BRITISH INVESTIGATIONS

Physico-Clinical Medicine

AND

CLINICS OF DR. ALBERT ABRAMS

Vol. 8 FEBRUARY, 1925 No. 12

Founded by
ALBERT ABRAMS, A. M., M. D., LLD., F. R. M. S.

Editor
HARRY W. WIRKLICH, Ph. G., Ph. C., M. D.
(Columbia University)

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COLLEGE OF ELECTRONIC MEDICINE
Blanche and Jeanne R. Abrams Memorial Foundation
DR. FRED E. MOORE, President
2151 SACRAMENTO STREET
San Francisco, California

ALBERT ABRAMS, A.M., LL.D., M.D. (University of Heidelberg), F.R.M.S.

(This photograph of Doctor Abrams was secured while he was at work in his Clinic in 1922, by Mr. J. R. Reid of San Rafael, California)

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All the subject-matter of Dr. Abrams in this Journal refers to his original research work. Citations from other sources will be duly accredited. The motive of this Journal is to replace the cell doctrine by the Electron theory. Vital phenomena are dynamic and the actions of organisms should be regarded as processes and not structures. Exclusivism is excluded insomuch as all sciences are embraced in practical medicine and diagnosis must invoke physical, biological, and chemical methods. All problems in medicine not in accord with the progress made in physical science are doomed to perish.

We invite and encourage articles on ERA but do not necessarily hold ourselves responsible for the ideas contained therein.

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COLLEGE OF ELECTRONIC MEDICINE

2151 SACRAMENTO ST. SAN FRANCISCO, CAL.

FEBRUARY 1925

THIS NUMBER A VITAL EDUCATOR

This number of the JOURNAL is replete with British investigation reports. Additional copies may be desired by E. R. A. physicians. We cannot afford to publish a large edition which is uncertain of demand, but we have arranged with the printers to keep the form intact for thirty days and will take care of orders during that period at the very low rate for delivery at ten cents a copy. This charge is below cost, so we feel that any orders from our doctors should be for at least twenty-five copies. We will, however, supply a lesser number, as E. R. A. physicians may have several scientifically inclined friends who wish to keep abreast of E. R. A. progress.

Most newspapers over the country carried the Associated Press reports from London on January 17, and it is not unlikely that local editors may be glad to see these fuller reports and may find in them the basis for a story of great interest to their readers.

BRITISH INVESTIGATIONS

This number of the JOURNAL has been devoted almost exclusively to the London reports and editorial comments bearing on the investigations of the ERA concept by the distinguished group of British scientists. These reports should prove of great value in convincing the members of state legislatures and those groups of physicians who oppose ERA that this American discovery should be nurtured and be permitted to develop its full usefulness. They will some day be proud of the fact that Albert Abrams, a San Francisco physician, uncovered a great natural law, the increased knowledge of which, with the intelligent application of its principles, means much for the welfare of the world.

A peculiarity of the American mind is to be much more impressed with that which comes from abroad than with its own products. This applies to material things, such as adornment and the products of manufacture. Even customs and manner of speech find many imitators on American shores. But it applies more particularly to opera singers and physicians. The public is much impressed by the doctors who frequent European Clinics, although no opportunities for study and advancement can be found superior to those in America.

Now let this peculiarity of the American mind find full play in the reports of the British scientists that there is "something new and wonderful" in connection with Doctor Abrams' instruments; that ERA research holds "great potentialities;" and that Doctor Abrams' discovery may eventually prove to be nothing less than a new form of energy.

FRED E. MOORE.

THE BOARD OF TRUSTEES MEETING

Owing to the fact that the meeting of the College Board of Trustees necessarily has to be postponed until the eight or ten attorneys are fully agreed on the details of the decreee resulting from compromise over College litigation, it is uncertain as to the March date of the Board meeting. We are thus unable to report further Board activities at this time. In lieu thereof we are supplying in this number of the JOURNAL very full reports of the British investigations, and all ERA physicians should be greatly heartened thereby. "It is a long lane that has no turning," and Albert Abrams' discovery is now due for gradual recognition.

I urge every ERA graduate physician to measure up to the dignified use of this method in his practice; to avoid undue irritation

of those of unlike views; to let skilled and most careful application of E. R. A. principles speak for themselves in good results; to decry sensationalism, holding strictly to fundamentals; and to use only those means of educating the laity which can bring no criticism upon struggling E. R. A.

The College Board will develop future policies and plans at the first possible moment; and this charitable institution established by Doctor Abrams will then do its own part locally and will lend every aid within its power to the E. R. A. physicians in the field.

The members of the Board give of their time freely and at great sacrifice, as they receive no remuneration and are allowed only expenses covering travel and hotel. Conservatism is the watchword, and when our hands are free we will build on a firm foundation.

FRED E. MOORE

(The following article is from the Daily Express, London, January 17, 1925)

SECRETS OF ABRAMS' MYSTERY BOX

COMMITTEE FIND THERE IS SOMETHING IN IT! A NEW ENERGY?

Warning from Scientific Investigators

British medical science is on the brink of what may prove to be a sensational discovery.

Leading scientists, listening to astounding revelations at the Royal Society of Medicine last night, were inclined to the belief that the discovery may eventually prove to be no less than that of an entirely new form of energy.

A mysterious "something," new and wonderful, has undoubtedly been found in connection with what has become known as the "Abrams Magic Box." Just what it is even the investigators themselves cannot yet say, but they are so convinced that they are on the track of something not yet understood that they declare it is necessary for the work of investigation to be pushed forward.

GREAT POTENTIALITIES

The investigators—a committee of physicists, psychologists, clinicians, and electro-therapeutists, with Sir Thomas Horder, the famous physician, at their head—informed a gathering of surprised and wondering doctors that the research on which they had been engaged, and on which they were officially reporting, had "great potentialities," and was worthy of active financial support. Language such as this from responsible scientists means a great deal.

HOW THE BOX WORKS

"Daily Express" Scientific Correspondent

The whole matter arises from a prolonged examination of the claims made on behalf of the "magic box."

The box was invented by the late Doctor Abrams, of San Francisco, and was the basis of what was called "electronic reaction treatment." It was claimed that the box diagnosed and cured many serious diseases by vibratory action. Controversy raged among doctors in America.

Then the box came to England. A certain number of doctors adopted it and carried out the treatment. Controversy raged here. The medical Press ridiculed the affair, and great physicians were inclined to condemn it as a sham.

The quarrel about whether the box was a great medical marvel or a mere delusion went on. An American scientific committee, a few months ago, denounced it as "a colossal delusion."

COMMITTEE OF INQUIRY

The "Daily Express" demanded that a scientific committee of investigation should be set up in this country. This was done, and it was the report of the committee that was read at the Royal Society of Medicine last night by Sir Thomas Horder.

The members of the committee were:

Sir Thomas Horder, M.D., F.R.C.P., physician-in-ordinary to the Prince of Wales, physician to St. Bartholomew's Hospital, and one of the great cancer experts in this country.

Dr. C. B. Heald, medical adviser to the Director of Civil Aviation.

Major H. B. T. Lefroy, D.S.O., M.C., A.M.I.C.E., head of wireless research at the Air Ministry.

Mr. W. Whateley Smith, M.Sc., and **Mr. M. D. Hart,** who are engaged on physical research work on behalf of the Air Ministry and the War Office.

Mr. H. St. G. Anson, recommended by Faraday House for his qualifications in experimental physics, put his services at the disposal of the committee.

It will be seen that this committee was composed of men distinguished in various branches of scientific work, and unlikely to be in any way prejudiced. Certainly the medical members were most unlikely to be convinced without difficulty of the qualities claimed for electronic reaction.

"SOMETHING"

Their communication last night contained statements which will make all thoughtful persons revise their wholesale condemnation

of the claims. What it amounted to was this: that in spite of the theatrical effects, the chicanery, and the quackery with which Abrams and some of his followers invested their proceedings, fundamentally there is "something in it."

The committee have discovered the existence of this "something," although they do not know what it is. They are not claiming, like Abrams, that they can diagnose disease from a drop of blood, or that they can cure any and every disease. On the contrary they say with emphasis that nothing in their communication is to be taken as implying that any correlation of the changes in the abdominal wall with pathological conditions has yet been shown, or that any justification—physical, pathological, nosological, or clinical—exists for the direct use of the apparatus in diagnosis or treatment.

This amounts to saying that for practical purposes the Abrams treatment may be disregarded. But the committee of scientists do not stop here.

Their avowed object was to determine as conclusively as might be practicable whether there was any valid basis for the claims put forward in respect of the so-called "electronic reactions" of Abrams, or of any analogous technique. The inquiry has been confined exclusively to the diagnostic aspect of the technique.

The essential features of the Abrams diagnostic technique are these: The specimen, usually a drop of blood on filter paper, is placed in a box called the "dynamizer," containing three electrodes; of these the two lower, on which the specimen rests, are electrically connected to earth, while the third, which forms part of the lid, is connected in series with three resistance boxes. The first of these is called the "amplifier," while the second and third are known as "reflexophones."

From the second reflexophone a wire passes to another electrode placed in close juxtaposition with the forehead of a normal healthy person, standing on earthed plates facing west, and known as the "subject" or "medium." Certain areas on the abdominal wall of this subject are then percussed (tapped out) by the operator, and for each area the first reflexophone is adjusted until the normal percussion note changes to "dull."

"RATES"

The readings of the reflexophone corresponding to such changes of note are known as "rates." These, taken in conjunction with the position of the abdominal area under percussion, are interpreted in terms of the pathological or other characteristics of the patient from whom the specimen was obtained.

The "Scientific American" made a previous investigation and found, not merely that the claims advanced on behalf of electronic practice were not substantiated, but that the so-called electronic reactions did not occur. The striking difference between this verdict

and that of the present committee is seen in the committee's conclusion that—

> Certain substances when placed in proper relation to the emanometer of Boyd produce, beyond any reasonable doubt, changes in the abdominal wall of the subject, of a kind which may be detected by percussion. This is tantamount to the statement that the fundamental proposition underlying in common the original and certain other forms of apparatus designed for the purpose of eliciting the so-called electronic reactions of Abrams is established to a very high degree of probability.

There, for the moment, the scientists leave the matter. They are going forward in the hope of stripping away the veil of mystery hiding the mysterious "something" which may prove to be a hitherto unsuspected form of energy.

In a foreword to their report they say they have been warned of the danger of a misuse of the facts which they publish leading to a "disaster to medicine." Friends have urged that publication is inexpedient. They add, however, that mature deliberation has led them to the opinion that the warning ought to be disregarded, "because nothing but good can ultimately come from the publication of any work which has been conducted in a spirit of scientific sincerity, and of which full details are given."

To sum up, what the committee really say is they have found that, stripped of its theatricalities, there is "something" in the box which calls for further investigation. They make it clear that this finding is in no way a licence for any one to claim that the box has curative power.

(From the British Medical Journal, January 24, 1925)

"E.R.A."

A verbatim report will be found at page 179 of a joint meeting of the Sections of Medicine and Electro-Therapeutics of the Royal Society of Medicine, to which Sir Thomas Horder communicated the results so far obtained from an investigation, conducted by a small committee of which he was chairman, into the electronic reactions of Abrams, with special reference to the emanometer of Boyd. The full text of this committee's preliminary report, advance slips of which we have seen by the courtesy of Sir Thomas Horder and Dr. Heald, is accompanied by two appendices containing reports of experiments made chiefly at Glasgow with Dr. E. W. Boyd's emanometer. It is a considerably longer document than the address delivered, but the address appears to contain all the essential points. The other members of the committee were Dr. C. B. Heald,

medical adviser to the Department of Civil Aviation, Lieut.- Colonel Lefroy of the Air Ministry, Mr. Whately Smith, employed as a physicist by the same Ministry, and Mr. M. D. Hart, employed as a physicist at the War Office. The committee later on had the co-operation of Mr. E. J. Dingwall, M.A., a research officer to the Society of Psychical Research, and was able to command the whole-time services of Mr. Anson, recommended by the authorities of Faraday House as well qualified to undertake original work in experimental physics. After some introductory remarks, Sir Thomas Horder gave a demonstration of lantern slides and apparatus in order to show the conditions under which the investigations were conducted, and then proceeded to his main address, which we print verbatim. Some copies of the full report were made available among the audience, which filled the Barnes Hall of the Royal Society of Medicine; it would appear that certain reporters of lay newspapers secured copies. Judging from the articles published in these newspapers on the day after the meeting and subsequently, the impression they gathered was that the investigations of the committee could be held to justify the continued use of "E.R.A." methods in medical practice. * * * * * * * * * *
The exact status of the full text is not clear to us. The full text, we gather, is to be considered as of the nature of a preliminary communication, and there is as yet no statement that it has been or will be published. We therefore refrain from any comment on this and other sections of the full text, which we must still regard as confidential from our point of view. We cannot undertake to publish replies from individual practitioners of "E.R.A." to the collective communication which has now been received by the Royal Society of Medicine; any reply by them should be a collective reply from some committee or society they recognize as representative of their view.

(From the British Medical Journal, January 24, 1925)

THE ELECTRONIC REACTIONS OF ABRAMS

COMMUNICATION TO THE ROYAL SOCIETY OF MEDICINE BY A COMMITTEE OF WHICH SIR THOMAS HORDER IS CHAIRMAN

A joint meeting of the Sections of Medicine and Electro-Therapeutics of the Royal Society of Medicine was held on January 16th, when a preliminary communication concerning the "electronic reactions of Abrams," with special reference to the "emanometer" technique of Boyd, was presented by Sir Thomas Horder. The communication was a report of a small investigating committee consisting of: Sir Thomas Horder; Dr. C. B. Heald, medical adviser

to the Director of Civil Aviation; Major H. P. T. Lefroy, head of Wireless Research at the Air Ministry; Mr. M. D. Hart, engaged on physical research on behalf of the War Office; and Mr. Whately Smith, engaged on similar research at the Air Ministry. Sir Thomas Horder acted as chairman of the Committee. Copies of the extremely bulky report, which formed the basis of Sir Thomas Horder's remarks, were distributed to a number of those present.

Dr. Robert Hutchison (President of the Section of Medicine), who occupied the chair, said that there was some doubt amongst the members of the council of the Section concerned whether Abrams' phenomena were worthy of discussion at all, and that for obvious reasons; but it was finally decided—and he thought rightly —that it would not be becoming of such a society to reject purely on **a priori** grounds a communication which dealt in a perfectly scientific spirit with a set of phenomena which, to say the least, had excited very considerable interest. This was in the nature of a preliminary communication. It was not designed to be complete and final, and therefore it was a question whether it could profitably be followed by any general discussion, which must, if it took place at all, take place on a later date.

Sir Thomas Horder's Introductory Remarks

Mr. President, Ladies, and Gentlemen,—In the first place, Dr. Hutchison, I desire, both for myself and my colleagues, to thank you and your fellow members for giving us this opportunity of bringing the communication before you. In affording this opportunity to us you have shown no little courage, since you have risked the censure of those—and they are neither few nor unsubstantial—in whose nostrils this subject has an odour which is quite unsavoury. I can only hope, Sir, that you will not regret your decision, but it will rather redound to the credit of both of these important branches of our society.

I spoke of my colleagues, and I hasten to say that I am not standing here this evening on my own behalf. I am here to represent a small committee of investigation, whose joint views I am entrusted to express as adequately as I am able to do. For what I say, therefore—assuming I do not stray too far from the context of the communication which is in fact a report of a committee— I do not accept all the responsibility. By the same token I cannot, even if I wish—and I do not—claim more than one-fifth of any credit which may be due to us. Nor again, if you disapprove of our work, need I feel the onus of more than one-fifth of your censure. The names of this small investigating committee, and their claims to fitness for such work as has been attempted, will be found in the body of the communication, Section 4. I also see that the names appear without detailed qualifications as to fitness on the front page of the galley sheets you have before you. The genesis of this committee is also sketched in the same section, and its varied

interests are mentioned. For myself, I have held the honourable chairmanship of the committee, but, apart from this, my own contributions are small in comparison with that of my colleagues. Since three of those are laymen, it fell to either Dr. Heald or to myself to make this communication. My position as chairman made it easy for Dr. Heald to escape the task with which I find myself faced.

I will not take up your time by advancing all the reasons which led us to choose the Royal Society of Medicine as the body before whom this report should be brought. I will only mention three of those reasons, but I would like to dilate upon the third. In the first place, it is to be noted that it was in the field of medicine that the electronic reactions of Abrams, which I shall call "E.R.A." for short, originated. In the second place, it is common knowledge that the electronic reactions of Abrams have become established as methods of diagnosis and treatment in the practice of a number of registered medical men, even to the exclusion of more recognized methods. Thirdly, we feel strongly that it is high time that the various questions surrounding such practice should be ventilated before an unprejudiced tribunal such as this soceity; and since neither coaxing nor baiting, nor even sincere invitation, has induced the practising electronists of this country to tell us exactly what they are doing, so that just criticism may be offered on the one hand and justification pleaded on the other, it seems only right that we who are not electronists should ventilate the matter for them. It may be advanced that there is already a Society of Electronists where these questions are debated, but may we not know something of its business, its aims, and its transactions? Is it conceivable that medicine can be advanced by masonic methods of this kind?

Now, there does seem to be a stirring of the waters; to change the metaphor there are signs of a manoeuvring for position. Indirectly a plea has been entered for recognition, and an amazing sentence was to be read in a letter from an electronist in a medical journal last week. "Now," he says, "that the subject is receiving a greater measure of consideration than before, it seems only right and fair that the position of genuine Abrams workers in this country should be properly appreciated." We are not offered any definition of what "a genuine Abrams worker" may be. I venture to say that if the definition includes any such notion as seeking after proof with a sense of responsibility to medicine, and to the public, it is quite true that no Abrams worker has yet had the appreciation he deserves.

Demonstration

Sir Thomas Horder then went on to show on the lantern screen certain diagrams and pictures of the apparatus. The wiring of Abrams' apparatus is shown in Fig. 1, * * * and that of the Boyd apparatus in Fig. 2. Sir Thomas Horder said he supposed a good

many of those present were as ignorant of the Abrams method and technique as was the editor of a certain card, who converted the word "electronic" into "electro-tonic," so that if that editor were present that evening at least one of the audience would start at scratch! Neither he, nor perhaps his colleagues, were prepared to say that "electro-tonics" might not be as near the truth as "electronic." As a matter of fact, as he thought the audience would conclude at the end of the meeting, they all stood at scratch in regard to this question.

The diagrams showed the series of instruments used in the Abrams technique. They were called—not (Sir Thomas Horder said) that the name appeared to mean anything—the "dynamiser," in which the specimen of blood was placed for examination, the amplifier, and two so-called "reflexophones," from the end of which a flex ran to the forehead of the subject. Another picture showed that, attached to the "dynamiser," there were a couple of metallic contacts connecting with a piece of filter-paper containing the drop of blood, and then, in series with the amplifier, two "reflexophones" with wires to the forehead of the subject. Other lantern slides illustrated the Abrams technique, with the very simple so-called "reflexophones," a single instrument without the amplifier, representing the Abrams method reduced to the simplest possible terms. As to how much simpler these terms might be nobody knew. He would forgive those who had been a little flippant about the gadgets connected with this technique, because it was very difficult to be serious; one did not even know whether perhaps the coal-scuttle or a pair of tongs might not replace them, or, in fact, whether any instrument was really necessary at all. He handed round in the meeting an example of the so-called "resistance box," which might have been in the hands of the late Albert Abrams himself. There were a number of studs, with a revolving contact-maker, but whether it acted as a resistance box or, as Boyd thought, as an inductance was a matter of dispute.

Another slide showed the interior of one of these "reflexophones" or so-called "resistance boxes." These boxes were sold or leased at very high prices to the early disciples of Abrams, who signed a contract that they would not open the box to see what was in it. Therefore (Sir Thomas said) one might very well compliment Dr. Boyd on his ingenuity in X-raying the instrument from the outside, thus getting a very definite and exact idea of what it contained.

Sir Thomas Horder then illustrated various applications of these instruments as introduced in the evolution of the technique in the hands of Dr. W. E. Boyd of Glasgow. One of these was a new experimental coil wound for inductance ; Dr. Boyd started with the idea that it really acted as an inductance and not as a resistance at all, and naturally he constructed his own inductance on scientific lines. The intensity scale, as it was called, was also illustrated on the screen, with the specimen (in this case a chemical substance in a glass bottle) and the so-called "receiving plate," which could be

moved nearer to or farther from the specimen. The next picture was the "lay-out" of the Boyd apparatus. As soon as Dr. Boyd discovered that a really essential part of the experiment, in order to get any consistent results at all, was very careful screening of apparatus and subject, and of operator also, he elaborated his apparatus accordingly. Other slides showed the evolution of the technique on the Boyd lines, in respect of the screening, not merely of the apparatus used, but also of the subject and the operator. The effort to replace the human abdomen as a detector, by instruments which could give, by a graph or some other method, an indication of something happening, had hitherto failed. The percussor, therefore, and the percussed were still essential parts of the "lay-out," and the lantern slides showed a boy percussing his colleague with his arms put through a flexible copper gauze screen. Other phases of the experiment were also illustrated. The final picture showed the apparatus in its present form—a form which had been evolved subsequent to the experiments to be described later, and which had not even been seen by his colleagues on the committee.

Experiments with the Apparatus

Sir Thomas Horder then proceeded with the communication proper. He said:

In proportion to the results obtained, it may be thought that this report is unnecessarily prolix. The present investigators have not found it so simple as might be thought to justify in a few words the important conclusions which they have drawn from their evidence. In his presidential address before the Pathological Section of this society this year, Professor Clark spoke of the Abrams technique as one of the most glaring examples of quackery, and said that the claims appear to be of such a nature that their truth or falsehood could be demonstrated in a few hours' test. Well, I shall not offer any apology for so conspicuous an absence of facility on the part of my committee; I will rather content myself with the reflection that it was not for want of experience that our fathers conceived the truth as lying at the bottom of a well, and that much of what lay on the top of it was what Professor Clark calls falsehood.

This communication is concerned with the procedure and results of an investigation of which the object was to determine, as conclusively as might be practicable, whether there be any valid basis for the claims put forward in respect of the so-called "electronic reactions" of Abrams, or of any analogous technique allied thereto or developed therefrom.

The conclusions which have been reached, and the considerations which led to them, will be discussed below, but before proceeding to this main body of the communication four important points must be emphasized. First, it has been found necessary to refer in some detail to certain earlier comments and so-called in-

vestigations. For otherwise it would have been impossible properly to justify all the views here expressed, adequately to anticipate inevitable criticism, or even to explain the discrepancies between the results of this study and those of previous investigators. Second, it must be clearly understood that this inquiry has been confined exclusively to what may, for convenience, be termed the "diagnostic" aspects of the techniques concerned; that is to say, no attention whatever has been paid to the "oscilloclast," and "electro-bioscope," or to similar contrivances. Third, it is essential that a clear distinction be preserved between these two pieces of apparatus. It is commonly but erroneously supposed that the instrument of Boyd is no more than a minor variation on that of Abrams, whereas it appears actually to be a design **de novo** based on a different conception of the phenomena involved. Fourth, as will be seen later, certain important experiments were carried out in which homoeopathic drugs happened to be used as test substances. The present investigators wish specifically to empasize that acceptance of the results of such tests does not involve recognition of homoeopathic doctrines as regards either fundamental principles or clinical methods.

It may also be noted here that for various reasons none of the investigators has himself mastered either of the techniques concerned, so that it has been necessary, as it would in any case have been desirable, to rely for tests and experiments upon the work of exponents who are familiar with them. The investigators wish to take this opportunity of thanking all those who have given demonstrations or collaborated in the work, and of expressing in particular their gratitude to Dr. W. E. Boyd, who has not only given them the fullest facilities for investigation, but has willingly submitted to the imposition of the most rigid control during crucial tests.

I do not propose to overburden this communication, which in any event must be somewhat lengthy, with an extended account of the career of Doctor Abrams, or of the details of his various instruments and methods. Not only are these facts largely irrelevant to the main issue involved, but they are already widely known and reasonably accessible, so that it will be sufficient to record that Abrams was born in 1863, obtained his medical degree at Heidelberg in 1882, practised for many years in San Francisco, founded in 1910 a mode of treatment known as "spondylotherapy," and introduced his so-called "electronic reactions" in 1916. He died in 1924.

It is scarcely surprising that claims of this character were in general received both by the medical profession and by lay critics with a scepticism tantamount to hostility. None the less a certain number of practitioners obtained by sending specimens to Abrams for diagnosis, results which persuaded them that some at least of his claims were not wholly unfounded, and the technique accordingly spread until at the present time there are, it would appear, many hundreds of exponents of his diagnostic and curative methods in the United States of America alone. It is true that of these ad-

herents all too large a proportion are of the variety known as "advertising specialists," but there has always been, and still is, a certain reputable minority who, whether they have adhered to the original Abrams apparatus, or, like Dr. Boyd, have devised conspicuous modifications, have sought patiently and sincerely to elucidate the problems involved and to eradicate such errors as they have encountered. This fact, taken in conjunction with the importance of the issues at stake, should have sufficed to ensure for the technique a judicial and painstaking investigation and to save it from the bigoted and **a priori** condemnation in which, actually, critics almost exclusively indulged, and of which alone the majority appear capable.

It would be idle to deny that Doctor Abrams constantly put forward the most startling claims on the slenderest evidence; that he persistently evaded test conditions; that he expressed himself in a jargon characteristic of charlatanry; or that he had no scruple in selling or leasing to others, at high charges, apparatus crudely constructed and at best imperfectly developed. But all this, although indicating an unfortunate lack both of scientific method and of scientific conscience, is no justification of the manner in which the subject has been handled by critics. For the possibility should not have been forgotten that Doctor Abrams might, in fact, have lighted upon a discovery of genuine scientific importance, and yet have elected to exploit it to the utmost for immediate advantage in preference to entering upon a prolonged, laborious, and financially unprofitable research.

Historically, a close parallel may be found in the case of Mesmer, who unquestionably discovered—or rediscovered—phenomena of the utmost interest, but by his thuamaturgic ritual, preposterous terminology, and imperfect methods so vitiated his own case that it was only after many years of labour by such men as Briad, Esdaile, Elliotson, Bernheim, and Charcot that the principles of hypnotism and suggestion were established as scientifically valid. It seems probable that the sequence of events in the present case has been closely similar, and it is at least certain that the methods of criticism hitherto employed have served mainly to create an atmosphere of bitterness and suspicion without contributing in any proportionate degree to the settlement of the issue. It is, indeed, not at all surprising that the ineptitude displayed has so alienated the sympathies of electronic practitioners that they have frequently refused to submit to the "tests"—so called—which have been suggested, although on the other hand their omission, speaking generally, to recognize the limitations of their methods or to suggest fair trials is greatly to be regretted.

Much space has been occupied in various periodicals and elsewhere by articles and commentaries dealing with the Abrams technique, but it is neither necessary nor desirable to consider here more than certain representative examples. Such matter as the sensibly non-committal articles in "Truth," the eulogies of Mr. Upton

Sinclair in "Pearson's," and the quasi-technical propaganda of the so-called "Electronic Research Laboratories," may legitimately be omitted altogether, for they have no bearing on the fundamental issue as to whether the claims of Abrams have been completely refuted or in some degree substantiated. * * * * * *

It should consequently be evident that at the time when the present inquiry was initiated there had arisen a serious need for a more enlightened and searching investigation of electronic techniques than had previously been accorded to them. On the one hand, it was clearly in the public interest that a question of such importance should be settled as speedily and as conclusively as possible; on the other, it was not less clear that the polemical methods so far adopted by the critics and the consequent diffidence displayed by the electronists were calculated indefinitely to retard any such result.

The Prima-facie Evidence

I will turn now to the prima-facie evidence, with which I will deal somewhat briefly. Reference has been made in the previous section to what may be described as the prima-facie evidence—that is to say, to those incidents and evidential items which collectively persuaded the present investigators that the claims of electronic practitioners were not necessarily all ill founded and that the inquiry was, in spite of disappointments, worth pursuing; but it must be understood that it has been collected over a considerable period of time, and that while some parts were obtained before ever serious investigations were initiated, others are of comparatively recent date, and contemporary with certain stages of the fuller research.

It will not be necessary, for the purposes of this section, to describe the many tests and demonstrations which yielded negative results, for it is naturally to be expected that a technique of this kind would fail whenever conditions happened to be unfavourable; whereas the object of the inquiry was to ascertain whether the methods concerned ever yielded successful results which could not reasonably be attributed to pure chance, ingenious guess-work, or deception. It will therefore be sufficient to cite a few of those more successful experiments which encouraged the investigators to believe that delicate, or indeed erratic, as the electronic techniques might be, there still existed some genuine foundation for the claims made on their behalf.

For this purpose three cases of special interest have been selected, mainly on the grounds that they were of a sufficient concrete nature to admit of reasonably succint description; but it must be remembered that in addition to these there was encountered from time to time a large amount of more or less impressive evidence albeit of a somewhat indefinite character.

The first notable experiment was conducted in September, 1923, as follows: A certain demonstrator was given six specimens of sputa

on filter-papers placed in different envelopes (numbered according to a key by Dr. Heald), and was told that these six specimens constituted three pairs of which one pair was taken from Dr. Heald and another from Dr. C. H. S. Taylor of Cambridge, while the third pair was blank. The problem was to pair the specimens correctly. This the demonstrator successfully achieved, and, in addition, by comparing the "reactions" given by these specimens with those from known specimens, he correctly stated which pair was from Dr. Heald and which from Dr. Taylor. It is easily seen that the chance of this being effected by accident is equal to $1/5 \times 1/3 \times 1/2$, or 1 in 30; for if one specimen be taken to start with, it can be associated as a pair with any of the remaining five, of which alternatives only one will be right; similarly there are three ways in which the remaining four specimens can be paired, while the final discrimination can clearly be done in either of two ways. This, then, may be considered a very successful demonstration.

The second experiment to be considered was of a somewhat different character. It will be remembered that in the Boyd "emanometer" technique the specimen is carried in a sliding holder, the distance of which from the fixed receiving plate of the instrument can be varied and measured in centimetres on a suitable scale. I have here the actual instrument with the receiving plate, and this gap can be measured accurately. It is claimed that the "intensity" of the "emanation"—of course, I cannot read the inverted commas, but by "intensity" we know very little of what is meant, and by "emanation" we know still less, but one has to choose some words in order to get on—can be estimated by noting at what value of this distance the reaction disappears, as the sliding holder is moved away from the receiving plate, or reappears as it is moved towards it. It was considered that if the reactions were of a genuinely physical character it should be possible for the operator correctly to identify the point on the scale at which a specimen began to record (that is, to obtain a reasonably consistent series of "intensity readings") even if the holder were moved by some other person in such a way as to be invisible to him.

Another demonstrator kindly consented to carry out some tests on these lines, and two sets of experiments were accordingly made. The procedure was substantially as follows: the demonstrator, having obtained a satisfactory reaction on some convenient "wave" from the specimen in question, proceeded to determine its "intensity" in the manner indicated above, and the scale reading denoting this "intensity" was recorded. We will say that the specimen is a certain distance from the receiving plate. The experimenter then placed the slider in some other position and, under the demonstrator's direction, moved it nearer to or further from the receiving plate until the demonstrator considered that it was in the same position as before (that is, was showing the original "intensity reading"). The actual position on the scale was then noted and

the procedure repeated. Screens were so arranged that the slider was always invisible except to the experimenter, and he took pains to vary its position at the beginning of each trial in an arbitrary fashion and not to afford any clue by his movements, etc., which might be helpful to the demonstrator.

Then follow the records of five of those series. You will see the actual figures in centimetres in which the administrator replaced the specimen after it was displaced by the experiment.

It is clear that with this form of test it is difficult to assess with precision the chance of the operator obtaining the observed results by accident. It is, however, evident by inspection that the values obtained under test condition group themselves in every series (except in the third, when the subject was obviously fatigued) reasonably closely around the "correct value" as previously determined by the demonstrator.

The mean error of all trials is 5.78 cm., or, if we exclude cases in which the trial may have been vitiated by the fatigue of the subject, about 4.32 cm. The demonstrator never claimed to work to finer limits than **plus** or **minus** 5 cm., so we can conveniently take this range as a standard. If we consider any test result within 5 cm. of the previously determined intensity as "right," and anything outside this limit as "wrong," we find that the demonstrator obtains twenty-six successes to eighteen failures, or—with the same reservation as before—twenty-three successes to twelve failures. Now the scale is about 55 cm. long, so that the chance of any "test" intensity being, by accident, within 5 cm. of the previously determined value is about two-elevenths. If pure chance alone were at work, therefore, we should expect the demonstrator to produce an average of about two successes in eleven trials, whereas he actually succeeds rather more than **six** times in eleven according to the less favourable computation, or rather more than **seven** times on the more favourable.

The last of the definite experiments to be recorded is somewhat similar in type to the foregoing, inasmuch as it was not a matter of diagnosis or of identifying specimens, but of testing a purely technical point which the exponents of the technique regarded as established. It is believed by Dr. Boyd and his colleagues that if an earthed metal plate be interposed between a specimen and the receiving plate of the apparatus, the reactions due to the former will be cut off. That is to say, if the metal plate be placed between them the reaction obtained by the experimenter will cease or disappear. This alleged phenomenon appeared to offer a simple means of testing the physical basis of the technique: for it is easy to arrange a screen of this kind in such a way that its position cannot be directly observed by the demonstrator, who, none the less, should be able to say whether or not it is screening the specimen. The Committee was fortunate in being able again to secure the collaboration of the second demonstrator in these tests.

An earthed metallic screen was arranged so that it could be moved by the experimenter into—or away from—its effective position without the demonstrator being able to determine the sense of its movement. So soon as a good reaction had been obtained from a suitable specimen the experimenter adjusted the screening plate to one of its alternative positions and asked the demonstrator to say whether the specimens were or were not screened; he repeated the manoeuvre a number of times, varying the "screened" or "unscreened" positions in the usual arbitrary manner.

Four series of tests were carried out. In the first series twelve trials were successful and eight were failures; in the second, ten were successful and two were failures; in the third, eight successful and four failures; in the fourth, sixteen successful and four failures. Total: forty-six successes and eighteen failures out of sixty-four trials. Actually the chances can be shown to be about 1 in 3,038, or "odds of 3,037 to 1 against."

The Nature of the Problem

So much for the prima-facie case. I now turn to the nature of the problem.

It is easy to condemn a novel and somewhat fantastic technique on **a priori** grounds, and it is not difficult to establish a new discovery—even in the face of hostile criticism—if its phenomena can be easily reproduced and explained in terms of accepted scientific principles. But if in addition to their strangeness the phenomena be erratic and difficult to demonstrate, and if their causes be in a high degree obscure, then special precautions must be taken in order to ensure a convincing outcome for the investigation. This was essentially the position which confronted the present investigators, and it will be desirable to give a few words in explanation of the reasons which determined their plan of action.

The study of such phenomena as the so-called "E.R.A." here considered falls naturally into three distinct phases or aspects which may be referred to as demonstration, explanation, and interpretation respectively. In other words, there arises, first, the question of whether the phenomena under consideration occur at all; second, that of why they occur; and third, that of what significance they may possess.

Now, the first aspect is of paramount importance in the earlier stages of an investigation of this kind; for provided it be shown beyond reasonable doubt that new phenomena exist, there is not likely, in these days, to be any difficulty in ensuring an adequate study of their causes and their significance. But although this be true there is no doubt that a demonstration supported by a reasonable explanation is likely to be more convincing and more readily accepted than a bare asseveration of facts which, however well these may be evidenced, must stand alone on their own merits. It was accordingly decided to conduct, in the first instance, a series

of essentially physical experiments in order to determine whether the "reactions" (that is, the changes in the percussion note and the concomitant effects apparent only to the operator) were accompanied by any changes (for example, in the electrical condition of the skin) which could be detected by physical apparatus of an ordinary type. And it was decided also to leave temporarily on one side all questions of the manner or degree in which the reactions, if any, might be correlated with disease or with any other physiological conditions of the persons from whom specimens might have been taken. It was thought that some relatively gross effects—similar, for example, to the change in skin resistance associated with the psycho-galvanic reflex—might be discovered, and that these would not only enable the existence of the phenomena to be demonstrated beyond cavil, but would also point the way towards the elucidation of their origin. Even in the event of experiments on these lines yielding negative results, the labour involved would not, it was decided, have been wasted.

It was felt that in order to prosecute to the best advantage that essentially physical branch of the inquiry, to which reference has just been made, it would be desirable to employ the whole-time services of a trained physicist. Accordingly Mr. H. St. G. Anson, who was recommended by the authorities of Faraday House as being exceptionally well qualified to undertake original work in experimental physics, was engaged. Mr. Anson's experiments, conducted partly in London and partly with Dr. Boyd in Glasgow, extended over a period of some five months. It will be sufficient to remark here that his work was concerned chiefly with two main points—namely, first, an attempt to obtain instrumental evidence of some change in the electrical condition of the subject's skin concomitant to the variation of the percussion note, and second, to obtain graphical records of this acoustical phenomenon.

Mr. Anson experimented with a great number of electro-meters, voltmeters, rectifiers, amplifiers, and galvanometers in various combinations; but he invariably found that if the sensitivity of the apparatus were relatively small no effects could be detected, while if it were great the ordinary "skin effects" and changes of potential difference due to percussion were such as to mask completely any effects which might have been produced by the "electronic" reaction proper. These experiments consequently led to entirely indeterminate results, so that any detailed account would be out of place in this context, although it is hoped that they may prove of value in subsequent investigations into the physical nature of the phenomenon which it is hoped to undertake in due course.

The Crucial Tests

I now pass to the second phase—the crucial tests.

In view of the negative results obtained from the experiments just mentioned, the investigators decided temporarily to abandon

this line of work and to concentrate for a time on the fundamental problem of whether any genuine phenomena occurred at all—without regard to the nature of such physical mechanisms as might be involved. Tests for this purpose, in addition to being as economical as may be practicable—in respect of both time and labour—and capable of reproduction if desired, should conform to the three main requirements following:

(i) They should give the fairest possible chance to the exponents of the technique.

(ii) They should anticipate all valid criticism on the score of control.

(iii) They should be capable of yielding results which leave no room for differences of opinion.

The first of these difficulties demands that no restrictions whatever be laid upon the exponents except such as be necessary to secure the second; in general the simpler tests are preferable to the more elaborate, and the type of test selected should be such as to secure the full approval and confidence of the exponents. In particular, all processes of sterilization of apparatus, special packing of specimens, use of known specimens as controls, together with collaboration by two or more exponents, and any desired amount of retesting or checking, are not only perfectly legitimate but are to be encouraged in the best interests of the test.

In order to satisfy the second condition it is necessary and sufficient so to organize the procedure that the exponents of the technique cannot possibly obtain correct results save by the bona-fide use of the apparatus, or by that operation of pure chance which is covered by the third proviso. In other words, the test conditions must be such as to exclude fraud (whether witting or unwitting) together with self-deception. The precautions adopted by the investigators in this connection will prehaps be considered excessive in some quarters, and must often have appeared both irksome and superfluous to those who were subjected to them. But apart from deliberate trickery, the literature of psychopathology contains so many cases of elaborate deceptions perpetrated by apparently reputable persons, that no investigation of this kind would be of value in which such possibilities had not received the most careful consideration.

The third condition can only be satisfied by so devising experiments as to yeild **quantitative** results. This point is highly important, for it offers the only possibility of avoiding controversy as to the actual value of the results obtained.

In view of these considerations, it was decided to rely exclusively on tests of such a character that the value of the results obtained could be unequivocally computed by mathematical methods, and to presevere with a series of such tests until it became apparent that their general tendency was either towards results reasonably

attributable to chance alone or else towards figures which could not rationally be ascribed to such causes.

The first test of this kind was carried out in London in May, 1924, with the co-operation of Dr. W. R. McCrae, assisted by Dr. Boyd. It took the form of an attempt to separate correctly twenty pairs of specimens of sputa taken from two patients chosen and approved by Dr. McCrae. Twenty specimens were taken from each patient by Dr. Heald and Mr. Whately Smith, and were arranged by them in pairs and numbered according to an arbitrary key. Each pair contained one specimen from each patient, but there was nothing to indicate which was which. Control specimens were taken by Dr. McCrae. The outcome of the test was unfavourable to the technique, for of the results returned by the exponents eleven only were correct, while nine were wrong; which is just the kind of result which would be expected if chance alone were operative. In a memorandum addressed to the investigators, Dr. Boyd ascribed this failure to two main causes—namely, first that the screening arrangements then available at Dr. McCrae's laboratory were insufficient to ensure complete freedom from "contamination," and secondly, that the time required for examining, checking, and rechecking forty specimens was so great that many of them became stale before they could be dealt with—a tendency liable to be aggravated by the necessity for avoiding undue fatigue on the part of operator and subject.

Dr. Boyd also expressed a desire that further tests of a slightly different character, but equally conforming to the requirements of the investigators, should be carried out in his own laboratory at Glasgow. To this suggestion the investigators willingly agreed, and on June 6, 1924, Mr. Whately Smith visited Glasgow for the purpose. His full report is given in Appendix I, and the following quotation and abbreviated account of the tests is given here merely to show the kind of results obtained and the type of procedure adopted.

The first test consisted in discrimination between two apparently identical substances which were presented by the experimenter (Mr. Whately Smith) in such a way as to be indistinguishable by visual or other normal methods. Of twenty-five successive trials all were successful; the chance of this result being obtained by accident is 1 in 33,554,432.

Mr. Whately Smith says: "After inspecting the laboratory and apparatus the first test was attempted. From a group of about a dozen sterilized bottles and corks I selected two closely similar examples of each. One bottle was filled to a depth of about ¼ inch with a white granular substance believed to be 'active,' the other to an equal depth with a substance of identically similar appearance alleged to be 'neutral.' The corks were inscribed 'sulphur 10m.' and 'blank' respectively, in small characters. I satisfied myself by personal trial that it was utterly impossible for either the 'operator' (Colin Campbell) or the 'subject' (James Watson)—two Gallowgate

boys—to distinguish the bottles visually when placed in position on the shelf just inside the hatch. That was due to (a) the very dim light illuminating the bottles when in position; (b) the several thicknesses of copper gauze which in each case obscured the view; and (c) the close similarity of the bottles themselves."

I have here a model of the actual laboratory in which these experiments were conducted, and I think it is so constructed that it is Dr. Boyd's laboratory, as it were, with the roof off, and if I turn it up—and you will remember the fact that the room is now facing you, you will get an idea of the conditions under which these experiments were undertaken. It shows the outer room in which the experimenters stand with various bottles and drugs and sterilizing apparatus at hand. There is a small hatch which is covered by a copper plate running on a pulley. That is the only communication between this outer room and the copper screen or lined compartment in which the operator, the percussor, and the subject are placed. Just inside this small hatch there is a shelf, and the specimen—that is to say, the bottle containing sulphur or containing a substance which is inactive—is placed on that shelf just beyond a sheet of copper so arranged as to prevent any sight on the part of either of these boys of what is happening, as, for instance, which bottle is placed and when it is placed.

The emanometer is standing on a small table, the receivingplate facing the specimen on the shelf; the other end of the emanometer projects under this copper screen so that it can be adjusted or tuned as it were by the left-hand subject, and then we have the arrangement which I showed you on the lantern slide, the boy percussing his colleague with the arms put through the flexible copper gauze. The walls of this small room are covered with sheet copper or copper gauze, there is a copper screen, and a small hole for observation purposes. That is a model of the actual laboratory where these tests were carried out.

Mr. Whately Smith continues: "Dr. Boyd, Miss C. (his secretary), and myself then withdrew to the outer office, and I inserted the two bottles 'S' and 'B' alternately through the hatch until the operator professed himself as satisfied with the tuning and as prepared to discriminate between the two substances."

The tests then proceeded, and Mr. Smith says: "For each trial I raised the sliding panel of the hatch, inserted a bottle, dropped the hatch, and waited for the operator to say whether the reaction obtained was 'dull' (corresponding to the 'active' substance) or 'clear' (corresponding to the 'neutral' substance). The decision was practically always given within a second of dropping the panel, and on several occasions even before I had fully withdrawn my hand; I found it, in fact, difficult to keep pace with the operator. While this was going on, Dr. Boyd and his secretary were, for the greater part of the time, just outside the room in which I was working, but continuously within sight. I was careful to vary the order in which I presented the bottles, and also to shuffle them frequently,

so that no possible observation of my movements by operator or subject could furnish any clue as to which bottle would be next presented. After certain trials the operator asked, and was allowed, to check the two substances—that is to say, first the one and then the other was presented, and he was told which was which. After trial 10 the subject went out and washed in order to remove possible contamination."

The fifth and last test was a screening experiment conducted on much the same lines as that already mentioned in an earlier section. Of sixteen trials all were successful, and the chance of this being due to accident or guess-work is 1 to 65,536. We attempted to identify one substance from five others. The chance of these results being achieved by accident was 1 in 7,000 odd. The next one, the screening experiment, which is the crucial test, corresponding to those in that prima-facie list which I gave you, was done under much stricter conditions.

Then there is a summary of the success achieved with the chances of accidental success. The drug discrimination gave that a very large probability against the result being accidental. Then the screening experiment shows a still higher probability against chance.

It was quite clear from these figures that the results obtained, whatever their true origin, could not reasonably be ascribed to the operation of chance alone. The only alternative to accepting the apparent phenomena as genuine was to assume either that Mr. Whately Smith's report was grossly inaccurate or else that he himself had been deceived by trickery—possibly pathological—on the part of Dr. Boyd or his assistants. Both these possibilities appeared to the investigators to be exceedingly remote. It was, however, represented that an issue so important as this should not be allowed to depend on the unsupported testimony of any single observer, and the desirability of conducting a repetition of the tests described in order to conform or refute these results as conclusively as possible was strongly urged. It was further pointed out that although the other investigators could deal adequately with the question of accurate reporting, it would be advisable to enlist expert assistance with respect to the possibility of fraud, on the ground that no one who does not possess specialized knowledge of a high order is competent to express an authoritative opinion on such matters.

The investigators accordingly approached Mr. E. J. Dingwall, M.A., and invited his co-operation in this aspect of the work. Mr. Dingwall is research officer to the Society for Phychical Research, and has made a special study of the methods of deception and prestidigitatory technique associated with such matters as spurious "clairvoyance," "billet reading," "spirit photography," and similar performances in which chicanery is frequently encountered, and of all of which he possesses a world-wide experience. In the opinion of the investigators he represented the highest available authority on the subject, and they considered that although, strictly speaking,

the only way of excluding trickery **absolutely** would be to repeat the tests in person, using specially constructed apparatus and independent subjects, yet if an expert of Mr. Dingwalls' calibre failed to detect any suspicious indication, they need feel no further uneasiness on this score, especially in view of the considerable bulk of collateral evidence with which they were already acquainted. Mr. Dingwall kindly consented to act as consultant in this matter, and in due course accompanied Dr. Heald, Mr. Whately Smith, and myself to Glasgow on August 29th, 1924.

A full account of the proceedings on this occasion is given in Appendix II. The tests conducted were substantially identical with those performed by Mr. Whately Smith in the course of his earlier visit, and the degree of success attained by Dr. Boyd was not less impressive. Mr. Dingwall carefully noted the arrangements and procedure and made certain suggestions as regards screening, etc., all of which were duly carried out without reacting in any way adversely on the success of the tests employed. It would therefore appear that, subject only to the theoretical reservation made above, all possibility of deception may safely be regarded as eliminated. The other investigators were entirely satisfied with the conditions of the tests and demonstrations given, and formed the opinion that no more convincing exposition of the reality of the phenomena could reasonably be desired.

I will now pass to the conclusions to which the Committee have been led.

[Sir Thomas Horder then read the following conclusions and "afterword" which appear in the report.]

Conclusions

In view of the general considerations and concrete evidence cited in this paper, the signatories consider that the following conclusions are justified:

(1) That certain substances, when placed in proper relation to the emanometer of Boyd, produce, beyond any reasonable doubt, changes in the abdominal wall of "the subject" of a kind which may be detected by percussion. This is tantamount to the statement that the fundamental proposition underlying, in common, the original and certain other forms of apparatus designed for the purpose of eliciting the so-called electronic reactions of Abrams, is established to a very high degree of probability.

(2) That no evidence justifying this deduction is yet available from the work of those who practice with the apparatus as yet designed by Abrams himself.

(3) That the phenomena appear to be extremely elusive, and highly susceptible to interference, so that in order to obtain results it is necessary to take the most elaborate precautions, particularly as regards the elimination of effects due to irrelevant objects.

(4) That it would be premature at the present time even to hazard in the most tentative manner any hypothesis as to the physical basis of the phenomena here described.

It is impossible to emphasize too strongly that nothing in this Communication is to be taken as implying that any correlation of those changes in the abdominal wall, referred to in Conclusion (1), with pathological conditions has yet been shown, or a fortiori, that any justification—physical, pathological, nosological, or clinical—exists for the direct use of either the Abrams or Boyd apparatus in diagnosis or treatment.

AFTERWORD

The Bearing of These Conclusions Upon Medicine and Medical Practice

Seeing that the electronic reactions of Abrams had their inception in the field of medicine, this Communication will scarcely be complete without a reference to the question which will immediately be asked by many who read it: "What relevancy have the facts now demonstrated to the diagnosis and treatment of disease?" The electronic practitioner will probably answer, "A great deal"; though he may protest that the demonstration has been entirely redundant; or, less ungracious, he may accept the demonstration as merely helping to establish further the claims he has already made. But in reality the answer must clearly be that the conclusions in this Communication, as they now stand, are not in the slightest degree pertinent to the diagnosis or treatment of disease in any practical sense. That is not to say that they may not possess all sorts of potential bearings upon both of these things. But until the research is taken much further, and until either the explanation, or the significance, of the facts recorded shall be forthcoming, the application of the Communication in the field of medicine is nil. At present there is no known correlation between the phenomena described and the fundamental facts of pathology, so that the value of this Communication to the practicing physician can only be negative.

As already stated, the present investigators have concerned themselves solely with the establishment, to their satisfaction, of certain basic facts. In view of the urgent need of an answer to the question "Does anything happen?" they are satisfied for the moment with being able to say in effect, "Something does happen." Both the explanation and the application of the facts established await further investigation.

(The following article is from the Morning Post, London, Jan. 19, 1925)

ABRAMS AND HIS "MAGIC BOX"

PRINCIPLES OF THE "ELECTRONIC REACTIONS"

The Apparatus Described

(BY A SPECIAL CORRESPONDENT)

"Something does happen" was the verdict of a committee of doctors and scientists who tested some of the "electronic" reactions based on the discoveries of the late Dr. Albert Abrams, and whose preliminary report was described in Saturday's "Morning Post." Its publication has served to renew public and professional interest in the question which for some time has been a most controversial one.

I had the opportunity of seeing something of the work, not in a journalistic, but in an independent scientific capacity, and with a perfectly open mind. I will explain simply and briefly some of the methods employed, and the theories that are held without advancing opinions as to their nature or prospects.

The work of Dr. Boyd, on which the report referred to was based, was a continuation of the work of Abrams using slightly different, and possibly more scientific, methods, but the reactions on which this work was based, as first discovered by Abrams, are investigated and used by most workers and practitioners with apparatus devised by Abrams and his associates. I understand that the revenue derived from its sale is devoted to a hospital.

Two Sections

Abrams' work was divided into two distinct sections, diagnostic and combative. The first aimed at locating and classifying disease; the second at its cure. It was to the apparatus employed in the second, called by Abrams the "Oscilloclast," that the name "Magic Box" was given by his critics.

The diagnostic apparatus is essentially simple in itself, though no attempts have ever been made to explain the principles on which it operates. Just as electricians employ electricity in simple apparatus, without any positive knowledge of its nature, so the disciples of Abrams harness phenomena which they cannot explain.

Roughly, the underlying theory is that the blood or perspiration or sputum of a person, or in a less degree anything which he has "contaminated" by touch, acquires certain properties, or "rates of

vibration," which accurately reflect his or her condition of health. These "vibrations" (for want of another name) are indetectable by even the most delicate electrical measuring instruments, though they can be transmitted along a wire. It was discovered by accident that if this wire—at one end of which is a plate in contact with or proximity to the specimen of blood or sputum—is connected to a headband worn by any living persons (the "subject"), standing on two earthed plates, then certain skin reactions occur on the surface of the abdomen of the "subject," which are detectable by a different note when the skin is "percussed" with the fingers, or by the alteration of adhesion of the skin to a glass rod.

This test serves to indicate the presence or absence of a reaction, but gives no indication as to its strength or nature. It was then found that by the insertion in the circuit of ordinary rheostats the reactions could be eliminated, and according to the amount of resistance (or it may perhaps be inductance) arbitrary measurements could be arrived at. It was then found that different coloured lights served to dissipate the reactions of specimens of blood from people suffering from different diseases, and this method is occasionally employed further to classify the "vibrations."

Dr. Boyd's Work

Dr. Boyd, I believe, dispenses with rheostats, and uses what may be roughly described as an "air-gap." The method of operation is as follows: A drop of blood from the patient, on blotting paper, is placed near the plate, the wire connected to a "subject," and percussion tests made until the regulation of the rheostats just eliminates the reaction. Different diseases have been found to give reactions within well defined limits on the scale, and this, together with the fact that different groups of diseases give reactions in different areas on the surface of the abdomen serves to classify the disease. Location is effected by a complicated system, based on extensive experiments, and the use of movable electrodes, either on the subject or the patient.

Having assigned a "rate" to the disease the "oscilloclast" is used to try and dissipate it. This apparatus is stated to produce some form of electrical wave energy which can be regulated. The energy is applied to the patient by electrodes. Nothing is felt or seen or heard, but the theory is that waves of energy of the correct "vibration" can be made to upset the corresponding "vibrations" which have been assigned to the disease, and so dissipate it.

It has been found that drugs and other substances when placed in the diagnostic apparatus also give reactions to which definite numbers can be assigned, and it is suggested that they cure disease in the same manner as the oscilloclast.

The Committee referred to above achieved "impressive" results by these reactions in the identification tests between substances

which could and could not produce the Abrams reactions. So far their investigations have not been extended to people or diseases.

The oscilloclast looks rather like a wireless set. It was devised, not by Abrams, who was no electrician, but by radio experts at his request. Many false and needless circuits were deliberately introduced with the object, it is said, of preventing its exploitation and misuse. This has evoked much angry criticism from electricians who have examined it.

Public Man's Testimony

Hot controversy rages over the practical results achieved. An eminent public man, of unimpeachable veracity, who had admittedly been given three months to live by several eminent specialists, has signed a declaration that after a year's treatment by the Abrams method (as a last hope) the same specialists declared him free of the disease. He has now returned to take up his work again.

I have personally tested the reactions with my own hands, and found that "something does happen." Things occurred which could not be explained by any known laws either of science or magic. The operator could not explain them, and did not attempt to. No good purpose would have been served by deceiving me. This article was not contemplated at the time, and the reasons for my presence was the hope that certain electrical investigations of my own might coincide. They did not.

I have given merely the barest sketch of the theories and technique. The Committee have found that the phenomena are elusive. From their nature this is not surprising. Abrams' followers even have to work in subdued light for fear of upsetting the reactions. Dr. Boyd uses copper-gauze screens. The reactions, therefore, do not lend themselves readily to demonstration or test, as would a new type of wireless set.

In conclusion, "something does happen." It cannot be explained by known laws. But have we advanced sufficiently far in knowledge to be able to boast that there are no laws still beyond our ken?

(From the Morning Post, London, January 26, 1925)

LETTERS TO THE EDITOR

ABRAMS' BOX

Personal Knowledge of the Curative Element

TO THE EDITOR OF THE MORNING POST

SIR: With reference to Dr. Abrams' method of diagnosis and treatment of disease, great emphasis has been laid in some quarters on the statement that his discovery has no curative value.

I am not a scientist, and am quite ignorant of the technical details of the Box, but I have personal knowledge of the treatment in a number of cases, and there can be no doubt that the curative element is very strong. Since the Committee have reported that there is "something in it," we are thankfully able to dismiss the idea, if we ever had it, of faith and credulity, but we cannot do away with the really amazing results that already exist, and that are being added to every day. It is to be hoped, therefore, that experts, when investigating the Box, will not ignore the treatment that is going on.

Although other names have been given in connection with the matter, I have seen no mention of the pioneer of the treatment in England. He is a medical man of high repute, and since the medical profession can no longer say that he is under a great illusion, it would seem only British justice and fair play that he should be included in the body of experts that are dealing with the investigation. No one in this country has had so much experience of the Box and its effect as he. There are many, like myself, who are grateful to him, because they have the joy of restored health, either for themselves or their friends, thanks to his courage in bringing Abrams' invention to England.—Yours, etc.

(Rev.) F. R. DICKINSON.

St. Jude's Vicarage, Herne Hill.

(From the Morning Post, London, January 22, 1925)

LETTERS TO THE EDITOR

THE ABRAMS TREATMENT

TO THE EDITOR OF THE MORNING POST

SIR: As you are giving consideration to the Abrams treatment, you may possibly be interested to know that a year ago last August my son, then aged seven, was suffering from septic tonsils, which several eminent doctors declared required immediate removal. On the advice of friends he was taken to a qualified London doctor, who applied to him the electrotonic methods of Abrams. At the end of a fortnight the glands had become normal and the tonsils were no longer septic. Since that date he has had chicken-pox and at least one chill, but there has been no recurrence of the septic tonsils.—
Yours, Etc., H. WARNER ALLEN.
January 21.

(From Truth, London, February 4, 1925)

A COLUMBUS OF SCIENCE

A fortnight ago, in an article on "The Mystery Behind Abrams," a reference was made in these pages to something that Sir James Mackenzie had written on "the vital force." The public now knows—or has had the opportunity of knowing—a great deal more about Sir James Mackenzie than it did at that date. The most that was then generally known outside the profession was that Mackenzie had gained a world-wide reputation and revolutionized medical knowledge and practice by his discoveries about the action of the heart; that he had acquired a great practice in London as the leading specialist of the day on the diseases of that organ; and, finally, that a few years ago, when his reputation and professional success stood at their highest, he had suddenly thrown up his enviable practice and betaken himself to the work of a general practitioner at St. Andrews, where he had founded a clinical research institute. His deplorable death, a few days after the casual reference to his later work was made in these pages, has flooded the press with new light on his character and work, the most useful of it being, no doubt, from the pens of his professional brethren, who have paid admiring tributes to his intellect and achievements.

The Mackenzie thus revealed is something very much more than a successful specialist, acknowledged as the greatest living authority on his own subject. He is an original and profound thinker, an in-

defatigable explorer, one of those pioneers of science who set themselves in the right way to get at the true causes of familiar phenomena. In his early work as a general practitioner he laid the foundations of the discoveries which made him famous by patient and exhaustive study of his cases, springing from a conviction that accepted doctrine had no certain foundation. One gathers that his later experience as a specialist only served to deepen this conviction; that he became aware that he could advance no further by the observation and research possible within the limits of such practice; and that the eventual decision, which seemed to many eccentric or freakish, sprang from the conviction that it was necessary to revert to the conditions of his earlier practice in order to win the knowledge that he still wanted.

"It was the deepest conviction of this great physician," says one of the most appreciative of his biographers in the "Times," "that medicine is a science, separate and independent of all others, and not a mere compounding of physics, chemistry, and biology." In this conviction Mackenzie would necessarily appreciate before anything else that the foundations of the science must be well and truly laid. How natural, then, that we should find him at the end immersed in the study of "the vital force," and inculcating this study as the first condition of progress in his science! In the present day lack of faith in medicine as taught in the schools, though it has existed among the laity from time immemorial, is more conspicuous than it has ever been, partly because it is now to be observed in the medical profession itself, but also, no doubt, because it is in such evident contrast to the progress of science in other directions. We hear often enough of wonderful new discoveries from which great results are expected in the treatment of disease, but in a few years they generally become discredited and are superseded by something still newer. So the progress of "science" goes on, without any material reduction in the death-rate or the disease rates—unless from measures which are directed to prevention rather than cure. And side by side with such discoveries as are made new diseases make their appearance, often with serious results to the community, which the doctors are quite unable to deal with. Thus scoffers—journalistic or otherwise—are led to talk of "the bankruptcy of medicine."

But it has always seemed to me—and must, I suppose, seem to most people who give the matter much serious thought—that the fundamental phenomenon with which medicine is concerned is life itself, and that consequently, as long as the nature of life is treated as a mystery beyond human ken, medicine can only be an empirical art, largely governed by ancient tradition, guesswork, and rule of thumb. The basis of a genuine science of medicine seems lacking. So medical men who think seem to recognize, expressly or by implication, in all directions. It seems to have been the crowning work of Sir James Mackenzie's life that he not only recognized the fact but addressed himself to it with all the knowledge and skill at his

command. I quote the concluding words of the article which was referred to in "Truth" the other day ("A Preliminary Inquiry into the Nature of the Cell Impulse."—British Medical Journal, March 1, 1924).

Conclusion

While immense progress has been made in the knowledge of inorganic matter, little advance has been made in the knowledge of living matter beyond the accumulation of an enormous mass of reactions or end-results. The reason for the great progress in the one case was due to the recognition of the forces in Nature which produced effects upon inorganic matter. The reason for the lack of progress in respect of living matter has been the **absence of knowledge of a vital force comparable to those of gravity, electricity, and magnetism.**

The recognition of this vital force permits the same lines of investigation to be followed which has yielded such a rich harvest in the inorganic world. Although our attempts [I take this to refer to his own observations, some of which are recorded in the article—Ed.] have as yet achieved but a small measure of success, we see it needs but time and experience to obtain a great addition to our knowledge of both physiological and pathological processes, **which will enable us to understand the nature of ill-health.** Now that we see the interplay between the impulse cell, and recognize the effects produced, we realize how the absence of this kind of knowledge has rendered it impossible to explore such fields essential to medicine as the great system of afferent nerves and the processes and structures concerned in regulating the functions of organs.

Earlier in the article he had laid down that the "vital force" is not chemical or electrical, but one possessing peculiarities and properties of its own, and that it cannot be described correctly as "nerve force," the nerves being no more than conductors. The "Times" quotes from a letter written shortly before his death, in which, after pointing out that physiologists by artificial stimulation of an organ only obtain artificial results, "in striking contrast to the normal response," he boldly observes: "When this is realized the whole of the physiological interpretation of the functional activities of organs will have to be scrapped." So Mackenzie stood at the moment of his death—a heroic figure, a Columbus of science, looking upon an uncharted sea in perfect confidence of what lies beyond it; laying, at seventy years of age, the course for those who shall survive him and reach the goal.

Sir James Mackenzie came into my mind the other day when writing about the communication of the Horder Committee to the Royal Society of Medicine about the Electronic Reactions of Abrams. Sir Thomas Horder's remarks and the text of the communication itself are now published, and were to be seen in the leading medical journals for the week beginning on January 24. In their review of the Abrams' controversy the Committee make a passing allusion to "the sensibly non-committal articles in 'Truth.'" This encourages me to try again, and I hope I shall not commit myself seriously by confessing that I find it difficult to believe that the phenomena which Sir Thomas Horder and his colleagues have been investigating are unconnected with those regarded by Sir James Mackenzie as the rock on which true medical science ought to be built. Their report describes the appropriate tests which they have

applied, with great care and patience, to Boyd's emanometer. The tests were not uniformly successful, but sufficiently so to discount the element of chance—in one case virtually to eliminate it—and the results establish that within the limits of the tests, and with varying degrees of accuracy, the instrument really does work in the way claimed for it. It discriminated correctly between specimens submitted to it of the saliva of different members of the Committee; and between various inorganic substances presented to it in bottles under rigorous conditions to preclude the possibility of the operator knowing what they were; and so on. In doing all this it was not actuated by any known physical force intentionally introduced into it, but by some unknown force, generated apparently at one end of the appliance in a fragment of human saliva on a piece of filter-paper, or a fragment (apparently "homeopathic" in quantity) of inorganic matter enclosed in a bottle, and recognized at the other end by medical tests in the body of a human subject.

It is not to be inferred from these limited tests that this force—or "emanation," as Dr. Boyd calls it in the name of his instrument—is identical with the vital force which Sir James Mackenzie wanted to get to the bottom of. But the function of the human subject in the mechanism by which the emanometer gives its information, seems to imply that this force or emanation creates in the human subject just one of those "nerve impulses" which Mackenzie was talking about, and proceeds equally from organic and inorganic matter. This strikes me as very much worth thinking further about from the Mackenzie point of view, as expressed in his "Conclusion" quoted above, provided you think about it in the right way. If in return for their kind reference to "Truth" I might humbly offer the Committee a practical suggestion, it is that, with a view to thinking in the right way, it is desirable to keep the heresies of homoeopathy and the "unethical" behavior of electronic practitioners as much out of your mind as is humanly possible. Such topics seem to me as irrelevant to the business in hand as Charles the First's head in different connection. The human brain itself is a very delicate instrument, and may function erratically under an emotional impulse set up by some quite extraneous and perfectly trivial phenomenon.

(Editorial from Daily Express, London, January 17, 1925)

THE MAGIC BOX AND ITS SECRET

A MYSTERIOUS NEW ENERGY?

The Royal Society of Medicine yesterday received a report from an authoritative committee which had been investigating the much-talked-of "magic-box," the invention of the late Dr. Abrams, of America. **The verdict was that, simply put, there is something in it!** What that something is remains obscure, but the interesting and important fact is that, behind all the chicanery and exploitation to which such matters easily lend and have lent themselves, there is an unknown physical entity which remains for experiment and research. **We think that the men of science and of medicine who undertook this investigation deserve well of their fellows. It is so easy to condemn untried any new and surprising method of diagnosis or of treatment.** "Humbug—quackery—a mere money-making dodge," these are the epithets all too ready for application to any process in medicine or surgery which savours of the unorthodox. **It is well that some members of the profession show the true scientific attitiude of mind and are more ready to investigate than to decry.** This surely is the true attitude of science—that, while it takes nothing for granted, so also it regards nothing as too unlikely to be worth examination.

The extravagant assertions of wide and infallible diagnosis in connection with electronic reaction are shown to be utterly unjustifiable. But **the assertion that there is no such thing as electronic reaction is shown to be equally untenable. The committee find that there is such a thing,** though at present its nature is a mystery. That it has any relationship to disease, to diagnosis, or to treatment is at present entirely unproven. It may turn out to be a form of energy as useful as electricity. It may prove to be of purely scientific interest and of no practical value. We must await the result of further investigations, satisfied with the present knowledge that, although electronic reaction practice must rely on faith and credulity, **yet the reaction itself exists and demands further investigation.**

(Boldface type are ours)

(Excerpts from London Morning Post, January 17, 1925)

A VEXED MEDICAL QUESTION

WAS ABRAMS JUSTIFIED?

A Remarkable Report

Successful tests of reactions based on the principles discovered by the late Dr. Albert Abrams, were described by Sir Thomas Horder last night, when he read a preliminary report of a committee of investigation of doctors and independent scientists to a joint meeting of the Sections of Medicine and Electro-Therapeutics at the Royal Society of Medicine.

The "communication", as the report is termed, is couched in extremely cautious terms, and its publication was undertaken with hesitation. But after somewhat contemptuous reference to the work of Abrams, and the quotation of former attacks on him, it proceeds to the description of tests of the modified "reactions" devised by Dr. Boyd, of Glasgow, whose work owed its inception to Abrams.

* * * * * * * * * * * * * * * * *

The Committee appear to have confined their experiments to substances, and Abrams practitioners are, of course, principally concerned with people. It is not likely, therefore, they will pay any attention to the Committee's opinion of their work until its own investigations have been extended, and a further report made.

(The following is from a letter signed by J. H. Douglas Webster, which letter appeared in the Lancet, January 24, 1925.—Dr. Moore.)

"ELECTRONIC REACTIONS"

To the Editor of "The Lancet"

Sir,—I can only speak for myself, but I imagine that a number of other members of the Medical and Electro-Therapeutical Sections of the Royal Society of Medicine would agree with me that the communication of Sir Thomas Horder of Friday must certainly rank as one of the most extraordinary and tantalising communications that has ever been presented before a scientific society. As there was no time left for discussion, and discussion at a later date was not at present desired by those at the meeting, I can only hope that you, Sir, will allow a few comments through the columns of your journal.

Sir Thomas Horder disclaimed responsibility for the report except for a fifth share. But while on the one hand he emphatically declared for the final deposition as false gods of the oracular Abrams boxes, his acute diagnostic instinct might have warned him that the effect on the lay public and on "electronists" of the encouraging gesture he made on the other hand in disclosing the 100 percent accuracy of certain incompletely described physical tests with Dr. Boyd's modifications, would only be to confirm in the minds of many of the public the rightness of their view that there still "may be something" in the original Abrams boxes: and so, indeed, the "Morning Post" today (Saturday) interprets his Committee's Report.

(London Morning Post, January 31, 1925)

LETTERS TO THE EDITOR

THE ABRAMS TREATMENT

A Note of Warning

To the Editor of the Morning Post:

Sir,—From information received since my letter on the Abrams treatment in your issue of the 21st, I would like to sound a note of warning. Attempts are being made to pirate the discovery by the sale of imitations of the Abrams oscilloclast.

I am assured on good authority that these imitations cannot achieve the results of the original oscilloclast which was invented for Abrams by Hoffman, and that the secret has not been fathomed by British imitators. I warn the public and medical profession, therefore, that they need not expect successful results except from the genuine Abrams instruments. These should only be handled by qualified doctors, specially trained in their use, as ignorance of the instrument may involve some risk of injury to the patient. Hence this warning.

I am surprised to find that about twenty fully qualified men give the treatment in London, very unostentatiously, owing to the attacks that have been made on them. Doctors are timid, and the British Medical Association is a tyrannical body. I am not surprised at the scepticism of doctors, for I believe the treatment to be beyond their experience or imagination. But I would point out how disastrous it would be if this great invention were to fall into unqualified hands. There is a real risk of this unless the medical profession bestir themselves and look into the matter quickly, judging the Abrams system, not by the fact that it is novel and unorthodox, but by results. Let there be no further repetition of the history of Lister, who was mocked and jeered at by the medical magnates of his day.

The treatment can only be judged by results, and there are several platoons of us who can say: "Behold we that were sick are well."

Provision has been made for the treatment of those with small means, and there exists a place of treatment, where, I am assured, no patient who cannot afford to pay full fees is turned away for lack of them, though this department is run at a loss. I look forward to the day when the medical profession awake from the dogmatic slumber of their preconceptions and an Abrams ward will be in every hospital.—Yours, &c.,

F. A. MACQUISTEN.

69, Harrington-gardens, S.W. 5, Jan. 30.

(From the Montreal Daily Star, Montreal, Canada, January 17, 1925)

SCIENTISTS SAY THAT "MAGIC BOX" HAS SOME VALUE

Dr. Abrams' Electric Wave Energy Approved By British Investigators

NEW ENERGY

Has "Great Potentialities" Is Opinion Of Expert Probers

London, Jan. 17.—(Star Special Cable by J. E. Poole, Staff Correspondent)

British medicos have been startled by the announcement of a committee of physicists, psychologists, clinicians and electro-therapeutists headed by Sir Thomas Horder that the "Magic Box" of Dr. Abrams, the San Francisco physician, instead of being a fraud or a failure, as leading physicians have earlier termed it, had, in the words of Dr. Horder, "great potentialities."

The findings were: "Certain substances when placed in proper relation to the emanometer of Dr. Boyd produce beyond reasonable doubt changes in the abdominal wall which can be detected by percussion." The committee was unable to determine the kind of energy developed by Dr. Abrams.

(An Editorial from the Progress-Index, Petersburg, Va., October 29, 1924.)

A BROAD-MINDED DOCTOR

Dr. Hans Zinssner, professor of bacteriology at the Harvard Medical School, spoke with remarkable frankness regarding the practice of medicine in an address at the Massachusetts General Hospital a few evenings ago. In discussing therapeutic methods other than those recognized by the regular school of medicine, Dr. Zinssner evinced a breadth of view not always manifested by medical practitioners of the so-called "regular" school. He urged that it be not forgotten "that none of these . . . would last more than a few years were it not for two things—one that there is still a great deal of empiricism and not a little that is absurd in the ordinary practice of our own profession (to say nothing of conscious insincerity); the other that these faith cures and layings on of hands sometimes succeed where we fail."

It may be that doctors as a rule are broader-minded than once they were, when the war between allopathy on the one side and all other "opathies" on the other was constant. Much the patient cared or cares about the particular school of medicine to which his doctor belongs. The sole hope and prayer of the sick man is that he may be made well and whether this be accomplished through application of the principles and methods of allopathy, homeopathy or by use of the electronic reactions of Abrams is a matter of complete indifference to him.

(Wm. Foster Elliott in San Francisco Daily Herald, February 25, 1925)

NATURE LOVER AT ORPHEUM

Charles Kellogg, the "nature singer," who is featured this week at the Orpheum, predicts that the time will come when destructive fires will be controlled by means of vibration, exactly as he controls his gas flames on the stage.

Those who have seen Kellogg's act will recall that he puts out a large gas flame burning in a glass tube by merely singing a note of the right pitch. "Pitch," says Kellogg, "is everything, and everything has its particular pitch. This room, for example, as I shall show you." He sang a few notes up and down the scale until he struck one somewhere near that of the open G string on a violin. Immediately the small dressing room hummed like a top.

"It is easy to find that pitch," continued Kellogg. "Some are harder. But the pitch of any room or building can be found by experiment and recorded. Then in case of a fire in such a room or building it would only be necessary to sound a note of the determined pitch to control the fire."

DR. STOUT DIES OF X-RAY BURNS; ILL 20 YEARS

Physician Victim to Passion for Scientific Research—Operation Failed to Check Infection of Hand

(It was with great sorrow that we observed Dr. Stout gradually slipping out of life and realized he could not recover. Dr. Stout stood at the very top of the E.R.A. profession and held the devoted friendship and high personal regard of Albert Abrams. He was generally loved and admired and will be greatly missed from our future conventions. We extend our deepest sympathy to Mrs. Stout. I have received several letters from Dr. J. W. King, with whom Dr. Stout first took up the study of E.R.A., paying him homage and expressing regret over his passing. Dr. H. E. Palmer, who was a close friend and co-worker, wrote the following splendid lines for our Journal.—Dr. Moore.)

Burns received in X-Ray work more than twenty years ago were responsible for the death of Dr. Carey A. Stout, 49 years old, at his home, 513 Valley View Avenue, Kennedy Heights, Cinncinnati, Ohio, Thursday, January 22, 1925, at 8:30 P.M.

Dr. Stout, who was considered one of the pioneers in the use of the X-Ray, was burned severely on the hands while experimenting with the Rontgen discovery in 1902. As a result his nervous system was seriously affected and he was subject to frequent attacks of illness. The last attack occurred in April, 1924, and weakened the physician to such an extent that death became inevitable.

An effort to check the ravaging effects of the burns was made through an operation on his hands. For a while his condition showed a slight improvement, but he soon suffered a relapse, from which he never rallied.

The above account of the passing on of our Dr. Stout tells in brief the cause of his untimely death. We say untimely, because we realize how much the world needs just such men as he, and he was a comparatively young man still. His winsome, kindly personality won for him hosts of friends, where ever his work carried him, and added to this was his keen clear insight into the duties of his profession, and his understanding of the Scientific research of the day.

ERA has lost one of its best loved and loyal followers. Early in the history of our Society, Dr. Stout saw the unlimited possibilities of the work and entered the field enthuiastically. He took his first course in ERA of Dr. J. W. King, of Bradford, Pa., then he made several pilgrimages to San Francisco to learn at the fountain head all that he could. He was a familiar figure on the floor of our Convention halls, always actively participating in plans to forward our great work. His loss is an irreparable one, not only to us, but to his work in his home city. For many years, Dr. Stout maintained offices in the Norfolk Bldg., in Cinncinnati, and leaves a large number of patrons who grieve with us today over the passing

of the generous, large-hearted man whose help and friendship meant so much to those who knew him.

Truly "a great man has fallen in Israel" and
"'Tis hard to part when friends are dear,
And it will cost a sigh, a tear,
But say not 'good night' but in some brighter clime
Bid us 'good morning'."

DR. JOHN S. RYDELL

October 17, 1865--November 11, 1924

(The sudden death of Dr. Rydell was a great shock to his countless friends. His was a staunch character. Hr was a man of sympathy, keen observation, decision and action. An incident revealing his true nature occurred at the McManis E.R.A. Post Graduate Course last May. Dr. Burnett was making a plea for subscriptions to the Abrams' Defense Perpetuation Fund. After the meeting was over, without any ostentation Dr. Rydell came to me quietly and handed me a check for $150 toward this fund. The following laudation is from the pen of Dr. Orrol L. Harper of St. Paul, Minnesota.—Dr. Moore.)

Another one of our faithful Electronists has gone to join the concourse of "Unseen Helpers."

John Standard Rydell, M.D., D.O., of 1700 Third Avenue, So. Minneapolis, Minn., was suddenly taken out of this world on the 11th of November, 1924.

The cement roof of the new garage Dr. Rydell was having built on his farm, a few miles out of Minneapolis, caved in as the props were removed. The Doctor, beneath it, was killed instantly. He was evidently not conscious of being struck. His pipe was still in his mouth, and a look of contented interest animated his face. Death found him as all acquaintances have known him for years—a man of action.

Dr. Rydell was born in Sweden, October 17, 1865. At the age of twenty he came to America.

In 1906 he graduated from the S. S. Still College of Osteopathy at Des Moines, Iowa. Later a medical course was taken by him in a California College.

For eighteen years Dr. Rydell was the head of his own private hospital in Minneapolis, where he specialized in Osteopathy and the milk diet.

Since January, 1922, when the Doctor studied Electronic Medicine under Dr. Albert Abrams of San Francisco, he had grown into one of the most sincere, painstaking, enthusiastic and successful Electronists in the country.

Dr. Rydell's chief joy in life was service to his fellowmen. He was constantly training, teaching, treating someone who needed help. Very often his only compensation was his joy of accomplishment. Many a man who was down and out physically and financially owes his life and success to Dr. Rydell's generous care.

He was progressive, sincere, alert—always trying to increase his own knowledge for the use he could make of it in helping others.

"Careless their merits or their faults to scan,
His pity gave ere charity began.
Thus to relieve the wretched was his pride,
And even his failings leaned to virtue's side."

Dr. Rydell leaves to mourn his loss a wife, Alice Rydell, a sister, Dr. Hilma Rydell, four grown children, and two minor children, a host of patients and a world of friends.

"His life was gentle, and the elements
So mixed in him, that nature might stand up
And say to all the world, THIS WAS A MAN!"

A SOUTH AMERICAN FRIEND

Dr. Francisco Valiente of Burranquilla, Colombia, has been a champion for the cause of E. R. A. for some years, and we wish to call attention to missionary work he has been doing with his pen.

Doctor Valiente has written in all thirty-eight articles, a number of which were in defense of E. R. A. Many of his articles have reached distant points in South America. He has recently published a book in Spanish containing many of his articles.

Dr. Nestor Valiente, a son, took his E. R. A. training under Dr. J. W. King at Bradford, Pennsylvania.

MIDDLE STATES SOCIETY OF ELECTRONIC MEDICINE ANNUAL CONVENTION

May 19, 20, 21, 1925

The Middle States Society of Electronic Medicine will present its annual Convention and Post-Graduate Lectures and Demonstrations in Des Moines, Iowa (Savery Hotel III), Tuesday, Wednesday and Thursday, May 19th, 20th and 21st. The whole mezzanine floor has been reserved for the occasion, giving a large assembly room, plenty of space for exhibits, committee rooms, etc.

We have planned for a large reception, banquet and ball at the hotel the evening of May 20th. The Chamber of Commerce of Des Moines and every Electronist in the State of Iowa are back of us to make this the best Convention ever. The same standards of excellence in all departments will be maintained as in the three previous Middle States Conventions.

Every Electronist with a known address will be invited. You will **not** be required to join the Middle States Society before being admitted to its sessions. The only charge will be a small registration fee of $3.00. Wives, nurses and assistants will be admitted free.

Exhibitors are already reserving spaces. The Exhibits will be an education in Electronic History.

Several personal courses are being arranged to be held during convention week. This will give opportunity for personal or class Post-Graduate instruction for all who desire to combine it with the Convention.

The program is fast being completed. The best men in the Electronic World will be included. Begin now to make your plans to attend.

If you have any suggestions to offer which will make this Convention a greater success, we will be glad to receive them.

MIDDLE STATES SOCIETY OF ELECTRONIC MEDICINE,
H. J. Marshall, Secretary.

REPORT FROM EASTERN ELECTRONIC RESEARCH ASSOCIATION

The regular annual meeting of the Eastern Electronic Research Association was held Saturday afternoon and evening, January 24, 1925, at the Waldorf Astoria Hotel, New York, Dr. Charles H. Whitcomb, presiding.

Physicians interested in the "Electronic Reactions of Abrams" from all over the country were in attendance. Dr. J. V. McManis, Kirksville, Mo., and President of the Kirksville College of Electronic Medicine, discussed the experiments with the Electro-Cardiograph which had timed, weighed, and measured the energy emanating from the Oscilloclast, scientifically and definitely proving that such energy is delivered by the "so-called Abrams magic box." Many sworn affidavits were also presented showing that the Electronic Reactions of Abrams have cured Cancer, Tuberculosis, Blood diseases and many other chronic conditions. Dr. McManis also brought out the fact that the cause of the recent epidemic of hiccoughs in the West was discovered by diagnosis from a few drops of blood, according to the theories of the late Dr. Abrams and that

these findings were later verified by the Mayo Bros.' laboratories of Rochester, Minn. It was stated that as soon as Dr. Abrams' critics became more familiar with advanced Physics and the present electronic concept, that diagnosis of disease is possible from a few drops of blood by tuning into its radiations of energy, and treatment to bring about an adjustment of the disturbed electronic activity within the cell helps to cure disease, it would be accepted more readily and will be recognized as one of the greatest discoveries of all time to help suffering humanity.

Dr. Francis A. Cave, of Boston, President of the American Electronic Research Association, informed the delegates that Dr. Abrams' researches and work was to go on in San Francisco, as he had provided for in his will, and according to his dying wish. The settlement of college litigation and claims is now about complete, leaving available a considerable sum for the perpetuation of the work to which he had devoted his life.

Dr. J. C. Burnett and his assistant, Mr. Hallberg, a scientist of the Burnett-Timken Laboratories, Alpine, N. J., stated that their findings absolutely proved that energy according to Abrams' contentions was delivered by the Oscilloclast and that no doubt the fact that it was a new form of energy, and little understood, was the reason that so-called scientific investigators had failed to detect it.

Dr. J. V. Hillman, of New York, discussed the recent news report that a body of scientists representing the Royal Academy of Medicine of London, among whom was the physician to the Prince of Wales, had found "Something new and wonderful" in their investigations of Dr. Abrams' methods. He further stated "that it seemed strange and was more or less a reflection on American thoroness and fairness that such a wonderful discovery was made here, condemned with such haste without a fair hearing and had to be finally taken up in Europe by scientists there before the real value of the work was found." Continuing, he said: "This fact is especially hard to understand when one finds that most of our popular scientific journals are full of articles on the treatment of disease by radio-activity."

Officers of the Association for the ensuing year are: Dr. Albert J. Molyneux, Jersey City, N. J., President; Dr. D. A. Dobie, New York, N. Y., Vice-President; Dr. Alexander Smith, New York, N. Y., Secretary; Dr. George R. Jordy, Brooklyn, N. Y., Treasurer; Dr. Chas. H. Whitcomb, Brooklyn, N. Y., Dr. F. E. Keefer, South Orange, N. J., and Dr. Sydney E. Smith, Woodhaven, N. Y., Trustees.

The next meeting of the Association will be held the latter part of March and noted physicists and scientists will demonstrate for the members the latest discoveries regarding electronic activity and electro-magnetic influences.

(Signed) Albert J. Molyneux, Retiring Secretary.

COMMITTEE ON LEGISLATION AND DEFENSE

Dr. H. J. Marshall, Chairman **Henry E. Sampson, Special Counsel**
Merle Houts, Secretary

2141 Grand Avenue, Des Moines, Iowa

Someone has remarked that the first one hundred years of one's life are the hardest. So might it be said concerning the early period during which a new idea in diagnosis and treatment is being established. These are days of conflict for ERA, and we must expect attacks from our powerful opponents in varied form and at most strategic points. We must be united and ready for effective defense.

There being no organization to perform this essential service, the American Electronic Research Association, just a year ago, created the Committee on Legislation and Defense, which Committee promptly organized by employing a Secretary, retaining Special Counsel and establishing general offices.

Much has been accomplished, not to mention Meetings, Conventions, Briefing of Cases, Collection of Newspaper Clippings, Collection and Filing of Magazines (weekly, monthly and quarterly) and other publications, Obtaining, Filing and Card-Indexing of Testimonies of cured and benefited patients, etc. This all takes time, work and money.

Advise us promptly as to all ERA developments in your community.

(From the World, New York, Saturday, January 24, 1925)

SCIENTISTS PLANT HUGE TELESCOPE ON PALISADES EDGE TO SEE ECLIPSE

Two steps from the edge of the Palisades and a sheer drop of 550 feet to the west bank of the Hudson, the biggest portable equatorial telescope that the famous Cal Zeiss of Germany makes was set up yesterday and pointed at the sky where the moon is to cross before the face of the sun.

The telescope was erected on the seventy-five acre place of Dr. J. C. Burnett of Alpine, N. J., where he has a laboratory of unique design and equipment for the study of electronic phenomena and fifteen other buildings, so picturesque that they have attracted nation-wide attention.

Dr. Burnett heads a group of scientists who will photograph the eclipse this morning and observe its effect. They are particularly interested in learning if the sun emanates energy and is therefore de-

pleting itself or if it absorbs energy which it radiates and therefore is adding to itself.

J. H. Hallberg, an electrical engineer associated with Dr. Burnett in the Burnett-Timken Research Laboratory, will assist in the observations. Dr. Heinz Rosenberger, lately of Berlin, who has been making motion pictures of atomic life for Dr. Alexis Carrell and the Rockefeller Institute, will be in charge of the photography. Prof. J. R. Gardner and Mauritz Larsson, electrical engineers, will participate in the observations.

"There is a theory that the wave lengths of various planets have an effect upon life," said Dr. Burnett yesterday. "If that is true the reaction must be chemical and might be duplicated, to the benefit of mankind. We will have an extraordinary opportunity to study the sun's corona at right angles and measure wave-lengths of different parts of that corona.

"One thing we certainly will be able to determine, and that is, does the blanket of the moon stop only the visible wave-lengths of the sun, or will it stop also the ultra-violet and infra-red rays?"

Four years ago Dr. Burnett married the then Miss Cora B. Timken of the family that made great wealth out of roller bearings. She has been interested in art and in philanthropy, with the result that together they evolved the plan which brought into being their huge laboratory, which, Dr. Burnett says, is for the scientific and disinterested study of electronic force.

THE ERIE, PENNSYLVANIA SITUATION

A number of clippings have reached the JOURNAL office bearing on a persistent attack by one Dr. John A. Darrow in his effort to show there is nothing in E. R. A. The word from London scientists that the Electronic Reactions of Abrams really exist does not seem to lessen his perseverence in attracting attention to E. R. A.

If the Erie papers would publish some of the British reports in this JOURNAL it would show that Dr. Darrow's efforts are decidedly misplaced.

In the midst of such experiences E. R. A. physicians believing in the great truth underlying E. R. A. must use the best of judgment in meeting the situation. Only such action is indicated as all might agree upon after advising with the officers of the American Electronic Research Association. It occurs to us that no one E. R. A. physician should assume the responsibility of issuing a defi to Dr. Darrow and offer to submit to tests. While, under the circumstances, one might be successful, should he not satisfy the detractors of E. R. A. he alone would not be the sufferer, but E. R. A. as a whole would be condemned.

Various E. R. A. laboratories are making splendid progress, and if any tests are to be submitted the organized E. R. A. profession through its officers and duly appointed committee should decide the matter and direct the conditions and circumstances under which such tests are carried out.

We also wish to emphasize that Dr. Abrams constantly urged his physician students not to dabble with photographs and handwriting, but only to use blood specimens absolutely uncontaminated, also to avoid those things which are sensational, such as looking for the age, race, etc., and to hold strictly to fundamentals. The fact that Dr. Abrams experimented along these lines is thrown in ridicule at E. R. A. whenever the subject is discussed by the press. As a discoverer and researcher over a period of many, many years Dr. Abrams naturally sought every evidence the blood might reveal to him. Unfortunately ,some of this research work was done in the presence of physician students, and although he cautioned them to leave these things out of their work, there are a few E. R. A. physicians who jeopardize the really worth-while things accomplished by E. R. A. by indulging in this pastime. Let us keep our feet on the ground and hold to fundamentals, and let each E. R. A. physician remember that the individual doctor and his confidence in what he can do is not the thing to be considered. Only that which is for the welfare of E. R. A. as a whole really counts.

FRED E. MOORE, President.

FLAGRANT MISREPRESENTATION

Foes to E.R.A. Progress Fore and Aft

(E.R.A. has had an up-hill fight. On the one hand are prejudiced physicians and those doctors who because they have not really investigated E.R.A. have taken an attitude of opposition to its development. On the other hand are the imitators, and those who are unable to gain access to the Abrams' Colleges due to the fact that Dr. Abrams specified that only those having the degree of M.D., D.O. or D.D.S. were eligible to his course. Still we find many who have never had the Abrams' training, flagrantly posing as duly qualified E.R.A. practitioners. Furthermore, they indulge in gross misrepresentation to the public in advertisements which feature the name of Albert Abrams and his work. The public is a great sufferer thereby and E.R.A. is thus condemned unjustly. After the settlements of College litigation at the approaching meeting of the Board of Trustees have been consummated we expect to give some concerted attention to these more flagrant instances. I submit the following letter as bearing upon a brazen example of this nature.—Dr. Moore.)

February 6, 1925

Drs. J. A. and Rose Kieferle,
316 Owl Building, San Diego, Cal.

Dear Doctors:

My attention has been called to your advertisement appearing in the San Diego papers in which you advertise yourselves as using the Abrams' instruments, which leads the reader to believe that you are Abrams-trained physicians. You may not realize that this is a gross misrepresentation, as Doctor Abrams announced in his Journal and in his will that only M.D.'s and D.O.'s had access to his College course, and the use of his instruments.

I note a flagrant misrepresentation in the last paragraph of your advertisement which reads: "We are the only ones in San Diego possessing Dr. Abrams' secret of diagnosing without a human reagent." The fact is that Dr. Abrams always used a human reagent in diagnosing. You capitalize the name of Dr. Abrams throughout your advertisement, and in misleading the public by the misrepresentations in connection with same you hold yourselves liable for obtaining money under false pretenses.

This is to notify you to remove all reference to Dr. Abrams and his work from your advertisement.

Hoping that you may see the nature of your offense, and that this letter will be sufficient to correct the matter, I am

Very truly,

(Signed) FRED E. MOORE,
President.

CLINICAL LECTURES OF DR. ALBERT ABRAMS

(These valuable lectures by Doctor Abrams should be prized beyond measure by every ERA physician. As stated in previous journals, they have never before been published, and from month to month we will continue to give Doctor Abrams' words of wisdom as well as his general comments just as he expressed them while working with his patients in the Clinic. How fortunate it is that during the last year of his life his efficient Clinic Secretary recorded his spoken words upon the Stenotype. In future years when ERA comes into its own, Doctor Abrams' Clinical Lectures and his other writings will be eagerly sought by those physicians who have finally come into accord with the basic principles underlying Doctor Abrams' discovery. So I urge all those who possess the Journals to keep these files as prized possessions. The time will come when physicians will strive to secure these publications of Doctor Abrams' writings, and the supply of Journals which we hold in reserve can not be expected to meet the demand for back numbers. From this time forward we plan to present monthly these unpublished lectures until we have completed same.—Doctor Moore.)

Doctor Abrams: Good morning, gentlemen. You know I can not waste much time on being courteous. How are his reactions? Have you concussed him, Doctor? Good. Give me the first specimen. Finish the mail specimens first. Be careful how you handle that specimen. All right. Where is the history?

Strep. Infection, Right Antrum, Affecting Heart—Reaction over Feet—

"Married woman, age 38 years. Several attacks of rheumatism since 17 years of age. Mitral murmur present. Pulse, temperature and respiration normal. Pain in calf of leg, forearm and scapular region. Greatest soreness in arches of both feet after sitting quiet and trying to walk. Arch supports give no relief. No flat foot. Headache across eyes. Soreness and cramping first day of menses. Miscarriage 18 years ago." Set it at 49, Doctor. It is human blood, female reaction. Look for Carcinoma, 50. No reaction. Try Sarcoma, 58; negative. Now set it at 42 for Tuberculosis. There is no reaction. Go over it carefully. Try 60 for Strep. **The reaction for Strep. is present.** Do you all hear it? Where is it located? In the sinus. Always think of Fallopian tubes in a woman; negative. Try the appendix; nothing. We will see if there is any Strep. in the teeth or gall-bladder; negative. Set it at 55, Doctor. We haven't looked for that yet. It isn't there. Now try 57, Congenital.

CLINICAL LECTURES OF DR. ALBERT ABRAMS

Yes, **Congenital D. R. is present.** Do you all hear it? What does it measure? Are you ready, Doctor? Stop. What is it. Congenital measures 37 ohms. Now, let us see if there is any Strep. reaction over the heart. She has a mitral murmur. Hurry up, Doctor. Use the metal plate. Are you ready? Yes, **Strep. is present over the heart. Now go over the arches of the feet. Strep. is also present there over the arches; it is very marked.** Where is it from. It is of sinus origin. Go over the sinuses. Stop. **Strep. is present in the right antrum.** Write to the Doctor: "Reaction of Strep. from right antrum. This reaction also is discoverable over both arches and heart. Treat the heart, arches and source of infection at rates 2 and 4."

Hemeplegia—Acquired D. R.—
Strep. of Heart of Sinus Origin—

There is a gentleman waiting for a re-examination. Give me that next. Open the door, please, and give me the history. "Man, age 56 years. In 1912 got first attack of hemeplegia. Right side paralyzed. Another attack in 1915; more severe than first one. Always had high blood pressure; does not recall how much. Has improved slightly up till now but seems to be at a standstill at present time. No Wassermann ever taken. Pain in sacroiliac region. First examination: April 6, 1923; **Acquired D. R.; 39 ohms.** April 23; Acquired D. R., Cryptogenic; 0/25 ohm. April 30; Cryptogenic D. R.; negative. **Strep.; present; left antrum and heart of sinus origin.** May 14; Cryptogenic D. R.; negative. Strep; present; both feet, of sinus origin, both antra. May 28; Cryptogenic D. R.; negative. **Strep.; present. The functional activity of the heart measures 3/25 ohm for right ventricle and 1/25 ohm for the left ventricle."** What is to-day's report? "Swelling of legs very much improved; some slight amount remaining. General condition greatly inproved. Due to stooping posture, he complains of slight pain in back." Close the door, please. Light interferes with these reactions. Now look for Cryptogenic D. R. Set it at 55 and 45, Doctor. There is no reaction. That seems to be all cleared up. Look for Strep., 60. No reaction. All right. Everything is negative. Have him come back in a month for another examination. It is a wise thing to have your patients return in a month or so for re-examination in order to check up on

their condition. There is much about these reactions that we do not understand as yet. Sometimes the reactions are apparently negative and then they will return without any known cause. It may be negligence on the part of the diagnostician or it may be that some interference takes place, negativing or masking the reactions. This will all be discovered in time, but meanwhile you should keep track of the condition of your patients and see that the reactions remain negative.

Neisserian and Syphilis—

There is a new patient. Give me the history. The subject's reactions are not very good. What in the world have you been doing? Did you have an Italian dinner last night? Massage his abdomen, doctor, and see if that will help. Where is the card? "No. 244. Man. Constipated. Lacks vitality; loss of pep; depressed. Burning in epigastrium. Choking sensation in throat due to hyperacidity." In these cases we look for one thing—Syphilis. It is strange, but we usually find it. We find it very frequently without any history. Fournier said that 50 per cent. of the cases coming to him gave no history of inoculation. Why this frequency of syphilis? I sought to find out. The world does not recognize Neisserian as Syphilis. People with Neisserian, which is very common, may have Syphilis. I thought my observations were all wrong until one of my students, Doctor Jarvis, who is a genius at the microscope, told me that he had found spirochetes in cases of Neisserian. Nature is very peculiar. She is not lavish. Many germs are species. There are many races in this world, but they are all men. There are many varieties of this particular thing. Fundamentally they are the same. In chemistry, everything is a variation of hydrogen. Instead of having 93 elements, we will have only one. Here we study process, not structure. In medicine heretofore we have studied structure and not process. Now, let us see what we find in this case. Set it at 49, Doctor, for human blood. Yes, it is human blood, male reaction. Look for Carcinoma, 50. **Carcinoma is present.** Where is it? Digestive; small intestines. You can see the pallor around the umbilicus. It is non-metastatic, fortunately. How much does it measure? Stop. Check up again. Carcinoma measures 8 ohms. Now, see if there is any 55; negative. We are sure to find Congenital or otherwise there would be no

CLINICAL LECTURES OF DR. ALBERT ABRAMS

Carcinoma reaction. Yes, Congenital is present. What does it measure? Stop. Check it up again. Correct. Congenital D. R. measures 39 ohms. The patient is to be referred to another doctor. Write to the Doctor as follows and send copy of report: "We are not searching further until you get rid of Congenital D. R. and Carcinoma." Now, gentlemen, you can have a recess for a few moments and smoke; I know you are all anxious to do that. I am the only one privileged to smoke during working hours in the Clinic; but I do all the work, so I am entitled to some special privileges.

Acquired D. R.—Relief of Pain—

Improvement in Walking—

How are your reactions? They are usually worse after a rest. Hurry up; we must get to work. Let me try them out. They are not bad. What is the next case? It is a re-examination. All right. Give me the history, please. "No. 102. Married man; age 47 years; 7 children, 4 boys, 3 girls. History of malaria 20 years ago followed by pain in knees and then throughout entire body. Positive Romberg. Denies chancre but had Neisserian. Had gastric crises about two months ago with history of constriction around waist and vomiting. Re-educational exercises have helped him greatly. First examination; April 26, 1923; **Carcinoma ;1 ohm; digestive. Acquired D. R.; 39 ohms; cerebrospinal.** May 8; Acquired D. R.; 17 ohms. May 15; Cryptogenic D. R.; present. May 23; Crypotgenic D. R.; 9/25 ohm." Where is to-day's report? I want it sent in with the blood specimen. All right; I see they have done so and therefore I can not jump on anybody. "Feeling very much improved. Perspires at night. Impaired hearing bothers him greatly." One month ago report was: "Excruciating pains over entire body, worse over left upper extremity. Can not sleep on account of this pain. Has had it for three days and nights." Let us see what treatment he has been having. "Treatment: Rate 3 over area on spine and S. S. 3." Is the blood in? Set it at 45 and 55 for Cryptogenic D. R.; negative. (Patient comes in. His wife says he walks much better.) Yes, I can see that he walks very much better. (To the wife). How does he seem?

Patient's Wife: He has improved a great deal this last ten days.

Doctor Abrams: That is good. Go over the spine for 55. Set it at 55, Doctor. Don't let me know where you are. I get no reaction. He has been relieved of those severe pains, which is good. He complains about his hearing. See if there is any reaction of Strep. over his ears. Don't let me know where you are. Stop. Where is it? Strep. present in right ear. Now, try the left ear. Stop. No reaction of Strep. present in left ear. (Wife says the left ear is better than the right). Treat the right ear at rate 2; also rate 4. He is to leave in a week, so we will treat him during that time. All right, my good friend, that is fine. Keep right on and don't give up. Next.

Rash on Face—Tuberculosis of Skin—
Relief of Symptoms—

Another re-examination. Do you think I have nothing else to do? All right; it has to be done, but this work gets very monotonous. Open the door, please, while I read the history. "No. 180. Woman; age 58 years; married. About 7 years ago patient noticed rash on skin. Has been treated by all kinds of skin specialists with no results. Condition slightly aggravated; spread to upper lips. Used X-rays and lotions." To-day's report: "Skin condition improved marvellously. Has not had skin in such good condition for years. Has had 15 treatments. Very much pleased with condition." What we found was Tuberculosis of the skin. This is a common condition but is often unrecognized. Ordinary methods can not detect it as do these reactions. We have had quite remarkable results in clearing up cases that have resisted all other methods of treatment. **At the first examination we found Congenital D. R.; 30 ohms plus. Tuberculosis; 1 ohm plus; skin.** Treatment: Rate 5 to face, two cords; rate 3 to face; one cord. Gamboge on cloth worn as a mask on face during night." Set it at 42, Doctor, and we will see if there is any Tuberculosis. **Reaction of Tuberculosis; 0/25 ohm.** (Patient comes in). Your face is much better, isn't it?

Patient: Yes, very much better. I have had it for 7 years and could get no relief.

Doctor Abrams: Do you wear a mask of gamboge every night?

Patient: No, not every night.

Doctor Abrams: Set the instrument at 42, Doctor, and go over every spot on the face. Don't let me know where you are. Stop. I get the reaction. Check up again. You see, as soon as he arrives at that spot I get the reaction. There is still a little bit there. Continue treatment as before. It will not take long if it goes along as rapidly as it has. You can paint the face with gamboge if you like. Your general health is better?

Patient: Yes, I feel fine.

Acquired D. R.—
Involvement of Dorsalis Pedis Artery—

Give me the next case. There is a new patient there. "No. 245. Man. About two months ago, following influenza, developed pain in great toe of right foot with signs of inflammation. Had to go to bed for 25 days. Same thing started in other foot. Wassermann triple positive. Had five salvarsans, the last one three months ago. No pain in foot but congestion of large veins in right foot with slight redness around it." 49, Doctor. All right; male reaction. Carcinoma, 50; no reaction. Try Sarcoma; negative. Look for 55. Acquired D. R.; present. Check up on that and be sure. We have five different reactions, so you have a number of ways of checking up. What does it measure? Stop. **Acquired D. R.; present; 35 ohms.** Have patient come in. (Patient comes in). Expose the spot, please. Many of these cases are due to involvement of the dorsalis pedis artery. In such cases you find an absence of the arterial pulse. There is very little pulse to be felt here. Go over the foot with the pointed electrode. As soon as you get to the artery, you get the reaction of Acquired D. R. It is an arterial condition. Go away and come toward it again. Correct. General treatment and local at rate 3 over both dorsalis pedis arteries. He is to be referred to another doctor. All right, my man. Don't get discouraged; we find a certain condition there and you should get relief.

Determining Functional Activity of Thyroid—
Treatment for Hyperthyroidism—

Next case. There is another new patient. "No. 246. Woman. Has had palpitation of the heart for the past 16 years; at times so

severe that she can not sleep at night. No visible thyroid. No tremor. Extremely nervous. Occasional pains in lumbar region. No loss in weight." You can measure the functional activity of the thyroid by these reactions. The normal is from 1/25 to 5/25 of an ohm. In hyperthyroidism it may measure 5 ohms. 49; female reaction. Set it at 50, Doctor, for Carcinoma; no reaction. Try Sarcoma; negative. We will run the gamut. Look for Tuberculosis; 42; negative. Try 60 for Strep. It is present. Where is it? Sinus and left tonsillar region. Look for 55. No, there is no Acquired D. R. Set it at 57 for Congenital. What does it measure? Congenital D. R.; 31 ohms. Have her come in. (Patient comes in). You have palpitation of the heart.?

Patient: Yes.

Doctor Abrams: Any enlargement of the thyroid?

Patient: No.

Doctor Abrams: Let me listen to the heart. There is no murmur. She is very nervous. We are going to examine the thyroid gland. The Vibratory Rate is 6. Take the E. D. reaction. Measure it. Hold the electrode over the thyroid, Doctor. Stop. Check up again. The thyroid measures 22/25 of an ohm. There is a condition of hyperthyroidism there. She is to have the 7th cervical and 2nd dorsal vertebrae concussed several times a day at home. She is to have general treatment. You are perfectly well otherwise, little lady, and you will find this gives you relief. That is all; that did not make you nervous, did it? (Patient goes out). The treatment of hyperthyroidism is to concuss the 7th cervical and 2nd dorsal several times a day and general treatment for Congenital, which is always present. Be very careful to mark the spines correctly. Next case. We will have to hurry or we will never get done to-day.

Involvement of Joints—
Determining Focal Infection—

This is another new patient. "No. 247. Man, age 45 years; unmarried. Gonorrhea 10 years ago which was not treated properly then. Pain in lower back and joints of fingers of left hand. Servant of his had syphilis. Patient says some of his private articles

were used by this servant. Tires easily. Lack of pep." 49; male reaction. His reactions are not very good. Give me the rod. Where is my cotton? You know I always need that when I use the rod. All right, here it is, thank you. You have to heat the rod in the flame and wipe the abdomen dry. We first look for 50, Carcinoma; negative. Is there any Sarcoma; no reaction. Set it at 42, Doctor. Hurry up. There is no Tuberculosis. He is anxious about Syphilis. Look for Acquired D. R.; there is no reaction. Now set it at 57 for Congenital. You see I get the reaction at once. What does it measure? Congenital D. R.; present; 32 ohms. Is there any Strep? Yes, where is it? In right tonsillar region. Look for Neisserian, 52. It is present. Where is it? **Neisserian is present in the prostate.** Have the patient come in. (Patient comes in). This gentleman has implication of the finger joints. We want to find the cause. We want to find the focal infection. Unless you trace these things to their origin, you get no results from treatment. These reactions are purely an electrostatic phenomenon. That is why you get sticking of the rod Give me the E. D. reaction for Neisserian. Go over the prostate. Reaction of Neisserian is present. Now take a reaction from worst involved joint and see if it is of the same nature. No, the reaction over the joint of finger is not of the same nature. Now, go over the joint for Strep. reaction. Yes, I get the reaction of Strep. over that joint. Where is it from? It is of right tonsillar origin. **Treatment:** Massage of prostate every other day and treatment of right tonsillar region at rates 2 and 4. Use rate 4 at prostate. No general treatment necessary.

Palpitation of Heart—
Acquired D. R.—

There is another patient waiting. Give me the history, please. "No. 248. Man. Had 16 injections of Salvarsan. Complains of rapid heart beat. Ringing in both ears, especially in left." 49; male reaction. All we will look for is Acquired D. R. in this case. Set it at 55, Doctor. You see I get it. Check up again. What does it measure? Stop. **Acquired D. R.; 30 ohms.** You have him come in. (Patient comes in). He has palpitation of the heart. Go over the region of the heart for 55 because you must give local treatment over the heart as well as general treatment to help things along. Reaction of 55 is present over the heart. He is to have

general treatment and rate 3 over the heart. We will try to get rid of that trouble. That is all, so don't get worried, my friend.

Reactions of Carcinoma and Neisserian in Pelvic Cavity—

We must finish up those mail specimens. Open the door, please, while I read the history. "Married woman, age 38 years. Menstruates regularly; has 4 children. Never had an abdominal operation. Has large irregular growth in left ovarian region. Small tumor in right ovarian region. Suffers pain in lumbar region and abdomen when on feet. Patient has no fever or cough. Please advise what you think best. Is operation advisable?" Set it at 49, Doctor, for human blood. I get the human blood reaction. I do not get the regular female reaction but I get it on the left side. Set it at 50 for Carcinoma. Carcinoma is present. Where is it? It is in the pelvic cavity. Is it metastatic? No, it is non-metastatic. What does it measure? Carcinoma measures 6 ohms. Check up again. Correct. Look for Sarcoma; negative. Tuberculosis; negative. Is there any Strep.? No reaction. Set it at 55 for Acquired D. R.; negative. Now, set it at 57 for Congenital D. R. Reaction present. What does it measure? Stop. Congenital D. R.; 33 ohms. Look for 52, Neisserian. Stop. Check up again. The reaction of Neisserian is present. Where is it? Pelvic cavity. Get your cord and locate it. Go over the pelvic cavity. Stop. **Reaction of Neisserian is present over both sides of the pelvic cavity.** Now, set it at 50, Doctor, and locate the Carcinoma. Go over the pelvic cavity. **Carcinoma is present in left side of pelvic cavity.** Write to the Doctor: "Condition of Carcinoma not sufficient to be of moment yet should be attended to if operation is contemplated. You might try treatment for Neisserian at rates 4 and 8 over both sides of pelvic cavity, together with tampons of magnesium sulphate. Do not expect a disappearance of mass." Next. How many more are there? All right, we will examine that one.

Carcinoma, Breast—

Give me the history. Be careful how you handle that specimen. I can tell you a thousand times and still you forget. "Female, age 35 years; tall and slender; poorly nourished and very nervous. Pneumonia 5 years ago, followed by swelling of axillary glands on

the left side. Glands lanced, followed by complete enucleation. This year a month ago a tumor appeared near the site of operation." 49; female reaction; human blood. Carcinoma, Doctor. You know we always look for that first. You were all ready; that's good. Don't pay any attention to what I say; but that's the trouble, you don't. Carcinoma is present. Where is it? Locate it. It is in the left breast. It is non-metastatic. What does it measure? Stop. Check up again. **Carcinoma; left breast; 6 ohms; non-metastatic.** Did you get all that down? Set it at 55. There is no Acquired D. R. Now 57 for Congenital. It is present. Measure it. 35 ohms. Is there any Strep.? No reaction. Look for Tuberculosis; negative. Write to the Doctor: "Give patient assurance of your ability to demalignanize but no promise of removal of mass. Condition favorable for ERA treatment owing to condition being non-metastatic. Provide against recurrence by S. S. 3." Very important, gentlemen.

Doctor Abrams: How are his reactions? Has anybody tried him out? You should do that before I come in. Have you concussed him? Very good. What is the first thing I do? Mark out the lower border of the liver. Correct. The liver will vary according to whether it is before or after eating. Immediately after breakfast you would expect to find the liver a little lower. The object of getting the lower border of the liver is so you can differentiate liver dullness from pathological dullness. In cases of syphilis, if you percuss the liver and get a dull sound, you would become confused. Give me the next specimen, please. Begin with the mail specimens. Don't close the door yet.

Variation in Size of Organ According to Position of Arms—

"Woman; married 12 years; mother of 4 children. Sick 5 years. Two pulmonary hemorrhages; cough and severe night sweats. Complains of pain in throat." You will notice that you have a variation in size of the organ when you percuss that organ with arms folded together. When the subject's arms are folded, the heart goes out; when the arms are extended, it goes in. Percuss the liver with arms out and then with the finger tips together. Mark it each time and you will find the liver border lower when the finger tips are together. 49, Doctor. That's right. We always ascertain

first if it is human blood to determine if the specimen is genuine and also to find out if the reactions are good. Yes, it is human blood; female reaction. First look for Carcinoma; no reaction. Now try Sarcoma; negative. Set it at 42 for Tuberculosis. You see we get the reaction for Tuberculosis. That is what you would expect from the history, but you must not anticipate a diagnosis. Where is the Tuberculosis? Lung. Now measure it. Stop. Check up again. It measures 4 ohms. Get your cord, Doctor, and locate the Tuberculosis. It is below the right scapular region. Make a picture. Here, let me mark it to be sure that it is right. I have to do everything. See if there is any Strep. Yes, where is it? Strep. is present in both tonsillar regions. Set it at 55, Doctor. We have not looked for that yet. No reaction. Look for 57, Congenital. It is present. What does it measure? Stop. Check up again. Congenital D. R.; 33 ohms. Next.

Warning in Regard to Making Blood Examination—

Here are three specimens of blood enclosed without any differentiation. Are all three to be examined? Are they from the same person or different individuals? We could differentiate them by the reactions but we do not have time to go to all that trouble. People are always trying to set traps to catch you, so you have to be constantly on your guard. Even those you consider your best friends will do it. The only thing to do is to make an invariable rule to examine no specimens whose validity is not attested by the signature of the physician who has himself taken the sample of blood. Take my advice, gentlemen, and take no chances. They are lying in wait to get you, and all your good results in benefitting your patients will go for naught if they can trip you up in one diagnosis. A history of the case is not necessary but it helps in facilitating the examination and in checking up the diagnosis.

COLLEGE OF ELECTRONIC MEDICINE, SAN FRANCISCO

Where Dr. Albert Abrams did much of his development work and where the College and Clinic continue to carry on.

"Wise men may always make their own future and seize their own fates. Prudence, patience, labor, valor; these are the stars that rule the career of mortals."—Harold.