopelessly eccentric or which entirely evade the main issue. Such, for instance, is that of an American writer who declares that the forked branch dips because of the physical impossibility of maintaining it in a horizontal position.² And that of Count von Klinckowstroem who writes in a letter that "the sun, and the moon which reflects its rays, can be considered as an essential source of energy for the motion of the rod." And that of Dr Aigner, the leader of the German dowzers' association, who looks upon dowsing as the "rudiment of an atavistic sense of smell." These opinions we need not discuss, though the last theory has the support of Bishop W. Boyd Carpenter,³ and of Lord Farrer, himself a dowser, who writes that dowsing seems to him to be "analogous to those disused powers which savages possess, but which civilized men generally lose. Is it just possible that at an earlier geological period the earth was drier and hotter, and for the preservation of the species it was necessary to track water?"

§ 2. CRITICISM OF THE OBSOLETE THEORIES

Nearly all these theories are still held by many persons, and not only by those who know little of the subject but by not a few students who are well acquainted with it. Therefore it is necessary to indicate briefly why these theories are untenable. This can be done very easily along several lines. The reader will have observed that those theories which postulate attraction between the underground metal or water and the

¹ *The Times* (16th of January 1905), p. 12d.

² P. Robinson, "Saunterings in Utah," *Harper's Magazine* (1883), lxxvii. 705-714.

³ "Presidential Address," *Proc. S.P.R.* (1913), xxvi. 19.

wooden rod at once fall to the ground because of the fact, amply demonstrated in the previous chapter, that the rod is far from being always a wooden one, that it can be of any substance which responds to muscular movements, and that it can be entirely dispensed with. In short, any theory which seeks to explain the origin or rationale of dowsing on the basis of the material or shape of the rod is *ipso facto* valueless.

The theory of electricity can be disposed of in a very simple manner by any reader who cares to go to the trouble. Those dowsers who allege that the phenomena they produce are due to electricity, further allege that if they stand on a sheet of insulating material the rod will not move. It has already been pointed out that this fact, if it is a fact, would not demonstrate the falseness of the theory, for if the dowser stands on a sheet of insulating material or on a glass-legged stool, he is merely preventing electrical conduction from the earth and does not impair electrical induction. But this simple experiment can be adapted in this way: place the dowser over a spot beneath which he declares water to run and cause him to stand on a stool or the like which is capable of being caused to alternately insulate and uninsulate him. Now when the dowser knows that he is completely insulated, his rod will not budge an inch; then go through some elaborate, but meaningless, actions and inform the dowser that he is uninsulated: immediately the rod will dip. Nevertheless throughout the experiment the dowser was uniformly insulated. This simple test has been repeatedly carried out and proves in an incontrovertible manner that what causes the rod to move under these circumstances is not electricity but the dowser's own ideas, whether conscious or subconscious. This opinion gains strong support from an equally simple experiment described by Sir E. B. Tylor, whose clear intellect and power of discrimination led him to this view as far back as 1883. He said in a lecture given at the University Museum, Oxford: "That the spring or other object sought has really no effect on the instrument, but that its dipping has to do with the seeker, is sufficiently shown by its being considered to act with the most dissimilar objects—a spring of water, a vein of ore, a piece of metal, a dead body—which have, however, this in common, that they are what the dowser is in search of. It does not appear that he fraudulently moves the rod, but my sensations led me to agree with Chevreul that the slight movements of the hands are unconsciously guided to accumulate into impulses sufficient to cause the twig to dip or rise. I noticed that when I could allow my attention to stray, the rod would from time to time

move in my hands in a way so lifelike that an uneducated person might well suppose the movements to be spontaneous. It is hardly necessary to say that the rod always moves where the bearer's mind suggests an object. In the present case the special business of the dowser was to find springs of water, and his difficulty was to distinguish between the mere *top springs*, which though acting on the rod were of course practically worthless, and the valuable *main springs* which would repay the sinking of a well. In the trial an incident occurred which threw light on the whole operation. The rod when brought over my watch, dipped strongly, and the dowser looking up at me with innocent archness said: 'You see, sir, it's just over the *mainspring* of your watch.' The remark showed how his mind was so simply controlled by association of ideas, that he expected the same action from a *main spring* of water and of a watch, their likeness of name quite overriding their unlikeness of nature. Nothing could have better shown at once the man's sincerity and the purely ideal character of his craft, nor does one often meet with a more perfect illustration of the state of mind where magic has its origin in delusive analogy, whether of things or of their names."¹

Those theories which posit a magnetic, radio-active or other emanation from water, and the vibratory theory of Sir W. H. Preece, cannot be so easily disposed of. The case against them is based on the fact that the dowser is not only able to find underground water, but can also find mineral veins, coal, oil and petroleum, hidden coins and any object or substance whatever on which the dowser's intention is fixed.

§ 3. DOWSING FOR MISCELLANEOUS OBJECTS

We are obliged to relegate for brief mention many now subsidiary uses of dowsing. We have seen that at one time the rod was exclusively used for the finding of minerals. This use has now almost entirely died out, probably because of the very exact knowledge we now possess of the location of such mineral deposits. Nevertheless occasional use of the rod for this purpose still occurs. One of the most successful practitioners of dowsing for metals in contemporary days was a dowser named Hazel who lived near Bristol until his death in 1900. A record of general observations and experiments with Hazel has been kindly made by Mr W. Pole Routh, of Reading. Again, a report has reached us of a recent discovery of gold by means of dowsing in the Curone Valley in Piedmont, some

¹ "Anthropology," *Nature* (1883), xxviii. 58.

miles from Alessandria. Mrs Greig, of Mill, South Zeal, Okehampton, Devonshire, has had some interesting successes in the discovery of underground coal, and has proved equally successful in some experiments carried out with her by Colonel W. G. Lowther, J.P., for the discovery of metals. In this connexion it may be interesting to observe that early in 1917 Sir William Barrett had the idea that submarines and mines might be discovered from the surface of the water by means of dowsing; after consultation with Sir Oliver Lodge the idea was put before the Admiralty Board of Invention and Research, who authorized experiments to be made, which, however, owing to the expense involved, did not take place.



FIG. 65.

THE ROD AS HELD BY A GERMAN MINER
C. Sterne, *Die Wahrsagung* (1862), p. 88

by quoting an extremely interesting and valuable relation of Sir Herbert Maxwell (also independently described in a letter by Andrew Lang), from which it will be seen that Aymar's tracing of human beings by means of his rod is not a solitary case. It may be mentioned that the Mr Howson referred to has subsequently carried out a number of experiments in dowsing which show that his achievements in the following case are far from unique. Sir Herbert's story opens with an account of cases of water-dowsing, which are worth reproducing, though we have not obtained independent testimony: "Our County Council having condemned open springs for the domestic supply of water and called upon landowners to provide covered wells, I found myself under the necessity of sinking no fewer

Dowsing has also been applied in the American continents to the finding of mineral waters (a case of which will be found in Appendix B), oil and petroleum. Several accounts of these last applications have reached us which describe successes, more particularly in Peru; and Mr Frank N. Hales of Armstrong, British Columbia, has kindly sent an account of the achievement of an oil-dowser in California, who states that he learnt his art in China. But with all these forms we cannot deal. We may conclude this brief survey of the varied uses of dowsing

than ninety-five wells. In ninety-three cases water was found without difficulty; wells were sunk and equipped at an average cost of £25, or £2,375 in all. But on two farms we were defeated, we failed utterly to hit upon a supply.

Hearing of our dilemma, Mr Howson, a gentleman of Lancashire, most kindly offered his assistance as an amateur dowser. He had never been on the ground before,¹ but he came, he saw, he conquered. He walked at high speed over the fields quartering the ground as a well-trained pointer might do, and carrying before him, not the traditional forked hazel rod, but a piece of stout twisted wire, bent to form an acute angle, with an end held in either hand. On both farms he indicated a spot where we should sink a well; we did so and found an ample supply in each place, which has never failed in the ten years that have gone by since.

Some years previously, desiring to sink a well in the garden, I had availed myself of the power of a lady friend who had the gift of 'dowsing'. She went all over the ground, and her rod (an orthodox hazel this time) indicated one spot, and one only, where water would be found. The well was never sunk,

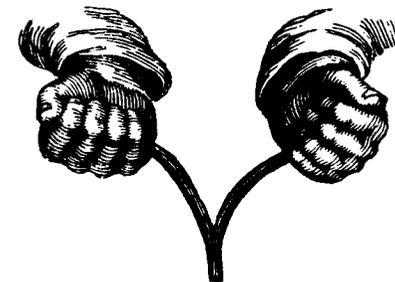


FIG. 66.

A SEVENTEENTH-CENTURY FRENCH ROD
P. Garnier, *Dissertation* (1692), p. 32

and I bethought me of trying whether Mr Howson's wire would correspond in its action with that of the lady's hazel. I took him over the whole ground, and, sure enough, at the very same spot his index turned smartly up. . . .

We were sitting at luncheon one day, eight or ten of us, when Mr Howson asked whether we would care to see some further experiments with the divining rod. Of course we agreed. He then said that if he might take the 'power' of any one present by touching him or her with the point of the wire that served him as a rod, that person might go out into the park or woods or anywhere and that he would follow his or her footsteps at any time within, I think he said, 36 hours. So we sent out a young lady, whose 'power' he took in the manner prescribed, pressing the point of the wire on her arm. We gave her a ten

¹ The geological foundation is lower Silurian rock, overlaid with glacial drift, the surface soil or tilth being rather light gravelly loam. The land lies in a series of low ridges, and is under arable rotation.

minutes start, and then set forth in pursuit, guided by the diviner. It was impossible that there should be any collusion between pursuer and pursued, for it was I who asked the lady to submit to the experiment, and Mr Howson had never met her till just before we sat down to luncheon. It was equally impossible that he should have seen from his seat at the table the direction she took in her flight; yet he hit the trail at once, followed it step by step, the index pointing upward when he was right and rising to horizontal when he was astray. Our operator followed that young woman across a wide lawn, into a wood on the far side, where she had described a considerable circuit, returning to the flower-garden near the house. Here Mr Howson got confused. 'There are several tracks here,' said he; 'I am afraid I am beaten this time.' It turned out that the young lady had been in the garden before luncheon gathering flowers!

The next chase ended more satisfactorily. A male member of the party was sent forth, his 'power' having been duly taken, and, after prolonged pursuit, was run to ground. . . .

Even more perplexing was Mr Howson's next demonstration of his power. He bade us arrange round a table a number of pieces of crockery—porcelain, delft, stoneware, etc., three or four of each manufacture. We did so, and allowed the operator to 'take the power' of one piece of a set. He was then brought into the room blindfold, was led round the table, and with his rod picked out the pieces of the set of which he had taken the 'power.' Sir Herbert Maxwell proceeds to describe further and equally interesting experiments of the same nature.¹

§ 4. DOWSING FOR HIDDEN AND LOST OBJECTS

There is a large body of evidence showing that the dowser succeeds equally well in finding hidden or lost objects as in finding underground water, but one need do no more than quote a few typical instances. Thus Mr T. Forder Plowman writes: "Some time ago I met a personal friend, Mr William Brown, of Middlehill House, Box, at the Board Room of the G.W.R. Company, at Bristol, whither we had both come to attend a meeting, quite unconnected with either water or divining. While we were waiting, some one called to see Mr Brown, and before this person left my friend asked me if I had ever seen a water diviner, as he could show me one. I replied that I had heard of such persons, but had never dropped across them. He then introduced me to John Mullins, who, he

¹ *Memoirs of the Months* (1897-1922), vi. 171-174.

said, had been most successful in finding water on his property. After I had had some conversation with Mullins, my friend asked him to leave the room for a few moments. When he had done so Mr Brown informed me that, although Mullins would not bind himself to find anything but water, he had had proof of his capacity to discover hidden metal, and he would test it in my presence. He then took three sovereigns from his purse and placed them in a line, and several feet apart, underneath the Turkey carpet. I may say that the door of the room was closed, and that no one could observe our proceedings through the keyhole, as it did not command the end of the room we were in. We then called Mullins in, and asked him to use his rod along the left-hand side of the room. He took a forked twig from his pocket and proceeded up the room with it, holding it in front of him as I have described. It showed no agitation at first, but soon did so, and we marked the spot with a piece of paper. Twice afterwards this occurred, and Mullins said he had no doubt but that he had come across some water conveyed under the flooring, probably the supply to a cistern. We then turned up the carpet and found the sovereigns on the spots indicated by the rod."¹

Mr Brown carried out another interesting experiment of this nature, which he describes in a letter. In Mullins's absence he and some others who were present placed ten stones on the road, putting a sovereign under each of three of these stones. When Mullins came he was asked to pass his rod over these stones, the experiment having been explained to him, and without hesitation gave correct indications. When he came to a stone under which there was no sovereign he at once said, "Nothing here master," but when he came to the others he remarked, "All right, master, thankee," turned the stone over and put the sovereign in his pocket.

A number of similar incidents in finding coins, drain-pipes and the like, have been described incidentally in previous chapters. The following one is typical; Mr Bruce of Norton Hall, Gloucester, writes: "Mullins also found a half-sovereign I had buried in a walk we were then making. I would have lost the half-sovereign if it had not been for Mullins, as I was so careful not to put any mark [on the place where it has been hidden] that I was not able to find the place myself, and when Mullins stopped and said it was under his foot, I thought he was wrong, but there it was!"

In May 1909 a number of scientists and the three dowsers,

¹ "The Divining Rod," *Proceedings of the Bath Natural History and Antiquarian Field Club* (1889), vi. 414-415.

Mr J. F. Young, of Llanelly, Mr Ede, of Arundel, and Mr H. Fardell, of Littlehampton, gathered in the Caxton Hall, Westminster, for the purpose of carrying out set experiments such as those described above. One of the experiments was as follows: A coin was to be hidden in some part of the room in the absence of the dowzers and while all those present in the room looked out of the window, the person hiding the coin was then to leave the room, and one of the dowzers called in to try and find the coin. This was done five times: first the coin was hidden by Sir William Barrett beneath an article lying on a chair in the large Council Room, 45 other chairs being similarly covered. The odds against finding the coin at the first venture were thus 45 to 1, but when Mr Young was called in he immediately indicated the correct chair. Mr Young again left the room, accompanied by a guardian, and the coin was hidden under another chair, which was again correctly indicated by Mr Young. The odds against two such consecutive successes being due to chance coincidence are 2,025 to 1. A third experiment was made with Mr Young, and this time a sceptical gentleman, Mr A. E. Best, hid the sovereign, the dowzers being absent and all those present looking out of the window. Mr Best then left the room and the dowser came in and fixed on a certain chair. This was wrong, but when Mr Best came in he said he had first put it there and then removed it to another chair. Without any information being given to the dowser he was asked to try again to find the coin, which he did correctly. There would be good reason to consider this as two distinct, and even specially instructive, successes, but reckoning it merely as a success at the second attempt and reckoning the odds against such a success as being 20 to 1, the odds against the results at the end of the third experiment being due to hazard are 40,500 to 1. The fourth time the coin was hidden by Mr H. May and again found at the first trial by Mr Young. On the fifth and last trial the sovereign was secreted by Mr R. F. Duke, F.G.S., and found at the first attempt by Mr Ede. At the end of the experiment the odds against the results being purely fortuitous were over 80,000,000 to 1, presenting on absolute moral certitude that the dowser is able to find hidden objects. M. Charles Richet has carried out very similar experiments,¹ and among dowzers who have kindly submitted to such tests may be mentioned Mr R. G. D. Tosswill, of Budleigh Salterton, Mr Jermans, F.R.I.B.A. of Exeter, and Mr Young, some of whose successes

¹ "La Suggestion mentale," *Revue Philosophique* (1884), xviii. 639 et seq.

have just been recorded and who conducted, with himself as subject, many other similar experiments.

The Rev. H. J. T. Tringham, of Long Cross Vicarage, Chertsey, is an amateur dowser, and has carried out some interesting experiments, some of which he describes in the following letter (dated the 21st of January 1922): "Last night I was making

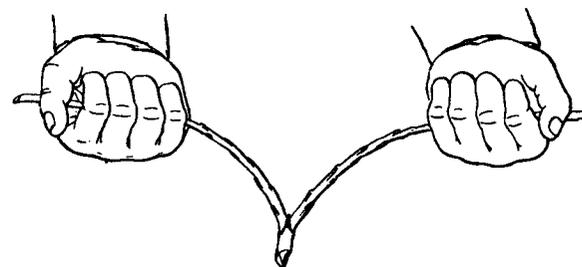


FIG. 67. THE ROD AS HELD BY GABRIEL DE MORTILLET: FIRST POSITION

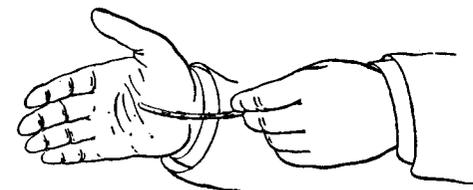


FIG. 68. THE ROD AS HELD BY GABRIEL DE MORTILLET: SECOND POSITION

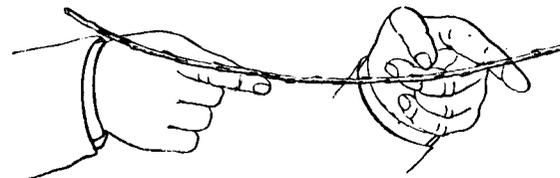


FIG. 69. THE ROD AS HELD BY GABRIEL DE MORTILLET: THIRD POSITION

From his *Histoire de l'hydrosophie* (1849), Frontispiece

the test [by dowsing] over a lot of coins—silver and copper, and the rod moved in a lively fashion, but I found . . . that it would only work if the thought of metal was in my mind. If I thought of water it would not work for metal, and vice versa. Well, that is weird enough, but it occurred to me that I might be deceiving myself as to the movement of the rod over the coins, more especially when I found that to get

I summarise the facts as told me by Prof. Du Toit. When the boy was about 5 years of age, his father, finding the three wells on his farm inadequate, started digging for another without success. The boy came running to his mother: 'Why does father dig there? There is no water there. He ought to dig *here*. There is water here,' and he pointed to a spot some yards away from where the father was digging. At first no one paid any attention, taking it for childish prattle. But the boy insisted, and his curiously positive conviction finally impressed the parents so much that they dug at the spot indicated, where, in due course, they struck a plentiful supply. At first they were upset, believing it—as 'backveld' Boers are quite likely to do—a case of diabolical possession, but the minister of the Dutch Reformed Church had the good sense to reassure them. The story presently came to be hinted about the countryside; other farmers, either from curiosity or because themselves in need of fresh wells, asked the boy to visit their farms and indicate water. As a result, the parents soon lost their superstitious terror, and in fact ended by making a business of their son's 'gift',—by now, no doubt, regarded as 'divine.' At any rate, I was told that the fee—payable to the father—is £5 for three indications; money returned in case of failure. Many farmers, according to my informant, and also villages have successfully availed themselves of the boy's services. Of failures I could hear nothing—only of an alleged failure. When that was reported to the boy he insisted that they must have dug at the wrong spot, and revisiting the locality, he is said to have indicated as the original spot a spot about one yard away from the one where the people had dug, and at this original spot water was duly found.

The boy employs no rod or any other instrument or device. He is said to 'see' the water simply as if there were no solid soil between him and it at all. He will point to the slope of a 'kopje' and trace the line of a subterranean water-course, as if it were on the surface. And he speaks of seeing the water 'gleam' and sparkle as if it were in the sunlight. He estimates the volume at least sufficiently to advise his employers whether it is worth their while to dig or not. I could not get certain evidence as to whether he can tell accurately how deep down they have to dig before they strike water. Also, I could not ascertain whether he is in a trance or in any other way in an abnormal condition when 'seeing' water. But he was described as, apart from the gift, a perfectly normal and healthy child. Needless to say, he has no geological knowledge of any kind."

There is no lack of historical evidence for this method of dowsing by "seeing" the water and the like. In Appendix A are discussed the Spanish dowsers known as Zahoris, or clear-seers. In the eighteenth century there was Jean Jacques Parangue¹ in France and the woman Pedegacha² in Portugal; and in Switzerland in the first half of the nineteenth century occurred the striking case of Katharina Beutler and Anna Maria Briegger,³ both of Thurgovia. In none of these cases, however, is the evidence sufficiently ample to justify its being discussed here. By a curious chance that is not the case in an incident recorded by Dr Ashburner. This writer, in considering the facts of dowsing, gives a remarkable instance of a girl who, when mesmerised (the word was still fashionable when he wrote), appeared to be an excellent dowser; in the hypnotic trance, when the rod moved in her hands, she exclaimed that she saw the water a few feet beneath the surface, and gave a vivid description of it. Dr Ashburner quotes in full the letter he had received from a lady, a friend of his, giving a minute account of this experiment, which was made in a field adjoining the lady's house in Hertfordshire. At the spot where the rod turned and the girl declared that she saw the water, a well was dug, and an abundant supply of good water was found a few feet below the surface, though previously the lady states that they had "very bad water and had long been unable to find a good spring."⁴

This took place in the middle of the last century and it seemed hopeless to obtain any confirmation of the case, especially as Dr Ashburner gives no names. But by a fortunate chance a letter was sent to Sir William Barrett from a lady living at Waterford, who writing to a friend *à propos* of his first report on dowsing, gave an account of a visit she paid in 1847 to her aunt in Hertfordshire, Miss B., and narrates the very circumstance described by Ashburner. The writer confirms several

¹ See *Gazette de France* (12th of June 1772); *Mercur de France* (1772), i. 137, ii. 169-173; — Saurey, *L'Hydroscope et le ventriloque* (1772); *Histoire d'une jeune anglaise* (1773).

² *Mercur de France* (1725), ii. 2120-2125; (1728), i. 1175-1177; *Mémoire instructif pour un voyageur* (1738), i. 114, 120; Rozier, *Introduction aux observations sur la physique* (1772), ii. 255-260.

³ *Morgenblatt* (1810), iv. 1237-1244; L. Oken, "Die Rhabdomantien Beutler," *Isis* (1818), II. i. 140-146; J. H. D. Zschokke, *Ueberlieferungen zur Geschichte unsere Zeit* (1818), pp. 331-335; *id.*, *Eine Selbstschau* (1842), i. 226-227, ii. 172; J. F. Weisse, *Erfahrungen über arzneiverständige Somnambulen* (1819), pp. 75-84.

⁴ C. von Reichenbach, *Physico-physiological Researches*, ed. by J. Ashburner (1850-1851), pp. 90-106.

of his statements, and it was found that she was unaware that Ashburner had written anything on the subject.

In view of these facts it seemed desirable to arrange a set experiment along these lines; but it is almost impossible to induce a professional dowser to submit to such a test, because it requires a good deal of time, patience and intelligence: the patience and the intelligence he very often does not possess and the time he can more profitably dispose of in dowsing for water. It was decided therefore to have recourse to an amateur; about this time was received the following letter from Mr F. J. Young: "In the year 1893 I had a remarkable experience when out water-finding with the rod. . . . I found that after 'setting' myself to use the rod, *i.e.*, getting into an abstracted mental condition, lost to all around, when, or just before, the rod turned, I could—as it were clairvoyantly—*see* the underground springs and actually appeared able to trace them out as I walked along. My friend Mr Robertson, who, as you are aware, also uses the rod with success as an amateur water-finder, tells me he also had a similar experience, and we have since read that a 'diviner' named Adams, a Somerset man, frequently asserted the same thing."

It was therefore decided to ask Mr Young to submit to some experiments, to which he readily consented. The method was this: he was asked to try whether a pencil held in his hand would write automatically certain words or numbers that would be enclosed in a sealed envelope. Some words of three letters were therefore written in capital letters, the paper placed between the folds of a piece of thick paper and then enclosed in an opaque envelope which was securely fastened and sealed with a private seal. Three such envelopes were posted to Mr Young. He replied: "On receiving your letter I gave the envelopes to my sister-in-law, who took charge of them till I was ready to make the experiment. When at leisure in the evening she gave me one of the envelopes marked (3), which I placed inside my cap, and put cap and envelope on the top of my bald head. I sat at a table, as usual, with a pencil in my hand, and made my mind as blank as possible, patiently waiting till my hand appeared controlled to write without any volition on my part. After waiting for a little while my hand suddenly scribbled out, on an old postcard which was lying near, the enclosed, which looks like ONW, or else the last letter is E, ONE. I send the postcard to you with the scribble on it. Will you please say what the word is? I return the envelope.

I found the experiment very tiring, as if some vital force

were exhausted, and will try the other envelopes another time.

P.S. Before posting this letter, I made a second experiment with another of your envelopes, the one marked (2). First I tried with the rod in my hands, my sister slowly repeated the alphabet aloud; this she did three or four times. After the first repetition the rod moved at the letters A, B and C and no others. I then tried automatic writing with my eyes shut; the enclosed came, starting from the x—it looks like A.



FIG. 70. FIRST EXPERIMENT: LETTERS PLACED IN THE ENVELOPE



FIG. 71. FIRST EXPERIMENT: LETTERS PRODUCED BY MR YOUNG



FIG. 72. SECOND EXPERIMENT: LETTERS PLACED IN THE ENVELOPE



FIG. 73.
SECOND EXPERIMENT: LETTERS
PRODUCED BY MR YOUNG AT THE
FIRST ATTEMPT



FIG. 74.
SECOND EXPERIMENT: LETTERS
PRODUCED BY MR YOUNG AT THE
SECOND ATTEMPT

B. On a second attempt the same letters came somewhat clearer."

On receiving the envelopes they were carefully examined and found not to have been tampered with in any way. They were then opened and in No. 3 was found the word ONE, and in No. 2 the word CAB. Figs. 70-74 are facsimiles of the original and of the writing sent by Mr Young. Sir William Barrett, who conducted this experiment, had no idea which of numerous words he had written was in the envelopes he had sent. The

experiment, therefore, was a strikingly successful one. Unfortunately, before Mr Young could proceed to the third envelope, illness and death invaded his house, and the experiments were laid aside and forgotten. Before this experiment Mr Young had made others of a similar nature, which are, however, recorded on his sole authority. Mr Young was a man of unquestionable integrity, who devoted many years to this problem, not only without any kind of gain but also without gaining, or seeking, notoriety. Nevertheless, the results must be taken for what they are worth. He wrote on the 5th of January 1900: "I made a few trials this evening. I cut some squares of paper all alike, put a number of one figure on each, then turned the squares upside down, shuffled them about in every way, and then picked up one of the squares with my eyes closed, put it on the top of my head and placed my cap on, it fitting close to the crown of my head. Then I made myself as passive as possible, and either slowly repeated the figures till a certain one seemed to be right, or the impression of a particular figure came as soon as I put the cap on my head; when it came thus quickly, it was invariably right. This is the result, and the order in which I took up the figures, of course one at a time. x denotes a wrong guess:

Figure on square	2	4	7	5	3	2	9	3	6	1
Figure guessed	x	4	7	5	x	2	9	x	6	1

The experiment was very exhausting, so that I could not go on any longer."

Finally under this head may be quoted the following passage from a statement kindly sent by Professor E. Garnett, Principal of the Pretoria Normal College and Professor of Education at the Transvaal University College. We have not obtained independent verification of his statement, but the facts are carefully recorded. Professor Garnett (writing from Alandale, Grahamstown, on the 3rd of February 1924), after describing various discoveries of note made by his eighteen-year-old son Edward Oscar Garnett, the manner in which he discovered his ability to dowse, and his procedure and sensations, proceeds: "During the past few months, my son has discovered (again trying simple tests by way of amusement) that in reply to definite questions the rod behaves as planchette.

The method he adopts is as follows:

The rod is held at forehead level, almost vertical.
 Questions are asked in usual tone and pitch of voice.
 For 'Yes' the rod moves forward and downward.
 For 'No' the rod moves backward and downward.

The first trials were of a very simple and easily verified nature. During the last five weeks the following examination results were predicted, and the fulfilment realized within the past fortnight, viz.,

- (1) His sister Kathleen Erica's passing the Cape University Junior Matriculation, Class I.
- (2) His friend Barbara Bell-John's passing the Transvaal Matriculation.

Occasionally the answers were given by the *Morse Code* which my son knows, a tremor representing the *dot*, a sharp downward *stroke* the dash."

§ 6. THE CRYPTESTHETIC THEORY OF DOWSING

The several categories of phenomena surveyed above appear to us to lead inevitably to the conclusion that no physical theory can cover the facts. In our view the phenomena of dowsing are due to the following causative chain of psychological and physiological happenings: a suggestion is received by the dowser's subconsciousness by means of a sensibility as yet unknown to us and therefore admirably named by M. Richet cryptesthesia (*κρυπτός*, hidden + *αἴσθησις*, perception); the knowledge thus supernormally obtained can become conscious in several ways: (1) if the person is one whose access to, and ability to become conscious of, knowledge in his subconsciousness is more continuous and complete than those of the normal person, the cryptesthetic suggestion received by his subconsciousness can almost simultaneously become conscious either by a purely abstract cognition or by means of a visualisation or even by means of an hallucination of one or more of the senses. Under this head would come many of those phenomena which we have considered in which the dowser simply "knows" when he has discovered the object of his search or "sees" it.

Such cases, however, are exceptional, and the dowser generally becomes conscious of the subconscious suggestion, (2) by means of unconscious, automatic movements such as those which provide the phenomena of automatic writing, of the planchette, of the *pendule explorateur*, and of all those things which Sir William Barrett has named autoscopies, including, of course, the dowsing-rod. Intermediately between these alternatives may be placed (3) those reactions of the subconscious suggestion which cause the phenomena which may be comprehensively described as the malaise of the dowser.

In short, we claim that dowsing is a purely psychological problem, that all its phenomena find their origin in the dowser's

mind, that no physical theory can bear close consideration, and that the movements of the rod and of the dowser have no more direct relation to the discovery of, say, water than as giving physical and visible expression to a mental and abstract cognition.

Much evidence put forward in this chapter and the previous one obviously can bear no other interpretation. How else can the simple experiment of insulating and uninsulating the dowser be explained? Nevertheless this theory has been strongly criticised, but before turning to these criticisms we may briefly review some of the support this view has received. Over two centuries ago Zeidler pointed out that the rod should not be asked questions transcending human intelligence, "for it is your own spirit that answers; you collect your mind, and it answers the rod according to the nature of the spirit."¹ Sir Lauder Brunton has well expressed this theory in writing: "I am inclined to think that the success of the divining rod, in some hands, for finding water or even for tracing criminals, is due to its causing involuntary muscular action, and thus enabling the person using it to consciously recognise that impressions have been made upon him which would otherwise never have arisen above the state of sub-consciousness."² This is the view endorsed by M. Charles Richet,³ and finally may be quoted a passage by a German writer. In Germany nearly all students of this subject are still hankering after electrical and magnetic theories, a circumstance which gives the following passage (with the terminology of which we disagree) all the more value: "The dowsing-rod is only an auxiliary meant to intensify the almost unnoticeable change in the physiological condition of the body, and to visualise more strongly the unconscious action of the muscles, the indication of a nervous stimulation of the body, as Heim very rightly remarks. The fact that the rod generally turns upwards in France and downwards in Germany is another clear proof that in dowsing it is only an unconscious physiological change, and that the whole act is of a subjective nature, and the mystic rod is but a means to fix the attention and to magnify by leverage the feeble motions of the muscles—an instrument which can be dispensed with after adequate practice."⁴

¹ *Pantomysterium* (1700), c. 6.

² "Truth and Delusion," *The Universal Review* (1889), iii. 54.

³ See e.g., *Traité de métapsychique* (1923), pp. 291 *et seq.*; see also Pierre Janet, *L'automatisme psychologique* (1889), pp. 367 *et seq.*; J. Grasset, *L'occultisme hier et aujourd'hui* (1908), pp. 112 *et seq.*; *id.*, *Le spiritisme devant la science* (1904), pp. 226 *et seq.*

⁴ R. Hennig, *Wunder und Wissenschaft* (1904), pp. 135-136. The translation is not ours.

§ 7. CRITICISMS OF THE CRYPTESTHETIC THEORY

The central criticism directed at the theory we have just outlined is a fundamental one, which, if it could be sustained, would nullify all that we have so far said. The critics who follow this line (the earliest of them was Mr E. T. Bennet)¹ state in effect that unconscious muscular action is not capable of producing some of the movements of the rod that have been observed, and that have been described above, and particularly that such unconscious muscular action does not account for the phenomena of the transmission of the movements of the rod, that is, the movements of the rod in the hands of a non-dowser when touched by a dowser (see §§ 3 and 4 in the previous chapter).

Before meeting this criticism directly, let us consider this important point: if the movements of the rod are not caused by muscular action on the part of the dowser, to what cause are they due? Mr A. P. Sinnett, the theosophist, wrote in a letter, ". . . when you get the hazel rods twisted with a force that seems disposed to break them it looks as if there were some elemental agency at work and I should be inclined to regard some of your 'dowsers' as mediums rather than clairvoyants." In our opinion the phenomena known as telekinesis, the movement of objects without physical contact, rests on a sufficiently broad basis of experimental evidence to be regarded as proved; we therefore are not disposed to reject *à priori* the suggestion that the movements of the rod are due to a force or ectoplasm emitted by the dowser. But there is no evidence whatever that this is the case, and an economy of hypothesis leads us to reject this view so far as the average case of dowsing is concerned. It must also be remembered that the use of a rod on which such a force could exercise its influence is not indispensable.

A view held by some persons was put forward in a letter by A. R. Wallace to the effect that the rod is used by discarnate intelligences. This opinion cannot be better criticised than by quoting from a letter from Sir Oliver Lodge, whose belief in human survival is well known: "I am interested in Wallace's view; suppose the dowser *were* a medium, how does that explain the movement of the stick? Does he suppose a deceased person comes and bobs the stick about? If so how does the deceased person know of the water? By clairvoyance? Then why not the dowser by clairvoyance?" In fact, we are again at the law of economy of hypothesis.

¹ *Journ. S.P.R.* (1897), viii. 151-155.

The theory occasionally is put forward that thought-transference can account for the phenomena of dowsing; this idea can be easily disposed of. Granting the possibility of thought-transference, and granting that this may be the explanation when some person living or dead knows the whereabouts of the object looked for, thought-transference cannot account for the finding of underground water, metals and the like, and of lost objects.

§ 8. UNCONSCIOUS MUSCULAR ACTION

We must now return to the contention of many critics and nearly all dowsers that muscular action is incapable of producing the observed movements of the rod. The dowsers themselves express this opinion in no hesitating manner; thus Major Wedderburn Maxwell writes: "I have taken hold of people by one hand and made them hold the wire or twig in their left hand and held the other end in my right hand, and the wire or twig will work and twist despite what any one does or wishes to do to prevent it." Dean Ovenden, after describing some experiments which he carried out, continues: "I felt a downward drag which I was unable to resist, although employing all my muscular force in the opposite direction. . . . There was, I am convinced, a force external to myself pulling against me." Dr D. W. Eshelby, of Stockton House, near Worcester, writing in a letter about a young farmer named Skyrne in his neighbourhood, who is a successful dowser, writes: "He [Skyrne] endeavours to *resist* the downward jerk of the branch. To assure myself of this I clasped his hands in mine and then walked slowly over the pipe of running water at night. The moment we came over the water the sensation was as though someone had seized the apex of the triangular branch and forcibly borne it down; our hands resisted this downward movement, and the two sticks gave way at the spot where they left his hands, and showed a 'green-stick fracture.' He did not move his hands or wrists as I had hold of them and should have detected any muscular movement sufficient to break the sticks." The late Sir Richard Harington, after describing his experience as a dowser, concludes that in his opinion his experiments (which seem quite inconclusive to us), "are conclusive that in my case at least there must be the operation of some force exterior to my own body. . . ." The reader will remember the Aymarrivalling exploits of Mr R. Howson, who subsequently agreed to carry out some experiments; writing of these he states that

"no muscular action can account for the turning of the rod; that it is due to some independent and external force, the origin of which has yet to be discovered." And he concludes in unmistakable and courageous terms: "It is not the muscle that moves the rod but the rod that moves the muscle." We could quote many other letters from dowsers to the same effect.

We will now pass on to evidence which shows that the motion of the rod is really due to the muscular action of the dowser, notwithstanding the fact that there are certain positions in which the rod is held where it seems at first sight to be impossible for the dowser to move it. Such, for example, as that shown in figure 34, where Stone is shown holding a thick forked rod depending from the forefinger, second finger and thumb of each hand. Stone himself asserts that there is no movement of his fingers and that he holds the rod in this way because it cannot be moved by the dowser; but a careful eyewitness, Mr R. J. Charleton, writes as follows: "I must contradict the assertion that no movement of Mr Stone's fingers could be detected whilst he is using the divining rod. I watched him most closely, and distinctly noticed that his forefingers, second fingers and thumbs, between which he held the ends of the forked stick, were strongly compressed upon the pliant wood. At the same time there was an inward twisting action of the fingers which had the effect of raising the apex of the rod. Tremendous muscular force was apparently being used, to such an extent, in fact, that the operator's hands became quite swollen and tremulous when he had completed his experiments. I have myself been able to verify this explanation in my own person repeatedly, though I could not move such thick twigs as Mr Stone employs, but his muscular development is greater than mine and he is in constant practice."

Further testimony is afforded by Mr J. F. Young. Mr Young was at first inclined to think that the movement of the rod was entirely spontaneous and quite independent of the dowser, but after his attention had been drawn to the matter, he writes as follows: "I see that the motion of the rod, which is always held in tension by the water-finder, is really due to *unconscious* muscular action; this is specially noticeable with a watch-spring which I generally employ. In fact, I am so convinced in this matter, after endless experiments, that I defy any one to prove the contrary." A Somersetshire incumbent gives corroborative testimony, and states that, when holding the rod in the same way as the professional

dowser he employed, "the harder I grasped the stick to prevent it turning, the more it turned, till at last it broke in two, and hurt the hand that held it."¹

But this is no new explanation of the motion of the rod, for the fullest and best account of its motion, based upon experimental evidence, is given by the American writer to whom we have already referred, Mr Emerson, in the pages of the *American Journal of Science*. The writer shows how startling and apparently miraculous is the sudden motion of the rod, in the hands of a good water-finder, and remarks that if there be a fraud, the dowzers are themselves the dupes. It is true, he goes on to say, that nearly every one can urge it to turn in a fashion, but only in the hands of a very few does it move, not only without urging, but contrary to their best efforts. He himself tried again and again, but failed. At last, one day, watching a young and successful diviner, he noticed the peculiar spirit and air of determination with which he handled the rod. "Hoping to catch his lively manner [Mr Emerson says] I took the rod and tried my hand again. When I got to the bank of the rivulet the rod began to move, and I could not restrain it. He who for the first time in his life has received an electric shock will recognise the sensation which I experienced when I felt the limbs of the rod crawling round, and saw the point turning down in spite of every effort my clenched hands could make to restrain it. In this contest between myself and the rod the bark was stripped off the twig. The secret appeared to be to hold the rod in a *spirited* manner [by this he apparently means a determined and confident, not a weak and hesitating, manner], for since then the rod has never failed to move in my hands, nor in the hands of those I have instructed."²

These opinions may be supplemented by those of two trained observers who undertook experiments for the purpose of observing this specific point. Dr F. Purser, Professor of Physiology at Trinity College, Dublin, conducted such an experiment with Mr J. H. Jones, of whom we have already several times spoken. Dr Purser reported as follows: "The interview with Mr Jones was held under rather unfavourable circumstances, owing to the storm, but I think I was able to see the movement by which the turning of the stick is effected.

The movements by which the stick is turned are: (1) A

¹ *Notes and Queries* (1854), 1 S. x. 155.

² Cp. C. Richet, "La suggestion mentale," *Revue Philosophique* (1884), xviii. 639-640; M. Culpin, *Spiritualism and the New Psychology* (1920), pp. 37-38.

rotation of the forearms, or one of them; (2) a flexion of the inner fingers, by which the stick is made a lever of the first order with very short distance between the fulcrum and the power, or perhaps a lever of the third order. It was impossible to follow the movements when the stick was rapidly twirled, or when Mr Jones walked rapidly and the rod suddenly turned and he said: 'There is water here.' But when he stood over the place where he said underground water existed, and professed to struggle against the motion of the stick, the movement was evident, and I had no difficulty in imitating the movements myself, although, of course, not so dexterously as Mr Jones did. As to whether the movements are conscious or unconscious I cannot express any opinion,—but that the stick is moved by the muscles of the arm and not by any occult influence cannot be doubted, I think, by any reasonable being."

The second opinion referred to is contained in the following extract from the report of a small committee who, in 1894, critically examined a dowser at work. The committee of investigation consisted of the pathologist and the assistant physician of one of the Bristol hospitals, Mr Mole, F.R.C.S., and Dr F. H. Edgeworth, the latter having made neurology a special study, and the Rev. R. A. Chudleigh, of West Parley Rectory, Wimborne, Dorset. They were fortunate in securing the co-operation of a skilful amateur dowser, who placed himself, as well as his estate (on the border of the Mendips), entirely at their service. In the course of a lengthy report Mr Chudleigh says: "If there be one thing which is perfectly clear, it is that the movement of the wand is due to an unconscious muscular contraction, just like other muscular contractions, except that it is unconscious." He goes on to say: "The violent tremor which convulsed the over-strained arm is itself enough to suggest witchcraft to an ordinary spectator, and yet I am sure that it is nothing more than what is known as *muscle-clonus*." Anatomical reasons are then given to account for the sudden violent motion of the rod, and the report continues: "A precisely analogous phenomenon is seen in those cases where a spinal wound or a spinal poison throws the whole body into universal spasm; but the flexors master the extensors and the back muscles overpower the front ones, the result being the frightful and well-known pose called *opisthotonus*." The writer then points out that the sudden spontaneous tension of the muscles of the arms which occur when the dowser believes himself to be over a spring is probably due to auto-suggestion; "this auto-suggestion makes a diviner

positively tetanic when he knows or thinks that water is present."

It will be seen therefore that the assertions of the dowzers are over-balanced by those of competent observers. And we must therefore find the reason why so many persons feel unable to accept the obvious and reasonable theory of unconscious muscular action. This reason is not far to seek: the lay person cannot believe an unconscious muscular action to be perfectly compatible with a conscious resistance to that action. Nevertheless the evidence that this is not only possible but constantly done every day by everyone is overwhelming. To take a familiar case: many persons suffer from a tic, or twitching of a muscle, as that of the eyelid, for instance. This is an unconscious muscular action, and no amount of conscious muscular effort will restrain that muscle from twitching. Further, to conclude this argument, there is a simple experiment that everyone can try, and which not only covers the present point but also the apparent difficulty of the transmission of unconscious muscular action.

Most people will find if they hold in their fingers a thread which is weighted at the other end with a ring or something of the kind, that this thread or *pendule explorateur* will begin to move in a rhythmical manner. This motion is not due to anything but unconscious muscular action, for (and this applies equally well to the dowsing-rod) if the thread be suspended from a fixed support, it will not move.¹ Thus the possibility of unconscious muscular action is proved. Now, if a bystander suggests to the holder of the thread that it will move from north to south, it will generally do so. This proves the possibility of suggestion controlling unconscious muscular action. Further, if the holder of the thread tries by muscular effort or passivity to stay the motion of the thread, he will invariably fail. This proves the impossibility of conscious functions, as a rule, controlling unconscious ones. If now a suggestion concerning, say, the direction of the movement of the *pendule*, be given to somebody in another room and out of hearing, and this person returns to the room and holds the hand of the person who is holding the thread, the thread will obey the suggestion. This will occur if one or more persons are interposed between the holder of the thread and the person to whom the suggestion is given. In this way is proved the possibility of transmitting unconscious muscular movements. We need only add that concerning all these points there is an

¹ An experiment on these lines was made by Kircher three centuries ago; see pp. 12-13 above.

enormous mass of evidence which can be found in the writings of psychologists, hypnotists, psychical researchers, and others. It would be idle to pretend that we understand the rationale of such phenomena, but their existence no serious person can doubt unless he be of the disposition of that observer of Bleton who declared that he would not believe even if he saw. But it would be equally idle to pretend that unconscious muscular action in itself is a complete explanation; that is far from being the case. To mention only one point yet to be resolved, why does the unconscious muscular action take the form that produces a movement in a rod? This psychological difficulty has been very well put by Sir Charles Sherrington in a letter: ". . . An emotional stimulus is often directly connected with an unwilling movement; but the movement is as a rule such a one as without straining interpretation bears some obvious significance as appropriate for circumstances likely to be concurrent with the stimulus. It is curious to find a movement connected with emotion which *seems* comparatively meaningless. In the dowser the muscular contractions actuating the rod do not convey any feature of particular appropriateness to the event, *e.g.*, discovery of water. If they—to instance crudely—could signify the scraping of earth away to reach water, or the cupping of the hands to drink, etc., etc., it might be different. . . ." It is very difficult to say whether the striking of the rod has more relation to its original purpose, the indication of mineral ores, but such considerations drive to the foundations of all our psychological knowledge, and it would be hopeless to attempt to consider such things from the angle of dowsing alone.

§ 9. CONCLUSION

We may now state the conclusion to which we believe an impartial student of the facts set out in this book must come. The dowser, in our opinion, is a person endowed with a subconscious supernormal cognitive faculty, which, its nature being unknown, we call, after Professor Richet, cryptesthesia. By means of this cryptesthesia knowledge of whatever object is searched for enters the dowser's subconsciousness and is revealed by means of an unconscious muscular reaction, or less often by an obscure nervous sensation or emotion which produces physiological disturbances, or very rarely by means of direct supernormal cognition made conscious by a visualisation or hallucination.

We do not believe that the accumulation of further masses of

evidence, though of course this is not undesirable, will make the argument for these contentions any stronger. All that is required is the discovery of some fruitful generalisation which will permit the orthodox scientist to incorporate cryptesthesia into the canon of accepted and indisputable scientific knowledge. We believe that the first movement of thought in this direction will occur from the impossibility of finding any normal explanation of the phenomena of dowsing.

APPENDIX A

THE ZAHORIS

A writer in the *Quarterly Review* for 1822 (p. 373) states that "the faculty of using the divining rod is evidently the same as that possessed by the Spanish Zahoris, though the latter do not employ a hazel twig." The *Spectator*, in an article on the rod (the 14th of October 1882), also refers to the Zahoris in the same casual way, as if every one knew all about them. On inquiry no one could give any information beyond a reference to the meaning of the word as given in Spanish dictionaries. Thus, in Lopes's *Spanish Dictionary* the word "Zahori" is explained as follows: "A vulgar impostor pretending to see things, although hidden in the bowels of the earth, if not covered with blue cloth." Again, "Zahoria" is said to be "The art of seeing as above. The performer must be born on Good Friday." Neuman and Baretti, in their Spanish dictionary, use similar words, and the *Dictionary of the Royal Spanish Academy* has a similar description, ending, "Lynceus homo subterranea videns." The word "Zahori" is really from the Arabic, meaning "clear," "enlightened"; it was, in fact, equivalent to the term "clairvoyant," as that word is now used. The same root occurs in Hebrew, and is the origin of the title Zohar, the most famous book of the Kabbalists.

It seemed, therefore, to be a matter of historical interest to ascertain what was known concerning these Zahoris. The earliest account of them comes to us from Mexico in the year 1557. It is contained in a folio volume entitled *Phisica Speculatio*, published at Mexico in 1557 and written by one Alphonsus (Gutierrez) of Vera Cruz. This work was reprinted at Salamanca in 1559. In his discourse on the Soul (*De Anima*, lib. ii, speculatio ii, pp. 300-301 or pp. 376-377 of the Salamanca edition), Alphonsus writes as follows:

"SPECULATION II OF ENCHANTERS, SALUTATORS,¹ AND OF THE
PEOPLE VULGARLY CALLED ZAHORIS.

There is no one who denies that there may be such an arrangement in a man's eyes, that he may be enabled to see at a great

¹ The word *saluator* means in low Latin a "pointer out." The index finger was called *digitus saluatorius*, not only from its being used for familiar salutation, but also for pointing out.

distance, to which another man's eyes cannot reach. In the same way there may be such an arrangement as to enable a man to see an object through some diaphanous medium, whilst other eyes are incapable of discerning the shape of the object through the same medium. But I cannot conceive that any one's sight can be so constructed that he can see an object behind a wall or any opaque substance; for sight is the effect either of outward transmission, [*i.e.*, from the eyes] as some maintain, or of inward reception, as the majority declare. It is not clear how the shape of anything can reach the eye, when it is hidden in the earth, and behind something opaque and not diaphanous; for how would it pierce through the earth or penetrate the stone? For such shape would necessarily be absorbed on coming in contact with an opaque body, and could not transmit, because it is not a diaphanous body. Wherefore such shape could not reach the eye, neither could the object itself be seen. And I do not see how they [the Zahoris] can perceive (as they say) abscesses or humours in the internal organs of a man, (their sight not being impeded by the body or clothes); nevertheless they themselves assert that they can, and in the same way, on entering a temple where dead bodies lie, that they can clearly perceive the internal organs of the corpses, if they cast their eyes down. Nevertheless I do not give full credence to their assertions. For these things may be illusions wrought of the devil. Nevertheless I do not condemn them; for I have known men otherwise upright, who have declared they see these things. I confess I do not know what cause can produce such natural power; for it is not the same as that alleged by enchanters and salutors; but is quite different, for the Zahoris say the object is made visible by natural means, by radiating its shape to the eye; if so, it is necessary that the medium through which it passes should be diaphanous; otherwise the shape does not become visible. All philosophers say that air and water are diaphanous mediums, and all things partake of their nature; but the earth and opaque bodies are not of that kind."

Some years later a famous Jesuit of Louvain, Martin del Rio, published his great work *Disquisitionum Magicarum* in three folio volumes. In the first volume (pp. 11-12) of this work, del Rio refers to the Zahoris (he calls them *Zahuris*), and the following translation gives the principal statements he makes:

"A race of men in Spain are known who are called *Zahuris*; we may name them Lynxes; when I was staying at Madrid in the year 1575, such a boy was to be seen there. They relate that these people see things that are hidden in the inward bowels of the earth, veins of water and treasures of metals, and corpses placed within sarcophagi. This thing is most fully received and well known. Not only Pindar, Tzetzes, and other poets have thought this possible, but philosophers also, some of whom ascribe this power to a melancholy humour.¹

¹ [Melancholy here means madness; as Milton says, "Moonstruck melancholy, moping madness."]

... I think they know veins of water by the vapours exhaled from those places morning and evening. They know veins of metal from the grass, of whatever kind, that usually grows there. Treasures and corpses I would consider to be indicated by demons. . . . They are accustomed to restrict this faculty of seeing to certain days, the third and sixth day of the week, which is a token of a secret pact. Besides, the redness of the eyes, which is particularly to be observed in Zahuris, would rather injure than assist clearness of sight."

It is interesting to note the prevalent idea of that period, and long afterwards, that demons have the principal hand in the discovery of hidden treasure, otherwise del Rio's conjectures indicate shrewd observation on his part. The "redness of the eyes" is a curious trait.

Another early reference to the Zahoris is to be found in a work by Juan Eusebio Nieremberg, entitled *Curiosa y Oculta Filosofia* (3rd edition, Madrid 1643). Chapter LXXVI of this work is devoted to the power of the Zahoris, and the following is a translation of the chief portion (pp. 284-285):

"Less is heard of the sight of the modern Zahoris, though it cannot be taken as certain. Celio Rodiginio favours their cause, judging that there may be a natural means of seeing through large opaque bodies. Another attributes what they say they see to the effect of a melancholy humour. This would be a good explanation if facts did not follow their imagination or sight; but springs are found where they point them out, metal where they say they see it, and the dead with all their marks which they perceive, so that it must be attributed to some other cause than melancholy.

But knowledge of where water is to be found underground may be acquired without much difficulty, without its being necessary for the sight to pierce the earth. It was the ancient office of the *Aquilegus*,¹ whose art was the knowledge of where water was to be found, at what depth, and of what quality it was. Marcellus wrote of these things among the Romans, and is quoted by Cassiodorus. In the time of the king Theodoric a very celebrated *Aquilegus* came from Africa, whom Theodoric affectionately recommended to Apronianus that he might give him a suitable salary. The mode of discovering the water was by the presence of certain herbs, briars, reeds and other green trees, by certain species of mosquitoes, and light vapours which arose from the spot, and by other means which they took, such as placing dry wool in certain parts at night, well covered, to see if it would be found damp. Sweet and salutary waters are qualified by the south and east wind, and the heavy and less salutary fall with the north and west wind. The same thing may be urged concerning the knowledge of mines of metal, for there may be in the same way natural signs of them, and certain herbs which signify their presence.

As to the assertion that the Zahoris can see the buried dead

¹ [*Aquilegus* in Latin was one skilled in seeking out water.]

and certain particular marks upon them, Alphonso of Vera Cruz, in the second book of his *Anima*, and Father Delrio, on the Medea of Seneca and in the first book of his *Magia*, attribute this to evil arts; and I can see no grounds for opposing them, the more so that the power of the Zahoris is limited to certain days, such as Tuesdays and Fridays, which to me is a suspicious circumstance; also the redness and inflammation of the eyes usually found among these people seems to prove that they rather blind their sight than sharpen it."

The most interesting part in this quotation is Nieremberg's reference to an ancient cult of water-finders, or *aquilegi*, as he calls them. The famous Jesuit, Father Kircher, also refers to the method employed by the *aquilex* (as he terms him) in water-finding.

Another Spanish writer, Feyjoo y Montenegro, published a paper entitled *Vara Divinatoria, y Zahories*.¹ This paper is principally concerned with the discussion of the well-known case of Jacques Aymar, whose story was then attracting universal attention. In section VII the Zahoris are referred to, and the author treats them with scepticism, remarking that the multitude is generally credulous, and among all people men of critical faculty and sound judgment are few. He continues:

"The name Zahoris is applied to a class of men of whom it is said that their vision penetrates opaque bodies, thus causing to appear whatsoever may be hidden away fathoms deep below the surface of the earth.² Perhaps we have inherited them from the Moors, since the word *Zahori* seems Arabic.

It cannot be advanced that this virtue is either natural or supernatural; consequently it must be condemned as either feigned

¹ *Theatro Critico Universal* (1728), ix. 85-86.

² ["In the past century," one writer says, "it is declared that there were in Spain certain men who saw what was underground to a depth of 20 pike handles (picas). Many philosophers failed not to discover (as they thought) reasons for persuading people that this might happen quite naturally." He then states that the *Mercure françois* [*sic*] of the year 1728, published an account of a Portuguese lady (named Pedegacha). "She declared she saw what was in the earth to a depth of thirty to forty fathoms, but as regards the human body, she could not see into it if clothed, the clothing preventing her vision. But the body being uncovered, she was able to observe all the interior parts, even the abscesses or any other defect there might be, as well in the humours or soft parts as in the solid. It may be that this fable had its origin, not in Portugal, but in France. But this author does not give credence to the existence of the Zahoris, justifying himself mainly for his refusal of assent to my testimony, since having cited my work, he terminates thus: 'The testimony of this Benedictine, being that of a Spaniard, is of great weight to give assurance of the falsity of this opinion.'" See *Mercure de France* (September 1725), pp. 2121-2125; (June 1728), pp. 1175-1177; *Mémoire instructif pour un voyageur* (1738), i. 114, 120; — Romier, *Introduction aux observations sur la physique* (1772), ii. 225-7.]

or as superstitious. It is not *natural*, since light does not penetrate into the depth of opaque bodies. . . . As little can it be alleged that the talent or power of the Zahoris is *supernatural*. In the first place, it is not credible that it has God as its special author, since it is a virtue whose only use is to serve greed. It is not announced that the Zahoris disinter treasures to furnish assistance to the poor, or to make war on infidels. In the second place, because, neither in the sacred writings nor in ecclesiastical history do we read that God has granted this virtue as a permanent habit to any of His many illustrious servants. How then can it be believed that, while refusing it to all these His most intimate friends, He has reserved it for men in no way remarkable by their merits? In the third place, supernatural graces are not limited to any particular nation, and of Zahoris, they are said to exist only in Spain.

Among the vulgar there is the belief that God dispenses this grace only to those who are born on a Good Friday, without considering that there should be an infinity of Zahoris, since many there are who are born on that day. Others limit the power to the circumstances of being born at the particular moment at which the Passion is being chanted. Even with this restriction it would follow that there should be in the whole extent of Spain from 700 to 800 Zahoris, since this total, more or less, results from the supposition that about the same number of men are born every day and hour of the year, and that Spain (including Majorca and excluding Portugal) possesses seven and a half millions of persons, which is the population determined by Senor Don Geronimo de Urtariz in his excellent work, *Theory and Practice of Commerce and of Sailing*. Consequently, on this computation there would not be a province of Spain which had not four or five dozens of Zahoris. Where are they, that we may see them? Nor can it be said that those who pretend to this grace hide it, since God does not concede virtues that they may be of no use.

There remains then but to say that this virtue is *superstitious*, and that those who exercise it have a compact, either expressed or implied, with the devil. In truth, the work of extracting gold from the depths of the earth is more of a nature to be attributed to diabolical influence than to the Divine assistance, since an abundance of that precious metal rather promotes vice than favours virtue. Such, indeed, appears to have been the thought of the ancients when they pretended that Pluto, the infernal divinity, was the first discoverer of mines of gold and silver."

The author then goes on to say that if the Zahoris really do exist, they are either wizards or rogues, and he prefers to think the latter, as the former would involve a diabolical compact, a far greater crime than being a mere rogue.

This extract has been quoted at some length, as it gives an interesting picture of the habits of thought of a learned Spaniard 120 years ago. It is evident that the writer had no personal knowledge of the Zahoris, his information about them appearing to be derived from traditional stories coming from a preceding century.

During the present century there are only casual references to the Zahoris, and this race of pretended seers, some of whom possibly may have had supernormal faculties, has long died out, even the very meaning of the word being known to comparatively few.¹

¹ In addition to the literature cited see Baltasar Gracian, *El Criticon* (1653), pp. 124-43; G. C. Le Gendre, *Traité de l'Opinion* (1735), i. 491, 500-501; E. D. Hauber, *Bibliotheca Acta et Scripta Magica* (1739-45), xi. 747-68, xii. 816-821, xxii. 659.

APPENDIX B

DOWSING FOR MINERAL WATER IN THE UNITED STATES

We have had a lengthy correspondence with Mr J. C. Minor, Vice-President of the General Carbonic Company, of 542 Fifth Avenue, New York, with Mr Frank Whalen, of Ballston Spa, New York, and with other gentlemen, in connexion with some remarkable dowsing exploits that are alleged to be of daily occurrence at Saratoga Springs and elsewhere. At this time we have not been able to obtain all the details necessary for a reasoned statement on the matter; but it appears to be of such great importance, that we print certain of the letters in full.

The first letter is from Mr Minor, dated the 7th of July 1922: "Regarding the particular well you speak of, this was known as the Adams Well, because we originally bought a small piece of several acres at a sheriff sale formerly owned by one Adams. We got it for a song, and never thought it had the slightest value. One afternoon Mr Titus dropped in and said that somewhere on our property he knew of a wonderful location, and evidently was desirous of having us employ him to spot it, but as we then had plenty of gas I did not care to do that, and I could not get from him any information, except that he said no line drawn connecting any of our present springs would come anywhere near that location. After he went I took down our map, and the only piece of property that in any way corresponded to his conditions was the Adams lot, which because it was located about 30 ft. higher than any other land we owned had never seemed worth while to me.

In 1897 my sister observed the divining rod operate, and when she tried it it operated with her. That was the first and only time she ever had one in her hands until the following incident. After Mr Titus left my office I studied our maps and came to the conclusion that the Adams lot was the only one that in any way seemed to approach the location which he had in mind. I, therefore, took our engineer, with whom the rod has always operated, but who has always scoffed at it nevertheless, and told him to cut a rod and go over the Adams property with me. We did this and found several places where the rod acted just like it so often does, but presently came to a place where within a circle of perhaps 12 ft. radius he claimed the rod stayed down all the time, and acted differently from anything he had ever seen before.

The thought came to me to check this up with my sister, because I had always had grave doubts of the value of the rod, and thought this would be a fine chance to check it up and see whether she also could note that one spot was very different from the others. Now my sister is a very calm-minded, strong-minded woman, a graduate of the New York University Law School, and not at all a person of an unusual temperament, and at my request she came down, and we cut and gave her a stick, and blindfolded her before she went to this four-acre piece. I walked beside her just simply to keep her from stumbling, and as she proceeded she also noticed several places where the rod went down in the ordinary way. When she came to the place above referred to, she immediately remarked that it felt very differently and wherever she stood in that vicinity the rod stayed down.

I was enormously impressed by this, which I felt was the most thorough test that could possibly be made on this matter of the divining rod, and furthermore in my opinion it somewhat checked up Mr Titus. Within a few days we put our drilling-machine over there and started a well, and we got what is now known as the Adams Well, and it was, so far as I know, the greatest gas and mineral water well ever found in Saratoga Springs, considering both the amount of gas and the flow of strong saline water, and furthermore this well flowed naturally, after every other natural flowing well in the vicinity had stopped.

A one-page article was sent out some time after that by the Department of Agriculture showing the absurdity of divining rods, and I then wrote them a full description of this incident, thinking that perhaps they might allow it was not entirely absurd, but I never got a reply.

I would say, of course, that in leading my sister around the property I took especial care (I cannot say to confuse her) but to keep her from any suggestion that there was anything out of the ordinary going on, and I never told her anything about what was back of it all until the test was done.

I considered that it was an absolute impossibility for her to have duplicated the results of Fred Rabe, our engineer, by any other means but some virtue possessed by the divining rod. Of the nature of that virtue I am wholly ignorant, but I stand to-day convinced that unless I had some good reason for knowing that a certain place would be good to drill in for water, I would first have it checked off with a divining rod—ridiculous as it may sound. I have other good reasons for believing in it based on the results obtained, but this test with my sister was the thing which made me a believer."

Next we have the following extracts from the letters of Mr Whalen, dated respectively the 13th of October and the 5th of November 1922.

"The Director of the U.S. Geo[logical] Survey writes me that 'the best minds seem to agree that' the twig is caused to dip by the unconscious muscular action of the dowser.

I wrote him that many curious facts had come to my notice, while they were drilling for carbonic acid gas wells hereabouts: that the procedure was about like this, *i.e.*, Wanting more gas, they would send out a dowser with his stick to locate a proper place in which to drill; before starting the drill, however, and on the same day—or perhaps several days after—they would send out another dowser to verify the location of the first man; sometimes they even sent out a third, but both 2nd and 3rd were ignorant of the location of the predecessor. If they agreed in the 'location,' the drill would be started. Generally too, the dowsers could approximate the depth very closely at which the drill would strike product. . . .

The Carbonic Acid Gas Trade (Natural) came about in this way—as a business project. The mineral waters in and about Saratoga Springs (6 m. North of here) are highly charged with carbonic acid gas; someone discovered that discharged into an air-tight tank something like 85% of the gas would separate from the water in a short time. The gas was then pumped from the 'separators' into 'gasometers' and then condensed under pressure into 20 lb. tubes, and sold to soda water and soft drinks mfrs with which they 'charged' their products. This soon developed into a regular and profitable business as the demand for gas was large, and the 'natural' product was so much cleaner to use, etc., etc. These mineral waters here run in veins—not a vast lake underneath—so the business of 'locating' these veins, on which to drill for a 'mineral spring' soon drew the best 'dowsers' to this point. The next step—caused by the demand for gas—was to start pumping, and it soon developed that many, if not all, of these veins that were already producing, were connected, as the producer with the largest pump soon cut off or stopped the flow from some other producer who had no pump or one not large enough to maintain the *status quo*. This led to litigation galore, and soon the producers were all by the ears with suits and counter suits, and the 'springs' which had given Saratoga its great reputation as a 'health resort' seemed to be in a fair way toward total ruination. Finally the State of New York condemned the properties of all the producers and formed them into a 'Reservation.' As soon as this was done, and the 'pumping' stopped, springs that had been dry for several years began to flow again with their own gas pressure, same as in years gone by. It was in searching for the veins on which to drill for more wells and to produce more gas that 1 or 2, or even 3, 'Dowsers' were employed—one to search out a new 'location' and the others to 'check him up' and verify the result. As these wells went from 300 to 600 or 800 feet in depth, and cost often \$1000 or so, it was simply good business to *know* where to drill. There was and is a widespread popular delusion that 'You can put down a well anywhere here and get mineral water.' Those who worked on that theory went broke. The business brought many 'fake' dowsers into the field too; some of them 'went broke' learning that they were 'fakes'. The best of these dowsers, the

reliable ones, don't seem to want to have their business investigated. They seem to fear that it will take away their means for earning a living.

One of the latest 'manifestations' that has come to my knowledge is this: A man in Charlton (John S. De Ridder) had a well some hundreds of feet away from his barns, and the well did not give him water sufficient. He called in Walter McQueen, a dowser and a well driller who worked the stick, and he told De Ridder there was more water to be had in that well if he went deep enough,—it was then about 37 feet deep. The drill was started and run to 177 ft. and no more water! De Ridder began to get weary, and sent for 50 lbs. of dynamite, and touched off 35 lbs. at the bottom of the hole—still no water; then came up about half way and fired off the 15 lbs.—no water! The next step was to come to Ballston Spa and get Ed. Garvan, a well digger with some reputation as a dowser, and commonly known as 'Old Ed.' De Ridder took Old Ed. on to his farm—about 6 m. West of here—and turned him loose with a switch from a peach tree (as I remember it). After wandering around a spell Old Ed. struck a vein, and finally landed at a point only a few feet from De Ridder's barn (De R. says it is right where he would like to have one). De Ridder was sharp and with his recent experience with McQueen in mind, said to Old Ed., 'Now I want to be sure about this; I've just been stuck for a lot of good money and I don't want another deal like that. Circulate around again and see what else you can find that is better or more certain if anything.' So Old Ed. 'circulated' and finally came back to that same spot as being the best to be had according to his lights. De Ridder still cautious, said, 'Now I want to know the exact spot where you would advise starting for a well. I don't want any mistakes'; and stooping down De Ridder kept moving his finger along on the ground till Old Ed. indicated the 'exact spot', and there De Ridder drove down a nail or peg, and covered it over with dirt. Old Ed. said, too, that about 30 ft. would get the water.

Within a few days De Ridder got one of his neighbours to come (name Smith, who has some reputation as a dowser), and without letting Smith know what had been done with Old Ed., turned Smith loose with his stick. Smith soon struck the same trail, and landed at about the same point as Old Ed. De Ridder gave Smith about the same line of talk as he had to Old Ed., and asked him to 'circulate again to make sure', which he did, coming back to the same spot. De Ridder got down with his finger to 'locate the exact spot', same as he did with Old Ed., and when Smith indicated that 'exact spot' De Ridder drove another peg. On uncovering Old Ed's peg, they proved to be within 3 inches of each other. Old Ed. then put down the well on that spot, and got plenty of water at 28 feet. Apparently there is no connection between this well and the one that was dynamited, else the water from the 28 feet well would run down into the 177 feet well."

Finally we may quote from a letter from Mr Whalen of the 24th of December 1923: "Mr Titus is (or was) a man who made his

living by 'locating' water supplies for cities and corporations. He came into Saratoga to try and help Mr Minor as against some other spring owners who were pumping Mr Minor's springs away from his (Minor's) plant. Some years ago Titus took a contract to supply the City of Brooklyn with water. The contract was substantially like this: 'I will supply your city daily with so many million gallons of water, put in a plant, operate it so many years—so you can *know* you have the supply; and then turn over to you the R. Estate, pumps and supply plant entire for . . . millions of dollars.' He did the job, and then the City politicians tried to beat him out of it, and it cost him (so he told me) \$68,000 to collect his bill.

Titus some years ago took a contract to put down a mineral water spring—for carbonic gas supply for Saratoga parties—on my farm, about 1½ m. East of here. He got the water and gas at 864 ft. He would not start the drill, however, until the 'location' was verified by another 'diviner'—known as 'The Ferret', and who lived then in Syracuse. The Ferret has died since that. The last I knew of Titus he had had a stroke, and was living in Brooklyn, 528 3rd Street. Silas W. Titus is his full name. . . .

I think I told you that the Baptist Minister here, Rev. W. E. Sprague, is a 'sensitive.' He does not consider himself as sensitive as some others, however, so far as I can judge there is a great difference in them. Few there are that can tell how far down they will have to go to get the water—that is if it is any great distance. Only about one person in 25 around here seems to have the 'gift' or 'faculty' of having the stick turn in their hands when they go over a 'vein.' This mineral water, from which carbonic gas is obtained, runs in veins; it is not obtained from a large underground 'pool' or 'lake' as most people imagine.

Titus was one of those 'diviners' who did not take kindly to the idea of having his 'gift' investigated. J. H. Hyslop tried him out on that before his (Hyslop's) death."

It will be agreed that we have here a series of facts of great importance which promise to repay the closest investigation.

APPENDIX C

TWO AMERICAN DOWSERS

§ I. A DOWSING QUESTIONNAIRE

In 1905 a case of dowsing occurred in Alabama which attracted some attention. Mr Frederick G. Bromberg, a lawyer of Mobile, Alabama, had the happy idea of drawing up a questionnaire, which he submitted to the two dowsers concerned in the case. One of the men was Bob Wellington, an uneducated negro, and the other was James Ellard, a schoolboy. The questions were therefore put to these dowsers orally and their replies taken down. This explains the occasionally facetious nature of Wellington's replies. These replies are of the greatest interest and deserve careful study. The questionnaire was as follows :

- “ 1. Explain fully how you go about to find the spot under the surface of the ground where water can be found.
2. Do you hold any stick, twig or other thing in your hands whilst searching for water ?
3. If you do, in what manner do you hold the stick, twig or other thing ?
4. How do you know when you have reached the spot under which is the water ?
5. How do you tell how deep beneath the surface of the earth the water is ?
6. Do you have a feeling in your head or in your fingers or in any other part of your body when you reach the spot under which the water is ?
7. Describe the kind of feeling you have when you reach the spot you recognise as that under which the water lies.
8. When did you first find out you had the powers of a water witch ?
9. How did you find it out ?
10. How did you learn to become a water witch ?
11. Who taught you, if you had a teacher, and where does he or she live ? ”

Here follow the statements of the two dowsers. It should be noted that water-witching is the current popular American term for dowsing.

§ 2. THE NEGRO BOB WELLINGTON

“ My name is Bob Wellington. I am a carpenter. I live in Avondale, Alabama. I am also what is known as a water witch—a person who can locate water under the surface of the ground by means of a twig or other instrument. I charge from \$2.50 to \$5.00 for locating water. I have engaged in this business at frequent intervals during the past twenty years. I have been successful in a great many instances in directing well diggers to the very spot where the water can be struck. I will guarantee that if I tell you there is a vein of water under the ground, it will be there. If it is not found where I say it is, I will not ask for any pay for my work.

I do not know the name of any person who taught me to do this. I believe I just took it up by myself when I was quite a young man. I doubt the ability of one person to teach another this thing. Unless I am mistaken, witches, like poets, are born and not made. I do not think it is given to many men to have this power. I have heard of some white folks in Kentucky who are remarkably accurate in discovering certain fluids, but they do not employ my methods, and I have never heard that they are good at finding water.

When I am called on to say whether or not there is water in the ground at or near any given place, the first thing I do is to go and get me a switch from a persimmon tree. Some people use peach or maple, but the persimmon is my switch always. It does not matter with me whether a 'possum has been in the tree or not. I will say, however, that while I prefer this kind of a switch, the virtue is not so much in the switch as in the man. Indeed one possessing the requisite power could discover water without a switch, by a certain twitching or thumping of the muscles in the arms when they are held out in front of the body with the hand closed or fist doubled up.

It is better, though, to have the switch. It is better to have one in each hand, as the switch points with more certainty to the spot where the water can be found.

So then, I would get a persimmon switch for each hand. Let the switches be from two to three feet long. About six inches from the hand the switch should fork or have prongs, and these should be—well, two feet would be long enough. I grip or hold them tightly, I hold the arms out in front of me, with the arms bent at the elbows, so that my hands will be in front of my waist. The switches are held so they will point directly upward, or nearly so.

Now, if you tell me you want to drill a well on a certain lot, I will take my switches, in the way I have described, and walk around over the ground to see if the switches behave all right. If I feel anything the matter with my muscles—the biceps of my arms—I know the switches will soon go to cutting up. It will turn right over from its upright position and point toward the ground when my hands get over the spot where there is water to be found. I should have stated before this that it has been my custom to tie the branches of the switches together with some sort of a string—I do

not know that it matters what kind of a string is used. Cases have been known where strong men were unable to keep the switches from turning downward when over the right spot. I am unable to explain to you fully how this happens, or what the cause of it is. Even if I were able to describe fully my feelings when engaged in pointing to the water, I would not be willing to do so. I may not get anything for my talk in this case, and ought not to reveal any secret about the trick any way.

As to the way I tell how far under the surface the water is, I might say that it is by the intensity or power with which the twig is attracted toward the earth. There is a difference in the way my arm feels, too. If the vibrations in the arm are rapid or the turning of the switch violent, the water is not far away, or if it is there is a good deal of it there. I have told the exact number of feet from the surface down to the stream of water, and I believe I could do it over and over again. I can do this; but I know I cannot explain it to you in a satisfactory way. The whole thing rests largely on faith any way. If you go into anything without faith, or feeling that you will not succeed, I believe you will meet with failure. I am confirmed in my belief that such is true in this business. I always believe that if water is under the ground I can locate it, and I have been successful. I do not know whether there is anything scientific about this or not. I have had people to tell me they had read all the books, but could not find the water as I had done; and a man not long ago said that if I had lived a great many years ago I would have been put to death or put in jail without bail. All because I could do something that I could not satisfactorily explain to other people, or convince them about.

I might add one thing more, which is that it is possible for a water witch to tell which way the water is flowing under the ground. The switch will turn over in the direction of the flow."

§ 3. THE BOY JAMES ELLARD

"My name is James Ellard. I live in Avondale, Ala. I am 16 years old. I am what is sometimes called a water witch. I can locate water in the ground. I am a schoolboy and have not devoted a great deal of time to locating water, though I have been successful each time that I have been called on to undertake the job.

I take a forked switch from a peach tree, and hold one end of the switch in one hand and the other end in the other hand. I grip it hard. I mean I hold it tightly. I hold it so firmly that the bark comes off in my hand. It seems to do better when I hold it tightly. I hold the switch out in front of me, with my arms bent at the elbows and the switch being principally between my two hands, in a horizontal position. If I walk over the ground in this position and there happens to be a stream of water under the surface the switch will bend down in the centre. If the stream is large or strong, the switch will bend with some force toward the ground and force my hands toward each other and nearer together. If the

stream is small or scattered or remote the bending of the switch is not so pronounced. Some people use two switches, but I have done very well with one. Some people can tell the direction in which the water is flowing. My experience does not show me that I can do that, and I would not know how to tell you to do it. I cannot even tell with accuracy how deep one must dig to get to the water. As I have already said, the force with which the switch is drawn toward the earth will tell me something as to that, but I cannot measure the distance in feet or inches as some are said to do with a fair degree of skill.

I am inclined to think that one person cannot teach another to perform this sort of work. I have given the switch to my father and tried to instruct him, but the switch will not bend in his hands at all. I would have to laugh at his motions and his failure.

I do not know how to describe any peculiar feeling that some people profess to experience when doing this trick. I have had the muscles of my arms to be a little sore from holding my hands so closely shut for a long time; but I have never been in any sort of trance or fit or anything of that kind. While it is true that some people can do this thing, and others cannot, my belief is that the switch is the thing that is affected most. I mean that if there be any spell or magnetism or other thing of the kind, it is evidenced or manifested in the peculiar performances of the switch, rather than in the individual through whose powers the switch works.

I hardly know when I first found out that I could discover water. It was not a great while ago. No one taught me, so far as I know. I tried it a year or so ago, or may be a little farther back than that, and I have located wells, or good places to get water for several parties right here in Avondale. A coloured man named Ellington or Wellington came along where I was at work and said the water was right where my switch told me it was, and it was there when they bored for it. Sometimes one man's switch will indicate water at one point, and another will come and say that it will be found a few inches or possibly a foot from there. I do not know how to account for that difference. Being accurate may possibly be a matter of being expert or skilled or experienced in the trick.

I do not know of anything else to be said about the business, except that I can be found here in Avondale when I am wanted, and I think I can do what I have claimed."

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