nesia to be given one hour after each powder. Small pieces of ice and iced water to quench the thirst. This was very grateful to the child. The air of the room was impregnated with chlorine in the way described. When I saw her at 7 P.M. the child was better. She had taken three powders. The sickness and headache had left her. Her throat was less sore on swallowing; she having felt almost instant relief from this symptom the moment she breathed the chlorine. She had had several most offensive watery evacuations throughout the day. The rash and heat of skin remained the same. The tongue had quite changed its appearance from the brown colour of the morning, to a red, chalky condition. I ordered the powders to be left off, and no other medicine to be given until the morning, when she was to have a dose of the citrate of magnesia. On August 10th, the rash, which yesterday was of a dingy red, this morning was a vivid scarlet. The burning heat of skin and quickness of pulse remained the same. I ordered her one grain and a half doses of quinine, with ten-drop doses of dilute sulphuric acid, with tincture and syrup of orange peel to be given in water every six hours. Her diet was beef-tea and bread. When I saw her at midnight I heard that she had fallen asleep at 7 P.M., and remained so until that time. On the 11th, the child was in all respects better. She had slept until 3 A.M.; awoke, and fell asleep again. The rash still continued. The pulse was less rapid, the heat of skin less, the throat more comfortable. She felt so well that she wanted to get up and be dressed. The tongue was more furred to-day. I ordered her a dose of scammony and calomel to be taken at night. On the 12th she was much better. The eruption was paler, the tongue cleaner, the pulse reduced to 95. The result from the powder was a healthy evacuation. On the 13th, the eruption had faded away. The patient was ordered to have a warm bath at night. It is unnecessary to continue the history of this case. The child went on for three weeks upon the same treatment, and never had a bad symptom—taking her quinine every six hours, with an occasional aperient at bed time, with beef-tea for her diet, and a warm bath every second night. Desquamation proceeded most satisfactorily, and at the end of this time her skin had resumed its normal character.

I attribute the short duration of the rash to the effect of the quinine and acid, as ever since I have employed these remedies I have found that the continuance of the rash is rarely beyond three days. On the other hand, I have often observed that, in cases where ammonia or chlorate of potash have formed the basis of treatment, the rash has lasted for a greater number of days.

The house in which this child was ill, was full of visitors, children, and servants, yet every one of them escaped the infection of scarlet fever; and I am unable to attribute their immunity from the disease to any other cause than the free use that was made of the disinfecting power of chlorine.

CAN THE PUBLIC HOSPITALS AND DISPENSARIES OF THIS COUNTRY BE SO ADMINISTERED AS TO CONDUCE MORE TO THE WELFARE OF THE COMMUNITY?

By D. H. MONCKTON, M.D., F.R.C.S., Rugeley, Staffordshire.

THE writer's answer is: "Yes, by infusing largely into their constitution a provident and self-supporting principle." While Christian charity demands the relief of want, suffering, and misery in our fellow-creatures, from what cause soever proceeding, it is very generally admitted that the indiscriminating distribution of our bounty tends often to the pauperising and demoralising of its recipients; and it is a matter of common observation that towns, in which charitable endowments of a purely gratuitous character abound, become very frequently the residence and resort of an idle, thriftless, and immoral population.

It becomes the philanthropist, therefore, leaving the strictly pauper class to the legalised charity of the Poor-law, to consider how he may so aid and assist the struggling mechanic and peasant as to prevent his falling into pauperism, or losing his independence and self-respect by being involved in a hopeless state of debt. To this end, provident institutions provided for him tend greatly to encourage provident habits in him. It is, with all classes of society, too common a mistake to estimate wealth by income, rather than by the relation of income to expenditure; to strain every nerve to increase the former, while careless to diminish or control the latter; the speculator is too busy in the city to examine his household expenses; the artisan toils at overtime tasks while waste is in his cottage; the workman joins in a strike for an increase of a shilling or two to his weekly wages, though he might easily save a larger amount by a more thrifty application of his earnings. The writer of this paper

remembers to have seen on the table of a labouring man a list of articles, scratched down by the wife, to be obtained in the neighbouring town on the Saturday night; the prices attached to each small item being at least double those for which they could be obtained, if purchased judiciously and in larger quantities. In the present day, much has been done, and is being done, to induce the working man to foresee and provide for the requirements of himself and family. The local savings' banks, the more recently established Post office banks, the Government life assurance and annuity scheme, the friendly societies, co-operative stores, clothing, shoe, coal, and blanket clubs are contributing greatly to the comfort and well-being of the families of working men in health; but it is sickness in the house which so greatly increases the daily expenditure. In middle class households, do we not see everything give way before the thought of relief to the invalid? the business, pleasure, or work of the house is stopped; at any cost or sacrifice quiet; silence, every necessary food, medicine, nursing, and medical attendance must be had. But what if the family be poor? What if the bread-winner himself be the sick one? Are not the feelings the same in that house? All who have gone in and out among the poor must remember the pale wan look of the wife or mother of the suffering husband or child.

What is wanted to give them something of the solace in illness which their wealthier neighbours enjoy? First, and foremost, it is essential that the bread-winner or winners should belong to a sound, safe, and well managed sick pay assurance society; and, of the many forms of such clubs (the Government at present declining the responsibility), the writer gives the preference neither to the small village pot-house club, nor to the universal association with its central metropolitan management, but rather to the district society, founded and arranged by a committee of noblemen, clergymen, etc., with the aid of competent actuaries. Such an association is usually large enough to be safe, and small enough to be well within the cognizance and control both of managers and members. It is inexpedient, however, that women and children should subscribe for sick pay; the mother may be ill, yet able to prepare the meal, to dress the children; her illness or her child's is mainly a loss as involving a doctor's bill. For these, therefore, and to include men too old or unhealthy for the sick-pay clubs, a dispensary is highly advantageous. Some of these have been purely gratuitous charities, subscribers giving tickets to their sick neighbours who are then attended free of charge; others, again, divide the cost of attendance between subscribers and the sick they recommend, the latter paying a small sum when requiring medical aid; but neither of these encourage providence and independence in those of limited yet regular incomes, while this is accomplished by the self-supporting provident dispensary or purely medical club. The mechanic should not, and does not as a rule, desire the unremunerated services of a doctor, or wish the rich to pay for such services rendered him; bring the article within his reach, and he will prefer to pay for it. As an arrangement between medical man and working man, the provident dispensary is undoubtedly equitable and convenient, although, like the best of everything, liable to some abuse. As affording an opportunity to the benevolent to aid the deserving poor at their time of greatest need, it is most valuable; for, while the members choose to pay their own medical attendants by small weekly contributions, in health as well as sickness, an honorary fund, administered by a committee and the medical officers, may be the means of affording an immense amount of comfort to those who have proved themselves worthy of assistance by their provident connection with the institution. Abuse of, and imposition upon, such a dispensary may perhaps be feared in large towns in which the inhabitants must be but little known personally to any committee; but even in such, the medical attendant would be well able to assist the committee, to prevent its being as much imposed upon as are the large hospitals of large towns.

Such provident self-supporting dispensaries are especially suitable for smaller towns, and the district within a radius of four or five miles, including a population of perhaps less than 10,000 inhabitants. In August, 1866, such an institution was founded in a town containing 4,362 inhabitants, and extending its operations over six parishes, containing in all 7,615 souls; and, although a number of men, women, and children were already members of sick pay clubs, yet so rapidly did the new institution become popular with the working class, that 500 enrolled themselves members within six months, 1,000 within twelve months, and, at its second anniversary, 1,400 members were connected with it; and, in proof of the good opinion entertained of the working of this dispensary by the benevolent lookers on, it may be mentioned that its honorary fund amounted in the first year to £61:13:6; in the second, to £59:4:6; and, at the commencement of its third year, a bazaar held in its behalf, conjointly with a cottage hospital, realised a clear profit of £500.

The rules of the institution referred to are annexed to this paper; but the main features are the following:—1. That its members shall be strictly of the working class. 2. That the payment shall be one penny

a week, made in advance weekly, monthly, quarterly, half-yearly, or yearly, at the option of the member. 3. That large families are assisted by all their children being free members of the institution, so soon as five of the family have been enrolled as paying members. 4. In these five, members of other clubs may count. 5. That, while every discouragement is given to delay in entering until illness occurs, yet, under certain regulations, admission may be gained even during sickness. 6. For married women, being members, the midwifery fee is partly paid from the fund in aid. 7. That all duly qualified medical men within the district are, if willing, medical officers of the society. 8. Each member, when sick, may choose his medical attendant, no change being allowed during the current year. 9. That the contributions of the benefit members be divided among the medical officers, in proportion to the number of cases attended by each. 10. That the honorary fund, arising from donations and subscriptions, be employed by the committee to defray the expenses of management, and in providing nursing, food, stimulants, etc., for the needy members during illness. 11. That local secretaries (generally the schoolmaster) be appointed for each village to receive the contributions of both benefit and honorary members, their remuneration being 5 per cent. on the amount passing through their hands.

In its practical working, such a provident dispensary is found to present numberless advantages; medical assistance is early resorted to; the working man's liability to his doctor is limited to a regular and definite amount; the doctor finds his booking work and doubtful debts greatly diminished; the poor but honest man gladly ceases to accept the gratuitous assistance of the medical profession; the dishonest have no longer excuse for neglecting a Christmas account; the benevolent of the neighbourhood may assist the very poorest by enrolling them as members.

From the honorary fund, or by special gifts, a variety of useful appliances, conveniences, and sick-room comforts, may be accumulated at a *dépôt* for sending out to sick members. If a cottage hospital be at hand to receive a diseased or injured member, the weekly payment for board may be defrayed by the fund in aid. And, to complete all, it remains only that skilled nurses be employed and an invalid kitchen provided, from which they may draw supplies for the sick members.

With regard to that portion of the question proposed, which relates to public hospitals, it must be borne in mind that, however preferable a large cleanly and well ordered hospital may be to the small, close, filthy attic, living-room, or cellar home, the statistics of mortality in such institutions do not bear comparison with those of patients treated in country cottages; and so apparent is it that the aggregation of patients in large wards of large hospitals is disadvantageous to them, whether regard be had to their comfort, quietude, or chances of recovery, that Sir James Simpson and other able thoughtful men of the day are advocating the distribution of sick people in smaller wards or pavilions over a larger area than is usually covered by a hospital. The multiplication, therefore, of small village or cottage hospitals throughout England (even to their being as many as its steeples) must be correct in principle, and tend to diminish mortality and suffering. Perhaps the advantage, next in importance, accruing to the public from such institutions, is the improved standard of medical and surgical skill which they tend to create by enabling provincial medical men to retain under treatment cases of severe illness or accident, which would otherwise be transferred to a county or metropolitan hospital, and so affording opportunity for the exercise and advance of that skill and knowledge with which so many young men annually leave the London Schools of Medicine for the provinces.

A class of patients may be induced to submit themselves to systematic medical and surgical treatment in a comfortable small hospital near to their own homes and friends, who would not consent to enter the more distant and dreaded portals of the city hospital.

It is well for a community to feel and know that there is always ready in its midst, a bed, a nurse, a medical staff, for the prompt care of the maimed, the crushed, the burnt, of whatever rank or station.

The village or cottage hospitals may be made a *dépôt* for the supply and a humble school for the education of nurses for duty in the surrounding neighbourhood.

Mr. Albert Napper (the ingenious originator of the system of cottage hospitals) and Dr. Edward Waring have published such complete accounts of what they should be, and how organised and managed, that it is unnecessary here to enter into such details; but, in reply to the question propounded for discussion, on the present occasion it may surely be asserted that the multiplication and broad-cast scattering of such miniature infirmaries will conduce to the welfare of the community.

The writer also wishes to raise the question, Whether it is desirable that the present system of recommendation of patients, by subscribers to hospitals, should be continued? It is well known that this practice has long been discontinued in the best and most useful Metropolitan Hos-

pitals, it being found that under it the beds would be filled by comparatively unimportant cases, to the exclusion of severe urgent and necessary ones. And there is too much reason to believe that such is the case in many provincial hospitals, in which comparatively trivial cases are treated because sent by some distant patron, while the back slums of the town may be crowded with more acute more urgent cases. It is an undoubted fact, that many eyes are lost by the delay necessary to procure a formal recommendation to an Ophthalmic Hospital.

Surely it would be better that the selection of patients, of house-surgeons, matrons, and other officials should be left by the subscribers in the hands of a competent committee of Management, one in which the medical element is adequately represented; so that the public may feel confidence in applying, or sending needy applicants, to the doors of our hospitals.

CONSERVATION OF THE URINE FOR PATHOLOGICAL EXAMINATION.

By WILLIAM TOZIER, L.A.H.I., Dublin.

THERE is a method of urinary examination that up to the present time (as far as I can understand) has been overlooked by scientific men. It is a remarkable fact that so simple a method of investigation should have escaped their notice and attention so long. Every tyro in chemical lore is acquainted with the amusing experiment of making a concentrated solution of any salt—sulphate of soda, for instance—heating it to its boiling point, and at this stage of its expansion corking the bottle firmly, or hermetically sealing it. After some moments the solution begins to crystallise, and this process continues until the interior of the vessel ultimately becomes one mass of beautifully formed crystals, capable of being conserved for any length of time, no decomposition or change of any kind resulting. Now, it is manifest that the urinary secretion is susceptible of a similar treatment, and that not only could our public museums be enriched *ad infinitum* with morbid and normal preparations of urine as a class in themselves, illustrative of pathological preparations present, but the whole history of vital phenomena in connection with urinary diseases might at any time be studied in those ultimate products themselves. I have in my possession three specimens of urine obtained from different sources; and it is extremely interesting to observe the regularity with which the crystallisable amorphous and organic principles arrange themselves in each case. With a lens of ordinary power, any or all of these substances may be read off at a moment's notice, and an amount of instruction obtained scarcely to be believed or arrived at in the ordinary methods of examination.

Half an ounce of urine obtained from a young cat that died of grey hepatitis of the lung six years ago, retains at this period all its characteristic properties; there is at the bottom of the little vial a remarkably fine transparent crystal of urea, some uric acid, and other salts, present, all immersed in a dark sepia-coloured solution, no agitation whatever having affected their continuity. In another specimen (that of a jaundiced patient), more than twelve months conserved, there now appears an abnormal amount of oxidised products at the bottom and sides of the containing vessel, with a transparent coating of purpurate of ammonia very manifest to the observation, while the *gamboge* tint of the menstruum has not undergone any perceptible change whatever. In a third vessel, I have the sum of three collections, removed from atmospheric pressure, occurring in an individual who some time since passed a calculus from the bladder spontaneously. In this product I am capable, from the appearance of the results on the sides of the bottle, of knowing the exact character of the calculus passed, although never having an opportunity of witnessing or examining it.

I am disposed to think that this method of examining the urine and conserving it for the purposes mentioned, would prove a most attractive branch of study in other hands. The method to be pursued in every case is simple and effective, it being only necessary to fill a properly constructed vessel with the urine for analysis, and subject it to its boiling point in a water-bath, and, when all the air is effectually removed, cork it up tightly, and finally seal it over to prevent the further re-admission of air. In this state it may be conserved for years. In a short time after the operation, the crystalline particles commence to deposit themselves, which change continues until all the saline constituents of the urine become apparent; they may be now examined with an ordinary lens or the naked eye, or under the stage of a microscope like any substance, or with a common object-glass; for, as they attach themselves with some firmness to the sides and bottom of the containing vessel, no rude movement can at any time materially displace them.