which the general practitioner may then apply, and so detect conditions that would otherwise be far beyond his ken.

Such team work in no way minimizes the importance of individual efforts at investigation. The most isolated practitioner can, and often does, contribute to the general knowledge, if he will but get into the habit of noting down what he sees. The best example of what can thus be done that occurs to me is that of Sir James Mackenzie, who, while a family doctor in a Yorkshire town, laid the foundation, and indeed accumulated most of a knowledge, of heart conditions, which knowledge has revolutionized our whole ideas of cardiology.

When a conclusion has been reached as regards the condition of a patient it usually has to be expressed in words. As Murray puts it, one meaning of the word "diagnosis" is "the opinion (formally expressed) resulting from investigation." And often this is a very difficult thing to do. The skilled old sailor, after he has glanced at the sky and consulted his instruments, usually has a very good idea of what the weather is going to be, but ask him to put his findings in words and you will seldom get much satisfaction. So it is with many a skilled practitioner. Fortunately the public often think the more of a man because he says little. Years ago, while on a walking tour in this country, I came across a country doctor whose chief claim to great cleverness, as far as I could make out, lay in his silence. According to one of his admirers, "He was such a clever man; that he would come into the house and look at you and write a prescription and go away without saying a word." I wonder if this man is now in the army, and, if so, how he likes always having to put his diagnosis in writing, and that within twenty-four hours of the patient's admission to hospital.

Often at a consultation the doctors very well understand the condition of a patient, and the first difficulty comes when the question arises, "What are we to say to the friends?" "What shall we call the trouble?" An old surgical teacher in Edinburgh, Professor John Chiene, used to advise us, when we were thus pressed for a name, to tell the patient that he had a sacro-iliac synchondrosis. As he said, this was true and did not commit you, and yet the name often gave the greatest satisfaction, and the patient went away feeling that he had got the value of his money. As we all know, many a patient fairly hugs such a satisfactory name as "V.D.H." or even "N.Y.D."

A diagnosis, in order to be correct, should be a complete description of the whole condition of the patient, and, as this is manifestly impossible, we must resort to names or labels of some sort, which, in a word or a phrase, will express what otherwise might require many lines. The danger of thus summing up a condition in a word is that we are all too apt to think that a final diagnosis has been reached when such a name has been appended. These names should not be considered as goals, but merely resting places on the road to a more detailed diagnosis. Labels or names, then, we must have, but what a chaos the whole of medical nomenclature is in! The names therein, often in bastard Greek or Latin, are apparently not founded on any basis of classification. They arise, for example, sometimes from the name of the supposed discoverer of the condition, again from the supposed cause of it or from a prominent symptom, or from the organ supposed to be chiefly affected, or again from the supposed pathology, or the geographical distribution of the disease, and so on. And yet there is often much doubt as to who first described a disease; uncertainty as to the exact cause of the trouble, and of the exact pathological nature of the condition.

Very often, the more we know of a disease the less satisfactory is the name under which it exists. I need only mention rheumatic gout (which is probably neither rheumatism nor gout, and we do not know what either of them are) and typho-malaria (which is either typhoid or malaria, but not both) to illustrate the truth of this.

Numbers or letters of the alphabet would often do as well as names for labelling diseases, and would not commit us in the same way. Indeed, in the official *Nomenclature of Diseases* supplied for use in the army, numbers are used in addition to names. Thus a man may suffer from "No. 9," as well as take it! This official list of diseases was prepared for the R.A.M.C. by a Commission of the Royal Colleges, and is indeed a wonderful production. Diseases are classified largely according to systems affected. It would scarcely do at present to criticize it, but it is hard

to understand why such symptoms as "dry mouth (482)," "eructations (501)," and "loss of appetite (512)," should be dignified with the rank of disease, while on the other hand such common and definite things as haemothorax and auricular fibrillation do not appear. "Ureteritis and perireteritis (669)" again seems an unnecessary name. I wonder how many cases have been returned under this diagnosis during the war. "N.A.D." and "P.U.O." are much used terms, although they do not mean "no authorized disease" and "put under observation" respectively, as I have heard them translated.

"V.D.H." and "D.A.H." are useful classes (merely as first resting stations), and "debility" and "myalgia" help many a man to the base and do not commit the hard-worked medical officer too much; but, as I said before, all these names are delusions and snares if they are treated as complete and final conclusions as to disease.

Conclusions.

1. Examine a patient generally, in detail, and then generally again.
2. In expressing the condition of the patient in a name, choose one that goes no further than the findings of the case permit. Often a generic name, which is probably right, as far as it goes, is better than a specific one which may be wrong.

REFERENCE.

¹ BRITISH MEDICAL JOURNAL, March 29th, 1919, p. 265.

SOME PRACTICAL SUGGESTIONS FOR THE WORKING OF A VENEREAL CLINIC.

BY

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The following notes make no pretence at setting out anything new in the way of treatment, but are simply the results of experience in carrying on a civil venereal centre. A short statement of this experience may be of value to other workers who have started, or are about to start, similar clinics.

The staff consists of two medical officers, one of whom takes charge of the syphilis, the other of the gonorrhoea cases; besides these there is an assistant medical officer who is paid, an orderly man who assists in the irrigation department, and a permanent sister in charge of the nursing arrangements, who also does the necessary clerking work.

All the patients are treated as out-patients, though two beds, one male and one female, are set aside in the wards for the use of the department, if necessary, but these beds have not been called upon during the last six months, and it is now felt that the need of beds is not so imperative as was formerly considered. I propose to describe the arrangements as carried out for syphilis. The section on gonorrhoea has been omitted from consideration of space.

It has been found most convenient to divide the work into new cases and old cases, and to admit new cases on one day, carrying out the treatment on some subsequent date. One morning is set aside for the examination of new cases of syphilis, male and female, at which time they are examined, and instructions are given as to attendance for treatment, etc.; and one evening clinic is arranged for men only, to meet the convenience of working hours. Treatment is carried out on a subsequent day, one day being reserved for men and one for women.

ROUTINE FOR CASES OF SYPHILIS.

In dealing with a large number of people all suffering from the same condition it is essential that a routine should be followed; and, whilst admitting the dangers and disadvantages of routine methods, it may be pointed out that these dangers vary inversely with the interest shown by the medical officer. I will describe briefly the method of examining patients carried out in the clinic; it is rapid and sufficiently exhaustive to ensure that any lesion will be found, and to disclose the necessity or otherwise of any special examination.

Examination.

Before any entries are made in the register the male patient is stripped as follows: Hat, coat, and waistcoat are removed, trousers are pushed down to the ankles, and the shirt pulled up under the armpits. This bares the body, except the feet and shoulders, and is generally sufficient, and saves the men taking off their boots and socks. The man stands in front of the examiner, who is seated, and the examination begins with the anterior aspect, the genitals being first dealt with and any sore noted. The inguinal region is palpated for enlarged glands, and the presence or absence of any rash or discoloration is observed. The patient is then made to turn round and bend down, exposing the anus and perineum, which, with the back of the scrotum, is next examined. He again turns round and stands up, and the cervical glands are palpated and the fauces carefully examined, together with the tongue and the buccal mucous membrane; and it may be mentioned in parenthesis that the best type of tongue depressor is a wooden garden label, which can be used and burnt immediately. By this time it should be obvious whether the man is syphilitic or not, and should he be considered infected his notes are commenced, the name and address being entered in the register and a serial number allocated.

The sore is then examined microscopically for spirochaetes by the dark-ground method, as follows: A small square of lint moistened with normal saline is taken and the sore cleansed, and when the surface is clean a drop of serum is obtained from it, which can usually be accomplished quite easily by gentle friction with the lint, followed by a little digital pressure between the gloved fingers. If the sore bleeds readily the first exudation of blood should be soaked up with the lint, and this repeated until the exudation is only slightly blood-stained, as too much blood in the serum hinders the discovery of the spirochaetes, though a few blood cells are an advantage, as they materially assist the focussing of the dark-ground preparation. When the sore is bathed in serum a perfectly clean square cover-slip is taken in a Cornet's forceps and with the surface of a corner of the slip, the serum is touched, taking care not to allow serum on both sides of the slip. Next, with a platinum loop a small drop of normal saline is taken up and mixed with the serum on the cover-glass, which is dropped on to a thin white microscope slide, and the latter marked, by means of grease-pencil with the patient's name and put aside to be dealt with later.

The examination of the patient is then concluded by auscultation of the heart, after which he is told to pass water and then to dress. All the new patients are seen first, and the urine test and the search for spirochaetes are carried out when the clinical examination is completed.

Urine Test.

Heller's test is the one chosen, and the method I adopt is as follows: About quarter of an inch of strong nitric acid is put in the bottom of a test tube and by means of a pipette two inches of urine are allowed to flow slowly down on to the surface of the nitric acid. Should albumin be present the usual ring appears at the junction of the fluids, but not infrequently, though no albumin is present, a hazy cloud appears in the upper portion of the urine, which indicates the presence of globulin or nucleo-albumin, and is no contraindication to the use of salvarsan.

The search for spirochaetes should be made at once if possible, but should this be impracticable the serum may be collected and sent to some pathological centre for examination. The best way of collecting the serum is by means of a small Wright's pipette. The sore is treated as above described, and when the serum is sufficiently abundant the pipette is applied and the serum allowed to collect, when both ends of the tube are sealed. After the completion of the examination and the filling up of the case-card with the necessary particulars, the patient is instructed when to come to the hospital for treatment, and is given a small square card coloured "blue," which he presents to the sister in charge on his next appearance, along with his identification number, which blue card signifies that he is to receive treatment and also to have a Wassermann test.

Instruction to Patients.

Before leaving the hospital he is instructed how to prepare himself for treatment as follows:

1. *On the Night before his Injection:* To have a good dose of "salts," so as to ensure a free action of the bowels.

2. *On the Day of Injection:* To have a good substantial breakfast, but a very light lunch—such, for instance, as a cup of bovril and toast, or a poached egg and coffee; to abstain from alcohol, and to make arrangements for going to bed immediately on his return from hospital.

I have found it essential that patients should not be exhausted by lack of food.

Registration.

The above is the routine followed in dealing with men, and in the case of women the only difference is that the sister strips the patient and covers her with a blanket, and she is examined on the couch, and not standing. Should the diagnosis be doubtful and further evidence be required, the patient is not entered in the register, but is given a small red card and told to present himself on the next treatment day, the red card signifying to the sister that he needs a Wassermann test only; and I might describe

here the little card system, which I have found saves a great deal of labour and time.

Each patient who comes up on a treatment day has in his possession a card of one of the three colours—blue, red, or yellow (a small piece of card $1\frac{1}{2}$ in. square)—and according to the colour of this card the sister knows at once what to do with the patients, without referring to their case cards, and is able to segregate them into batches. The blue card means that the patient is to have a Wassermann test and treatment, the red card means a Wassermann test only, while the yellow card signifies that the patient is to receive treatment only. The blue and yellow cards are further stamped with a figure 0.3 or 0.4 or 0.5 according to the dose of salvarsan the patient is to receive.

Methods of Treatment.

After some experience, beginning with the old German salvarsan and neo-salvarsan, given in the original large sterilizing doses, and of the newer drugs, both of the "606" and "914" type, I have adopted a standard course of seven intravenous injections of kharsivan and nine intramuscular injections of mercury. Each of the many arsenical preparations on the market has its own advantages and disadvantages, but the stability of kharsivan and its constancy of composition are valuable assets, whilst the fact that large quantities may be made up and used for a series of cases, renders it particularly suitable for institutional work. The "914" group of drugs cannot be given in quite the same way, as each dose should be made up separately owing to the more rapid oxidation and consequent increased toxicity of these salts.

The disadvantage of the kharsivan and the "606" group is that they are rather more toxic than the "914" or "neo" salts, and their method of preparation is not that of simple solution, but with standardized reagents and apparatus the difficulties of the technique vanish and with the disappearance of errors of technique many of the toxic effects of kharsivan also disappear.

The routine adopted is one modelled on the army course, and with the necessary modification for dealing with civilian patients it has been found satisfactory in every way.

As soon as the patient is diagnosed as syphilitic (the heart and urine showing no contraindications) he is embarked on the full course of kharsivan and mercury, which are given at the following intervals:

1st day	...	kharsivan 0.3 gram; mercury 1 grain
8th day	...	" 0.3 gram; .. 1 grain
15th day	...	" 0.3 gram; .. 1 grain
22nd day	...	" 1 grain
29th day	...	kharsivan 0.4 gram; .. 1 grain
36th day	...	" 1 grain
43rd day	...	kharsivan 0.4 gram; .. 1 grain
50th day	...	" 1 grain
57th day	...	kharsivan 0.5 gram; .. 1 grain
64th day	...	" 1 grain
71st day	...	kharsivan 0.5 gram; .. 1 grain

Total ... kharsivan 2.7 grams; mercury 11 grains

The Wassermann reaction is tested on the 1st, 43rd, and 78th days.

This dosage is modified for women patients by giving three doses of 0.4 gram instead of the last three doses shown above. Whilst on the table the patient is given one of the little coloured cards—red, blue, or yellow according to the requirements of his next visit.

Wassermann Tests.

On the "treatment days" Wassermann tests are first dealt with as follows: All the patients who are to have the tests are collected by the sister, and small labels made out bearing their identification numbers. The requisite number of sterile tubes is placed in a rack, each tube having a rubber cork pierced with two holes, through one of which passes a small glass tube, to which is attached a short length of thin rubber tubing and a needle.

The patients are arranged with the left sleeve rolled up and as each one comes up to the operator the sister puts a rubber tourniquet round the upper arm with a single twist and holds the free ends tight while the flexure of the elbow-joint is painted with tincture of iodine. The patient then clenches the fist and the needle is pushed into the vein, and as soon as blood appears the sister slackens the tourniquet and tells the patient to open the hand. About 10 c.cm. of blood are withdrawn, a small pad of wool is placed on the puncture, and the patient told to swing the arm over the head, and to press on the puncture pad for a few moments, after which a small circle of sterile gauze is fixed over the site with a double cross of narrow strapping. By means of the coloured cards the sister knows the number of patients requiring Wassermann tests, and is able to have prepared the requisite number of ready corked and needled tubes; much time is saved thereby, as many as forty Wassermann specimens being easily taken in a quarter of an hour. As each tube is filled, the man's number should be asked again, and the corresponding label affixed to the tube then and there.

Kharsivan Injections.

One of the most convenient forms of the injection apparatus is the "double-funnel" pattern.* The hermetically sealed tubes in which kharsivan is sold contain either 0.3, 0.4, or 0.6 gram doses, and I have found it most convenient to use only those containing 0.6 gram. Five of these tubes are taken and the thin end filed off, their contents being shaken into a small bottle containing about 50 c.cm. of sterile distilled water, and solution obtained by vigorous shaking after putting in a tightly fitting stopper. When thoroughly dissolved, 5 c.cm. of a 15 per cent. solution of caustic soda is added from a 5 c.cm. pipette. This is a practical point of some importance. As both the kharsivan and water and the final sodic salt are clear solutions the only way to prevent mistakes—either giving the non-neutralized solution or a too alkaline solution—is to watch carefully the change that occurs at the neutral point, that is, the formation of a heavy precipitate. Titration cannot be carried out conveniently every time, but if once done and the amount of caustic soda determined for any particular amount of kharsivan, the rest is simple. I use a 15 per cent. solution of caustic soda, as 1 c.cm. of this strength is sufficient to neutralize one tube of 0.6 gram kharsivan, and for the 3 grams I therefore use 5 c.cm. of the soda solution and deliver it with a 5 c.cm. pipette. If it is added slowly the precipitate can be seen, and then a few more drops of the soda will redissolve it, producing a clear solution of the sodic salt. A small excess of alkali is an advantage—just before the neutral point a very toxic monacid salt is formed—and the final alkaline solution is tested on a litmus leaf in every case.† The resulting fluid should be quite clear, void of any flocculi, and the colour of sherry; it is essential to filter it through several thicknesses of sterile gauze into one of the glass containers, as minute particles of glass from the kharsivan tubes occasionally fall into the fluid.

The container into which the kharsivan solution is filtered is then filled up with normal saline to the 300 c.cm. mark, producing a solution of 3 grams of kharsivan in 300 c.cm. of saline, and as the containers are calibrated in 10 c.cm. each division on the scale represents 0.1 gram of kharsivan. I have found this a most convenient dilution, the 10 c.cm. being sufficiently large in volume to be given by itself if necessary, and allowing at the same time any variation of dose from 0.1 to 0.5, which in a series of patients who are to receive varying doses is of great practical convenience. Moreover, since this particular dilution was adopted there have been none of the troublesome vasomotor reactions sometimes seen. The details of the venipuncture I need not specify, except to state that, as far as possible, the right arm is reserved for injections, the left arm for Wassermann tests, and that about 20 c.cm. of saline is allowed to run into the vein before the kharsivan, the latter being then washed into the circulation by a final 20 or 30 c.cm. of saline, so that each patient receives a "sandwich" of "606" and saline. I now give the solutions just above the room temperature, without any ill effect; I am sure that hot solutions are more toxic. Patients are now allowed to leave the hospital immediately after the injection, and if one can be sure of technique, and that the instructions as to diet, etc., have been carried out, there need be no fear of ill results; during the last six months no case has been detained overnight in the hospital. The immediate vasomotor reactions referred to above, which occur while the patient is on the table or immediately afterwards, are shown by the complaint of a sudden feeling of choking, with suffusion of the conjunctivae and flushing of the face and neck, and are very often ushered in by a slight cough or licking of the lips. Maintenance of the recumbent position, together with a hypodermic, or, better still, intramuscular injection of 1 c.cm. of adrenalin solution (1 in 1,000), generally suffices to counteract this condition; but occasionally one meets with severe reactions in which the subject becomes deeply cyanosed, with profuse clammy sweating, unconsciousness, and widely dilated pupils. If this occurs, immediate bleeding is imperative. Hence on the table, beside the couch, there are always ready to hand a sterile hypodermic syringe and needle (proved to be in working order at every séance), and adrenalin solution, together with a sterile scalpel and a bowl.

Mercury Injection.

If the necessary details of technique are observed this method of medication is quite painless; so painless, in fact, that I have often seen men stand waiting for their injection without realizing that it has been already administered. It is given as follows:

The men who are to receive the mercury are told to let the trousers down and bare the buttock, which is then painted with tincture of iodine in the upper quadrant; a long needle, previously sterilized in oil, is next taken and held by the adapter-end between the finger and thumb of the right hand and "jabbed" into the muscle right up to the hilt; the syringe is then applied to the needle, which is steadied by the left forefinger and thumb, and the requisite dose of mercury given slowly, after which the needle is withdrawn on the syringe and the part vigorously rubbed with a pad of cotton-wool or a towel. The preparation of mercury used is "grey oil," of which 1 c.cm. (roughly 15 a.m.m.) represents 1 grain metallic mercury.

*This apparatus is put up in a convenient form by the Holborn Surgical Instrument Co.

† Too alkaline a solution will produce great pain at the site of injection during the operation, and will cause thrombosis and obliteration of the veins, which are thus rendered useless for further treatment.

Periods at which Wassermann Tests are Made.

These are done three times during the course, once at the commencement, once after the second 0.4 dose, and finally after the completion of the course—that is, one week after the last injection. By this means valuable information is obtained as to the patient's response to treatment, and the necessity for any further medication is determined by this response, together with the patient's clinical condition. After the final Wassermann, should it be decided that no further treatment is necessary, the patient is told to remain away from hospital for two months, at the end of which time another Wassermann test is carried out, and if this is negative he is sent away for six months, and again comes up for blood test. Should this still be proved negative, he is advised to come up after a further six months and again in twelve months.

BACTERIOLOGICAL AND PATHOLOGICAL OBSERVATIONS ON INFLUENZA AS SEEN IN FRANCE DURING 1918.

BY

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AND

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(Abstract of a Report to the Medical Research Committee.)

In view of the tendency in certain quarters to throw discredit on Pfeiffer's bacillus as the important factor in the etiology of epidemic influenza, we think it desirable to record briefly the following observations.

During the June-July (1918) outbreak we cultivated the *B. influenzae* from 20 out of 24 specimens of sputum examined. Single examinations only were made, and our impression was that from the muco-purulent secretion of the bronchi the cultivation of Pfeiffer's bacillus could be obtained with ease, and sometimes with very few associated bacteria.

In June and July we made cultures from the bronchi in the case of 6 cadavers, and in 5 of these obtained the *B. influenzae*. In October-November (1918) we examined by cultural methods material taken at 72 separate autopsies. Cultures of the *B. influenzae* were obtained 57 times from 72 swabs from the bronchi, 12 times from 71 specimens of heart blood, 3 times from 8 pleural fluids, and once from 7 pieces of lung substance. We attach particular importance to the presence of Pfeiffer's bacillus in the heart's blood and in the pleural exudate, and appropriate tests were carried out to verify our results.

The post-mortem examinations were all made soon after death, and never later than twenty-four hours.

In our 72 swabs from the bronchi the occasions on which we recorded certain other micro-organisms were as follows:

Pneumococci	...	...	...	48
Staphylococci	...	...	...	43
Streptococci	...	...	...	42
<i>Micrococcus catarrhalis</i>	...	...	...	11
Pneumobacilli	...	...	...	7
Diphtheroid bacilli	...	...	...	3
Meningococci	...	...	...	2

The frequent occurrence of staphylococci is particularly noteworthy. In the majority of instances it was the *Staphylococcus aureus*. Cultures from 8 empyemata yielded the pneumococcus alone in 3 cases, the pneumococcus and the *B. influenzae* in 3 cases, the pneumococcus and *B. proteus* in one case, and the meningococcus in one case.

Cultures were made from the heart's blood by smearing loopfuls of it over the surface of agar slopes. Of the 71 specimens of blood examined, the times certain micro-organisms were encountered were:

Pneumococci	...	...	...	35
Streptococci	...	...	...	23
Staphylococci	...	...	...	20
<i>B. influenzae</i>	...	...	...	12
Pneumobacilli	...	...	...	3
Meningococci	...	...	...	2
<i>Micrococcus catarrhalis</i>	...	...	...	1
Diphtheroid bacilli	...	...	...	1

Usually several of these were associated. On eleven occasions no growth occurred.