All workers in chemical pathology will be greatly indebted to Professor CAVAZZANI for his excellent little book on the proteins of the urine.⁹ The first two chapters are devoted to a qualitative description of the proteins found in the urine. This is followed by an excellent account of all the latest methods for the quantitative estimation of the various urinary proteins, and full justice is done to the pathological implications of the subject. A very useful analytical chart is appended. The bibliography is exceptionally complete, and the monograph will save much time and trouble to research workers.

⁹ *Le Proteine dell' Urina*. By Emilio Cavazzani. Ferrara. 1920. (Pp. 163.)

APPLIANCES AND PREPARATIONS.

Surgical Needles.

MR. BRYDEN GLENDINING, M.S., F.R.C.S. (Aspley Guise, Beds), writes: Some six years ago Messrs. Allen and Hanburys made for me both round-pointed and cutting curved needles with square bodies, to my special measurements, in sizes 9, 12, 15, and 15 fine. The ordinary curved cutting needles are usually made with either a flattened or too weak a shaft, so that in the smaller sizes they are often unequal to the strain put upon them. They are specially liable to break when used

in dense fascias, scar tissues, and particularly in the cervix uteri, with annoying consequences. The round-pointed surgical needles usually supplied have always suffered from the disadvantage that, having round bodies, they tend to turn in the needle-holder. The square body obviates this, and, while in no way affecting their

general utility, makes it possible to use them in all except fascial structures with much less injury to tissues and vessels than with cutting needles. Six years' continuous use of these needles has impressed upon me their advantages, and suggests to me that if known they would be extensively used. They should have ordinary eyes, with the exception of No. 15 fine, which is spring-eyed and used for gut work.

An Improved Mouth Gag.

Major K. BLACK, F.R.C.S. Eng., surgeon to the Welsh (Ministry of Pensions) Hospital, Netley, sends us particulars of a new mouth gag, which has projecting plates extending inwards from the tooth-plates and set at a non-cutting knife edge; this, he states, allows the gag to be inserted between the teeth easily and quickly, even when the jaws are tightly closed. Anaesthetists will recognize that this non-cutting knife edge will prevent a delay which often is fraught with serious danger to the patient. In dental extractions it is found that with this gag the prop which is generally used becomes unnecessary. At the posterior and inner edges of the tooth-plates are ridges or lips, which effectually prevent the gag from slipping forwards and outwards when the mouth is forced open. (There are no

ridges at the anterior or outer edges, for the gag, when opened, does not tend to slip backwards and inwards.) The mouth can be locked in the open position, so that the hand of the anaesthetist does not have to hold the gag once it is in position—an important advantage. The angles and length of the gag are so arranged as to give the greatest leverage possible combined with lightness and strength. The handle is broad and concave, and facilitates the action of the hand in opening the gag. There are fine serrations on the ratchet, allowing the gag to be fixed open in any desired position. The spring is detachable to facilitate cleaning. It is unnecessary and undesirable to use rubber to cover the tooth-plates. The gag is made by and can be obtained from Messrs. Down Brothers, St. Thomas's Street, S.E.1.

Soloid Neutral Red.

Messrs. BURROUGHS, WELLCOME AND Co. have added to their series of compressed microscopic stains a "soloid" brand of neutral red. Each 0.1 gram product dissolved in 10 c.cm. of distilled water gives a 1 per cent. solution. Neutral red is used for Gram's stain, and more particularly for Jensen's modification; also for Neisser's stain. These soloids are very handy for the quick preparation of microscopical stains in small quantities as required.

THE HOSPITAL PROBLEM.

BY

STANLEY RAW, M.D. DURH., F.R.C.S. EDIN.,
SURGEON, ROYAL INFIRMARY, SUNDERLAND.

THE present voluntary hospitals are no longer voluntary in the sense for which they were ordained—namely, for the gratuitous treatment of the sick and lame poor—and the principal cause of the departure from original foundations has been the great widening of surgical scope in the past twenty-five years, so that—as is common knowledge—multitudinous cases are now operated upon in which operation would never have been suggested a quarter of a century ago. The natural result of this extension of scope is a greatly increased demand for its benefits, and in the main these can only be supplied in hospitals or nursing homes—in the former gratuitously, and in the latter at a prohibitive cost for the great bulk of the population.

To meet in some way the expenses of these new demands a system of workmen's contributions was introduced into many hospitals, and although in theory these contributions are considered to be personal donations to the charity, in actual fact they have come to be construed as being a sort of insurance premium, and the donors and their dependants are looked upon as having the right of admission, without further payment, to the hospital to which they subscribe, altogether irrespective of their financial position. In short, many voluntary hospitals are no more and no less than workmen's co-operative institutions where the regular subscribers—and, save in emergency, no others—are admitted without further question.

I have no quarrel with this attitude. When workmen's subscriptions were first instituted they were given in the truest spirit of charity and generosity, and with the genuine idea of supporting a charitable institution which was doing good work for the poorer members of the community. Neither do I believe that there is any large degree of avoidable hospital abuse existing, at least in my own district. After all, the most unflinching law is the law of averages, and so far as my judgement goes I am convinced that every class of the population can be divided up into three categories: A small percentage of members is much above the average in intellect and character. Another small percentage is much below the average level in these respects. The third, large class, is composed of straightforward honest people, who want a fair article or fair service for a fair price.

I consider that there are very few people who have an operation done in hospital simply to escape paying a fee, and I am convinced that the majority of patients would gladly pay a fee provided that it can come within the range of their means, and further, their pride resents it being done for nothing. The position of the non-manual workers of the population who, despite the fact that they are in many instances no better off than the manual workers, have to go to nursing homes, need not, I think, be elaborated.

The last point I wish to mention before coming to my ideas of the best future for hospital treatment is the great increase in the amount of work and time that is demanded of the honorary staff. I confine myself to my own hospital. I now have the privilege of being an honorary surgeon to the hospital in which I was a house-surgeon fifteen years ago. There has been practically no increase in the number of beds, and nothing beyond the normal increase in the population, and yet the amount of work, as judged by the number of abdominal operations, has increased by 600 per cent.

I shall, I take it, be on common ground when I say there are three methods by which the hospital work of the country can be carried on:

- A. Voluntary hospitals.
- B. Hospitals supported out of public funds.
- C. Paying hospitals.

It is, of course, for the majority of the community to decide which of these methods they prefer. Here I wish to point out for their guidance what in my opinion these various methods mean and entail. I say nothing more about the value of my opinion than to mention that I was a house-surgeon for nearly four years; I have been an honorary surgeon for nine years; I served as surgeon to a hospital in France for nearly four years; I was, whilst waiting for surgical work, a general practitioner, and I am now a consulting surgeon perfectly content with my own individual lot.

The Voluntary Hospital.

All of us who have had anything to do with hospital work are attached to the voluntary system in general, and

our own hospital in particular, for it is the centre of our happiest professional associations, and we would gladly carry on in the old way. We cannot carry on in the old way—for two definite sets of reasons. The first set of reasons has to do with the general expenses and necessities of hospital work, and amongst other things includes:

1. The greatly increased range of modern medicine and surgery, with all the extra work and expense attached to the necessary technique, methods, and special departments.
2. The greatly increased number of patients requiring treatment.
3. The greatly increased resident staff necessary to carry out the work.

The second set of reasons has to do with the visiting staff, and includes:

1. The appointment of various officers, such as anaesthetists, pathologists, x-ray specialists, etc., who, in the nature of things, must receive some financial remuneration for their services.
2. The greatly increased amount of work required from the regular honorary staff and the much higher standard demanded in this work.
3. The consequent greater difficulty for the honorary staff to find a sufficient source of income without engaging in general practice.

I, like most other surgeons of my acquaintance who have formerly been in general practice, am very glad indeed that, of necessity, I had that experience, but apart altogether from its science, the art of modern surgery is now such that it cannot be as efficiently carried out when the performer has to make his living in general practice as when he can devote his whole time to surgery, when, in fact, his surgical work is made a side line rather than the real business of his life.

If the above two sets of reasons are correct, the continuance of the present voluntary system becomes almost impossible, because:

1. It entails an expenditure which is hardly likely to be met by purely voluntary subscriptions, and which it is not altogether desirable should be so met; and,
2. It necessitates the bulk of hospital surgeons remaining in general practice.

Hospitals Supported out of Public Funds.

A hospital entirely supported out of public funds would necessarily have a paid staff, and in all probability the work of the staff would be confined to the hospital itself, and the benefits of their services restricted to the class eligible for admission to the hospital. The cost of maintenance would be greatly in excess of the cost of the present hospitals. The importance of the administrative side would be enhanced, and the importance of the clinical side would be diminished.

For these and many other reasons along similar lines, I am opposed to the establishment of hospitals entirely supported out of public funds.

Paying Hospitals.

As will be fairly obvious from my previous remarks, this is my view of the solution. To put it into one sentence my thesis is, "Medical or surgical requirement, and not poverty, should be the qualification for admission to hospital." I therefore advocate that the benefits of the hospital should be made available for all classes of the community that it serves, and that the only necessary qualification for admission should be the possession by the patient of some malady or injury requiring more than "ordinary medical attendance." Between certain limits all patients would pay for their treatment; the necessitous poor would be lodged, boarded, and treated free of charge; the moderately well off would pay the cost of their treatment, and the well off would pay such a sum as would leave a profit to the hospital. I venture to think that if such a system were instituted, the hospitals could actually be made to become self-supporting. I shall not now occupy any more space in working out this system in detail, for it is time enough to consider details when broad principles have been decided upon, but I should like to assist the adoption of these broad principles by advocacy from the following points of view:

1. *Efficiency and Expedition of Work.*—All hospital surgeons have performed operations in three places—their hospital theatres, nursing homes, and private houses—and all will agree that they do their work best in hospital and least well in private houses. Nor is this to be wondered at. In hospital they have their regular assistants, house-surgeons, and theatre staffs, all of whom know their ways and dovetail into the various stages of the operation. In addition to this, they have to their aid the elaborate apparatus of a large well-equipped hospital. If these advantages are admitted as to the art of their craft, how

much more are they evident on the scientific and nursing sides of their work, when the opinion of physician, pathologist, x-ray specialist, can be obtained under the most favourable circumstances, and where the surgeon sends his cases back to his wards knowing that his nurses know almost as much about the after-treatment as he does himself. I do not mean for one moment to suggest that perfectly satisfactory results are not obtained in nursing homes and private houses; what I suggest is that in hospital the surgeon feels more certain that these results will be obtained, and he is therefore easier in his mind, and consequently a better craftsman. The greater expedition of work in hospital, I am sure, needs no further proof than is afforded by the number of cases a surgeon will do in one session at the hospital as compared with his lists elsewhere.

2. *Financial Benefit to the Community.*—There are four classes of patients who may have to be submitted to severe operations or complex medical treatment or investigation:

(a) The poor who can pay nothing, and who have been, are, and should continue to be, admitted to hospital without any personal payment, and for whose treatment voluntary subscriptions will still be needed.

(b) These who can pay small fees, and who, in virtue of workmen's subscriptions, etc., are eligible for admission to their local hospital. Many practitioners tell me that they have any number of patients who could afford £10, £15, or £20 for an operation, provided that that sum included the whole cost of nursing, operation, and attendance, but who simply cannot afford the necessary cost of nursing homes. They further tell me that the majority of these patients would prefer to pay, and would welcome the opportunity to do so.

(c) Those who can pay small fees, but who are not eligible for admission to hospital in virtue of workmen's contributions, etc. This is, of course, the hardest hit class of all, and a serious operation in such a family is not only a surgical anxiety, but almost a financial disaster. It is, above all, the class that would rejoice at the opening of hospitals to their kind, where their nursing would cost them less than in a nursing home, and where surgeons could obviously afford to operate for much smaller fees than they are compelled to charge in a private home or house.

(d) The well-off, to whom the actual monetary cost is of little moment, but whose gain would be considerable from the point of view discussed in the next section.

3. *Economic Benefit to the Community.*—This will best be seen if I limit my argument to the consideration of surgical emergencies. How many acute surgical emergencies occur daily throughout the length and breadth of England I do not know, but the number must be considerable, even though we limit our definition to ruptured gastric or duodenal ulcer, intestinal obstruction in its many varieties, acute fulminating appendicitis, and similar impending calamities. What happens to a patient so afflicted? The "hospital class," if seen early enough by their own family doctor, can be immediately sent to hospital and operated upon within two or three hours of the first symptoms, and under no other circumstances can this consummation be achieved. We therefore have now a state of affairs in which the most skilled, industrious, and useful members of the community have a worse chance of recovery from a serious surgical emergency than have the least useful members. As individuals no one person has any more right to medical or any other benefits than another; but surely the time has arrived when the highly trained professional and business classes should be given an equal chance of recovery with the least skilled labouring classes. Therefore, open the hospital doors to them and let them get more quickly back to their places in the economic machinery than they are at present able to do.

4. *The Position of the Hospital Staff.*—This would be altered in many ways. Financially the more successful members would probably be less well off, but their scientific position would be so much more comfortable that any loss of income would be more than compensated for. I would suggest that the staff should receive a small retaining fee for their work in connexion with the non-paying patients, and that their remuneration for attendance upon the paying patients should be a matter of arrangement between them and the patients. The important thing is that the members of the staff would be restricted in their practices to their own particular variety of work, and, further, that they would only practise their own specialities as consultants. The benefits from this arrangement are too obvious to need tabulation, and they are so obvious that it is a matter of surprise that they have not already been secured.

5. *The Retention of the Spirit of Charity.*—This seems to be the basic thought behind the objections of those who most insistently demand the retention of the voluntary system as at present constituted. The spirit of charity

can still be retained under my suggested scheme, for it allows for the continued free treatment of the poor, of whom there will always be a sufficient supply to occupy the fullest amount of hospital space that the charitable are likely to provide. If, in any happy region, the charitable subscriptions exceeded the absolutely necessary demands upon them, the excess could well be applied to the reduction of the charges made to the paying patients. Further, charity does not begin and end with the apportionment of various sums of money to various specific objects. It can still be exercised in less tangible forms, and there will always be ample outlet for all the founts of charity that this world is likely to provide.

THE SUSSEX PROVIDENT SCHEME.

THERE is now at work in Brighton, Hove, and Preston, through the help and co-operation of the principal hospitals in those places, a provident scheme which supplies its members, under the conditions set out in the rules, with practically all the medical resources which exist at the present day in a large and highly organized community.

The chief consideration which led to the establishment of the scheme was a recognition that the great and increased cost and complexity of medical services, beyond the scope of a general practitioner, made it impossible for a large majority of the population to obtain benefits in cases which could not be properly dealt with unless the doctor in charge had them at his disposal. The patient was compelled either to do without the advantages or to accept them wholly or in part as a charity. A further fact which weighed with those who promoted the scheme was that many of the voluntary hospitals are already obliged to charge for their services; the Royal Sussex County Hospital, the principal hospital in Brighton, has, since January last, asked all its out-patients to pay a part of the outgoing cost of their treatment and its in-patients to contribute according to their means to their maintenance in hospital.

The scheme is designed to assist not only the hospitals but the general practitioner also, and has been very fully considered by the whole profession in the district; it has been approved by four meetings of the profession called to consider it—namely, by meetings of the Executive Committee of the Brighton Division of the British Medical Association, of the Brighton Panel Committee, of the honorary medical and surgical staffs of the hospitals concerned, and of the medical and dental professions generally.

It is clearly to be understood that the scheme has nothing whatever to do with the National Health Insurance or any other organization for medical benefit, and does not provide its members with ordinary medical—that is, general practitioner—attendance, or other benefit to which they are entitled from the State or from local authorities. It has been established for the benefit of those who, being bona fide residents of Sussex, irrespective of class or occupation, are in a financial position which makes them eligible for election as members.

All those insured under the National Health Insurance Acts are eligible for membership. While for others it has not been found possible to fix a hard and fast line of financial eligibility, a maximum income limit of £260 for single members, £400 for married people without children, or for a widow or widower with one child, and £500 for a family, may perhaps be assumed generally.

Facilities.

The following facilities have been arranged:

Consultations.—The medical attendant of a member may arrange, by appointment, for private consultations at any of the co-operating hospitals, namely:

The Royal Sussex County Hospital,
The Royal Alexandra Hospital for Sick Children,
The Brighton and Hove Hospital for Women (for Obstetrics and Gynaecology),
The Brighton and Hove Provident Dental Hospital (for Dental Surgery),
The Brighton, Hove, and Preston Dispensary,
The Sussex Eye Hospital (for Ophthalmic Cases),
The Sussex Throat and Ear Hospital (for Diseases of the Throat, Nose, and Ear),
The Lady Chichester Hospital (for borderland Mental Cases), and
The New Sussex Hospital for Women and Children;

and such treatment as he and the consultant may jointly think advisable will be undertaken, at the hospital if this should be necessary.

For those members who are living in the county borough of Brighton and municipal borough of Hove, and unable to leave their beds, the services of visiting consultants (a list of whom will be kept at the office) may be secured by appointment. For country members unable to leave their beds free consultations may be obtained by appointment, subject to the payment to the consultant at the time of consultation of a charge equal to one-half of the usual mileage rates calculated from the Brighton Central Railway Station.

Dental Treatment.—The Brighton and Hove Provident Dental Hospital will supply members sent by their medical attendant with all ordinary dental treatment which may be considered necessary, and will provide them with any dentures which may be required at hospital rates.

Laboratory.—All the resources of the Stephen Ralli Memorial Laboratory, Royal Sussex County Hospital, will be available for the benefit of members after consultation, including bacteriological and pathological investigations and examinations beyond the province of general practice, Wassermann and Widal tests, etc., blood examinations and counts, the preparation of autogenous vaccines, etc.

X-ray examinations will be available at the Royal Sussex County Hospital and at the Western Branch of the Brighton, Hove and Preston Dispensary, at the request of the medical attendant of a member, and, where found necessary, will be made, and a report supplied to a doctor. Treatment by x rays (including bismuth meals with examinations) will be given when, after consultation, it has been considered advisable.

Massage will be provided by appointment for members in whose cases it is prescribed after consultation.

Electrical treatment—that is, galvanism, faradism, high-frequency, ionization, diathermy, etc.—will be administered by appointment at the Royal Sussex County and other hospitals, after consultation, in suitable cases.

Hospital Treatment.—Urgent cases will be admitted to hospitals as at present, other cases requiring operation or other hospital treatment will, after consultation, be admitted to hospital, or be placed upon the waiting list of the hospital until there is a vacant bed, but a member will not take precedence over more urgent cases, and the ordinary hospital routine will not be disturbed. In all the co-operating hospitals in which beds are reserved at present for paying patients, members will be admitted to these beds if available, should they desire it, at a uniform reduction of one guinea a week from the usual price of the bed.

RULES.

1. No one will be accepted as a single member except an unmarried man or woman, or a widower or widow without children under the age of 16. The subscription for a single member will be £1 per annum.

2. Married people without children, or a widower or widow with only one child under the age of 16 years, may only subscribe jointly at a rate of £1.10s. per annum for the two, although each shall be accounted a member.

3. Married people with a child or children under the age of 16, or a widower or widow with children under the age of 16 years, may only subscribe at a family rate of £2 per annum, which shall include the whole family, however large, except children over the age of 16, who must be accepted as single members, although each individual in the family shall be accounted a member. N.B.—These rates are subject to revision by the co-operating hospitals after due notice.

4. All candidates for membership must be approved by the "Committee of Reference" formed by the co-operating hospitals, except in the case of those insured under the National Health Insurance Acts, who will produce their medical card. In the event of the eligibility of any member being questioned, the matter will be submitted to the "Committee of Reference," whose decision shall be final.

5. Cards of membership, bearing the date, will be issued on the first day of each month, to those who have become members during the preceding month, and the benefits will begin on the date of the card, and continue for one calendar year. These cards can be produced as evidence of membership.

6. At the end of one year from the date of issue of the membership card the benefits will cease unless the subscription has been renewed. Fourteen days' grace will be given for renewal (during which no benefit will be available), but after this, renewed membership will only be possible from the beginning of the next quarter.

7. When the number of members has reached the limit of the capacity of the co-operative hospitals the list will be closed.

8. When a member is leaving the county within the first six months of membership, and in consequence wishes to resign, one-half of the subscription will be repayable upon application.

The first ten thousand members will receive an "original member's" card, and their subscription will not be raised while they continue to be members.

An office has been established at 4, St. George's Place, Brighton, where forms of application for membership are issued and subscriptions received.

At a general meeting of members of the Medical Society of Victoria, Dr. W. R. Boyd and Dr. C. H. Mollison were enthusiastically appointed life members of the society in recognition of many years' valuable services rendered by them to the society.

As a result of scientific investigations begun in 1914, improvements have been carried out at Harrogate, and the strength of the saline sulphur bathing waters has been doubled; the strength of the other sulphur bathing waters has also been increased. The Harlow Car alkaline sulphur water, which is used for skin diseases, has been brought in an efficient state to Harrogate from the springs over two miles distant.