PREPARATIONS AND APPLIANCES.

Tetraform.

CARBON TETRACHLORIDE has become recognized as a useful drug in the treatment of hookworm and other diseases caused by intestinal parasites. It is well known that commercial processes of manufacture lead to the occurrence of impurities. The dose given is relatively a large one, amounting in full to 60 minims. Some of the impurities which may be present as a result of the process of manufacture are toxic, notably carbon disulphide. It is accordingly important that carbon tetrachloride for medicinal use should have a high degree of purity. We have had submitted to our notice a sample of medicinal carbon tetrachloride manufactured by the British Drug Houses, Ltd., which they supply under the proprietary name of "Tetraform." It has been examined by our analyst. He reports that it is a highly refined article. He was unable to detect any of the impurities which are most usually found in commercial samples of carbon tetrachloride. He notes particularly the absence of aldehydes, and states, with regard to carbon disulphide, that a test capable of revealing its presence in a proportion no greater than 5 parts per million gave a negative result.

Dial, Didial, and Dialacetin.

We have before us three hypnotics prepared by the Clayton Aniline Company, Ltd., according to the formula of the Society of Chemical Industry in Basle.

Dial, or diallylbarbituric acid, is a powerful hypnotic of the veronal group. It has been on the market for some years. Pharmacological experiments have shown that it is about five times as strong as veronal, but the makers claim that it is much more rapidly oxidized in the body, and therefore is less liable to produce a cumulative effect. Reports by the makers suggest that the therapeutic dose has a remarkably wide margin of safety, for the ordinary dose is about 3 grains, and records are given of persons recovering after taking between 20 and 30 grains.

Didial consists of a mixture of dial with ethylmorphine. This combination is recommended particularly for initiating anaesthesia and inducing "twilight sleep."

Dialacetin consists of a mixture of dial and allylparacetaminophenol, being a coal-tar antipyretic allied to phenacetin. The mixture possesses hypnotic, analgesic, and antipyretic actions, and is said to be indicated as a sedative in febrile conditions associated with headache, etc. It is interesting to note that this last mixture has been tried in France as an alternative to bromides in epilepsy.

The makers state that all three drugs are included in the Part I schedule of poisons, but that they do not come under the regulations of the Dangerous Drugs Acts.

Parathyroid Gland.

Messrs. Burroughs Wellcome and Co. are supplying tabloids of parathyroid gland, each representing 2/5 grain of fresh gland, equivalent to 1/10 grain of the desiccated gland substance. The firm informs us that the glands are dissected out by trained workers, and that a careful inspection, checked by microscopic sections, is made to ensure the genuineness of the product.

Prunol.

Prunol is a laxative jelly made by Prunol Ltd. (4, Pickering Place, St. James Street, S.W.1). It is stated to be compounded of prunes, Demerara sugar, senna, and ginger. This combination has, of course, been well known to the medical profession for the last fifty years. It is said to have been originally introduced by Sir James Paget, and has proved itself of great value in cases of chronic constipation, particularly in children. Prunol is supplied in stoppered jars, price 1s. 10d.

Suprapubic Drainage.

Mr. JAMES MACMUNN (London) writes: In my experience all pumps and siphons, or allowing the urine to soak into dressings, are less satisfactory than the plans here illustrated.

Fig. 1 allows the urine to be absorbed and discharged as fast as it is secreted, by means of the large volume of absorbent gauze, beginning at c and ending at g. A is a metal tube over which b, a rubber tube, is slipped. Over b a rubber ring (d) is placed—a large umbrella ring will do—which, introduced into the bladder wound, pulls the latter into close contact with the parietes; falling away of the bladder from these is, of course, one of the causes of leakage. The bladder wound is sutured round the tube. e are two stout strings brought out either through or outside the tube to be tied round a so as to keep d in position; their untying allows the tube to be withdrawn, d being left in the bladder, and then withdrawn edgewise by one of the strings. f is a rubber tube, preferably an inner cylinder tube for lightness, to shut in the gauze. The apparatus can be used as a siphon as well as a drain, or as a siphon alone. The gauze is introduced by a long wire and wetted. Irrigation may be used through a.

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Fig. 2 shows a means I often adopted in connexion with the ordinary drainage tube. a is a metal ferrule, the use of which is apparent—that is, it also draws the bladder up. The shoulder may be bell or trumpet shaped instead of ring shaped. The withdrawal of such contrivances, however, causes a certain strain on the wound which is absent in the use of Fig. 1, but it is not much. The instruments are made from my working models by the Holborn Instrument Company.

I may mention, whilst alluding to cycle tubes, that extemporized things are often more useful in practice than specially made and expensive things—for example, a part of a motor wheel inner tube, tied at the lower end and strapped to the thigh, makes a most efficient receptacle for urine where a permanent catheter is used; into the end of the catheter a metal tube is passed, round which the upper part of the rubber tube is tightly tied.

THE JAPANESE EARTHQUAKE.

NOTES FROM KOBE ON THE MEDICAL HISTORY.

BY

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AND

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IN Japan the term "foreigner" is applied to all races not Japanese, and it is with foreigners only that these notes deal. The foreign community occupies a somewhat peculiar position, in that, while living in the midst of a civilization equal to that of Europe, it has retained the habit of fending for itself, and its behaviour in this crisis was no exception to the general rule. The foreign community must be subdivided into Chinese and non-Chinese, for while non-Chinese races work and live together and run their affairs through international committees, the Chinese are self-contained and move apart from Japanese and other foreigners alike.

General Considerations.

It will be remembered that the shocks occurred shortly before midday on Saturday, September 1st, 1923, that they covered a large area of country, were followed by fires and high winds, and were worst felt at Yokohama. Certain factors were favourable to a low casualty list. The women, children, and missionary population had not yet returned from the hills, and many residents were away at neighbouring health resorts for the week-end. It was an hour when most Yokohama residents were down in the settlement, and thus able to reach the sea and to avoid the fires. The s.s. *Empress of Australia* was due to leave at midday, and large numbers were down on the dock seeing off friends, and were thus able to go straight on board this vessel. On the other hand, the earthquake itself undoubtedly claimed more victims in the higher, more solid buildings of the settlement than in the wooden residences of the Bluff. None of these considerations affected the Chinese, and these unfortunate people, penned in the low-lying China Town, with narrow streets and poor means of egress, were quickly surrounded by flames; their losses were appalling.

In Tokyo the shocks were not so severe, and there were comparatively few foreigners in the city at the time. Such as there were were collected mostly in the Imperial Hotel, and this structure successfully withstood both earthquake and fire. In the outlying districts there were no foreign buildings, and people were, in the large majority of instances, able to escape from houses at the first shock. Except in Tokyo and Yokohama there were no fires to contend with. There were in the harbour at the time ships of various nationalities, and it was in these that most of the refugees escaped. Land communications were for some days paralysed, and few used the roads and railways.

Organization in Kobe.

The first news did not reach Kobe until the morning of September 2nd. Communications are frequently interrupted in Japan, and it was not until late in the afternoon that more accurate reports confirmed what was at first thought to be an exaggerated rumour. The extent of the casualties could only be guessed, but it was immediately apparent that the whole brunt of caring for foreign casualties and refugees alike would fall on Kobe, which is twenty-four hours' steaming from Yokohama. Shanghai, the next foreign settlement, is three and a half days by sea.

Facilities for dealing with a crisis of this nature were miserably inadequate. Kobe boasted one foreign hospital, the International, and it was soon discovered that this was the only institution of the kind in working order left in Japan. The hospital had 14 beds only, and was staffed by three foreign doctors—two British and one German. There was also an American doctor practising in Kobe but not on the staff. A foreign matron was in charge of the nursing staff, which consisted of Japanese male and female nurses. Of stretchers there were only two, and these of the "wheeled" variety, and the usual time for transport of a case from the dock to hospital was three-quarters of an hour. The American and German doctors happened to be away in the north of Japan and were unable to get back in time to help in the emergency. Under the energetic supervision of the matron, Miss Macfarlane, supplies were collected, three additional Japanese nurses engaged, and the number of beds increased, so that by the morning of September 3rd accommodation for 32 serious cases was in readiness.

The Oriental Hotel put its ballroom at the disposal of a rapidly organized relief committee, and by the morning of September 4th accommodation for about 60 walking cases was arranged here under volunteer foreign nurses. A private house was fitted up as a four-bedded maternity home.

The foreign community held a meeting at 4 p.m. on September 3rd, subscribed £5,000 within half an hour, delegated subcommittees to deal with special branches, and arranged to send a relief ship the same night to Yokohama with medical supplies and a large quantity of water. The last was rightly held to be the most urgent need, and was justified on arrival by the discovery that all water mains had been broken and that a water famine was already in existence. The German community, meeting independently, arranged to act in close co-operation, and assumed responsibility for ambulance transport. They fitted three motor vans with improvised stretchers, and also provided bearer parties and drivers. The personnel were ex-service men under ex-N.C.O.s, and worked efficiently and without friction under the orders of the British doctors.

Confusion on arrival of ships was anticipated by printed labels, "Hospital" and "Hotel," and whenever either of the doctors could be spared ships were met at Wada Point quarantine station and the appropriate labels affixed before the ship came into port.

Arrival of Refugees.

The first ship to arrive was the s.s. *West O'Rowa*, at 1 a.m. on September 4th; by the night of September 8th practically all the casualties had arrived. Though wireless messages were received reporting large numbers of serious cases, the actual number of stretcher cases dealt with was remarkably small. Accurate statistics have not been published, and in fact are not known, but the last official report in the *Osaki Asahi Shimbun* gave the refugees arriving at Kobe by sea as 3,553 Chinese and 1,743 European. By our private medical records 132 casualties were received in all—42 serious cases at the International Hospital and 90 walking cases at the Oriental Hotel Hospital.

The European refugees were absorbed by the community with difficulty, the greatest problem being the Russians. A certain percentage of these people might almost be termed "professional refugees," and unless carefully watched drew their rations and clothing in excess. They were finally housed in the Gymnasium; it was surrounded by barbed wire and guards placed at the entrances. Several cases of venereal disease were discovered among them, but these had to be isolated as well as possible in their own compound, there being no available hospital accommodation for this class of case. Food supplies generally were adequate, but clothing gave rise to more difficulty.

The manner in which the Kobe Chinese absorbed their own nationals and generally managed their own problems was worthy of all praise. They gave the relief committee very little trouble, and looked after the questions of food and clothing without calling on outside assistance.

Hospital Cases.

Among the 42 serious cases admitted to the International Hospital the following nationalities were represented:

British	... 14	American	... 5	Japanese	... 2
Russian	... 7	German	... 4	Polish	... 1
Chinese	... 6	French	... 2	Italian	... 1

The low proportion of serious cases is partially explained by various considerations. The conditions following the earthquake rendered the chances of saving serious cases exceedingly slight. In this connexion the heroic work of Misses Dalton and Little, matron and assistant matron of the Yokohama General Hospital, must be mentioned. With the assistance of a patient they removed three helpless cases from the falling building, stayed with them all night, having to make frequent changes of position to avoid the flames, and finally succeeded in getting them to Kobe uninjured. For this they received the decoration of O.B.E. The casualties among the Yokohama doctors had been high. Of the five practising, two had been killed and one sustained a compound fracture. The operating theatres had been put out of action, and thus no surgical treatment was possible until Kobe was reached. A certain number of deaths occurred at sea in transit.

Of these cases, 28 were directly due to the catastrophe. The disabilities were as follows:

Traumatism.	
Fractures	... 14
Wounds and contusions	... 9
Burns	... 3
Dislocations	... 2
Other Cases.	
Diseases of central nervous system	... 3
Acute mastoiditis	... 1
Maternity	... 1
Deaths.	
Head injuries	... 3
Pyo-pneumothorax	... 1
Double fractured femur	... 1
Burns	... 1
Ruptured liver	... 1

The following are notes of some cases of interest.

Case 1.—R. C. E. His left hand was crushed in the fall of a building, but he was released by the second shock. He wore a tourniquet for eight hours above the elbow. When admitted on September 4th he had gas gangrene of four fingers and the metacarpus of the hand. An elliptical amputation was made through the mid-carpus, preserving the thumb. Massive septic oedema ensued, which, in spite of multiple incisions down to the bone, serum and collosol silver treatment, gradually extended up the arm and finally encroached on the chest wall. No pus formed until twenty-seven days after the injury, when an abscess appeared in the axilla. This was allowed to develop for four days; after its evacuation the temperature subsided and sepsis rapidly cleared up. He has now a useful arm, including the thumb.

Case 2.—F. B. H., a man aged 65, was admitted on September 4th with comminuted fracture of the right tarsus and two compound tibia-fibula fractures of the same leg. Gas gangrene extended three inches above the ankle. Circular amputation at junction of upper and middle thirds of the leg was performed. Severe secondary haemorrhage occurred nineteen days after the injury. After subsequent removal of $1\frac{1}{2}$ in. of the tibia he recovered with a good stump.

Case 3.—F. A., a boy aged 12. Fractured pelvis: tetanus. This patient was of German nationality and was taken over by Professor Härtel, to whose care recovery was due.

Case 4.—A. B., a girl aged 6, was admitted on September 4th with rapid pulse, signs of free fluid in the peritoneal cavity, and acute anaemia. Laparotomy showed a rupture of the liver three inches in extent, plugged by clot and no longer bleeding. Death occurred five hours after operation.

Case 5.—H. T. gave a history of having fallen with the second floor when the building collapsed. Pain in the thigh led to x-ray examination, which showed a foreign body of pencil shape, of equal density to bone, embedded in the mid-thigh. This proved to be a fragment of a knitting needle, and only on being shown this did she remember that she was knitting at the time of the earthquake.

Case 6.—E. L., a woman aged 18, had contusion of the liver, but recovered without operation. Subsequently she developed ulnar nerve paralysis with wasting of the small muscles of the hand. Scars of wounds at the elbow were explored, but no nerve lesion was discovered. Sensation and movement gradually returned. There had been severe contusions of the shoulder and elbow, and the case was apparently one of nerve concussion.

The three deaths under "head injuries" were cases indistinguishable from "shell shock" as seen in the great

war. No lesions were discovered. One case lived five days in a condition of complete aphasia with continuous tremors of the extremities. His identity was not established; 90 light cases were treated at the Oriental Hotel and 4 at the maternity home.

Relief units were sent from Shanghai, Manila, Tientsin, and other places, but owing to the distances the first party did not arrive until September 7th. From this date medical units poured in in expectation of a large casualty list, and by September 12th a large foreign medical organization was in working order. Since casualties had occurred on one day only, work rapidly decreased, and these units, finding the Japanese had their own organization, quickly returned to their bases. Medical stores were, for the most part, left with the Japanese and were gratefully accepted by them. By the beginning of January the hospital was emptied of its earthquake sufferers and the Oriental Hotel ballroom was again fulfilling its usual function. By this time, too, overcrowding of houses was less apparent, for further earthquakes in Kobe itself had finally decided many waverers to leave the country.

INCOME TAX.

EXPENSES ALLOWABLE.

FROM inquiries which reach us from time to time it would seem desirable to set out the principles which govern the position with regard to the deduction of expenses from gross receipts in somewhat greater detail than is practicable in a brief answer to a specific inquiry. The legal requirement is that assessments to income tax in respect of practitioners' profits shall be made by certain local commissioners, who have before them particulars of the taxpayer's declaration of income and of any supplementary information—in the form of accounts, for instance—that he may have furnished. In passing, it may perhaps be added that the assessment will be made by the "special commissioners" instead of the local commissioners if the taxpayer completes the appropriate blank request on the form of declaration. An appeal against an assessment is determined by a different panel of the local commissioners or by the special commissioners if the assessment was made by that body, or, if requested, even if it was made by the local commissioners. In practice, however, the inspector of taxes usually puts an assessment forward for confirmation or amendment by the appropriate commissioners, and deals with any objections lodged against it. The procedure has been stated because it may to some extent account for differences sometimes alleged to exist; inspectors of taxes, being controlled by a central department, should achieve uniformity of practice, but it is not clear that this is a necessary, or in small matters even a normal, result of the action of independent commissioners, who are the final judges on matters of fact. So far as our experience goes, however, commissioners very rarely refuse to allow an expense if the inspector of taxes is willing to admit the claim to deduct it, and there appears to be a certain lack of uniformity with regard, at any rate, to some of the minor expenses allowed.

The great number of taxpayers to be dealt with and the diversity of their incomes make it difficult to secure that a system of taxation of incomes shall be reasonably proof against evasion and yet not press with undue harshness on any particular class. The Income Tax Acts seek to do this by dividing all incomes into five classes or schedules, and laying down suitable rules for ascertaining the amount assessable under each schedule; income derived from property, for instance, is assessable according to the rules of Schedule A, income from employment under Schedule E, and so on. But the most important and also the least easy class of income to deal with is that falling under Schedule D—namely, profits and income not falling under any of the other schedules. The questions which most frequently create difficulty are those which arise in connexion with the admissibility of certain deductions to be made in calculating the assessable profit.

The Income Tax Acts do not lay down specific categories of expenditure to be deducted, but deal with the question

by prohibiting the allowance of certain classes, and the effect of the judgements in a number of leading cases—notably that of *Bruce v. Ussher's Wiltshire Brewery*—is that, while capital and personal expenditure must be excluded, regard may be had to well accepted commercial practice provided that the specific prohibitions are not infringed. On this basis the allowable expenditure may be set out as follows:

Expenditure Exclusively Professional.

Salary of dispenser, including board if provided; fee for keeping and auditing the accounts; rent, maintenance, rates, and cost of cleaning of premises used for professional purposes where rented separately from the residence; cost of drugs, etc., supplied; cost (including board) of services of a locum tenent or assistant; cost of running a car used for professional purposes only—for example, petrol, oil, tyres, overhauling, replacement, wages (and board) of chauffeur; replacement of medical books and instruments, subscriptions for medical journals, stamps and stationery used for professional accounts.

Expenditure Apportioned from General Expenditure.

Proportion of rent of house where partly used for professional purposes, and similarly for local rates, cost of lighting and heating, of decorations and repairs and of the telephone service; a proportion of the cost of the domestic staff based on a comparison of the time spent on the private as distinct from the professional portion of the house.

It is impossible to lay down any rule of thumb for determining the appropriate proportions to be treated as deductible; it must be fixed with regard to the facts of each individual case, and is really a matter of common sense. For instance, where the motor car is used for private as well as for professional purposes, ordinarily the mileage basis would be correct, but it would be wrong to divide proportionately the cost of repairing damage caused by an accident when the car was being used definitely for one purpose or the other.

The above remarks apply to the assessment of professional profits; where a salary is concerned the position is somewhat different, as allowable expenses are restricted to those incurred "wholly, exclusively, and necessarily in the performance of the duties." As an illustration of the difference we may point out that, while a subscription to the British Medical Association is allowable in the case of a Schedule D assessment on profits, it would be refused—and apparently with good legal justification—in the case of an assessment of a salary, unless the employer required the employee to be a member of the Association as a condition of holding the appointment.

Some time ago a departmental committee was appointed, under the chairmanship of Mr. Justice Rowlatt, to consider the feasibility of simplifying the income-tax forms. That committee has reported, but was apparently unable to recommend any radical simplification so long as the present system of administration and the existing statutory code remain in force; in other words, the present complexity seems to be, in the opinion of the committee, a lamentable result of applying a rigid scheme of taxation to circumstances of almost infinite complexity. It is, however, to be presumed that the committee's activities have not been fruitless, and that the forms used in future will be found to be more intelligible to the average taxpayer than they have been in previous years. It is to be hoped so, for if the expectations raised by the appointment of the departmental committee are disappointed there will be a movement towards a radical amendment of the statutes themselves, the consequences of which would be more likely to benefit the astute business man than the professional practitioner.

We have endeavoured here to indicate some of the general principles by which practitioners should be guided in making their returns, in discussing with the inspector any objections he may raise, or in deciding to make an appeal. We do not think it is possible to go further, for individual circumstances differ so much that the application of principles may often present considerable difficulties. We shall continue to give definite assistance by advice to practitioners who submit specific questions, stating the full facts. It would save a great deal of trouble both to inquirers and to this office were this last point kept in mind—namely, that the statement of fact should be full.