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INDICES

TO

The China Medical Missionary Journal.

VOL. X, 1896.

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No. 1.

Original Communications.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editor on the first day of the month preceding that in which they are expected to appear. The editor cannot undertake to return manuscripts which are sent to him. A complimentary edition of a dozen reprints of his article will be furnished each contributor. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

THE REPORT OF THE OPIUM COMMISSION.

A non-medical writer naturally feels some hesitation in addressing the readers of a medical journal on any subject which might seem to lie especially within the province of medical men and to demand for its proper treatment a certain amount of technical and scientific knowledge which few laymen possess. It is not my intention, however, in the following pages to tread on any ground that belongs properly to the medical man. My desire is simply to offer some criticisms on the way in which the Royal Commissioners have dealt with the evidence on which their Report* is supposed to be based, and to try and enlist the services of medical men in the work of investigating this evidence more thoroughly than it has yet been investigated, with a view to ascertaining how far it really bears out the conclusions which the Commission has drawn from it. A good deal might be said by way of criticizing the evidence itself, but I shall not enter on that subject in this paper, except incidentally.

It is commonly assumed that the result of the Opium Commission's enquiry has been a crushing blow to the anti-opium party and to the anti-opium cause. That opinion, I think, is more likely to be arrived at from reading newspaper references to the Report than from reading the Report itself and carefully studying it in connexion with the evidence which the Commissioners have printed. My own perusal of the Blue Books

* N.B.—The word 'Report' in this paper is used in two different senses. It sometimes stands for the whole of the seven Blue Books which the Commissioners have published and which contain the evidence of all the witnesses. The more general use of the word, however, is to indicate only the verdict and comments of the Commissioners, which are found in Vol. VI., pp. 1-98. Whenever I speak of 'the Report' and 'the evidence' together, I use the word in the more restricted sense that I have just explained.

leaves on my mind the impression that we have gained at least a moral victory in regard to several most important points. That the first effect of this Report should be to create an impression on the public mind that the anti-opium party has been silenced is not wonderful. Englishmen are accustomed to regard the enquiries of Royal Commissions as being strictly impartial and trustworthy. But let it once be made apparent to the people generally, that in any particular case there has been a breach in the honourable traditions of our national method of enquiry by Royal Commission, and we may suddenly see a strong re-action of opinion and sentiment setting in, in regard to a matter which the verdict of a Royal Commission was supposed to have finally settled. I cannot profess to think that in the present instance the enquiry by Commission into the merits of the opium question in China, has been impartial, either in its methods or its verdict. I look forward to a time when the present Report will no longer be regarded by any one as authoritative. In order to bring about this consummation, it is earnestly to be desired that the anti-opiumists should make a conscientious and searching examination of the materials, in the shape of evidence, with which the Blue Books supply them. The work is a great one, but the issues at stake are great also, and many workers are necessary for the accomplishment of what needs to be done. A resident in China, *e.g.*, can see flaws in the Report and discrepancies between the evidence and the verdict, which our friends in England or in India would easily overlook. Again, a medical man can see in the medical evidence mis-statements as to facts, or illogical inferences from facts correctly stated, which a layman cannot see. And so on in regard to other aspects of the opium question, moral, historical, medical, financial. Each worker can in his own department do something to make the truth manifest; in so doing he will be able to influence people of his own class by arguments specially likely to appeal to them, and further, he will contribute materially to the general enlightenment of the public mind upon the whole question. It would be well for us all to feel the burden of the LORD laid upon us to do what in us lies, for the overthrow of the monster evil which within the last fifty years has wrought such devastation in China, and which within the next fifty years, if it be not checked, will work devastation in India, and even in England also. Indeed zeal for the welfare of our own land, should alone be sufficient to prompt Englishmen who know the evils of the opium habit, to do all they can to expose the true character of the Opium Report, for if ever the views advocated in it come to be widely known in England, and accepted as true, the habit of laudanum-drinking will certainly spread, to an extent ruinous to our country.

But, as I have already said, the task of examining the Report of the Opium Commission is a great one. A large folio work in seven volumes, weighing together over fourteen pounds, and containing 2,550 pages, of which nearly 2,000 are closely printed in double columns and small-type, represents

The Report of the Opium Commission.

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the evidence given before the Commission and the conclusions of the Commissioners. A most useful and compendious little work of about one hundred pages 8vo. entitled "The Opium Habit in the East. A study of the evidence given to the Royal Commission on Opium, 1893-4," has been published in London (P. S. King and Son) by Mr. Joshua Rowntree. In this little book, Mr. Rowntree attempts to provide some sort of help to those who wish to get at the gist of the evidence given before the Commission. He rightly characterizes the Blue Books themselves as "a vast trackless expanse of opinions on the Opium Question, interspersed with clumps of more or less useful information by way of appendices." The indexes provided by the Commission, which apparently were not published when Mr. Rowntree wrote his pamphlet, are exceedingly poor, and in some cases utterly misleading. One cannot help feeling sometimes that the references to certain subjects given in the index, are not intended as a guide to *all* the evidence on those subjects which was laid before the Commission, but only to such parts of it as the advocates of the opium trade wish considered. Let any one, *e.g.*, look under the word 'Medicinal,' and he will be apt to suppose that the medical testimony given to the Commission must be almost wholly favourable to the indiscriminate use of opium as a panacea for nearly every form of sickness and disease. It is needless to say that a good deal of the medical testimony was not at all of this nature. I will make my point clear by a few figures. The index under the word 'Medicinal' fills four columns and a half, each column eleven inches deep. The references are given under 235 headings; of these headings about 190 are devoted to references to answers detailing the benefits of opium, about 30 are devoted to answers of a neutral character (such, *e.g.*, as 'Quotations from Sanskrit books,' etc.), while not more than 15 point to answers manifestly unfavourable to the consumption of opium, or indicating the danger of its indiscriminate use. Now no one who has read all the medical evidence published by the Commission can possibly assert that an index compiled on these lines is a safe guide for those who enquire of it what the facts are in regard to the medical evidence, and where those facts are stated in the Blue Books.

If now we turn to the word 'Missions,' we find seventeen sets of references given. Of these *only five* direct us to answers where we shall find missionary testimony adverse to the use of opium, while as many as ten are headings such as these: (Missions) "Identified with the opium agitation," "Accuracy of their information doubted," "Opium no obstacle to missionary work," "Prejudice against opium unreasonable," "Paid enquiry agents of disreputable character alleged to be employed by missionaries," "Catholic missions find opium no obstacle to success." The animus of all this is only too manifest. Without imputing deliberate misrepresentation to the compiler of the index, one cannot but feel that he had not a single eye to the truth, that in his department of

the work to be done for the Commission he was not an impartial worker, that he was not scrupulously anxious to guide readers of the Report to those places where they would get a fair idea of the attitude taken by missions and missionaries towards the opium question. The mass of missionary evidence is very large indeed, but neither here, nor under the word 'Witnesses,' does one get any idea either of its amount, or of its predominant character. So far as China is concerned, the evidence of missionaries was very voluminous, very emphatic, and practically unanimous, at least as to the evils of opium consumption; but even under the words "China Missions" comparatively few references are given to what missionaries themselves say, and there is here *not even a single reference to any item of evidence in Vol. V.*, although it is this volume that contains the great bulk of the China evidence, and the volume is referred to elsewhere. But I have said enough of the index to give some idea of its unsatisfactory character. It is only fair to say that in some parts of it much more candour seems to have been shown, see *e.g.*, 'Popular view of habit,' but even here, it is much to be regretted that hardly any references are given to the China evidence to be met with in Volume V., for it is in that volume that the strongest things said about the opium habit are to be found.

When we pass from a cursory glance at the Blue Books as a whole, to a detailed examination of the evidence, we are at once struck with the glaring contradictions that meet us continually. The positive assertions of one witness are flatly contradicted by the next, in a way that must be utterly bewildering to readers who come to the study of the Report with no previous knowledge of the questions at issue, and with no clue to the comparative esteem in which the witnesses are held by those who know them best and who can best estimate the worth of their opinions. Perhaps the most bewildering contradiction in the whole of these Blue Books is one that will be of special interest to readers in China, and specially perplexing to readers out of China. In Vol. V., pp. 329-332 we find two witnesses belonging to the same mission—the American Episcopal Mission, living at the same place—Shanghai, answering the same questions, but expressing diametrically opposite opinions even in regard to the simplest questions of fact. As one of these two witnesses, Dr. Percy Mathews, has been specially chosen by the Commissioners for quotation in their summing up of the China evidence, and assigned a place of honour as a leading authority on the opium question, it may be as well to give a few specimens of the questions to which he and his much respected colleague Dr. Boone have both replied, but in an opposite sense. For the sake of clearness of comparison I give their respective answers in parallel columns:—

Q. What are the proportion of those who use opium (i.) without injury; (ii.) with slight injury; (iii.) with great injury ("opium sots")?

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A. Dr. MATHEWS.

Dr. BOONE.

“(i.) 70 per cent; (ii.) 27 per cent; “(i.) Few, if any; (ii.) some are temperate; (iii.) most of them gradually take more and more, become greater slaves to the habit.”

Q. How does the use or abuse of opium among the races of that part of China with which you are conversant, compare with the use or abuse of alcohol among such races in regard to the effect on consumers?

A. Dr. MATHEWS.

Dr. BOONE.

“‘Alcohol’ is more injurious.”

“Opium has the worst effect.”

Q. Is opium within your knowledge a prophylactic against fever or rheumatism or malaria?

A. Dr. MATHEWS.

Dr. BOONE.

“Yes.”

“No.”

Q. Is there amongst the Chinese in the part of China with which you are acquainted, any wish that England should not allow opium to be exported from India?

A. Dr. MATHEWS.

Dr. BOONE.

“I do not believe, and upon enquiry “The Chinese do wish that England I have never heard of any unin- should not allow opium to be fluenced desire in that direction.” exported from India.”

A certain amount of contradiction in the evidence of witnesses was to be expected, and we need not be surprised at it, though one would hardly have expected two men working apparently under such similar conditions as Dr. Boone and Dr. Mathews, to view the facts before them with such different eyes. But there is a class of contradictions to be met with in this Report for which one is not prepared, and that is contradictions between the facts of the evidence and the statements contained in the verdict as to what those facts are. Let me illustrate what I mean. Twenty witnesses may have talked nonsense, and if they did so the Commissioners are well within their right in saying so; but the Commissioners are not within their right in saying that no such witnesses gave evidence! Or, again, twenty witnesses may have said that something was black which the Commissioners regard as being white. In that case, the Commissioners have a right to call attention to this circumstance, but they have no right to say that all these witnesses said that the thing in question was white. To say that, is simply to falsify the evidence. This is what I mean by a contradiction between the facts of the evidence and the statements of the verdict as to what those facts are, and I have felt it laid upon me to draw special attention to this feature of the verdict, for I conceive it to be a matter of the highest importance that the public should know that such a contradiction as this does occur in the Report. In an article written for the *Chinese Recorder* (January, 1896) I have shown that a statement made by the

Commissioners to the effect that "there is no evidence from China of any popular desire that the import of Indian opium should be stopped" is absolutely opposed to fact. I have proved beyond possibility of gainsaying, that *no less than forty* competent witnesses, including two English bishops, three British Consuls, several Chinamen of position, and a number of the best informed and most highly esteemed missionaries in China have all definitely and emphatically given the very evidence which the Commissioners say in their Report does not exist! What confidence can be placed in the accuracy or impartiality of judges who thus treat some of the most earnest and intelligent testimony submitted to their consideration? Numbers of people will accept this and other statements made by the Commissioners as being true, without ever reading the evidence to see how far they are borne out by it. It is for those who have read the evidence, and who perceive discrepancies between it and the verdict such as I have now alluded to, to point them out. I am sorry to say that my reading has convinced me that in more particulars than one, the verdict is not only against the evidence, but gives an account of what the evidence is, which does not correspond with fact. I have mentioned one instance; take another. In Vol. VI., Pt. I., p. 51, the Commissioners make the following statement: "In the British Consular service in China the prevailing opinion is that opium smoking in moderation is not harmful, and that moderation is the rule. . . . A minority of the Consular service condemn the use of opium in any form as essentially bad. *The medical opinions were in general accord with those of the Consular body.*" (The italics here and elsewhere are my own.) It will be observed that two things are here affirmed regarding the general drift of the medical evidence: Firstly, that the prevailing (medical) opinion is that opium smoking in moderation is not harmful; secondly, that the prevailing (medical) opinion is that moderation is the rule. *Both of these statements are absolutely untrue.* What are the facts? I have carefully analyzed the medical evidence with the following results: The medical witnesses *in China*, as far as I can ascertain, were exactly forty in number. Of these *not more than sixteen, i.e., less than half*, either say that 'opium smoking in moderation is not harmful,' or that 'moderation [in opium-smoking] is the rule.' Surely in face of such a fact as this, one can only say that the verdict of the Commissioners falsifies the evidence. But I will deal now only with the question of moderation in opium smoking being the rule or the exception. In regard to this matter the facts as to the medical evidence are easily tabulated, and I will now confine myself to dealing with this one issue. The question was asked of witnesses, "What are the proportions of those who use opium (i.) without injury, (ii.) with slight injury, (iii.) with great injury (opium sots)?" *Only eleven out of forty* witnesses affirmed in answer to this enquiry that a majority of Chinese opium smokers smoke without injury! Seven witnesses said or implied that without reliable statistics they could not give such proportions as were asked for, while

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not less than twenty-two witnesses affirmed that in the majority of cases opium is used to the injury of the smoker. On the *extent* of the injury, hardly any five witnesses out of the whole company of forty were exactly agreed, but one thing is certain, viz., that what a man does *to his own injury* he cannot be said to do 'with moderation,' and medical men who declare that a man injures himself, whether 'slightly' or 'greatly' by the habit of opium can by no possibility be fairly appealed to as evidence for the man's 'moderation.' The Commissioners say in one place (Vol. VI., p. 15): 'No part of the evidence deserves more attention than that of the medical witnesses.' We may safely say for ourselves: 'No part of the *verdict* deserves more attention than that which deals with the medical evidence,' for here we find the Commission describing "the medical opinions" in regard to a certain point as being "in general accord with those of the Consular body," when the facts show that they are utterly at variance with it, *i.e.*, if the Commissioners have rightly told us what the opinions of the Consular body are, on which point I have my doubts.

But the truth is, the case is even worse than I have represented. In an appendix to this article I have given the name of every one of the forty medical witnesses, and have divided them into three classes, according to the character of their testimony on this single point of moderation in opium smoking. Take this evidence from one of the eleven witnesses, whom for perfect fairness' sake I have counted as supporting the Commissioners: Dr. Underwood, of Kiukiang, says: "I cannot give a direct answer to this question. My belief is that those who smoke only occasionally, in the great majority of cases do so without injury. *Very few of those who have smoked regularly for three years escape injury more or less.*" Or take what another witness in the same class, Dr. Lynch, of Chinkiang, says: "I am not sure of my competence to answer. I should say that of opium smokers one in four at least shows appreciable signs of ill-effects, and eight or nine per cent are 'opium sots.'" This is a very different thing from saying that the majority smoke without injury. In answer to the next question he goes on to say: "I have occasionally heard of men who had taken opium for years without exceeding a small dose and without suffering from it in any way. *But I have never met with such a case myself.*" The Commissioners need all the witnesses they can get, to save them from the charge of a reckless disregard of truth, so I gladly allow them to have Dr. Underwood and Dr. Lynch,* but if these two witnesses were denied them, as they well might be, how many witnesses would they have where-with to justify their assertion that "the medical opinions were in general accord with those of the Consular body?" It is difficult to speak without indignation of this method of misrepresenting the evidence. As we have

* If I have classed either Dr. Underwood or Dr. Lynch otherwise than he would wish to be classed, I apologize to them for the mistake. I am not quite clear in my own mind in which class they would wish to stand, but taking the literal wording of their answers, it seemed fairest to put them both in class III.

seen, the Commissioners at the outset laid down the principle that "no part of the evidence deserves more attention than that of the medical witnesses"; why then, in the name of all fairness and justice, did they not boldly confess that on the point under discussion "the prevailing opinion in the British Consular service" was *at variance with* the great bulk of medical opinion in China, and that consequently the prevailing opinion in the British Consular service if it was the prevailing opinion, which I very much doubt, must be received with the greatest caution?

And here there is a point well worthy of notice. The evidence shows that several members of the Consular service expressly disclaim any right to speak with authority, or to speak from personal knowledge, on the effects of opium smoking, and more than one Consul points to the missionaries and to medical men as those who are most competent to give trustworthy information. Sir N. R. O'Connor, Her Majesty's Minister at Peking, modestly remarks: "As to my own personal views I do not profess to have more than a very superficial acquaintance with the effects of opium consumption in China" (Vol. V., p. 229). Mr. B. C. George Scott, H. B. M. Consul at Swatow, writes: "It was my intention to have answered the questions myself, but on consideration I find that my information and opinions are for the most part second-hand. I have never turned my attention directly to the subject of the effects of opium on the Chinese" (Ibid, p. 212). Mr. Clement F. R. Allen, H. B. M. Consul at Chefoo, writes: "As a private resident in China, my experiences in China have not the weight either of those of a medical man or of those of a missionary. We consuls have little private intercourse with the natives outside our homes and offices" (Ibid, p. 279). Mr. W. R. Carles, H. B. M. Consul at Chinkiang, writes: "My opportunities for personal observation of the effects of opium on its consumers have been limited, for the intercourse between Chinese and Europeans is so restricted that I have never known anything of the domestic life, even of persons with whom I am in constant contact" (Ibid, p. 262). Mr. T. L. Bullock, H. B. M. Consul at Newchwang, says in his evidence that he has "given a good deal of attention to the subject during his 25 years' service in different parts of the country" yet even he, in sending to the Commissioners the answers of missionaries and others that had been entrusted to him, says: "The papers are for the most part furnished by missionaries. But missionaries in China, speaking the language, constantly moving about, and always in close contact with the people, are able to give far more trustworthy opinions on such a subject than any other class of persons can, though many of them, of course, have strong prejudices concerning it" (Vol. V., p. 266). More than one other consul confesses that he has not had much opportunity of really getting an insight into the social life of the Chinese. Why then should the Consular witnesses, of whom there were not more than twenty-five altogether, be first

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all exalted to a place of special authority which not a few of them specially claim, and then have their testimony supported and enforced by an utterly true representation of the medical evidence, which for the most part contradicts their own?

Let us turn now from the question of the account which the Commissioners give of the facts of the evidence that had been submitted to them, and notice their method of selecting special witnesses to whom they can appeal, and whom they can quote as authorities, in their Report. This selection shows continually a very decided bias. Statements resting on very doubtful authority, but favourable to opium consumption or the opium trade, are quoted with approval in the Report, while other statements, having a contrary tendency, though based on much better authority, are slurred over or passed by with some depreciatory remark. We can readily understand that the selection of witnesses, whose evidence it was desirable to appeal to as being specially valuable and authoritative, was not always an easy task, but the selection ought to have been one which, when made, could justify itself on grounds of reason, and on account of the experience and local reputation of the witnesses. This view of the matter is well expressed by the Commissioners (Vol. VI., Pt. I., p. 15) in the following sentence: "Apart from the necessity of giving weight to individual testimony in accordance with the representative character of the witness and his opportunities for observation, we have felt it our duty to look particularly to fairness of mind and sobriety of judgment." All that sounds very good, but how is this principle applied in practice? At the risk of seeming personal I must take a test case and ask whether the selection of 'representative' medical witnesses in China is such as to commend itself on grounds of reason to residents in China. Three such witnesses are selected—Dr. Rennie and Dr. Myers, both of Formosa, and Dr. Percy Mathews, of Shanghai. I have never met any one of these gentlemen or had any communication with them, but the selection of three authorities, all chosen from that small minority of medical witnesses—eleven out of forty—which declares that the majority of Chinese opium-smokers smoke without injury, is in itself highly significant. The selection awakens in one's mind an uneasy feeling that the preliminary test of 'representative character,' 'opportunities for observation,' 'fairness of mind' and 'sobriety of judgment' in a witness, is, 'Does he belong to this minority of eleven which agrees with 'the prevailing opinion in the British Consular Service?' With no external evidence to show *why* Drs. Rennie, Myers, and Percy Mathews are specially appealed to as 'representative' medical men and as men conspicuous for 'fairness of mind' and 'sobriety of judgment' we are thrown back on their evidence to see if we can find for ourselves any indications of their representative character, etc., and of their special 'opportunities for observation.' It is enough for the purposes of this paper to deal with the claims of only one of these gentlemen to

speak as a special authority, and I select him, because his case seems special to challenge criticism. When we hear the word 'representative,' we naturally ask how the one solitary medical missionary who gives evidence which in many respects diametrically opposed to the testimony of *all the other medical missionaries in China*, can be regarded as in any sense 'representative.' When we hear of special 'opportunities of observation,' we naturally ask what special opportunities a man in Dr. Mathew's position can have had. He has been only six years in China; has never had a hospital under his charge; his principal practice has been that of medical attendant to the boys and girls in St. John's College, which is situated in the country, three or four miles out of Shanghai, and he has had in that neighbourhood a visiting dispensary. Why should such a man be preferred in point of opportunity for observation, to say, his colleague Dr. Boone, who has been thirteen years in China, and has had charge of a large hospital in the very midst of Shanghai itself? But the temptation to criticize does not stop here. When one comes to the direct evidence which Dr. Mathews gives, his very first answer is enough to startle anybody who knows anything of the social life of the Chinese and of the ordinary every-day experience of men in charge of mission stations. "Few cases of excessive opium-smoking *and but two opium-suicides* have come directly within my cognizance during the past six years." I do not for a moment question Dr. Percy Mathew's veracity,* but I think his experience in regard to opium suicides must be phenomenal, and without a parallel in the history of medical missionaries in China. For myself, though I am not a medical missionary and have never in my life dabbled in medicine or encouraged people to come to me to treat their ailments, I have been summoned before now to treat as many as *four cases of attempted suicide by opium in a fortnight*. I turn to a few old hospital Reports I have beside me, to see what has been the experience of medical missionaries in other places in regard to the frequency of opium suicides in China. In the Report of Dr. Merrins, of the American Episcopal Mission, Wuchang, for 1893-4, I find the following: "168 patients were seen in their own homes, the majority of them being cases of opium poisoning." In the Report of Dr. Hodge, of the Wesleyan Mission, Hankow, for 1890, we read "Opium has long furnished the approved, fashionable and respectable means of suicide in China, . . . every missionary knows this to his cost, as he is summoned at all hours day and night [to attend cases of attempted suicide], but the worst cases and most frequent summonses naturally come to the medical men." Dr. Davenport, of the London Mission, Chungking, gives the following figures for 1893 and 1894: "Opium suicides: Men, thirty-four; women, fifty-one. Total eighty-five."

* Dr. Mathew's statement, as it stands, is inexplicable to me as it will be to many others. I can, however, imagine two or three possible explanations of it which are quite consistent with the writer's truthfulness, though they reflect rather severely on his power of expressing himself in lucid English.

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Dr. Gillison, of the London Mission Hospital, Hankow, in his Report for 1887-1888, gives the cases of attempted suicide through opium, in 1887, as thirty-one; in 1888, as forty-eight. But it is needless to multiply such figures and statistics. One may safely say that a medical man with such an *extremely* limited experience as Dr. Mathews here confesses to, is not one to be quoted as an authority by the side of other medical men of indefinitely larger experience*. But to proceed, in our endeavour to find in Dr. Mathew's evidence further traces of those "opportunities for observation," "fairness of mind and sobriety of judgment" which the Commissioners so desiderate in witnesses. In his answer to Question No. 9 (Vol. V., p. 330) we come across the following statement: "There is no comparison whatever between the native wine and 'alcohol' (the latter is practically unknown) since a *Chinaman ordinarily drinks several pounds weight, and must imbibe several pints before he can be considered legitimately drunk.*" Did anybody ever meet even a single Chinaman who "ordinarily drinks several pounds weight" of any fluid whatsoever? A large Chinese rice-bowl holds 12 oz. of water. Supposing a person to drink off four such bowls of tea at a time, an almost unheard of thing, he would still only have consumed three pounds. That thirsty Chinamen sometimes drink this quantity of tea at a sitting is conceivable, but that the ordinary Chinaman ordinarily imbibes this quantity even say, within six hours, is more than questionable. Not less surprising is the statement that "a man must imbibe several pints of native wine before he can be considered "legitimately drunk." I cannot say at what stage of the proceedings a man becomes "legitimately drunk," but I can say that before he had swallowed even a second pint of any native wine with which I am acquainted, any ordinary person who is not an habitually heavy drinker would certainly be intoxicated. Such statements as I have now quoted do not seem to savour exactly of "sobriety of judgment," and after reading them one is at a loss to understand why of all the medical missionaries in China, Dr. Mathews should be specially selected as an authority, when—to sum up what has been already said—he has only spent six years in the country altogether, has never had a hospital under his charge, and, by his own confession, has had next to no experience in dealing either with cases of excessive opium smoking or with cases of opium suicide. Such cases it is well known are continually met with by all medical missionaries in charge of hospitals, and the man who has not met with them is not representative of his class. It is true that Dr. Mathews informs the Commissioners that "as editor of the only medical journal in China I have had more extended facilities for examining into the question than ordinarily falls

* With Dr. Mathew's charmingly candid confession of utter inexperience compare the following extract from Dr. Cousland's (Swatow) evidence: "I have spent more than eight years in China in hospital and dispensary work among the people. *I have treated 2,000 men who have come into hospital for cure of the opium habit.*" Vol. V., P. 241. Dr. Dudgeon, of Peking, tells of a wider experience still, Vol. V., P. 229, and speaks of "scores of thousands of opium-smokers that I have seen, or who have passed through my hands during thirty years at Peking."

to the individual medical man." I leave it to medical men to say whether in the profession, editorship of a medical journal, by itself, would generally entitle a man with no other experience to claim a special right to speak as an authority on any medical subject. My impression is it would not. It is only right, however, to add that Dr. Mathews receives a very high testimonial from a Parsi gentleman, Dr. Cawas Lalcaha, of Shanghai. "No man," says Dr. Lalcaha, "has a larger experience, and no one is considered a greater authority on this important subject than the talented editor of the only medical journal in China, I mean Percy Mathews, Esq., M.D., LL.D., F.R.C.S." Vol. V., p. 254* Was it on the strength of these two testimonials, his own and Dr. Lalcaha's, that the Commissioners selected Dr. Mathews as a leading authority?

My space does not admit of my giving at any length various other instances I have noted of the way in which the Commissioners have chosen their witnesses; but I am prepared to prove that their references to their witnesses are oftentimes most misleading and most evidently biased. Missionaries who have said anything that can be quoted in support of maintenance of the Indian opium trade are quoted wholesale, and often at great length, while, as far as I have noticed, *not one quotation* from any missionary is given if it would tell against the opium trade. Occasional passing references of a brief and somewhat snuffy character are made to a few missionaries who have spoken very strongly against the trade and against the opium habit, but that is all. Even men like Dr. Griffith John, Dr. Dudgeon and others well known as vigorous anti-opiumists are made to support the Commissioners' conclusions by being quoted to the effect that if the Chinese had not Indian opium they would smoke Chinese opium. This way of only using witnesses to support conclusions which they did not wish to support, does not enhance one's idea of the candour, so much as of the cleverness of the person who was employed to draft the Report. Even some of the missionary witnesses in India, whose evidence we in China have most regretted, are quoted in a most one-sided way. While they on their part were very careful to guard themselves against saying anything that could reflect unfavourably on our efforts for the abolition of the opium trade with China, the Commissioners never allude to this fact so far as I have seen. Dr. Henry Martyn Clark, of the Church Missionary Society, *e.g.*, is quoted several times by the Commissioners, *but only when he is on the pro-opium side*. Yet hear what he says on the other side. "I am perfectly clear in my own mind," he says (Q. 16936), "that in China (opium) is the most terrible hindrance to the spread of the Gospel and the civilization of that country, and really works moral havoc." Again, the Bishop of Lucknow and his clergy who sent a memorial to the Commission

* It is unfortunate that this compliment to Dr. Mathews comes almost immediately after a very insolent attack on the missionary body generally. Dr. Mathews will regret this as much as any one. Few things are more distasteful to a man than to be picked out from his friends, in order that he may be complimented, while they are insulted.

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minimizing the amount of evil wrought *in India* by opium, say (Vol. V., p. 138): "We express no opinion here as to the morality of the relations of the Government to the opium trade with China." I find no hint in the Report that any such reservation as this had been made by the memorialists. Yet it was most important, in the interests of truth, that this reservation should have been emphasized, for it is here that the crux of the whole business lies. Mr. H. J. Wilson, M.P., in his Minority Report or Minute of Dissent from the findings of his colleagues, makes the following pertinent remark (Vol. VI., p. 141): "The main purpose of the production and sale of opium in British India unquestionably is to supply the Chinese and other Eastern markets. The average production of opium in British India during the last three years as to which returns were supplied, was 54,707 cwts., of which 49,512 cwts., or 90.5 per cent. was intended for export to China and the Straits Settlements . . . the remainder, intended for consumption in India, technically known as *excise* opium, was 5,195 cwts., or 9.5 per cent." If the Bishops of Calcutta and Lucknow and the clergy under them like to strengthen the hands of the Indian Government in its dealing with the question of opium consumption in India they must do so, but let it be clearly pointed out that *this is only one-tenth of the question at issue*. We in China know something about the other *nine-tenths*, and we have a right to speak and a right to feel. Who can regard without some warmth the treatment which the Bishops of Calcutta and Lucknow and their friends have received at the hands of the Commissioners when he compares it with the treatment received by the Bishops of Hongkong and Mid-China and their friends? The Indian missionaries who memorialized the Commission *against* opium on the ground that it was a hindrance to the spread of Christianity are dismissed with just nine lines of the Report (§76). On the other hand, the Indian bishops, and clergy, and missionaries of all sorts who said something *for* opium are treated to a whole page and more (§§77, 78) of commendation and quotation. These witnesses, remember, have only to do with one-tenth of the opium question. Now turn to the China missionaries, who are practically unanimous in their condemnation of opium and see the treatment they receive from the hands of the Commission. Two English bishops, two archdeacons and thirteen other British missionaries, all of more than twenty-five years' standing, and representing, really, all the missionaries of all the Societies, sent in a memorial representing their view of the exceeding evil wrought by opium. They all speak out of a large and varied personal experience, and put their case very forcibly, but how is the memorial treated? I think I am right in saying it *is not even alluded to* in the Report; certainly it is not quoted. The China missionaries seem to be practically disposed of in one or two short passages such as the following: "By the majority of the missionaries of every Christian communion in China the use of opium is strongly condemned. Other missionaries take a less

decided view. Of these last, two may be quoted. The Rev. W. Ashmore, of the American Baptist Mission, forty-three years a missionary in China, states that some men will use opium for years and not show marked results." Then follows a quotation of several lines of small print, which is intended to illustrate this 'less decided view,' from the Rev. A. Bone, of Canton. It would have given a truer idea of Dr. Ashmore's evidence if the following passage had been quoted, though this would not have suited the purpose of the Commissioners so well. Asked about the proportions who smoke without injury, etc., Dr. Ashmore replies: 'Without injury': Apparently most of those who are in the early stages of the habit. *This for a short time only.* 'With slight injury:' *The same persons* above indicated, as the occasional use becomes regular, and *that, too, only for a time at the beginning.* 'With great injury:' *Nearly all those with whom the habit is fully formed,* and whose regular recurrent daily craving has attained the mastery over the man." So much for the ability of the Commissioners to represent truthfully the drift of an anti-opium witness' testimony! As for Mr. Bone, the general character of his evidence may be guessed from one sentence which the Commissioners have not quoted. "N.B. I never will allow an opium-smoker among my crew if I can avoid it." But enough of such quotations. The more I study the Report the more I feel that it is worse than untrustworthy—it is bad. After the experience I have had of the value of the verdict where it relates to things that I know about and to things where I can test the truth of its statements, I feel that my confidence in its truthfulness in other regions with which I am not familiar is gone. I have written strongly, but I hope not too strongly. That I have endeavoured to the best of my ability to be accurate will be seen from the pains I have taken to give references in support of all I have said. In several instances I have deliberately understated my facts. If I have misrepresented anything or anybody I shall feel obliged if some one will point out my misrepresentations. But, on the other hand, if no one can show any important mis-statement in this paper then I claim to have established more than one weighty and most damaging charge against the methods of the Royal Commission on Opium, and to have shown that the triumphant applause with which the Report has been received in some quarters is premature.

I cannot close without expressing my hearty appreciation of the earnest, disinterested and hopeful way in which one of the Commissioners, Mr. H. J. Wilson, M. P., has ventured to stand alone and to present a Minority Report which will live and will be appealed to and respected when the Majority Report has ceased to be appealed to by any one, and to be respected by any one.

ARNOLD FOSTER.

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Table showing Medical Opinion in China on the Harmfulness of Opium-smoking, as indicated in the evidence given to the Royal Commission on Opium.

The following question was asked by the Commissioners:—

What are the proportions of those who use opium (i) without injury, (ii) with slight injury, (iii) with great injury (opium sots)?

The witnesses may be divided into three classes according to their answers.

I. Those who decline the question on account of the want of reliable statistics.

II. Those who say that the majority of opium smokers use the drug with injury, slight or great.

III. Those who say that the majority use it without injury.

Inasmuch as about one-third of the witnesses do not attempt to give percentages, but only say 'small percentage,' 'large percentage,' 'a few,' 'the majority,' etc., it seems best simply to arrange the witnesses in classes without attempting to give details as to the exact evidence of each one.

The number given after each name indicates the page in Vol. V. of the Report, where the answer will be found. Three other medical men, formerly practising in China—Drs. Lockart, Maxwell and Gauld—were examined in London, but as their connexion with China has ceased for many years they are not classified here.

Class I. Seven witnesses:—

Dr. B. C. Atterbury (231), Peking; Thomas Gillison, M. B., C. M., Edin. (297), Hankow; R. A. Jamieson, M.D., M.R.C.P. (244), Shanghai; Etr. von Tunzelmann, M.B., London, M.R.C.S., Eng. (282), Chefoo; A. W. Douthwaite, M.D. (107), Chefoo; Dr. Horder (290), Pakhoi; Alice K. Marston, L.K.Q.C.P.I. (236), Peking.

Class II. Twenty-two witnesses:—

Robert Beebe, M.D. (334), Wuhu; H. W. Boone, M.D. (331), Shanghai; Fredk. J. Burge, L.R.C.P., Lond. (245), Shanghai; Dugald Christie, L.R.C.P. and S. Ed. (275), Moukden; G. A. Cox, L.R.C.P. & S. Ed. (258), Chinkiang; Robert W. Cox, L.R.C.S.I. (332), Wuhu; Philip B. Cousland, M.B., C.M., Ed. (241), Swatow; C. C. de Burgh Daly, M.B., B.Ch., Dublin (269), Newchwang; Cecil J. Davenport, F.R.C.S.E. (340), Chungking; John Dudgeon, M.D., C.M. (229), Peking; Sydney R. Hodge, M.R.C.S., L.R.C.P. (296), Hankow; E. R. Jellison, M.D. (334), Nanking; Henry Layng, M.R.C.S., L.R.C.P. (216), Swatow; John E. Kuhne, M.B., C.M., Ed. (220), Canton; Jas. H. McCartney, M.D. (339), Chungking; Dr. J. F. Molyneux (305), Ningpo; John Rigg, M.B., C.M., Edin. (297), Foochow; R. Swallow, M.D. (308), Ningpo; Geo.

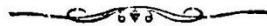
A. Stuart, M.D. (332), Wuhu; J. M. Swan, M.D. (222), Canton; J. M. Young, M.B., C.M., Ed. (232), Peking; J. Hudson Taylor, M.R.C.S., Vol. I. ans. 410.

Class III. Eleven witnesses:—

Charles Begg, M.B., C.M. (291), Hankow; Edward Henderson, M.D., F.R.C.S., Edin. (244), Shanghai; J. A. Lynch, M.D. (260), Chinkiang; J. H. Lowry, L.R.C.P. & S. Ed. (336), Wenchow; Cawas Lalcaha, M.D., L.R.C.P., Lond. (253), Shanghai; Percy Mathews, M.D., LL.D., F.R.C.S. (329), Shanghai; W. Jennings Milles, M.D., F.R.C.S., Eng. (252), Shanghai; W. W. Myers, M.B., etc. (324), Formosa; Alex. Rennie, M.A., M.B., C.M. (217), Formosa and Canton; J. J. Underwood, M.B., C.M., L.R.C.S. (315), Pagoda Island; Geo. R. Underwood, M.D. (302), Kiukiang.

The seven witnesses named in Class I have not answered the test question which would have shown unmistakeably their opinion on the subject of moderation being the rule or the exception with Chinese opium-smokers. It is, nevertheless, possible to judge pretty accurately from the answers they give to other questions, what their views of this subject are. I think the Commissioners may fairly claim the late Dr. R. A. Jamieson of Shanghai, and Dr. von Tunzelmann of Chefoo as being on their side and as swelling their minority to thirteen. I claim the remaining five witnesses as being certainly *against* the verdict of the Commissioners, and as swelling the majority to twenty-seven. We are brought therefore, finally, to this point that thirteen witnesses are treated as expressing the 'prevailing opinion' of forty persons, although the remaining twenty-seven witnesses expressed the opposite opinion.

A. F.



A FEW OBSERVATIONS MADE IN CHINESE OUT-PATIENT PRACTICE.

What proportion of our out-patients can read? This is a question which concerns us from an intellectual and educational point of view, and also from a missionary point of view. Men of status in England, men who are supposed to be well read, and to say nothing without authority, nevertheless come out with extraordinary statements about the capacity of the Chinese peasant for letters. Not so very long ago the famous educationalist, Mr. Gorst, gave vent to such a remark. He assured people that there were very few in the Chinese empire unable to read. I am not going to pit my view against Mr. Gorst's, but I will remind him and others who pass similar judgments that China is a whopping big country, and that no historian, geographer, politician, statistician, or educationalist has ever yet done the country justice. Can we not assist these gentlemen to judge

A Few Observations made in Chinese Out-patient Practice. 17

righteous judgment by collecting a few statistics for them? I am prepared to say from statistics that *about half* of our Hankow out-patients can read, and therefore that another half can *not* read. So I object to Mr. Gorst speaking for this part of China. No doubt among the reading half would be found a few whose reading capacity was very meagre, and among the non-readers would be found a few who could pick out a few characters. Yet the proportion I have given is on the whole correct for Hankow and district. Cannot some of our brethren who live in other parts of China give us the result of their observations? There being so large a proportion of those who are ignorant of letters among our out-patients, we see one advantage of taking them in as in-patients. They can, as a rule, get in a hospital an opportunity of learning to read which they would fail to get elsewhere. Might we not remember this more than we do and make more systematic effort to help them? Mrs. Foster has an admirable little book for beginners, and probably others are to be had elsewhere.

Another question upon which many English people of excellent parts are misinformed is the prevalence of drunkenness. China is often represented as being almost a teetotal country. It is said to be very rare to meet a drunken man on the streets. If this is supposed to be true of Hankow and district it is all fudge. The Chinaman may have (and as I think does have) a greater wine capacity, *i.e.*, capacity for getting drunk without being uproarious, than the Englishman, yet drunken Chinamen are common enough in this part, and when a Chinaman stops you and wants you to look at the stars in broad daylight it must be confessed he is pretty bad. Who hasn't seen the vinous type of nose in China, that tell-tale nose that goes along with a ruined stomach? At the same time I admit readily enough that there are not a few total abstainers amongst the Chinese. Statistics from out-patients here show about 57 %. This is perhaps a little too high, yet as the Chinese are mostly very candid in the matter it cannot be very far out.

A kindred habit, that of smoking, has also engaged my attention. Here again we find about 57 % who abstain from the use of the weed. I confess to being glad to find so large a proportion. I was under the impression that it was more prevalent. Nearly 42 % abstain from both wine and tobacco. This is very good. About 15½ % take wine, but do not take tobacco, and about the same proportion abjure wine, but find a solatium in the weed. I believe that smoking has a pernicious if not a determining effect upon a disease that is very common in this part of China. I refer to granular pharyngitis. [We very much doubt this. The Chinese are mostly water-pipe smokers, the least irritating of all the methods of inhaling the smoke. Our own observations have led us to connect this common throat trouble with two things: (1) strong alcohol, (2) very hot native tea.—ED. M. M. J.]

The height of the average out-patient who comes to our dispensary I make out to be about 5 feet 5 inches. Five feet 2 or 3 inches is a very common height. The Hunan men help to bring up the average. Five feet 10 inches is a common enough height with them. I have seen no very marked example of the little blunt point projecting from the helix supposed by Dr. Darwin and others to be a 'vestige.' The Chinaman's ear seems very uninteresting in that way. The most marked case was in a boy of 7. I have recently seen two pairs of ears that were interesting as regards their form. One pair was remarkably thin and parchment like, a sort of ear you would put under the microscope to study problems in circulation. Another pair were also thin, but remarkable for their softness and the great depth of the concha. I call this the sow purse ear and have seen another example of it, but not so marked. On one other subject have I recently made observations—wisdom teeth. These, as in the case of other races, are smaller than the other molars, and as some have supposed are more liable to decay and early loss. I am certainly of this opinion from what I have seen with my own eyes. They are sometimes strong and well developed, though always smaller than their large neighbours. After the age of 40 we often find them going or actually gone. Those in the upper jaw are first to disappear. Sometimes they appear early. A lad of 16 had one in his lower jaw (the left), and I have seen lads of 19 with all 4 strongly developed. On the other hand, they are sometimes late in appearing, and I have seen men of 20 or 30 odd years who are still waiting for their wisdom teeth.

GERALD S. WALTON, M.B.

VICEROY'S HOSPITAL FOR WOMEN AND CHILDREN, TIENTSIN.

By Dr. L. HOWARD KING.

During the winter and spring of '84 and '85, with the help of Miss Kerr and Mr. King, I treated 84 soldiers from the seat of war, several of whom had been under the care of Dr. Kin at Chin-chow, and later on at Shan-hai-kwan had their wounds dressed by members of our Red Cross Society. They were from K'ing-yang, Chiu-lien-chêng, Chi-li, Kou-tzü, Kin-chou, Ta-lien-wan, Port Arthur, T'ai-p'ing-san, T'ien-chuang-t'ai.

Some of the soldiers wounded at T'ien-chuang-t'ai had, according to their own account, a terrible experience on the way to Chin-chou. The snow was deep; they could not walk. They hired donkeys and carts at great expense. One poor fellow, whose foot I afterwards amputated, paid a large sum for a donkey to take him part of the way, the roads being impassable for the animal. The owner of the donkey left the man at a small village, and he had to give all the cash he had left to pay two men to carry him to his destination.

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His comrade had a bullet in his left knee joint; he had been four weeks on his journey to Tientsin and arrived with pyæmia, of which he died in about two weeks. I had one death, one amputation and one case of tetanus. I extracted four bullets and some fragments of bullets and several splinters of bone.

Three bullets passed through the pleural cavity and one through the crest of the ilium. One ball struck the left cheek and came out at the mouth, carrying away the teeth on the upper and lower jaw and making a clean cut through the dorsal surface of the tongue. When the last named patient came in he had ankylosis of the jaw, which improved very much under treatment.

I had several shots through the ankle or wrist; these were slow in yielding to treatment. Many of the clean cut gun-shot wounds, piercing legs or arms, if not in the vicinity of joints, had nearly healed, though the poor fellows were suffering greatly from severe frost bites. On their journey they had waded through water and snow. This class of patients were much benefited by a medicated tepid foot-bath morning and evening.

As to dressing, in most cases absorbent wool was used. The ladies kept us supplied with bandages. The wounds were irrigated with solutions of corrosive sublimate, acid carbolie, acid boracic and permanganate of potass. The men were always obedient, respectful and very grateful for kindness shown to them.

I found the representatives of the Chinese government ever willing to contribute money to defray expenses connected with the wounded soldiers.

The Red Cross Society also bore a part of the expenses.

I have also to acknowledge one hundred Taels generously given by H. Mandl, Esq. I have two native lady doctors—Mrs. Hsü and Mrs. Tai—trained by myself; being young women they could not help me in my daily work among wounded soldiers, but assisted at operations and carried on the usual daily clinics for women and children.

SOME OBSERVATIONS ON THE OPIUM HABIT.

By P. B. COUSLAND, *M.B., C.M.*

[The following was originally part of a private letter written in reply to Dr. Atterbury's appeal *re* the Opium Commission. It was not intended for publication, hence its unfinished look. It is now published by kind permission of Dr. Cousland, who begs the reader to excuse its many imperfections. We think our readers will agree with us that it is a very valuable communication.—Ed. *M. M. J.*]

I append some notes on the subject and a few statistics. I am sorry the latter are not more complete and do not embrace a larger number, but it is only lately that I began to collect them with any minuteness.

1. All except a few interested people agree as to the hurtfulness of the use of opium in *excess*. I estimate that here from 5 % to 10 % of the population are habitual smokers, and of these 10 % are "opium sots." In Vol. V of the proceedings the percentage of the latter is usually given as being higher than I have given it, but even at 10 % the ruin and degradation of such a large number demands a very marked benefit to the other 90 % before its use can be justified.

2. The dispute all hinges on the question of "*moderation*." Par. 141 says: "We conclude that the habit is generally practised in moderation, and that when so practised injurious effects are not apparent." The meaning of moderation here evidently is, when there are no apparent injurious effects. If that is so I cannot agree with the conclusion that "the habit is generally practised in moderation." My experience is that it is the exception to find no evidences of injurious effects—moral, physical or social. In some cases these are apparent enough, in others the superficial observer will not find them. In the vast majority there is more or less idleness, inactivity, want of energy, diminished capacity for work, chronic constipation, sometimes alternating with diarrhœa, loss of flesh, dusky complexion weakening of will power, general shiftiness of character, natural disregard for truth intensified. These, I repeat, are seen in the *vast majority* of the so-called moderate smokers, leaving only a small minority where they are not apparent. The social effects are by no means the least. In this part of China a man earns from 15 to 20 cents a day, taking the average of the great mass of the people. Few opium smokers use less than 10 cents worth of opium daily, many use more. A man may exist on five cents a day, but he cannot support himself and family even on twice that sum. The consequence is that the average "moderate" smoker is insufficiently nourished, his wife and family are half starved and much misery and wrong-doing result. It may be said this is not the result of the *opium*, it is its expensiveness. To this it may be replied that but for the *habit* or *slavery* to the pipe it would not occur, and therefore it is the result of the "moderate use of opium."

The annexed statistics refer with few exceptions to "moderate" users of opium. Many of them showed few apparent signs of being injured. Why if moderate smoking is so harmless do they wish to stop? One year there were no fewer than 600 opium smokers registered in the Swatow Hospital as having come for cure. The great majority of these were "moderate" smokers, and yet they could not stop smoking. They said they could not work so well as formerly, they were weaker and lacking in energy, they were poor, and those dependent on them were insufficiently provided for. Their parents

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or wives were greatly distressed because they smoked. In many cases these relatives had sent them to the hospital and had provided the necessary funds.

Surely these injurious results are "apparent" enough to the careful investigator. To the superficial observer they may not always be. It is not the case here that "so long as the opium" (smoker) "gets his dose punctually, and his consumption is moderate, he is quite indistinguishable from the rest of the community. His system adjusts itself perfectly to the new factor in his environment, all the functions are performed in due order, and with normal efficiency." *

In my experience the great majority of opium smokers *are* easily distinguishable. As a rule I can tell one by a look, and the Chinese are a good deal sharper. As to his functions Sir W. Roberts himself says further that constipation is common with Indian opium eaters. With us the opium smoker almost invariably suffers from constipation, loss of flesh and general debility.

What Sir W. Roberts says about "tolerance" is very interesting, and while true in a number of cases one sees is not so in the majority. The point where the dose becomes stationary is where the demands of the habit and the demands of the tissues for ordinary nutrition bring about a compromise. In other words it is usually a question of cash.

3. *Alcohol v. Opium.*—Opium cannot be put on a par with alcohol. Most men may take the physiological quantity of alcohol daily and yet give it up whenever required. It is not so with opium. If a man smokes a small quantity daily for a few months he has formed the habit and cannot easily give it up. With determination he could endure the suffering and break off the habit, but let him go on longer, and his will power, unless in very exceptional cases, has deteriorated, so that he cannot. This will show there is no parallel. Opium is much the stronger narcotic poison of the two. The rapidity with which it takes hold of a man in the ordinary run of cases is only paralleled in the case of alcohol in cases where there is hereditary alcoholic history. Whoever heard of "moderate" drinkers coming to hospitals or asking their physician to break them of the habit? and suffering severely while undergoing the deprivation. The rule, too, after stopping opium is to suffer for many months from muscular pains and cramps, and the great majority fall back into the habit again. A man who had an alcohol habit, so that when the time came round for the accustomed dose he was incapacitated for mental and physical work and who could not give up his alcohol without medical aid and restraint, would not be looked upon by the profession as using it in harmless moderation. This is the case with all habitual users of opium, and serves to put them quite out of comparison with habitual moderate users of alcohol. You *cannot* "fairly compare," etc., as the report

* Final Report Royal Commission on Opium, p. 103.

says. The only fair comparison would be to place the habitual opium smoker on a par with the man who uses alcohol in more than physiological doses, *i.e.*, an "alcoholic" or a "chronic soaker."

I do not think the Chinese would take to alcohol if deprived of opium. They have got along without other "euphonics" than tea and tobacco in the past. Those who stop opium do not take to alcohol.

Although I have made inquiries I have come across no evidence that *malaria* has anything to do with the use of opium here. I do not even know of cases where it is taken to relieve the discomfort of the ague attacks. The use of opium is not commoner in the more malarial districts than of those less malarial. It is a *social* vice. The agriculturists are as a class not addicted to its use in spite of their exposure to malaria, the habit flourishing in towns and cities, less so in small villages.

We are sometimes asked for evidences of organic changes, etc., and great stress is laid upon their absence and comparisons instituted between their non-existence and the lesions of alcoholism. But what about the more change? Is not that even more important? Whether is alcoholic cirrhosis of the liver or opium moral cirrhosis the worse? Which is the graver lesion, alcoholic cardiac fatty degeneration or opium psychical degeneration? Even *blunting* the moral sense is bad enough. We want to quicken it in these people. The secret of much of the conflicting evidence lies here. We are seeking to do the latter, and our non-missionary countrymen are not.

Opium Statistics.

AGE.—20-30	18 cases	}	...	...	...	49 cases.
30-40	17 "					
40-50	14 "					

Average { Age commenced to play with pipe 24.4 years. 32 cases. Youngest 9, oldest 40.
 { Age when habit was formed 27.37 years. 38 cases. Youngest 18, oldest 42,

so that Dr. Roberts' idea that opium is used as a stimulus for declining years does not hold good here.

REASONS FOR STOPPING.—Poverty, expense, debt, revilings of parents, etc., falling off of business. These in great majority of cases.

Two cases, well-to-do.—Lazy, lie in bed till midday, can't manage affairs properly.

One case, well-to-do.—Interferes with business and going about to collect accounts.

REASON FOR SMOKING.— <i>Pleasure</i>	...	...	...	23 cases	} 41
<i>Disease</i> (to relieve symptoms)	18	"			

The Bubonic Plague in Swatow.

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In no case was the disease cured. In some aggravated. In few were the symptoms relieved.

LOSS OF FLESH.—*Yes*, ... 20 cases, 4 HAD PLENTY OF FOOD.

Yes, ... 1 „ partly due to ague.

NO LOSS OF FLESH ... 6 „ all plenty of food.

ABILITY FOR WORK.—

Diminished ... 31 cases, 6 plenty of food.

Normal ... 2 „ food not recorded.

Increased ... 1 „ op. relieved abdominal pain.

RELATIVES greatly opposed in all cases where the question was asked, *i.e.*, 16 cases.

DAILY AVERAGE VALUE OF OPIUM SMOKED.—\$0.17½. 51 cases.

Minimum04. Habit formed 1 year.

Maximum ... 1.33. „ „ 10 years.

DAILY AVERAGE QUANTITY.—Grains 105, or 1.819 mace.

N. B.—The above cases were all treated in this hospital during part of 1894 and 1895.

THE BUBONIC PLAGUE IN SWATOW.

During the summer of 1894 when the plague was raging in Canton and Hongkong every feasible precaution was taken to prevent the importation of cases to this port. A number were intercepted and lodged in a temporary hospital, but others in the incipient stages escaped detection. No outbreak followed. In July the rats died in the characteristic way in several honggs, and a few cases occurred among human beings. One of these I saw at the end of August. The patient was a clerk in the telegraph office.

The next occurrence was on the 16th of March, 1895, when I was called to see a young man, a godown keeper. He had been ill for two days. Temp. 103.6 F., feeble pulse, delirious, characteristic pale face, no buboes. Died that day. The next was a month later. He was admitted as an in-patient on the supposition that he was suffering from some form of tonsillitis. The real nature of the disease was not suspected until some time after he was dead. No cases occurred in the hospital in consequence. About this time we heard of deaths in Swatow, undoubtedly due to plague. Rats were also dying in great numbers.

April 30th. Heard of eleven cases in one hong, with six deaths up to date.

The disease attained its maximum by the middle of May. For several weeks the number of deaths was about three per diem and as many probably were taken home to die, making six deaths per diem. There was a gradual declension during June, and by the end of the month quarantine on Swatow steamers was removed.

During July there was an average of about two deaths a day, all told. Altogether I estimate that in Swatow, with a population of perhaps 30,000, there were over 400 deaths. This includes those who went home to die, and is probably an underestimate. It was impossible to get accurate statistics. The chief source of our information was the 'King of the Beggars,' and as all burials are the perquisite of his tribe his daily returns were of value. The proportion of young women and children affected was very large. The mortality was especially high among them. All the cases I saw, about ten in number, died. They were almost all young women or girls. No domestic animals were affected as far as I could learn.

Two points seem worthy of having attention drawn to them.

The first is an affection of the tonsil and soft palate, which appears to me to be quite pathognomonic. It was noticed in two cases. One was an elderly man with the sub-maxillary and cervical glands on both sides greatly enlarged. His tonsils and the adjacent velum of the soft palate were greatly swollen and hard looking. The colour was a dark red, somewhat mottled or streaked, and the appearance quite unlike any I have ever seen. The other case was in a young woman who had been ill for a week with pneumonia as a complication. On the soft palate between the uvula and the tonsil on the left side was a round hard-looking swelling of a mottled or streaked appearance; the darker parts being dark red.

The glands behind the angle of the jaw were *not* enlarged. In the left supraclavicular region one gland was enlarged, but only to slight extent. The affection in this case could not be due to extension of inflammation from the gland.

The second point is the drop in the T. and alleviation of symptoms on the 2nd or 3rd day, which occurred in a number of cases. It led me at first to give a favourable prognosis. Next day the fever rose again, although not to the same height, and death followed. Except in the very malignant cases the patients did not look as ill as they were, and judging by other zymotic diseases it was not easy to estimate the gravity of the condition. The most marked and unexpected feature was the way the heart gave out when there was nothing in the temperature or other symptoms to explain it. The epidemic spread to a few towns and villages near Swatow, but showed no tendency to go further. It will be interesting to see whether this summer it will continue its progress. Last year it was said to be prevalent in Southern Fokien. We shall probably see this year how far up the coast it will extend.

PHILIP B. COUSLAND, M.B., C.M.

(Original articles continued on p. 54.)

Medical and Surgical Progress.

In a clinical lecture on harelip in the *Practitioner* for 1895, a lecture well worth reading, Mr. Christopher Heath makes the following remarks: After the operation "it is very advisable to prevent the child crying, and the only way that I know of preventing the child crying is by having it assiduously nursed, and also by giving it minute doses of opium. You will find that one of the best ways of giving opium to a young child is to put one or two drops of laudanum into an ounce of dill water, and then let the nurse give a teaspoonful of that every two or three hours, so as to keep the child a little under its influence. I would remind you how easily young children are affected by opium, but by thus arranging to give the eighth or twelfth of a drop as the dose it is quite possible to get the sedative effect of the laudanum without running the least risk of poisoning the child. Then, of course, it is very important that the child should be fed, and while the lip is healing it is not advisable to put a bottle to the child's mouth, and therefore you must trust to spoon-feeding with good milk." In cases of more or less projection of the inter-maxillary bone he recommends removal of this inter-maxillary bone; "it is a very simple operation, for you only have to nip off the bone with a pair of bone-forceps. But let me warn you there is always a little spouting artery, and therefore you ought to be prepared with a hot wire of some kind, so as to be able to touch the point and arrest the hæmorrhage. It is very difficult to effect this in any other way, but with a needle heated in a spirit-lamp it is readily enough arrested. Now, an operation of that kind, although not very severe, is quite severe enough for a young child, and it would be very rash to proceed on the same day with the operation

of paring the lip. Let the child thoroughly recover, let it have a week or a fortnight and get into thoroughly good health again after the removal of the inter-maxillary bone, and then it will bear, in all probability, the remaining operation satisfactorily.

The operation in these cases is complicated by the fact that the piece of flesh which is upon the inter-maxillary bone, and which I need hardly say should never be cut away with the bone, is really the representative of the columna of the nose; and if you are to have a good result you must restore it to its proper position as the columna of the nose, and make no attempt to bring it into the lip. I have seen cases in which that mistake has been made where the columna has been brought down and put into the middle of the lip, and the result has been exceedingly unsatisfactory. But the proper thing is to turn this little piece of skin and flesh into the position of the columna of the nose, and then to pare the edges of the lip and bring them together in the middle line—in fact, to convert what was originally a double harelip into a single harelip, and treat it accordingly.

AN EASY METHOD OF STAINING THE FUNGUS
OF RINGWORM.

Mr. Malcolm Morris writes on this in the same number: Referring to the researches of Sabourand he shows that this worker "classifies these parasites under three principal types, viz., (1) a small-spored fungus growing outside the hair; (2) a large-spored fungus growing inside the hair (*trichophyton megalosporon endothrix*); and (3) a large-spored fungus growing outside the hair between the root and the follicular sheath (*trichophyton megalosporon ectothrix*). The two latter are closely allied, being species of the same family.

These three fungi have distinctive morphological characters and breed true. They differ also in their pathological effects. The small-spored parasite causes lesions much more refractory to treatment than the large-spored fungi; it is responsible for ringworm of the ordinary type usually affecting the heads of children." The distinction between these forms is "not a mere academic question, but a point of great practical importance, for the forms of disease set up by the large-spored fungi are milder and less obstinate than that caused by the small-spored parasite. The affection produced by the *trichophyton megalosporon endothrix* does not last longer than a year, while that caused by the *trichophyton megalosporon ectothrix* can be cured in two or three months. The details of the method of staining are as follows:—A suspected hair is first steeped for one to two minutes in a mixture of a 5% alcoholic solution of violet gentian and anilin water (10 parts of former to thirty of latter); next it is dried with blotting-paper; then treated for one or two minutes with pure iodine and iodide of potassium in water; dried again; treated once more with anilin oil and pure iodine; then cleared with anilin oil, washed in xylol and mounted in Canada balsam. By this means the fungus is beautifully stained without blurring of its microscopic features, and it can be identified without any trouble."

Gaseous disinfectants or fumigants, such as sulphurous acid or chlorine as germicides are at best scarcely up to the anthrax standard, especially under the conditions of leakage and diffusion which are inevitable when the attempt is made to disinfect an ordinary room by fumigation. The slightest cover baffles them completely, and the feeblest germs which have made their way into crevices or into pockets are safe against pursuit. Why, then, is fumigation retained among the routine processes of disinfection if it is useless under

cover and uncertain in the open? For three principal reasons: Because there is no really effectual process to substitute for it, because the surface is the part that most needs disinfection, and because we are not sure that the unknown germs of scarlet fever may not be more amenable to slaughter than the sturdy anthrax spores."—*Practitioner*.

A CHEMICAL ANTIDOTE FOR CHLORAL POISONING.

The *Glasgow Medical Journal* for February publishes an article on this subject by Dr. John Dougall, of Glasgow. When chloral was first used, says the author, its hypnotic action was thought to be solely due to the generation of chloroform from it by the alkalies of the blood; its effects on the body generally were, and indeed still are, held as almost identical with those produced by chloroform. This view, however, he says, has been disputed on the grounds that the quantity of chloroform which a full dose of chloral is capable of producing is quite inadequate to cause the hypnosis and anæsthesia that have been observed, also that the greater part of the chloral is exhaled from the lungs unchanged, and that small quantities of it may be found in the urine, but no chloroform. Whatever facts or theories, however, says Dr. Dougall, there may be regarding the manner of the hypnotic and anæsthetic action of chloral, there can be no doubt about its chemical composition and affinities, and, in particular, that it is almost at once decomposed, at and above 60° F., outside of the body in an alcoholic solution of potash into formate of potassium and chloroform, and, as the author has proved by trial, somewhat less quickly in an aqueous solution of potash.

Assuming, he says, that a person has taken a poisonous dose of chloral, say eighty grains, and that there could with safety be given, as a chemical antidote, twenty-seven grains of potash, this amount being the quantity by weight in the formula.

required to decompose eighty grains of chloral—in such a case, says the author, there are strong *a priori* grounds for assuming that in about fifteen minutes the chloral in the system would be entirely changed into formate of potassium and chloroform, or, at least, that so much of it would be decomposed that the residue would be harmless. But would not the potash, he asks, or the amount of its formate, or of the chloroform thus produced, be as lethal as the chloral? Undoubtedly twenty-seven grains of potash swallowed at once, even much diluted, would cause serious symptoms. But if even half that quantity was given in divided doses—say seven grains every hour—in warm milk, gruel, or barley-water, it seems very probable that by this means no serious irritation of the gastro-intestinal tract would be the result, and that in a short time so much of the chloral would be decomposed as to render the rest at least non-lethal.

The liquor potassæ of the *British Pharmacopæia*, says Dr. Dougall, contains about a grain of potash in sixteen minims, and the maximum dose stated is sixty minims. Hence, he says, to give seven grains of potash is equal to giving a hundred and twelve minims of liquor potassæ. He thinks it may be assumed that this quantity, highly diluted, might be given without fear of causing unfavorable symptoms. By this means twenty grains of the chloral would soon be decomposed, thereby neutralizing its lethal power to a certain degree, if the potash is given before the patient is too far gone to be afforded relief by this means; then, if in an hour after a similar dose of potash is given in the same way, this would reduce the chloral in the system to forty grains, a quantity quite within the bounds of safety for an adult, provided there is no heart trouble.

Dr. Dougall says that he has proved by experiment what has been stated by others—namely, that the carbonates and bicarbonates of potassium and of sodium also decompose chloral; but their action, par-

ticularly that of the bicarbonates, is very slow, and, besides, a much larger quantity than of potash is required, also a heat much above that of the body. With regard to the action of formate of potassium, it merely causes a peculiar eruption of the skin, which soon disappears when the use of the drug is stopped. This eruption is well known to habitual chloral-takers, and seems to prove that chloral is decomposed in the blood as stated.

With regard to the probable effects of the chloroform which would be generated by the decomposition of forty grains of chloral, the author finds that this quantity of chloral requires 13·5 grains of potash for its decomposition, which results in the production of 28·5 grains of chloroform, equal to 21·5 minims. As much larger amounts of chloroform (from half an ounce to four ounces) have been swallowed and recovery has followed, and as it is likely that the greater part of that which is generated in the blood by the decomposition of the chloral is exhaled as fast as it is produced, Dr. Dougall thinks that nothing serious need be feared on this point.

THE PATHOLOGY AND TREATMENT OF PRURITUS.

In the September number of the *British Journal of Dermatology* there is a report of a recent meeting of the British Medical Association at which Professor McCall Anderson, of Glasgow, read a paper on this subject. He dealt first with the anatomical features of the skin and their relation to the feeling of itching, then with the usual conditions in which itching was prominent, and finally with the treatment of this very troublesome symptom. He thought that the portions of the nervous apparatus of the skin especially involving the sensation of itching were as follows: 1. The free nerve terminations in the epidermis. 2. The small groups of cells taking the form of a cup and connected with nerve filaments situated in the deeper layers of epidermis or in the upper layers of the true skin. 3.

Each hair, in virtue of the fine medullated nerve fibres which formed a network in the outer coat of the hair and terminated in its sheath, was more or less of a tactile organ, and it was probable that irritation of the hair might cause pruritus. It was very difficult to say, he said, why pruritus was such a prominent feature of some diseases of the skin and generally absent in others, such as the strumous affections; how it was absent in the earlier and present in the later manifestations of syphilis. The author referred to some of the more prominent causes, such as that of the pruritus which occurred in old age, which he attributed to the circulation of impure blood; that which occurred in connexion with some cases of jaundice; that which came on in gouty persons, and in connexion with the functional derangement of internal organs, especially of the digestive organs; that which occurred in diabetics; that which occurred in connexion with the cold weather; and finally that which was dependent upon mental and not upon physical causes. He was of the opinion that most cases were dependent upon direct irritation of the nerve terminations in the epidermis.

Before entering upon treatment, said the author, it was very important to be sure of the diagnosis. All other disorders should be eliminated, such as urticaria, phtheiriasis, and scabies, in which the itching was but a symptom. A careful examination of the patient must be made in the light of its ætiological factors, and an endeavor made to correct any existing derangement. If the itching still persisted, then the disease must be treated empirically.

Professor Anderson expressed a preference for the employment of electricity, atropine subcutaneously, or the coal-tar derivatives, such as antipyrine and phenacetine, in gradually increasing doses. If, he said, there was any suspicion of nervous nutritive debility, nerve tonics, such as phosphorus, arsenic, and strychnine, alone or in combination, might be tried, the two latter preferably by subcutaneous injection.

Dr. H. G. Brooke, of Manchester, used the term pruritus as meaning the sensation of itching generally, and not as confined to those particular forms which were unaccompanied by lesions of the skin. The sensation of itching, he said, varied enormously from a mere transitory titillation to a state productive of mad frenzy in which the patient lost all self-control and tore and scratched his skin until he gained relief. Dr. Bronson considered itching as a perversion of the sense of touch, a dysæsthesia of the nerve endings in the skin. It was certain, said Dr. Brooke, that epithelium was necessary to the production of the sensation of itching, for it did not occur in wounds until the epithelial covering was being reproduced. The author then detailed the different factors which were associated with the occurrence of the feeling of itching, and divided them into two main groups as follows:—

Internal Group—Neurotic.—Purely nervous pruritus. The pruriginous diseases in which the pruritus was the primary disease had been laboriously studied by the French dermatologists, especially by Besnier, Brocq, Vidal, and Leloir, under the name of *névrodermites*. Reasons were given for objecting to the inclusion of some of the cases cited by these authors as examples of purely nervous pruritus, and for the probability that they were originally of local origin. But, said Dr. Brooke, there was no doubt that the recognition of the peculiar papular, brown, or bistrous-coloured, indurated state of the skin to which they applied the term lichenification or lichenization, as being a condition induced entirely by the action of long-continued scratching, was a distinct gain; it was entirely a secondary manifestation and not to be confounded, as it had been, with different chronic eczematous and lichenous eruptions. All itching diseases did not lead to lichenification, even if of long continuance. Senile pruritus was always quoted as the arch-type of this pruritus without prurigo class, in which there was a characteristic absence of secondary

lesions; but they were by no means always restricted to the aged, and they were not always distributed over the whole body. They might occur in younger people, even in infants, and they were at times restricted to some limited area of the body, such as the face, the hands, the tongue, the anus, and the genitals. The great majority of the cases of ano-genital pruritus did not belong to this class, but were of external (mostly seborrheic) origin; and those did not which, although exhibiting no external lesions, were caused by the presence of irritable nerve-endings, the destruction of which removed the symptoms. In the purely neurotic cases the origin was more central, and required the complete destruction or ablation of the offending regions for their cure.

When lesions were present in conjunction with pruritus it was always important, from a practical point of view, to determine whether the pruritus was primarily neurotic and the lesions were secondary, or whether the pruritus was secondary to lesions arising from other causes. Besnier, said the speaker, grouped all the various primarily neurotic itching diseases of this kind under the term diathetic prurigos. Their first and always prevailing symptom was pruritus. The lesions which accompany them were never distinctive or specific in character, but of an erythematous or lichenous kind at first, and, especially at the later stages, presented some form of lichenization or eczematization in one or more of its varied manifestations. The diathesis might forsake the skin temporarily or finally, to re-appear in the lungs as bronchitis or asthma, or in the nose as hay fever, or sometimes in the gastro-intestinal tract; it might wear itself out by degrees and disappear finally, but, in Besnier's opinion, it was not amenable to any treatment. Dr. Brooke remarked that he could not agree to this prognosis, for he had found that much could be done to influence and even to effect the recovery of many of these forms of pruritus. The conditions, he said,

were certainly more unfavorable when the disease was hereditary or congenital. The essentially pruriginous group of papular, vesicular, or pemphigoid affections were usually of neurotic origin, although the influence of gastro-intestinal troubles and of certain foods in producing, or rather in precipitating, outbreaks showed that they were by no means exclusively so. Urticaria, in like manner, said Dr. Brooke, might be of a purely neurotic character, and it was well known that a shock or even a mere thought might suffice to bring on an attack of wheals and itching. Itching was also found as a preliminary symptom of some of the severer forms of nerve disease, and Leloir had described several of these prodromal forms of pruritus under the name of *dermatonévroses indicatrices*.

Lastly, there were the forms of itching which Crocker had designated pruritus mentis, in which the patients suffered incessantly from severe itching, which they attributed to some purely imaginary ailment; this was really a form of monomania.

Reflex Nervous Pruritus.—Reflex itching, said Dr. Brooke, occurred at times almost to every one. A point on the skin was noticed to itch from no perceptible cause, and perhaps momentarily, and the sensation was immediately followed by itching at one or more points, often quite remote from the original point and from each other. It was merely interesting as showing the wide area over which even a slight and very limited pruritus might be reflected.

Pruritus which was caused secondarily by reflexes from internal organs, or from some kind of mechanical or chemical irritant, was not uncommon. As instances, the author cited the itching which preceded or accompanied the development of serious intestinal or gastric disease, such as carcinoma; the itching which accompanied pregnancy and diseases of the uterus; the general itching caused by the presence of tapeworms in the intestines; that due to the action of gritty food, such as oatmeal; the itching at the end of the penis excited

by stone in the bladder, and at the end of the nose by the irritation of ascarides in the rectum. The itching which was caused by the action of cold and heat on the skin came probably into this division, for in the affections known as pruritus hiemalis and æstivalis, it did not occur on parts of the body which were the most exposed to the heat and cold, but, and especially in the pruritus hiemalis, on well-protected regions, and even when the patient was still in bed, until tolerance of the frost had been established. The symmetrical angeioneuroses which often accompanied winter pruritus also suggested the reflex rather than the direct action of the cold. Urticarial eruptions which had been excited by the action of cold to one part of the body might extend far beyond the original field of action, and develop reflexly a more or less widely dispersed pruritus.

Hæmatic.—A very frequent, distinct, and, in the minor degree of development, not unfrequent class of pruritic cases were those in which the itching was caused by the irritation of toxic substances which had been produced in the body and circulated in the blood current. The itching in diabetes, in gout and lithæmia, in rheumatism, in kidney disease, and in jaundice were cited by Dr. Brooke as examples. They were often, but not invariably, accompanied by some angeioneurotic eruption, generally erythematous or urticarial in character. A similar condition was sometimes caused by fermentative processes taking place in the bowels, and was relieved by the administration of antiseptics. The urticarial pruritus of children was found to be very frequently associated with the presence of rhachitis, and seemed to be the result, in large measure, of the dilated stomach and consequent imperfect digestion which was so general in these cases.

The presence of irritating matter in the blood often exaggerated itching, which was due primarily to other and often external causes; gouty conditions and imperfect

action of the heart had this effect. Besnier thought that many cases of pruritus senilis were brought on by such states of the blood rather than by nerve degeneration.

Idiosyncrasy was always an essential factor in hæmatic pruritus, for only a small number of those who were the subjects of blood poisonings of these kinds showed any tendency to irritability of the skin.

Foods and Drugs.—The same remark, said the author, also applied to the pruritus which sometimes followed the ingestion of certain foods and the exhibition of certain medicines. Thus some people complained of a vague irritation of the skin after partaking of quite ordinary foods and drinks, such as tea, coffee, alcohol, cheese, etc., while mercury, belladonna, and especially opium, were known to excite itching, often of a pronounced character in special patients. The presence of symmetrical erythematous and other lesions showed that the poisons might attack the nerve centres as well as their terminations.

Mechanical Pressure.—The itching of hæmorrhoids and of the genital region in cases of pregnancy were apparently due to the pressure of the blood in the engorged venous plexuses, for it occurred apart from any skin lesion and disappeared when the pressure was removed.

Abnormal Secretion of the Skin.—The skin of otherwise healthy people was disposed to itch at times on account of its abnormal deficiency of lubrication. It had been attempted to explain this as the result of interference with the excretory functions, but the view that it was caused by the formation of minute fissures and the partial exposure of the nerve terminations was more probable, for although the relief derived from sudorifics would tally with both these hypotheses, the relief which was given by simple lubricants in limited patches of slight ichthyosis (which presented very similar conditions) gave stronger support to the latter explanation, and it was known that the healthy kidney very completely

compensated any deficient action of the skin.

External Group.—The various external causes, said Dr. Brooke, which give rise to pruritus were divided into three headings: 1. Local skin diseases. 2. Epizootic parasites. 3. Irritants of a physical and chemical nature. It was impossible, however, to separate them very clearly from each other. The first and most important point, he said, was to determine whether the itching was due entirely to the local lesion of the skin, or to some systemic condition. This was easy in such diseases as ichthyosis, but very much more difficult in affections like lichen planus, psoriasis, and certain seborrhoeic and acute eczematous eruptions which might appear suddenly, and in people who were in other respects quite healthy. But whatever theories were held as to their causation, they were always treated as if they were due to a local excitant, and more reliance placed on local than on internal remedies. Acute eczema was one of the most prolific sources of pruritus, and many of the cases were of undoubtedly parasitic origin. The eruption generally spread because the system was debilitated and the sensory and vaso-motor nerves in an easily excitable condition; but this state might supervene secondarily to the loss of rest caused by the incessant itching of one or two limited areas. It was known that the itching provoked by several substances, such as the poison of the *Acarus scabiei*, of some of the primula species, and of iodoform might be transmitted in some individuals by absorption, or directly by the nails during scratching, over a wide surface of the body, and that it might give rise to typically eczematous rashes, and it was thus suggested that the extension of parasitic eczemas, or of eczema which had become parasitic (judging from their mode of extension), might, in like manner, be due to the transmission of infective substances by absorption or by scratching, over previously healthy areas of the skin. A knowledge of

the possibility of such a mode of extension, said the author, was a valuable aid in the treatment of some of these pruritic eruptions, and might help to explain why so many of our anti-pruritic remedies were of the disinfectant and bactericide class.

The itching, which was brought on by sudden changes of temperature, more especially by sudden exposure to cold, as when the patient rapidly undressed and got into bed, was perhaps due in part to the rapid removal of pressure from the skin, for it occurred in healthy skins; but in the case of inflamed lesions it was more probably attributable to the inability of blood-vessels to accommodate themselves at once to the change of blood pressure; it was, perhaps, by correcting this inequality that warm applications were able to relieve the pruritus so markedly. Change of posture from the upright to the recumbent was also a well-known provocative of itching, presumably also from alteration in the blood pressure in the direction of increased tension.

Except through the intermediation of some lesions, such as dermatitis, chilblains, sudaminous and miliarial eruptions, heat and cold seldom produced itching by their direct action on the skin. The action of the actinic rays of the sun might set up intense pruritus, but it also was confined to the area of the lesions which they caused to appear, as in the urticaria which might start out after even a momentary exposure to the diffused light of a summer day, or in papules and erythematous blotches of the prurigo æstivalis group of affections.

The pruritus which was caused by contact with certain drugs and plant poisons was often very severe, and its origin might easily escape notice, since any accompanying eruptions, which might be present, were seldom pathognomonic. It was, however, said Dr. Brooke, most important to investigate such cases, since they were generally due to an acquired idiosyncrasy toward some article of daily use. The action of rough underclothing was referred to as a common source of

itching, even in merely irritable skins, and as a not infrequent agent in the spreading of a local disease through the scratching to which they gave rise.

In most of the cases in which pruritus was present it was but a symptom, but it was the symptom from which the patients were most desirous of being relieved, and it was for this symptom rather than for the disease that they sought the doctor's help.

IZAL AS A DISINFECTANT AND ANTISEPTIC.

In the *Medical Chronicle* for September there is a report on izal by Professor Sheridan Delépine, of Victoria University. Among the most remarkable features of this compound, he says, are its comparative insolubility and non-volatility at the ordinary temperature, properties which it seems difficult to associate with an active disinfectant, but which numerous experiments have proved not to be incompatible in this case. Izal can be freely administered internally, used over extensive wounds, or injected under the skin without bad effects, and does not damage surgical instruments.

As it was the author's intention to study carefully the effects which certain disturbing factors might have on the results obtained, he investigated the action of izal on a small number of germs. He selected them so as to get types of the most important forms of pathogenic bacteria which one might have to deal with in practice. These organisms were the *Bacillus tuberculosis* (*hominis*), the *Bacillus coli communis*, the *Staphylococcus pyogenes aureus*, and the *Bacillus anthracis* (in the sporing stage). In the course of the last seven months he has conducted over a hundred experiments with these four microbes, paying special attention to the conditions of growth, temperature, dryness, age of germs, etc., which might be expected under ordinary circumstances to influence the resistance of bacteria or the activity of any disinfectant.

The Action of Izal on the Tubercle Bacillus.—Sputum obtained from a case of ad-

vanced phthisis and found teeming with tubercle bacilli was allowed to dry on paper for seven days, being kept during that time in a closed capsule in the dark at the temperature of the laboratory (15° to 20° C.). Pieces of paper so prepared were then severally steeped in izal, in izal one part of which had been diluted with five parts of water, and in izal diluted with ten parts of water. In each case the infected paper was allowed to remain in the disinfecting fluid for forty-five minutes, after which it was removed and inserted under the skin of a guinea-pig. In a check experiment, paper smeared with the same quantity of the same sputum, and prepared at the same time and in exactly the same way as the other pieces of paper, was also inserted under the skin of a guinea-pig of the same age and size as the other guinea-pigs. In all the cases in which the sputum had been treated with izal, fifty-four days after inoculation no evidence of tuberculosis was found post mortem, even at the seat of inoculation; while in the check animal tuberculosis was already well marked on the twenty-seventh day and very advanced on the fifty-fourth. Similar results were obtained with paper smeared with scrapings of a tuberculous gland obtained from a case of recent general tuberculosis, the tubercular matter being allowed to dry as in the previous case. Fresh tuberculous matter from a cheesy lymphatic gland (tuberculosis of fifty-six-days' duration) was made into a thick emulsion with sterilized water. This was mixed with izal, one part of which had been diluted with ten parts of water, and after two minutes the excess of izal was removed with sterilized filter paper. The thick pulp left was allowed to dry for twelve hours and then a guinea-pig was inoculated subcutaneously with it. A check guinea-pig was inoculated with exactly the same quantity of a part of the original emulsion of cheesy gland which had not been treated with izal. After fifty-four days the first animal showed no trace of tuberculosis at

the post-mortem examination. The check animal was already in an advanced state of tuberculosis at the end of three weeks, and the disease was found, post mortem, to be extensive fifty-nine days after inoculation.

The author deduces from these experiments that izal mixed with ten parts of water will disinfect in forty-five minutes dried tuberculous sputum or other tuberculous matter, and that fresh tuberculous products of great virulence, when mixed with about an equal quantity of izal of the same strength, and allowed to dry at the ordinary temperature for twelve hours, are also completely disinfected.

He is unable to state how much shorter time or greater dilution the disinfectant will admit of.

In interpreting the results, he says, it is necessary to remember that the *Bacillus tuberculosis*, though not known to be a sporing organism, is one which is not easy to kill under ordinary circumstances. This is due to the bacillus being usually imbedded in thick mucus or in cheesy products which effectually offer a barrier to some of the best chemical disinfectants (owing to their being usually at the same time capable of causing coagulation of albuminous compounds). The great resistance which the bacillus presents to the effects of drying is another reason why it is so difficult to kill, for, as desiccation is not fatal to it, the germ may remain active in the midst of masses too dense to be penetrated by disinfecting solutions of poor penetrating power or incapable of acting for a considerable length of time.

The Action of Izal on the Bacillus Coli Communis.—The bacilli used in these experiments had been obtained from fatal cases of Asiatic cholera. Before being used the microbes had been cultivated for nine days on potato, and the growth then scraped off and mixed with sterilized alkaline broth. With the emulsion so obtained silk threads were impregnated. These threads

were allowed to dry for six hours in a sterilized capsule in the dark, the temperature being about 15° to 20° C. After this they were placed severally in izal diluted with five, ten, fifty, a hundred, and two hundred parts of water, and allowed to remain in the mixtures for one minute in the case of the stronger solutions and for ten minutes in that of the weaker ones. After this they were transferred to tubes containing alkaline bouillon, some being previously washed in sterilized water, others not. Check threads that had not been exposed to the action of the izal, but had been kept in sterilized water for the same length of time as the other threads had been, were also cultivated in alkaline bouillon. After twenty-four hours at 36° C. the check tubes showed a typical growth of *Bacillus coli*, but there was no growth in any of the tubes containing threads which had been dipped in izal. These tubes were watched for twenty days, and during the whole of that time no trace of growth could be discovered. This absence of growth was tested not only by microscopical examination, but also by plate cultivations in nutrient gelatine and agar.

It is therefore evident, says the author, that izal diluted with two hundred parts of water is a safe germicide for microorganisms as resistant or less resistant than the *Bacillus coli communis*.

The Action of Izal on the Staphylococcus Pyogenes Aureus.—The *Staphylococcus pyogenes aureus*, one of the most resistant cocci, is widely distributed in external media, says the author, and is undoubtedly one of the commonest causes of suppuration. It was, therefore, a fair specimen to use for testing the value of izal in the treatment of ordinary wounds. In this case fresh cultivations of agar were made, and after being kept for forty-eight hours in the incubator at 36° C. the tubes were left for twenty-four hours more at the temperature of the laboratory. The growth was then scraped off and spread thickly on

small pieces of sterilized filter paper. The paper so infected was allowed to dry slowly at the ordinary temperature in a sterilized capsule, kept in the dark, for three hours. These pieces of paper were then steeped in izal diluted either with one hundred or two hundred parts of water, and left in the mixture for two hours, one hour, or ten minutes. After these various exposures the pieces of paper were removed, washed carefully in sterilized water, and dropped into tubes containing alkaline bouillon. In a check experiment the paper was left in sterilized water for the same length of time as the other papers had been left in izal and then transferred to alkaline bouillon. From none of the papers treated with izal diluted with one hundred parts of water could any growth be obtained. The same was true when izal was diluted with two hundred parts of water, except when the exposure was not more than ten minutes in duration. The bouillon inoculated remained clear for three days (during which it was kept at a temperature of 30° C.), and at the end of that time it was impossible to obtain any evidence of growth by plate cultivations in nutrient gelatine. A sufficiently large quantity of the bouillon was used in each case to prevent any chance of error. In the check experiments a well-marked growth was obtained at the end of twenty-four hours, and at the end of thirty-six hours the bouillon was very turbid. Plate cultivations made with this culture proved that nothing but the *Staphylococcus pyogenes aureus* had grown in the bouillon.

From this it seems evident to the author that izal diluted with one hundred parts of water is a reliable antiseptic for the dressing of surgical wounds made with the usual antiseptic or aseptic precautions.

The Action of Izal on the Bacillus Anthracis.—In making experiments with the *Bacillus anthracis* it was not thought necessary to study the action of izal on the

non-sporing organism. Spores of great virulence were used. These spores were prepared in the same way as those which had been used in previous experiments and been found to resist ordinary disinfectants in usual dilutions, with the exception of the most powerful chemical agents. Judging by the results obtained with carbolic acid the author did not expect that izal would be capable of killing these spores in a reasonable time, and the results justified his expectations. The most interesting results obtained were those proving the remarkable inhibitory power which even diluted izal had on the growth of the anthrax spores. Thus in alkaline bouillon to which the one hundredth part of izal had been added it was impossible to get the spores to show any sign of growth, even when kept at a temperature of 36° C. for seven days, no precaution been taken to prevent the volatilization of izal. The spores, however, were not killed, for after thorough washing in sterilized water and cultivation in fresh bouillon an abundant growth was obtained.

The author sums up by saying that izal diluted with one hundred or even two hundred parts of water is a powerful and reliable antiseptic when contact for a sufficient length of time is secured. As an antiseptic it is more powerful than carbolic acid, and as it causes very little irritation of living tissues, as in moderate doses it is not poisonous, and as, practically speaking, it is not volatile, there can be little doubt as to the immense advantages which it possesses over carbolic acid.

A METHOD OF PREVENTING THIRST FOLLOWING CÆLIOTOMY.

Dr. W. H. Humiston read a paper thus entitled. He said: "No one who has had any experience in the after-care of abdominal cases will deny the important place that thirst occupies. It is the one promi-

ment, annoying, and distressing symptom, and I know it can be overcome. This is my method of procedure: The patient should have the usual preparation for coeliotomy, i. e., by diet, daily baths, cathartics, etc. For three days prior to the operation order the patient to drink a pint of hot water an hour before each meal and on going to bed, thus drinking two quarts of water each twenty-four hours, the last pint to be taken three hours before the time set for operating. Do not omit to give the water on the day previous to the operation, while the patient is restricted to a limited amount of liquid nourishment and the bowels are being unloaded. We thus restore to the system the large loss of fluid occasioned by the free catharsis, and we have the great satisfaction of seeing our patient pass through the trying ordeal of the first thirty-six hours after the operation in comparative comfort, with no thirst, with a moist tongue, and with an active renal function represented by an excretion of from twenty-eight to fifty fluidounces of urine during the first twenty-four hours, catheterism being seldom necessary. This is in keeping with the full character of the pulse noted.

"These details I have recently carried out in twelve cases. In eleven, chloroform was administered; in one, ether. The time required to complete the operation varied from ten to fifty-five minutes. Whether the case was one of sclerotic ovaries or a purulent case with adhesions of all the pelvic structures, the result has been uniform and highly satisfactory, thirst being allayed and excretion stimulated.

"I believe this method will prove to be efficient in the hands of abdominal surgeons generally, and I publish it early with all confidence that the twelve cases that I have had will soon be fortified by the reports of many hundreds, and that by it we may avoid a condition that is and has been distressing alike to the patient, to the surgeon, and to the nurse."

THE QUALITY AND QUANTITY OF AN INFANT'S FOOD.*

BY B. VAN D. HEDGES, M. D.,

Plainfield, N. J.

*Pathologist and Bacteriologist to the Mul-
lenberg Hospital; formerly Resident
Physician, New York Foundling Hospital.*

Given a healthy baby, one that has successfully passed the upper and lower narrows and disembarked from the troubled waters without bruise or blemish, what treatment has this child a right to demand at our hands during the earlier months of its existence, first as to the quality, and again as to the quantity of food it shall receive at each nursing? These are the two specific problems that will demand our exclusive attention, realizing that we are dealing with the healthy and not the sick child.

It also seems opportune that we should give our best thought to this subject at this particular time of year, when we are brought face to face with a high infant mortality, a mortality that we can only too often directly trace to errors in diet that might have been avoided.

I say, what treatment has this child a right to demand? If the mother is in good health, with sound nipples and a good flow of milk, the child's right is unquestionably clear and plain. The time has not yet arrived, nor do I believe it will ever come, when the refinements of the laboratory can improve upon Nature's method of rearing her young. I have no sympathy with the mother who, under such circumstances, refuses the nourishment specially designed by Nature for that special child; far better for her not to enter at all upon the obligations of married life than to shirk what is her plain duty and what ought to be her pleasure.

* Read before the Union, New Jersey, County Medical Society, July 10, 1895.

And yet, willing or unwilling, the presence of certain conditions would contraindicate the following out of Nature's plan. Syphilis and tuberculosis are very positive barriers in the best interests of both mother and child. Again, we meet with cases where the mother appears perfectly healthy, the quantity of milk sufficient, and yet the child does not thrive. In all such cases it is our duty to make a careful analysis of the milk, and for this purpose Holt's apparatus is the most convenient and accurate for the busy practitioner. If the sample, taken from the middle nursing, shows a specific gravity of 1.018 to 1.024 and a cream of only two or three per cent. the case is hopeless.

But with the growing demand of our enlightened civilization, breast nursing, especially among the better class of people, is becoming more and more a thing of the past. Artificial feeding has come, and has come to stay. How we can best adapt ourselves to these forced conditions is the problem that presents itself to us to-day and our success or failure in its solution will depend upon the exactness with which we can make our artificial food correspond with Nature's product.

We will first consider the character and quality of our substitute food. Cow's milk, taken from the mixed product of the dairy and not from any one single cow, should be our main reliance. It is moderately uniform in quality, can always be obtained at a reasonable cost, and can be made to resemble mother's milk more closely than any other preparation. And yet the difficulty of obtaining a pure, fresh supply, one that is absolutely reliable, especially in the warm summer months, has been in the past and is still a serious problem.

Most excellent work, along these very lines, has been done in our own State during the past few years by Dr. Henry L. Coit, of Newark. With the co-operation of the physicians of Essex County, a model

dairy has been established about six miles from Montclair. The herd is regularly inspected by a skilled veterinarian, and all animals presenting even a suspicion of disease are rejected. The character of the pasturage and food is carefully supervised. The cow's udder and the hands of the milker are subjected to a most thorough cleansing before each milking, and the milk itself passes first through a strainer into a closed pail, and thence immediately to a cold storage apartment. The services of a bacteriologist are constantly employed to determine the number and character of the bacteria present. The owner of the dairy places himself under heavy bonds to see that these regulations are faithfully and strictly carried out, and in return the physicians promise him their aid and co-operation. In this way the initial, prime supply is rendered almost absolutely pure and at a cost of only a trifle more than the regulation prices. Dr. Coit writes me that the undertaking is a most marked success in every way, and there is no reason why such a plan should not be put in successful operation in other large towns. A tour of inspection to the different dairies, such as I made last summer, and a close observation of the methods of milking and the care of the cows, will impress one with their absolute filthiness and neglect of many of the commonest laws of decency. And yet this is almost the sole food supply for a large portion of our population. We have it in our power, as physicians, to remedy this evil. Dr. Coit and the physicians of Essex County have shown us the practical working success of a model dairy, and I believe the day is not far distant when we will demand and secure similar advantages throughout the State.

But in order to make our cow's milk approach the normal standard of breast milk it needs modifying, and we need, ourselves, definite, clear ideas as to the exact chemical composition of each.

	Woman's milk	Cow's milk.
Reaction.....	Alkaline.	Acid.
Coagulable albuminoids..	Proportionately small.	Large.
Coagulated by acids.....	Not perceptible in test tube.	Very marked; not perceptible when diluted 1 to 5
Water.....	87 to 88	86 to 87
Total solids.....	12 to 13	13 to 14
Fat.....	4	4
Albuminoids.....	1	4
Milk sugar.....	7	4.5
Ash.....	0.2	0.7
Bacteria.....	Not present.	Present.

The foregoing table, prepared by Dr. Rotch, of Boston, gives the result of careful analysis of breast milk, taken from the middle nursing, compared with cow's milk about twenty-four hours' old.

It will be seen at a glance that the main difference lies in the albuminoids, the milk sugar, and the reaction, the fat remaining the same in each case. But reduce the albuminoids to their proper proportion and our fat and milk sugar suffer.

Dr. Meigs, of Philadelphia, was a pioneer in solving this problem, and he has furnished us with a formula which, slightly modified, is one of the best we have to-day. I say the best, because it corresponds most closely with mother's milk, and the proportions are so very simple and easy to remember:—

Milk..... 1 part.
 Cream..... 2 parts.
 Limewater..... 2 „
 Sugar water (dr. j to ʒ. j) 3 „

The re-action is alkaline, the albuminoids are reduced to one per cent., the fat and milk sugar both in proper ratio.

Originally under the supervision of Dr. Rotch, of Boston, there have been started in our large cities milk laboratories where the acme of refinement and accuracy has been reached in the matter of infant feeding. The milk reaches the city from a model dairy in the suburbs about six hours after milking; it is then separated

into its various constituents by delicate machinery and synthetically reconstructed according to the needs of each individual baby, as indicated by the prescription blanks, which are filled out by the physician in attendance and then sent to the laboratory.

The ability to thus regulate the albuminoids in the earlier weeks of life, without diminishing at the same time either the fat or sugar, is one of the most admirable features of our prescription laboratory.

A few drops of acetic acid added to a test tube of mother's milk produce no appreciable curd; to the same amount of undiluted cow's milk, large thick white curds are immediately precipitated, and it is only when the dilution is carried as far as one to five that we escape this mass coagulation. Excessive albuminoid digestion, and the resulting inability of the stomach to cope with the tough coagulum, I believe is the starting point of many of our gastric disorders. With new-born infants it has been my custom, and invariably with good results, to reduce the albuminoids as low as a half of one per cent., gradually working up to the standard at the end of a few weeks.

The milk laboratory is a scientific, rational method of infant feeding, a method which has already gained a firm foothold in Boston, New York and Philadelphia, and one that has come to stay. The total amount necessary for the twenty-four hours is delivered each morning in separate bottles that have all been sterilized and neatly packed in wicker baskets.

So far, we have imitated Nature in the preparation of our food, as far as the ratio of the different ingredients is concerned. But mother's milk is absolutely sterile; cow's milk under the very best auspices contains bacteria. It is interesting to know that germs are always found in the main duct of a cow's teat for a distance of half an inch from the tip, even with the very best of care. And so the necessity of either

sterilization or pasteurization is at once apparent. Personally the writer prefers the latter method, mainly because the product is more palatable to the child. In a series of experiments carried on by Dr. R. G. Freeman, of New York, it has also been found to be equally efficacious in destroying the disease-producing germs.

The doctor's pasteurizer, specially designed by him for this purpose, makes the details of the process very simple and within the mental grasp of the dullest nurse; or an ordinary Arnold steam sterilizer, with a perforated lid, answers the same purpose.

We have said nothing so far of the different artificial foods, whose number, like the different cures for whooping-cough, is legion. I am opposed to their use in a healthy child, because they introduce into the infant's stomach elements which Nature never intended to be put there. Again, analyses made from time to time often show a marked variation in their composition. Commercial enterprise, and not the good of the infant, is the governing motive of the manufacturers. As a result the public suffers.

Of the different preparations I am inclined to give condensed milk a leading place. It is practically sterile and moderately uniform in its composition. It is cheap, easy to prepare, and among the poor and destitute, where cleanliness is often an unknown quality, but boiled water always a possibility, it offers many advantages. Its low percentage of albuminoids, when diluted one to twelve, gives us a food easy to digest, neutral in reaction, but lacking in potential energy by virtue of its small amount of fat. The baby apparently thrives, often grows fat, and yet I think it is a common experience with all of us that such infants lack the staying qualities which their size and appearance would give us a right to expect. The production of animal heat is very necessary to the active metabolism of the growing child, and

unless we add a certain amount of cream our mixture is far from perfect. A scant teaspoonful to the ounce corrects this deficiency, and gives us about four per cent. of fat—the percentage in normal breast milk.

The use of peptonized foods, which at one time seemed destined to crowd out all other forms of feeding, is fortunately being rapidly relegated to its proper position. Its value in certain forms of gastric disturbance may be unquestionable; but Nature never intended to have this normal function usurped in the healthy child, and I believe the foundation for a weak digestion and much subsequent dyspepsia, has in many instances been laid by the use of peptonized foods. Idleness means atrophy and degeneration in a gastric follicle as well as in a striped muscular fibre.

Imperial granum, Nestle's food, and Carnrick's food, all contain unconverted starch; and why an infant only a few days old should be called upon to digest an element for which it is totally unprepared is a mystery to the writer. We know that the starch-converting functions of the salivary and pancreatic glands only begin to be developed at about the third month. Mother's milk never contains this element which in itself should be our warrant for withholding it absolutely.

Mellin's food, unless diluted with milk, gives us a food very low in the albuminoids and fat. Even then, with its fifty per cent. of starch converted into glucose, we are doing for Nature what she intended to do for herself. Why not add the milk sugar originally, and allow Nature, in her own good way and time, to complete the process?

And so we might go on through the long and ever-increasing list of patent foods, finding in them all either a serious omission or a meddlesome addition. They are made possible only by the tolerance and active assistance of the medical profession, and it seems to the writer that it is high time

we awoke to a sense of our responsibility in the matter. The more closely we can copy Nature in our efforts to raise the bottle baby the more successful will we be. With cow's milk, properly modified and properly prepared, I believe we have a mixture which more closely approaches the standard than any of the artificial preparations.

We now come to the consideration of the proper amount for each feeding. Our mixture may be ideal in very respect, and yet a child's health is made or marred as often by the quantity as by the quality of its food. While resident physician at the New York Foundling Hospital I became very much interested in this subject. I shall never forget one wizened, pinched little creature, only six weeks' old, brought to us with the diagnosis of a "touch of marasmus," and indeed it was a "touch," for the grim monster already had the life of the little one firmly in its grasp. "The child was a trifle fretful and nervous," the nurse went on to explain, "and we found it was quiet only with a bottle in its mouth." And so they had been in the habit of feeding this infant a mixture of six ounces every hour to an hour and a half. The bottle was no sooner emptied than it vomited the entire amount. With its hunger still unsatisfied it cried for more, only to have the same process repeated until death came to relieve it of its misery. How often we see a repetition of this same scene! Hundreds of babies die every year from *overfeeding* where only one succumbs from being fed too little. I only wish I might have preserved this stomach as we saw it the next day at the autopsy. Dilated to three or four times its normal size by this continual stretching process, with the muscular tone so destroyed that peristalsis was no longer possible, the walls so thin that they looked like tissue paper, no wonder that all the normal functions were held in abeyance. We all know that if we subject elastic tissue to prolonged and

excessive stretching, it soon loses its resiliency and refuses to return to its normal condition. And yet we seem callous to the fact that this principle holds just as true when we subject the stomach to an unnatural strain. I believe that many of our cases of dilated stomachs in after life, and atonic dyspepsias, can be traced directly to this overdistention in infancy.

Being interested to know just how much the stomach in its normal condition ought to hold, we selected children for autopsies who had died of some trouble other than gastro-intestinal. The results were most interesting and I have brought with me this afternoon some of these stomachs, one of which has been kindly prepared by Dr. David Bovaird, and in separate bottles the amount each held by actual measurement. These measurements were made at the time of the autopsy, and before the stomach had been subjected to the action of any hardening or preservative agents. With the pylorus closed the water was allowed to pass in through the cardiac opening from a funnel held about two feet above, insuring the natural amount of pressure. We found the size of the stomach bore a direct ratio to the size and weight of the child. Snitkin, from a long series of carefully conducted experiments, concludes that the average capacity is about one one-hundredth of the child's weight. Thus a child having an initial weight of seven pounds would have a gastric capacity of a little over an ounce, while its brother, who may have weighed twelve pounds, would have nearly double. He also found that the capacity increased at the rate of about fifteen grains a day. We found the average capacity for an average child under one month between one and two ounces; at the third month, between three and four ounces, or, in other words, a gain of about an ounce a month until the sixth month. If I ordered my grain dealer to put fifty bushels of oats in a bin that only holds ten, he would rightly deem me a fit subject for hospital treatment,

and yet we constantly see nurses and mothers forcing a five- or a six-ounce mixture into the stomach of a child only a month old. The one is as rational as the other.

Another series of experiments that we carried on were of interest in determining the amount of milk a healthy child gets from the breast at each nursing. With delicately adjusted scales we weighed a series of babies at different ages, before and after nursing, and found the result corresponded very closely with the normal size of the stomach at these different periods. And just in this connexion I would like to mention the advantage of weighing the babies regularly every week on an accurate pair of scales. A gain of a half to three quarters of an ounce a day indicates that we are making satisfactory progress. Below this average something is wrong, and often it is the first index, the first straw that shows us the fact that the child is losing ground.

In conclusion, then, I would like to emphasize my belief that we are absolutely powerless to improve upon Nature's method of caring for her young. At the New York Foundling Hospital during the last twenty years the attempt has been faithfully made time and again to find a satisfactory substitute for mother's milk, only to end each time in a dismal failure. The healthful condition of the two thousand little waifs under their control is proof positive of the value of breast nursing, the only system employed there to-day.

But with the impossibility of obtaining mother's milk, we would advise the use of cow's milk, so diluted with cream, lime-water, and sugar water as to form a ratio of one, two and three, using this sterilized or pasteurized mixture in preference to all forms of so-called patent foods, because it resembles most closely Nature's own product.

Again and finally let us remember the normal size and capacity of the infant's stomach.

THE PREPARATION OF ASEPTIC CATGUT

BY MEANS OF FORMALIN.*

BY R. H. CUNNINGHAM, M.D.

(From the Physiological Department of
Columbia College, New York.)

While engaged upon certain experiments necessitating the use of fairly slowly absorbable sutures, I determined to try the effect of hardening catgut in the now well-known histological hardening reagent, formalin, and the results from this procedure are so interesting to myself that a brief report of them will prove, I hope, equally interesting to others who may not have tried it already and who may desire to use sutures or ligatures prepared according to the method described below.

Since the discovery of Berlioz and Trillat in 1890 that a solution of formalin of 1 to 5,000 parts was capable of preventing the growth of micro-organisms in meat juice, a number of writers (Hauser, Aronson, Lehman, Gegner and others) have satisfactorily demonstrated its great potency as a germicide. Its employment in very dilute solutions for sterilizing instruments and the hands has been advised by several investigators, but it should be used in very diluted form, for if a concentrated solution is applied to the skin a peculiar necrosis occurs that is unaccompanied by the usual signs of inflammation.†

More to the object of this paper, however, is the property that formalin possesses of uniting with gelatin and with albumin to form insoluble compounds. Thus if a film of gelatin, such as one gets on a photographic gelatin dry plate, is immersed in a solution of formalin for some hours, it is impossible to dissolve the now changed film, even with prolonged boiling in water.

* Read by invitation before the Section in General Surgery of the New York Academy of Medicine, April 8, 1895.

† Gegner. Ueber einige Wirkungen des Formaldehyds. *Münch. med. Woch.*, 32, 1893.

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If commercial surgical catgut is wound not too tightly on a glass spool and soaked for two days in a mixture of absolute alcohol and ether (equal parts of each) to thoroughly remove the grease, then rinsed in alcohol for a few moments,* and from this removed to a small jar that has a tightly fitting cover and which contains enough of a mixture of equal parts of formalin and alcohol to well submerge the catgut, after several days the catgut may be removed and the formalin washed out by soaking it several times in fresh alcohol, or, what I consider more preferable, it may be transferred to normal saline solution and *boiled* for half an hour or more and then be transferred to alcohol and preserved therein as is usually done.

When catgut has been treated with this alcohol-formalin mixture a very peculiar change as regards some of its properties will be found to have occurred. It does not become stiff or brittle, and even after boiling in water for some hours it loses practically none of its former strength, nor does it disintegrate in boiling water as is the case with catgut prepared by the methods generally in vogue.

The fact that it can be boiled without destroying it is very important for a number of reasons, but the three given below will suffice for present purposes.

It facilitates the complete removal of the irritating formalin from the catgut, as both formalin and alcohol are readily soluble in water.

Secondly, a more aseptic state of the gut is produced by the antiseptic properties of the formalin.

Lastly, it becomes still more surely aseptic as well as non-irritating from boiling in normal saline solution into which the spool of catgut can be put just at the beginning of a surgical operation and in this way avoid bringing alcohol, oil of

* This preliminary treatment may be omitted if one so desires.

juniper, etc., in contact with delicate membranes and other tissues.

The advantages gained from the employment of animal ligatures and sutures rendered *positively* aseptic by this method are obvious, so that further dissertation thereon is needless.

In conclusion, I would add that other animal substances, such as decalcified bone drains, bone buttons and rings, rings of catgut after Abbe, etc., will give equally good results with the formalin method, and may be used on such occasions as require a not too early softening or absorption of the animal substance that is employed.

KEROSENE IN SURGERY.

BY A. SCHIRMAN, M.D.

I desire to put on record the following therapeutic novelty to enrich the arsenal of surgical remedies:—

In cases of wounds and ulcers of the trunk and of the limbs in persons of the poorer classes the treatment employed was, according to the pathological septic conditions, by the usual antiseptic methods; but I found that recovery progressed very slowly, on account of the fact that time and circumstances did not allow the patient to apply these preparations as often as necessary.

For this reason I determined to try some other substance as an antiseptic, and it occurred to me to try the effect of kerosene in these cases.

For this purpose, in cases of ulcers, especially atonic and indolent ulcers, I smeared them with commercial kerosene, either pure or diluted (from thirty-three to fifty per cent.) with alcohol, with a small camel's hair brush or with a piece of gauze soaked in the solution. Shortly after the application a burning sensation was felt, but it soon passed away.

The appearance and character of the ulcers showed a change for the better; the discharge gradually diminished, and in the

course of from two to four weeks after *primam intentionem* the rapidly granulating surface formed a scar without any contraction of the surrounding parts. The advantages of the use of kerosene for such cases may be summarized as follows: It produces healing in a comparatively brief space of time; it is much more economical and is easily obtained; I have never found the wound to be complicated with any erysipelatous process; it does not produce constitutional poisoning through the wound by absorption as other antiseptics sometimes do; it has not the intolerable smell of some of the others which are now in use; and the formation of a cicatrix on the ulcers is rapidly developed. Kerosene, having a local irritating action on the wound, undoubtedly possesses also disinfecting properties for the remote surface as well as for the adjacent surface around the wound. This is of great value, for actual facts show that persons residing in the kerosene-oil districts are protected against ailments of an epidemic character, such as cholera, etc.

THE HYPODERMIC USE OF AMMONIA IN
CAPILLARY BRONCHITIS OR BRONCHO-
PNEUMONIA.*

BY H. MORELL, M.D., C.M.,
Slayton, Minn.

With your permission I will impose on your time for a few moments to ask your attention to the hypodermic use of ammonia, which I have used in some diseases, but more especially and frequently in capillary bronchitis or broncho-pneumonia. We are well aware that in almost every case of this disease we meet with we have to deal with one of the most fatal of all diseases affecting children under five years of age. It is not within the scope of this short article to give the signs and symptoms of this disorder, but I will draw your attention to a few of the most important, so

* Read before the Minnesota State Medical Society, June, 1895.

that we may draw conclusions better from the treatment of the disease under consideration.

The onset of a broncho-pneumonia may either be preceded by an ordinary bronchitis, or it may arise during convalescence from one of the exanthemata, or in whooping-cough. The temperature rises with rapid pulse, and with it the most characteristic symptom, which is great acceleration of the breathing; this may rise as high as sixty or eighty in a minute. The expiratory sound is generally accompanied by a grunt, with the mouth open and the angles of it drawn downward and outward, indicative of suffering; the eyes are glassy, staring, or anxiously rolling about. Dyspnoea is marked, and cyanosis rapidly develops; the face becomes livid, the lips and nails blue, as a result of non-aeration of the blood, and if the condition is not relieved death occurs from apnoea.

From these symptoms it will easily be seen that energetic treatment will be required to counteract the above-named conditions, especially as they arise from deficient aeration of the blood. In conjunction with poultices, attention to the bowels, and general treatment, we have in ammonia a drug which is recommended by modern writers, which will stimulate the respiratory centre, increase the power of expectoration, and quicken the action of the heart. Dr. J. L. Porteous speaking of the treatment of pneumonia says: "As regards ammonia in the disease we consider that in this drug we have a valuable, quick, and powerful diffusible stimulant. It produces an increase in the force of the pulse, and is a heart stimulant. I have seen wonderfully quick results from it when the patient showed a tendency to faint, or in dyspnoea."

In broncho-pneumonia we must remember that there is a tendency toward collapse, and therefore stimulating treatment is required from the outset of the disease. All authorities agree that ammonia is one of the most useful drugs we possess, but I

believe it is one of the most difficult drugs to get a child to take, even in the form of any combination. I have been using, hypodermically, the aromatic spirits, not because I think it is the best form to inject but as it was the only preparation I had at hand.

I generally inject from fifteen minims to two drachms into the arm, according to the age of the child, and I must say that it acts quicker and better than if given by the mouth, and does away with all coaxing.

Of course, there is no doubt that it causes a smarting and burning sensation for a minute or so, but in the cases where I have used it the child does not seem to mind it very much. The action of the drug is noticed almost immediately; the face loses its livid colour, becoming flushed, the pulse beats stronger, and respiration is deeper—in fact, all the symptoms are improved. The frequency of the injections vary; when the symptoms of collapse appear, I inject every hour or so, until the child breathes easier and the heart gets stronger, being careful, of course, not to overstimulate my patient. The aromatic spirits may not be the best form to use, but I have had good success with it. The aqua ammoniæ would seem to be more suitable.

In conclusion, allow me to say that in my opinion the hypodermic method acts more promptly and favourably, even when the patient can take remedies in the usual way, not only in this but in other diseases.

HICCOUGH.

The *Lancet* for August 24th publishes an article on this subject by Dr. John O. Leonhardt, who says that nothing is more common, trivial, and easy to treat than a mild attack of singultus, and yet, when it appears in its violent types, nothing is more distressing to the patient and harassing to the physician than this convulsive affection of the diaphragm. He relates the case of a man who had hiccoughed incessantly for two days and nights. The

patient was a large, plethoric person, sixty years old; his pulse was rapid and small, the skin hot and dry. He suffered from great restlessness with delirium, together with coughing and hiccoughing with every inspiration. It was impossible, says Dr. Leonhardt, to determine with any degree of accuracy the condition of the lungs and heart, owing to the agitation of the patient and to the great commotion within the chest. He appeared to be in a very critical condition. Dr. Leonhardt prescribed an active hydragogue and half a grain of sulphate of morphine by the mouth. The cathartic acted in a short time and the patient fell asleep, but the hiccough continued. Antispasmodics and sedatives were then tried, also counter-irritation—in fact, everything that might be expected to quiet the spasm—during the following week, but, without the least effect. The author then ordered twenty drops every half hour of a mixture containing equal parts of acetic and sulphuric acids. An unexpected and decided improvement took place he says, and the patient became convalescent within twenty-four hours. He had hiccoughed constantly, day and night, awake or asleep, whether under the influence of hypnotics or not, for eight days. About ten years afterward Dr. Leonhardt learned that he had died from the effects of a similar attack.

The author cites a number of cases that seem to him, he says, both interesting and instructive, of which the following are examples: 1. A negro, aged forty years, had dyspnoea and hiccough. He would hiccough constantly for six minutes and then enjoy a short period of rest. Bleeding, cupping the epigastrium, and hydrocyanic acid used internally, were resorted to, but with no effect. After twelve days he recovered while taking laudanum and ammonia. 2. Dupuytren cured two violent and obstinate cases by the use of the actual cautery applied over the xiphoid cartilage. 3. Minidière, in the *Revue médicale*, directs attention to the influence of malaria on the viscera, and its

expression in severe hiccough. He reports the case of a man who, recovering from an attack of ague, was seized with a violent hiccough which, in spite of opiates, blisters and antispasmodics, persisted for nine days, when it disappeared under the use of enema-ta of quinine. 4. Dr. Danet, in a severe case, following great mental disturbance and associated with headache and vomiting, after trying a great number of antispasmodics in vain, effected a recovery with a pill containing three quarters of a grain of valerianate of zinc and a small quantity of belladonna. 5. Dr. Constable treats of hiccough as a complication of pneumonitis, and recommends the subcutaneous injection of morphine. 6. In another case an infusion of mustard, given by mistake, caused the immediate disappearance of the hiccough. 7. Dr. Ortille relates a case of a woman, in whom hiccough had persisted for seven months. A decoction of jaborandi leaves and stalk was given in two doses fifteen minutes apart, and in two hours the patient was cured. 8. Dr. Smart, in a case of hiccough in a man who suffered from chronic alcoholism, used inhalations of chloroform after ineffectual attempts for four or five weeks to control the spasms with other remedies.

In the foregoing observations, says the author, it will appear that pilocarpine, epigastric compression, morphine, and chloroform are the mainstays of several able practitioners in the treatment of this disorder. It will also be seen that hiccough in old men is of shorter duration, as a rule, than in young women. Among the causes are found any irritation of the phrenic nerves, whether reflex, central, or peripheral. Its occurrence is common in the advanced stages of fatal diseases of all kinds: in uræmia, cholera, dysentery, gangrene, hæmorrhage, low fevers, and adynamic states generally; in apoplexy, hydrocephalus, meningitis, embolism, acute gastritis, cancer of the stomach, pericarditis, aneurysm, pneumonia, intestinal obstructions, strangulated

hernia, and the passing of renal and hepatic calculi; in mediastinal pleurites, fracture of the ribs, malaria, gouty inflammation of serous membranes near the diaphragm, spasmodic stricture of the œsophagus, affections of the larynx or pharynx, and enlargements along the sides of the thyroid or in the course of the phrenic nerves; in many diseased conditions of the liver, the spleen, the pancreas, the ovaries, the uterus, the prostate, etc.; even from ingestion of irritating substances, solid or fluid, so common in those addicted to rapid eating, gourmandizing, drunkenness, etc. Excessive crying or laughter is sufficient to cause hiccough in children and those of unstable nervous systems.

While these excerpts, he says, will doubtless puzzle the "symptom doctor" the pathologist and real clinician will have no difficulty in distinguishing the real from the apparent. It certainly appears plainly that hiccough is not a disease *per se*, but rather a neurotic equivalent occurring in many different diseases. While obscure but trivial nervous conditions may co-exist with a paroxysm of singultus which is usually readily amenable to simple measures often of a psychical character entirely, hiccough may be of so threatening and obstinate a nature that the resources of the ablest may be of no avail. It is in cases of the latter kind that a primary morbosity, if sought for, can, he believes, usually be found, and of which the diaphragmatic convulsions, though all-absorbing, are really but like the white crests of waves that, however conspicuous, are distinctly dependent upon the energy of sun and wind and water. Hiccough, says Dr. Leonhardt, is not a disease; it belongs to a class of imposing symptoms of which neurasthenia, dropsy, jaundice, fever, etc., are examples. The physician who permits himself to be deceived by the boisterous qualities of any disease shadow which he assails, regardless of the character of the real pathological substance that casts it, lacks medical acumen and exposes his pa-

tient to much unnecessary suffering and possibly danger.

MERCURY IN HEART DISEASE.

Dr. Murray, of London, contributes an article on this subject to the *Lancet* for September 28th in which he says that repeated observation has convinced him that mercury possesses a value far beyond the supposed alterative nature of its action—not that it fails to relieve congested vessels by drainage or osmosis, for doubtless, he says, this lays the foundation of its further action on the heart itself, and it would fail to relieve the heart did it not eliminate biliary and other effete matter from the blood and tissues of the liver and portal system, for instance; but when due allowance has been made for these primary effects there remains strong evidence that it tells upon the heart itself. Its special benefits are exercised in cases of dilated and hypertrophied heart. By means of it the thready, weak, rapid, and irregular pulse is made full, soft, regular, and slow with manifest relief of such symptoms as dyspnoea, pectoral weight and tightness, and sensations of faintness. The *angina sine dolore* is often marvelously relieved and removed by two or three grains of blue pill three times a day, and the severe forms of *angina pectoris* not infrequently disappear under its influence. While the nitrites, nitroglycerin, etc., afford temporary relief, this remedy is much more permanent in its effects. It need hardly be said, says Dr. Murray, that to give digitalis a fair chance it is absolutely necessary to pave its way by preliminary doses of mercury and to foster its action by repeated doses. Many of the cases where digitalis, etc., fail, or seem to fail, by supposed accumulation depend on this: that we are giving the digitalis without the blue pill or calomel, and it often falls to the lot of the consultant to make a great hit by inserting the mercurial into the previous treatment. Much more true is

this of iron and digitalis combined. We see a patient with engorged vessels and labouring heart taking iron and digitalis much to the detriment and not to the benefit of the case—each dose is but adding fuel to the fire—energizing the heart in its futile attempts to drive the blood through the engorged vascular system, and thus exhausting the organ in its hopeless struggle. All this is changed by frequently repeated doses of mercury; the portal system is drained, the water from the general vascular system is “exosmosed,” dropsical accumulations are absorbed, and, by pushing the drug, we get hold of the heart itself and produce the slow, soft, regular, and effectual pulse, giving the digitalis or strophanthus a fair chance to come in as cardiac tonics; and at last we complete the circle by arriving at the point whence we departed with the patient in a very different condition, and we can give the iron and digitalis now with impunity—say, with immense benefit. The following case, says the author, speaks for itself, and its quotation is the more apt as the patient came from being under the care of an eminent Edinburgh physician in the very condition just described—namely, that of a dilated and hypertrophied heart goaded to excess in a useless effort by iron and digitalis: The patient, a hard-working man, was a Scotchman, and had all the talent, physique, and energy peculiar to his race. He gradually manifested symptoms of valvular disease and dilated heart when about forty-eight years of age. He went to Edinburgh and was under treatment there for several weeks. At last he was sent home with the assurance that nothing more could be done for him. Dr. Wilson, of Wallsend, was summoned to see him, and he called Dr. Murray in consultation on the case. They found the patient in the following condition: He was propped up in bed. His countenance was anxious, his eyes seemed to protrude from their sockets, and his face was bathed in perspiration, with a livid

colour of the lips and skin. His breathing was shallow, frequent, and difficult, accompanied by a constant hacking and ineffectual cough. His pulse was hardly perceptible, irregular and thready. The heart's action was tumultuous and irregular, the cardiac sounds were almost inaudible, and a distant murmur could be heard with both sounds at both the right and the left apex. No cardiac impulses could be felt except a wavy movement at the epigastrium. The liver was enlarged, and the abdominal cavity was distended with fluid, as were also the lower extremities and the scrotum. The pleural cavities were also occupied to a considerable extent by fluid effusion. They determined to abandon the usual cardiac stimulants and gave him two to three grains of blue pill three times a day, and at the end of two days he was given a smart purge of jalap. Greatly encouraged by the result they pushed the blue pill (from two to three grains three times a day) for a week or more, and during that time a steady relief of all the symptoms ensued. The countenance became placid, the tongue (before dry and brown) became moist, and the pulse more regular, full and soft; the dropsical accumulations gradually receded, and the breathing resumed a normal character. Now, says the author, was the time for digitalis—always best given on a falling tide in dropsy—and doubtless the patient owed much of his rapid recovery to the temporary and occasional use of that drug; but the principal treatment was by the steady use of blue pill, now gradually diminished to two pills a day, and finally to a five-grain pill at bed-time. To sum up the results, the man felt himself to be quite free from all his troubles in six weeks.

The point of interest in this case, says Dr. Murray, is that during the next ten years the patient took his blue pill every night with few intermissions, and declared that whenever he omitted to take it for a few nights his heart began to trouble him

and his breathing became difficult. This nightly dose was in some mysterious way enabling a heart massive with disease to discharge its duties in such a way as to make its owner feel quite well. The drug never salivated, purged, or nauseated him and it never gave his breath a touch of fœtor. At last, however, his old symptoms returned, the machinery was worn out, and he died chiefly from the pressure of abdominal fluid on his enormous heart.

At the post-mortem examination the heart was seen to be excessively enlarged, and the space occupied by it measured eight inches across and eight inches from above downward. The lungs were displaced backward and compressed by the enlarged heart. The right auricle was very much dilated, almost to the size of a man's fist. The walls were thickened and the muscular tissue hypertrophied. The auriculo-ventricular orifice was very much increased in size and readily admitted eight fingers at once. The tricuspid valves were much thickened and opaque. The right ventricle was much dilated and the walls were thin. The left auricle was much dilated, the walls were thick, and the endocardium was opaque. In one part of the wall of the auricle there were two bars of calcified muscular tissue united by a cross-bar of the same substance. The auriculo-ventricular opening was much constricted and hardly admitted the tip of the index finger. The mitral valves were adherent, so that there was only a small opening like a buttonhole between them. The valves were thick and rigid, but not calcified. The left ventricle was dilated, but its capacity was only about half of that of the right ventricle. The walls were not much increased in thickness. The peritoneal cavity contained a considerable amount of clear fluid. The spleen showed a dense white patch of scar tissue a quarter of an inch deep in the centre—evidently the site of a very old infarction. The surface of the liver was nodular; on section it showed dense

strands of connective tissue of advanced cirrhosis.

To rescue a man from the jaws of death, says Dr. Murray, and to give him ten or eleven years of fairly good health confers on any drug a reputation, and its potency is established. The question, he says, naturally arises, How does it act? Is it a cardiac tonic, stimulant, alterative, or what? Does it act on the secondary apparatus of the circulation and the blood itself by reducing the resistance of the vessels, diminishing the volume of blood, and altering its fibrinity so as to make it circulate more freely? Dr. Murray thinks that it does produce these effects, and, at the same time, that it soothes the heart by purifying the blood of effete accumulations.

MENTAL SYMPTOMS OCCURRING IN BODILY DISEASES.

At a recent meeting of the British Medical Association (*British Medical Journal*, September 28th) Dr. Ernest S. Reynolds, of Loudon, read a paper on this subject, in which he dealt only with the results of his personal experience during four years' residence in the Manchester Royal Infirmary and five years' work in the Manchester Workhouse Infirmary.

Mental depression, he says, is by far the commonest slight emotional state met with, and may be a natural feeling caused by pain or actual personal inconvenience, or it may be an entirely unnatural depression quite incommensurate with surrounding circumstances. It is found proverbially in abdominal diseases, excepting, curiously enough, in splenic disorders; for the old expression fits of the spleen for lowness of spirits and irritability of temper does not seem to be borne out by clinical observation. Contrary to the usual statements, mental depression and more or less hypochondriasis are very common in phthisis, especially as it is observed in the wards of a workhouse infirmary.

Intense depression accompanies and sometimes follows various fevers, such as rheumatism and influenza. In the inter-paroxysmal periods of epilepsy depression and hypochondriasis are often marked features, and the after-effects of poisons, such as *cannabis indica*, opium, alcoholic, and carbon bisulphide, are those of depression. Alcoholic paralysis is accompanied by great depression, especially in women, oftener by exaltation in men. Vague dragging abdominal pains and hypochondriasis in women should always lead us to examine for movable kidney. The presence of hair on the face in women causes great depression, which may lead on to true melancholia and even suicide.

Mental dullness (which must, of course, be distinguished from unconsciousness) is found in cerebral tumor, in intense headache, in phthisis, in cyanotic states, in disorders of the liver, such as cirrhosis and cancer, in cancer of the stomach, and especially in myxœdema.

Irritability of temper, common enough in sick children, is especially common in two diseases of adults—namely, phthisis and diabetes; it is also seen in the gouty and in various forms of dyspepsia, and may accompany painful conditions, such as toothache or sciatica. Feelings of terror occur in hydrophobia, in delirium tremens, and possibly in chorea and Graves's disease.

Actual insanity occurring in bodily diseases, says the author, should not include the insanities connected with mental bodily changes, such as those of puberty, child-birth, and the climacteric and senile periods. Insanity may occur in any of the following classes of disease: 1. Organic disease of the nervous system, whether cerebral or spinal (including Graves's disease). 2. Disease of the heart. 3. Disease of the lungs (excluding phthisis). 4. Disease of the digestive organs. 5. Disease of the urinary and generative organs. 6. Certain general diseases, such as gout, diabetes, and myxœdema. 7. Diseases caused by germs, including

tuberculosis and rheumatic fever. 8. Vegetable and mineral poisons. 9. Traumatism, including surgical operations.

Among the diseases caused by germs we find a comparatively large amount of mental disease. Very rarely pneumonia is accompanied by true acute delirious mania (to be distinguished from delirium tremens, so commonly seen in the pneumonia of alcoholics). After pneumonia and typhoid fever a stuporose demented condition, or a melancholia with delusions of suspicion and poisoning, may occur, these cases almost invariably ending in recovery in a few days or weeks. Influenza may set in with very acute mania, with great excitement, delusions, and hallucinations, recovery occurring as a rule; or there may be suicidal attempts in the early stage; after influenza melancholia may set in; less frequently, mania.

Dr. Reynolds's experience has led him to draw the following conclusions:—

1. It is a comparatively rare occurrence for actual insanity to develop during the course of bodily disease.
2. In general hospitals mental disease most commonly occurs after fevers, poisons, injuries and operations, and heart disease (in about this order of frequency).
3. In the early stages of fevers and after injuries and operations mania is the common form of insanity, but in other conditions depression is more common; but the commonest form is an insanity with marked delusions of persecution (often associated with hallucinations of hearing), such as one sees in phthisis and heart disease and after typhoid fever.
4. There is no special form of insanity connected with special bodily disease, so that it is impossible to diagnosticate the bodily disease from the mental symptoms present (except the peculiar mental state of alcoholic paralysis).
5. Insanity occurs with unusual frequency in bodily diseases associated with peripheral neuritis, as in poisoning by alcohol, carbon bisulphide,

and lead; pellagra, typhoid, typhus, scarlet, and rheumatic fevers, influenza, pneumonia, phthisis, syphilis, septicæmia, rheumatism, gout, and diabetes. Is it possible, he asks, that in these conditions the factor which causes the changes in the peripheral nerves causes also some similar changes in the multitudinous internuncial fibres in the brain, and so produces disturbances in the normal cerebral reactions which go to make up a healthy mind? 6. Where the cause is not continuous—such as the poisons, the fevers, and the traumata—the mental symptoms in the great majority of cases disappear; in heart disease and phthisis they may disappear and reappear from time to time; but in some cases, such as the insanity connected with gouty kidney, they disappear only with death.

THE DISAPPEARANCE OF THE FIRST HEART SOUND IN TYPHOID FEVER.

The *Mercredi médical* for September 4th publishes a report of a recent meeting of the *Congrès français de médecine interne*, at which M. Mongour stated that he had ascertained that the first heart sound had disappeared during the course of typhoid fever in two patients. From the study of these cases and of analogous ones, he said, the following conclusions might be drawn:

1. The disappearance of the first heart sound at the apex or at the base, at whatever stage of the disease it occurred, had no grave prognostic signification if the number of the pulsations did not exceed a hundred and ten. If, however, they exceeded this number, the disappearance of the systolic murmur might be considered as a fatal sign.
2. While this disappearance appeared to be connected with the existence of myocarditis, the cardiac acceleration seemed rather to depend on a toxic action on the nervous centres. This second tendency of the toxic agent was much more serious than myocarditis, which was generally cured.

A DEODORIZER FOR IODOFORM.

The *Lyon médical* for August 25th remarks that the odour of iodoform, if not dangerous, is very noticeable and annoying. The oil of turpentine causes this strong odour to disappear immediately from anything with which this antiseptic has come in contact. The hands may be first washed in water to which some turpentine has been added, and afterward with soap and water, and it will be found that the odour has entirely disappeared.

CAMPHORATED SALOL.

In a report on dermatology by Dr. John T. Bowen, published in the *Boston Medical and Surgical Journal* for September 19th, it is remarked that Elsenburg has used this preparation in various cutaneous affections for two years, and has found it of special value in furuncles and carbuncles. It is prepared by moistening one part of camphor with a few drops of alcohol, and rubbing this in a porcelain mortar with 1·4 part of salol until a transparent liquid is obtained. A change, says Dr. Bowen, takes place in from twelve to twenty-four hours; the pain diminishes, the redness and inflammation of the adjoining parts disappear, and the tumour becomes progressively smaller, without the formation of pus. As a rule, the secretion obtained from the vesicle at the point of the furuncle yields a pure culture of the *Staphylococcus aureus* on nutrient media, as do also bits of the infiltrated tissue. After camphorated salol has been used for twenty-four hours, no such cultures can be obtained. When suppuration has already taken place in the furuncle, and after the slough has been removed, the pain and hyperæmia may be much lessened by the application of the camphorated salol, and the suppuration diminished. The healing process then advances quickly, a slight discoloration, and some infiltration being felt only for a short

time. The method of using the drug is to lay bare the point of the furuncle, or, in the case of carbuncle, to make several moderately deep incisions, in order to facilitate penetration into the infiltration; afterward the lesion and the surrounding hyperæmic parts are covered with cotton compresses soaked in camphorated salol, and an impermeable covering is placed outside.

A NEW VIEW OF THE TREATMENT OF VOMITING AFTER CHLOROFORM ANÆSTHESIA.

In the *Revue de chirurgie* for September M. Lewin relates his experience with the use of vinegar to prevent vomiting in a hundred and seventy-four cases of chloroform anæsthesia. In a hundred and twenty-five cases, he says, he has obtained complete success, no vomiting of any kind having been produced. In forty-nine cases there was vomiting, but it was generally slight, and the rejected material was rather viscous. The method should be very carefully carried out, he says, in order to insure good results. It is known, he remarks, that chloroform is eliminated almost exclusively through the lungs, partly as free chloroform and partly as formic acid and chlorine. It is evident, he says, that the chlorine exercises an irritating action on the larynx and on the trachea, and that this is one of the principal causes of the vomiting. When a cloth saturated with vinegar is held over the nostrils, the chlorine combines with the acetic acid as fast as it is evolved and forms trichloroacetic acid.

It is very dangerous to use pure chloroform, says M. Lewin, and all medicinal chloroform should contain a certain quantity of alcohol, which renders its decomposition during narcosis more difficult. It is also known, he continues, that chloroform dehydrates the tissues, and consequently after the action of the chloroform has been suspended it is well to make the patient breathe in air that is as humid as possible.

This dehydrating action, says the author, influences also the endothelium of the blood-vessels and causes coagulation of the blood, to which the slackening of the circulatory movement and the feeble activity of the chemico-biological phenomena in the capillaries also contribute. Under such circumstances the author thinks acetic acid is a powerful factor in restoring to the blood its normal fluidity, owing to a property that it derives from the water it contains, and to its energetic power of destroying the fibrin. Moreover, acids in general are stimulants of the respiratory tract. The foregoing considerations, he says, seem to him sufficient to explain the phenomena without bringing forward a hypothetical action of the vinegar, or of acids in general, on the vomiting centre by the intervention of the vaso-motor nerves.

The following observations were made in cases where this treatment was employed by the author. Immediately after the application of the vinegar the pulse became strong, respiration grew deeper, the face regained a little colour, and the corneal conjunctiva became bright. The appetite returned at the end of a short time, and the patients occasionally complained of hunger on the very day of the operation. Frequently they did not suffer at all from the general uneasiness which nearly always follows chloroform anæsthesia. It does not follow from this, says M. Lewin, that the application of the vinegar always suppresses the vomiting, for, in certain cases where the patients are very nervous or are suffering from certain affections of the lungs or of the stomach, vomiting may occur in spite of the treatment.

The method of application is as follows: A piece of linen of about the size of a napkin is saturated with vinegar and lightly wrung out; it is then placed on the patient's face, over the mask, which is afterward carefully withdrawn, care being taken not to allow the air to gain access to the face too suddenly, for it ought to pass

through the linen cloth before being inhaled. This cloth must be kept on as long as possible, for three hours at the least, and it is better for the patient if the application is prolonged during the entire day, for occasionally the presence of chloroform in the expired air has been observed for more than two days after narcosis. If the cloth is removed too soon, nausea will set in. If the linen cloth dries very rapidly it must be replaced immediately with a fresh one, which is put over the first cloth before the latter is drawn away in order to prevent the air from touching the face. If the wet cloth is annoying to the patient it may be held away from the face with a mask. It is of the greatest importance to conform to these rules, says M. Lewin, for failure to observe them has prevented good results from following the application of the vinegar. In administering chloroform, he says, it is preferable to use small doses, which is the only rational method, for in operating the mask should not be raised during chloroformization, while by the method of large doses it is often necessary to lift the mask after having produced a profound narcosis. In this way the air reaches the patient's face too suddenly and causes nausea and vomiting, sometimes during the operation, sometimes after it.

LORETIN A NEW ANTISEPTIC.

In loretin Dr. Snow (*B. M. J.*, December 21st, 1895) holds that we have an antiseptic more powerful than iodoform "non-poisonous, devoid of smell and absolutely preventive of suppuration." This is certainly good news if true, and we earnestly hope that further observations will prove that Dr. Snow has not exaggerated the virtues of this new drug.

RESORCIN IN INFANTILE DIARRHŒA.

In an excellent paper on infantile diarrhœa (*B. M. J.*, December 21st, 1895) Dr. Fenwick lays stress on the value of resorcin in cases of diarrhœa due to fermentation. In his

hands the drug has been very successful, and he attributes the failure of others to appreciate the value of the drug to the fact that the dose according to the Pharmacopœia (one to five grains) is far too small. He is in the habit of prescribing three grain doses of resorcin every three hours to infants only a few weeks old, and has seen no ill-effect. The drug is "extremely palatable to children, devoid of tonic properties and very inexpensive."

VACCINATION AGAINST CHOLERA.

Professor Koch has expressed his opinion with regard to the value of Dr. Haffkone's method of vaccination against cholera. He "believes the protective power of the method to be established finally by the observations collected in India up to now."

METHODS OF EMPTYING AN OBSTRUCTED BOWEL.

A very practical paper appears in the *British Medical Journal*, January 26th, 1895, by Mr. W. Thomley Stoker, President of the Royal College of Surgeons in Ireland. He is an uncompromising opponent of the long enema tube (O'Beirnes), and gives several examples of injury following its use; he also warns against the practice of delegating the administration of an enema to any assistant or nurse that may be at hand. He writes: "For some years past I have used but two instruments for giving enemas. One is an ordinary Higginson's syringe, to the nozzle of which a No. 12 or 14 red rubber catheter has been attached. For the daily purposes of the rectal toilet, or in cases where the injection is to be retained, or ejected by natural effort, this will be found perfect. It is absolutely safe and quite painless. It can be used in the most tender infant or the most callous adult, and in instances where injection is called for in the presence of inflamed piles it is a blessing without any disguise.

The second instrument is an ordinary red-

rubber tube four-eighths to five-eighths of an inch in diameter, such as is used for washing out the stomach. It is convenient to have circles marked at three, six and nine inches from its extremity, so as to know what length of it lies in the rectum. A large funnel should fit the dilated extremity, and should be transparent, so as to allow the fluid which is being introduced to be seen. I have found a celluloid funnel more convenient and portable than one made of glass.

The patient lies on his back, or left side, with the pelvis raised, so as to facilitate the passage of fluid into the sigmoid and descending colons. The only fluid that should be used is warm water, and eight or ten gallons of it may be employed at one sitting. The surgeon sits on the right of the patient's bed, introduces the end of the tube and retains it in position with his left hand, while with his right he holds the other end of the tube, into which the funnel is inserted. The tube is introduced three, six or nine inches, as may be indicated, and should be moved up and down in the anus by the left hand. An assistant pours water into the funnel, and the pressure may be varied and adjusted by the height to which it is raised by the operator. The left hand can be used at any moment, when the pressure in the rectum becomes painful, to pinch the tube and stop the flow. When as much water has been introduced as can be borne the funnel is removed, that end of the tube lowered to a basin placed on the floor, and the fluid allowed to run out of the bowel. By repeated operations of this kind large quantities of water may be used, and the bowel emptied without the patient being exhausted by straining or by the necessity of changing his position. The solution of fæces and expulsion of flatus are assisted by the pushing in and out of the tube which I have indicated, and by the varying hydrostatic pressure caused by alternately raising and lowering the funnel at the free end of the tube.

The advantages of this method over older ones are as follows :—

1. The tube is soft and cannot cause injury.
2. The fluid pressure can be regulated to a nicety, and cannot be made excessive, as if undue pressure threatens regurgitation into the funnel takes place.
3. Enormous quantities of water can be used.
4. The currents created by alternating hydrostatic pressure have a powerful solvent effect on the fæces.
5. The operation necessitates no exertion on the part of the patient, no change of

position, and can be carried on for a long time without exhaustion.—*Clinical Sketches.*

ICHTHYOL FOR PHTHISIS.

Sulpho-ichthyolate of ammonium—a thirty per cent solution in water, glycerine, or alcohol, in doses amounting to 20-200 minims daily, has been given in 150 cases of pulmonary phthisis by Scarpa (*Rif. Med.*, March 6th, 1895). Twenty-three of the most advanced cases died, but the others were more or less benefitted, and seventeen appear to have been absolutely cured.

Hongkong and China Branch of the British Medical Association.

Dr. J. C. Thomson, of Hongkong, has kindly sent us the two following reports of recent meetings of the B. M. A. Branch in Hongkong :—

A meeting of the Local Branch of the British Medical Association was held at the Government Civil Hospital, Hongkong, on Monday, January 13th, for the discussion of a paper by Dr. Hartigan on the "Recent Fever Epidemic in Hongkong." There was a remarkable lack of unanimity among the members present as to the true nature of the disease which lately prevailed in the colony.

While the leader of the discussion contended that it was of the nature of a relapsing fever, due to the insanitary condition of the drainage of the city. Dr. Atkinson, Acting Colonial Surgeon, held that it was a pure malaria; Dr. Stedman, basing his opinion on experience of three epidemics of influenza in England, that it was influenza, and that the relapses that occurred in only a proportion of cases were malarial; Fleet Surgeon Godding, R.N., H.M.S. *Centurion*,

that it was a similar disease to the dengue he had seen on the Indian station; Dr. Jordan that it was a combination of influenza and malaria; and Surgeon Major Hayes, A.M.S., D.S.O., that it was akin to the filth fever he had seen in Egypt. "Where doctors differ!"

It may be of interest to some members of the Medical Missionary Association to know that forms of application for admission to the British Medical Association may be had locally, and that all arrangements may be made in Hongkong, since the local council has full powers to elect to membership of the parent association. All who hold British qualifications are eligible, and members receive the *Journal* of the Association free by post every week. The printed form of application may either be sent direct to London with P. O. O. for £1.1.0. the annual subscription, or sent to the Local Secretary, in which case it would require to be accompanied, in addition to P. O. O. for £1.1.1 by the local subscription of one dollar. The officers at present are :—President, J. A.

Hongkong and China Branch of the British Medical Association. 53

Lowson, M.B., Government Civil Hospital, Hongkong; Vice-President, Surgeon Major S. Westcott, A.M.S.; Hon. Secretary and Treasurer, J. C. Thomson, M.D., Alice Memorial Hospital, Hongkong.

INFECTION IN BUBONIC PLAGUE.

A Discussion by the Hongkong and China Branch of the British Medical Association.

A meeting of the local Branch of the British Medical Association was held in Hongkong, on Friday, 13th March, Dr. James A. Lowson, President of the Branch, in the chair, for the discussion of the subject of Infection in Bubonic Plague, of which sporadic cases had been occurring daily in the colony ever since the year began.

Dr. Lowson introduced the discussion in an able and interesting paper, in which, taking for granted that the sole cause of plague is the Plague Bacillus, he adduced evidence to show that the fæces, discharges from buboes, and the blood, are infective; that the transmission of the bacillus by the saliva is doubtful, and that the breath, the urine and the milk do not convey it; that the main multiplication of the poison takes place in the human body, in the dust of the floors of filthy dwellings and in underground channels reached by the lower animals, *e.g.*, rats, of which thousands die wherever plague prevails; that infection is accomplished by inoculation through wounds or mucous surfaces; that the air of infected houses owes its infective properties to the dust stirred up or lying on the floor; that the atmosphere only carries the poison when in a very concentrated form; and that personal intercourse along the lines of travel is an absolute essential for the spread of the disease.

Dr. Hartigan expressed the belief that infection from person to person is rare, and that the dust of an infected dwelling is more dangerous than the plague patients themselves. He showed a close correspondence between the dissemination of plague and of typhus. He questioned the theory that fresh fæces would convey the disease.

Dr. Clark was of opinion that more danger existed in the emanations from the lungs and skin than had been granted in Dr. Lowson's paper, and that not inoculation but prolonged breathing of an infected atmosphere is the usual method of infection.

Surgeon-major James, A.M.S., from his experience of the 1894 epidemic, confirmed the last speaker's facts and conclusions.

Dr. Arnold, of the U. S. A. navy, made statement regarding a research which he is making into the causation of plague, and showed the immunity of monkeys to the disease.

Dr. Rennie laid on the table his Report on the Plague in Canton during 1894, recently published by the Chinese Imperial Maritime Customs, and called attention to the fact that in his paper he traces the recent movements of the plague and the route by which it probably reached Canton and Hongkong from Yunnan, where it has been endemic for a quarter of a century. He shows reason to believe that it did not reach Canton by way of the West River, the main line of traffic, as might have been supposed, but that it travelled overland to Pakhoi, and thence northward to Canton. It was probably introduced to Hongkong through the migration from Canton of persons actually suffering from plague, or passing through the short period of incubation.

Dr. Lowson, having replied, was awarded a cordial vote of thanks for his paper.

A PLEA FOR MEDICAL STATISTICS.

Some time ago I noticed in an English medical journal a wail over the irregular issue of the Chinese Customs' Medical Reports, the editor considering them the only source of information on the diseases of the Chinese. Probably the poor man was unaware of the existence of 'our own,' but I could not help feeling how very little is known of the work carried on in the various mission hospitals and dispensaries, and how small a part we are taking in the investigation of the maladies of the people of this land.

Some hospitals publish and circulate reports, but the great majority do not, and away from the treaty ports there is not the same *raison d'être*. Of those who do very few publish a detailed list of the diseases met with.

Now the proposal I have to make is that every hospital and dispensary publish such a list, not necessarily every year, for that might be an intolerable burden, but once every three or four years. I think it would be a good thing if a small committee were appointed. They could fix the years, so that the lists might be simultaneous. It would not be necessary to publish reports; the lists could be sent in to the committee and they would prepare them for publication in tabular form in the Journal.

Rare cases should be reported yearly or noted and sent in with the triennial list.

It is very important that not only the number of cases of the various diseases be stated but also the percentage to the total number of cases coming, *e.g.*, total number of patients 5,000, cases of dyspepsia 500 or 10 %. For purposes of comparison the percentage is by far the most useful.

Of course cases of doubtful diagnosis should not be included. Epidemics and imported cases should have distinguishing marks. Yearly reports of epidemics and endemics would be very desirable.

It is not necessary to dwell on the advantages of such a scheme. They must be apparent to all of us. An enormous amount of valuable information is buried in the case books of our dispensaries which, if collated and published, would throw a flood of light upon the occurrence and distribution of diseases in China. I do not think anyone need shrink from the labour involved. Personally I have found it very useful as leading to an unusual amount of reference reading and clearing up of hazy ideas on various points of nomenclature.

PHILIP B. COUSLAND, M.B., C.M.

History of the Medical Missionary Society's Hospital, Canton. 55

HISTORY OF THE MEDICAL MISSIONARY SOCIETY'S
HOSPITAL, CANTON.

By J. G. KERR, M.D.

Protestant missions in China date no farther back than the early part of the present century. The Rev. Dr. Morrison, the first missionary, landed in Canton in 1807. This city was then the only port at which foreigners were permitted to reside, and it was not until after the war of 1840-42 that four other ports were opened. Intercourse with the natives was very much restricted, and mission work of any kind in public was not attempted during Dr. Morrison's life-time. In 1820 he and Dr. Livingstone opened a dispensary in Macao, but it does not seem to have been kept up very long.

The first regular medical work for the Chinese was inaugurated in Macao in 1827 by Thos. R. Colledge, F.R.S., physician to the E. I. Co., and his dispensary was conducted for four years, at first at his own expense, but afterward aided by the European merchants; six thousand patients came under his care, and his philanthropic and benevolent work holds the honourable place of being the first introduction into China of the benefits of scientific and modern medicine and surgery; and the name of Colledge stands at the head of the list (now a long one) of medical men who have devoted their time and professional skill freely to the Chinese.

The first medical work in Canton was a dispensary opened in 1828 by Dr. Colledge and Dr. Bradford, an American physician, and the record states that it was largely patronized by the natives, but was short-lived.

The Rev. Peter Parker, M.D., the first regularly appointed medical missionary to China, was sent by the A. B. C. F. M., and arrived in Canton in 1834, and on the 4th November, 1835, he opened a hospital and dispensary in No. 7, Fung-tai hong, San-tau-lan St., adjacent to the foreign factories. The rent was \$600, but the owner, the Senior How Qua, after seeing the good that was done to his people, gave it free of rent, and the hospital was continued in this building until it and the foreign factories were destroyed in the war of 1856-1858.

Dr. Parker opened a hospital in Macao in 1838 and carried it on for a few months. Afterward it was conducted for a time by Drs. Lockhart and Hobson.

In connection with the hospital in Canton, and growing out of its establishment, "The Medical Missionary Society in China" was organized February 21st, 1838. This was the first medical missionary society in the world. Dr. Colledge, Dr. Parker and the Rev. Dr. Bridgman were chiefly instrumental in its inauguration, resident merchants and missionaries were members and gave it support.

Quarterly Reports of the hospital were issued at first, and some of these are found in the *Chinese Repository* for 1837.

The hospital being located near the foreign factories the European merchants then resident in Canton took great interest in this new form of benevolence and not only contributed liberally to its support, but visited the hospital, and some of them assisted Dr. Parker in surgical operations.

The fame of the hospital soon spread among the Chinese, and crowds resorted to it, patients sometimes passing the night in the street, so as to gain early admittance the next morning. The surgical operations of course called forth the wonder of all, and well they might, for the excision of tumours, the operation for cataract, the removal of stone from the bladder, were methods of relieving suffering which had never been heard of; and indeed the astounding fact became known that surgical instruments and operations were unknown throughout the empire.

Dr. Parker continued his benevolent work, ministering to rich and poor alike, until the outbreak, in 1840, of the war between England and China, during which it was suspended. In the meantime Dr. Parker visited America and England, and by public addresses in the principal cities of these countries excited much interest in medical work associated with preaching the Gospel to the heathen, and societies auxiliary to the society in Canton were formed in several cities. At that time the Empire of China was a far distant and little known country, but teeming with a population wholly given to idolatry and destitute of all the benefits of modern medicine and surgery. With such a theme, and his experience of a few years of medical work for such a people, it is no wonder that Christian people and philanthropists took deep interest in this far-reaching beneficent work and in this new method of commending the Gospel to the heathen and of gaining their confidence. From that day to the present medical missions have been extending, and are gaining more and more the confidence of the Churches as a divinely appointed means of bringing a world of sinners to Christ.

Dr. Parker returned to Canton in 1842, after the conclusion of the war and re-opened the hospital in the same building, and it was carried on by him until 1853, when his connection with the American Legation left him little time for its duties.

In 1854 Dr. Kerr arrived in Canton and took charge of two dispensaries opened by Rev. Dr. Happer, and in the following year the Medical Missionary Society's Hospital was transferred to his care, Dr. Parker having in the meantime been appointed Minister Plenipotentiary to China.

Dr. Parker's surgical operations had given Western practice a high position in the confidence of the people, and they learned to know that certain painful diseases, incurable by the native faculty, were easily and speedily removed by the new methods of the Western surgeon.

Dr. Parker's first lithotomy operation was in 1844, and the whole number performed by him was thirty-seven. Numerous large tumours were removed and many operations for cataract performed, restoring sight to those who were otherwise hopelessly blind. Dr. Parker also was the first to use anæsthetics in operations on the Chinese.

(*To be continued*).

MEDICAL TEXT-BOOKS IN CHINESE.

At the Medical Conference in Shanghai in 1890 considerable attention was paid to the subject of medical teaching of Chinese students, and since that date articles have appeared from time to time in the Journal referring to the same matter. But in all that has been written little or nothing has been said in regard to the preparation of text-books for use in training our medical classes. So far as the writer is aware, with the exception of Dr. Hobson's work—now rather out of date—no one in China has seriously undertaken the task of preparing a series of medical text-books in Chinese but Dr. Kerr in Canton. Dr. Kerr's books have been an immense boon to those of us who have been carrying on medical teaching regularly; indeed without them it would have been an almost impossible task to pursue a graded system of teaching, except with an expenditure of time which few of us could afford.

But with all its excellencies Dr. Kerr's series of text-books is still lacking in some of the essentials of a perfect system. His *Physiology* is exceedingly obscure in its language and full of errors, which detract very much from its usefulness, and his *Surgery* is much complained of by students as lacking in clearness of arrangement. His *Practice*, which is a most excellent book, clear in language, orderly in arrangement and full in its treatment of the subject, will soon have to be revised and brought up to date, and the same may be said of Dr. Kerr's book on *Eye Diseases*, unless more recent books are suited to take its place. His *Materia Medica* is all that is needed at present in the line of materia medica, but some more elaborate book should sooner or later be provided in the field of therapeutics. Beside Dr. Kerr's books we have Dr. Dudgeon's *Anatomy* and *Physiology*, but both of these are so high in price as to be quite beyond the reach of the vast majority of our medical students. Osgood's *Anatomy* is excellent, and with the help of a skeleton and proper manikins is all that will be needed for a long time to come, especially as Dr. Dudgeon's more elaborate work is at hand if needed. Dr. Porter's *Physiology* is a good book for elementary instruction, but scarcely sufficient for use in the thorough training of medical classes. This, so far as I am aware, practically exhausts the books at present at our command for the teaching of general medicine in

Chinese. That they are sufficient for our needs I think no one would claim. That there is room for good and telling work in the preparation of careful and even exhaustive text-books in Chinese I think everyone will grant. But in order to obtain what we need the work should be done in a most painstaking manner, not hurriedly, but slowly and carefully; no book to be published until after repeated revisions, and when practicable not until after it has been subjected to the practical test of having been taught in manuscript to a class of students.

If the writer might be allowed to suggest a few of the more pressing needs in the line of text-books he would say:

1. A first-class *Physiology* at a moderate price.
2. A somewhat elaborate *Therapeutics*, with little or no descriptive *materia medica*.
3. An illustrated book on *Skin Diseases*.
4. A good book on *Obstetrics*.

Besides these needed text-books for everyday use in the class room, is there not room for more elaborate treatises on different medical subjects for use in collateral reading and to be used for reference only? Until we can offer our medical graduates more books with which to keep up their knowledge after graduation we cannot hope to build up a progressive force of native practitioners. Those whom we turn out from our classes, as soon as they leave our foreign hospitals and set up for themselves, are almost certainly bound to degenerate into mere keepers of medicine shops, unless we can furnish them with some medical literature which will be a spur to them to move upward.

JAS. B. NEAL, M.D.

Chi-nan-fu, 19th Feb., 1896.



Evangelistic.

WESLEYAN MISSION HOSPITALS, CENTRAL CHINA.

We extract the following from the Annual District Report of the Wesleyan Mission in Central China:—

“The medical work of our district is centred in three hospitals and three dispensaries worked by qualified practitioners. It is supplemented by a few other dispensaries, where missionaries give attention to the slighter ailments which can be cured by some of the more simple drugs. The good reason we have had for our repeated outcries in the past for an increase in our medical staff is emphasized this year by the straits we are in to keep the work we have started in going order. The Hankow women and children’s hospital has had no lady doctor for the whole year, but by an extra strain on the labours of the matron and her small staff of nurses, and extra work on the already overworked doctor of the men’s hospital, its doors have been kept open during the greater part of the year. The Teh-ngan hospital has not been opened at all to receive in-patients, as Dr. Morley returned to England in the spring; but the native assistant, Mr. Li, has done good work both at the hospital, and at the Shin-chien-sz dispensary, amongst the male out-patients, while two of the European ladies residing in Teh-ngan have attended to the women.

“The *Hankow men’s hospital* reports a total number of 177 in-patients, the highest hitherto reached (last year there were but ninety-five); fifty-four operations having been performed, not including a large amount of minor surgery in the out-patient department. For some reason or other the hospital has acquired a sudden fame for curing opium-smokers and, as a consequence, the past year has seen almost as many patients of this class as in all the previous years of the hospital’s existence. The year closing would have been one of great gladness in the evidence it has given of the steady growth of the hospital influence, but it is tinged with an equally great sadness. Several of the assistants have fallen into sins of dishonesty. The arrival of Mr. Jobbins at this juncture is especially well-timed.

“The *women and children’s hospital* report the treatment of 116 in-patients. It has welcomed Miss Lister, who will relieve Mrs. Bell. Mrs. Bell herself is thus gladdened that when she is obliged at last to return to England for a furlough there is one who will take up her work. The new lady-doctor is expected in a few weeks.

"In both these hospitals evangelistic work has been carried on. At morning and evening the services partake of the nature of the Bible class. In addition to this there has been a good deal of real preaching in the wards under the form of conversation; and in the out-patient department addresses are delivered to many whom sickness and the hope of relief have acted as a special preparing of the way of the Lord. An old woman, aged seventy-four, was baptized in the spring, the fruit of hospital work. There is a weekly meeting attended by all the patients of the Women's Hospital, who are well enough, and a very few weeks' experience of these meetings makes the patients look forward to them quite eagerly.

"The following notes from the Dispensary Reports will be of interest:—

"*Wuchang*.—The work here was carried on at first by Dr. Hodge, but it is now receiving two visits a week from Dr. Mackay, who has recently set up in private practice in the city.

"*Kung-tien* (*i.e.*, the new chapel in Hankow, E.) provided a dispensary ready prepared and free of cost to the hospital. Quite a different class of patients has been reached in this new centre and notably a good number of Hunanese.

"*Teh-ngan* and *Shin-chien-sz*.—The best tribute to the ability of Mr. Li to keep on the out-patient department is shown in the fact that the numbers have really increased on the previous year. The men patients at *Teh-ngan* are 100 more than last year, and the *Shin-chien-sz* patients have more than doubled. The women patients in *Teh-ngan* have also more than doubled. The total increase for the year is just 800.

"Of other dispensaries the *Han-chwan* has been the only one to make a report. Dr. Hodge has only been able to pay it three visits, for the rest it has depended on the care of Mr. Pell, J. N. E. Through his enforced absence during parts of last year the total number of patients seen has fallen below the high level of the year before.

"The medical statistics are as follows:—

			New out-patients.	Old out-patients.	In-patients.
Hankow	Men's	...	970	785	177
"	Women's	...	1,158	2,159	116
"	"	Children	984		
"	Kung-tien Dispensary	...	555	340	
Wu-chang	Dispensary	...	774	855	
Teh-ngan	Men	...	2,738	No returns	
"	Women	...	598	"	
Kwang-chi	Dispensary	...	1,000		
Han-chwan	"	...	1,276	511	
			10,053	4,650	293
				(incomplete)	

MEDICAL MISSIONARY WORK IN SOUTHERN SHANTUNG.

The Rev. W. O. Elterich, writing in the *Church at Home and Abroad*, says that "the region to the south of I-chow-fu was practically unknown to the mission when the station was opened five years ago. During these years all its large towns and villages have been visited, and hundreds of books and tracts sold and distributed at the markets. It is a thickly populated district, extending to the Yellow Sea on the east, the Kiang-su province and Grand Canal on the south and the mountainous region of Central Shantung on the west . . . The people, as a class, do not possess an enviable reputation. They are said to be quarrelsome and turbulent, and it requires sometimes severe measures on the part of the officials to keep them down . . . A large proportion of the patients at our dispensary come from this region, and in many places the writer was welcomed as soon as the people learned he was from I-chow-fu. At places where a foreigner had never been seen before a friendly reception was accorded, because some one of their number mentioned having been at our dispensary and obtained medicine. A very wealthy gentleman, whose wife had received great benefit from the treatment of our lady physician, Dr. Larsen, celebrated the recovery by nine days' theatricals.

"We have made the acquaintance and secured the friendship of some wealthy and respectable families who, though they know the doctrine, do not have the courage to make a profession of their faith. While thus still outside the Kingdom of God they directly and indirectly help much to its becoming known among the people. They rebuke all reviling and tell the people that our motives are pure and the doctrine we preach is good and acceptable.

"This field is one of great promise, and we are praying and labouring in hope that ere long a rich harvest shall be reaped.

"Our medical work, which is such an aid to our evangelistic efforts, has steadily increased since its opening from an attendance of 2,500 to 10,000 last year. Our physicians, Drs. C. F. Johnson and A. M. Larsen, are much hampered, however, by lack of room and buildings. The dispensary is entirely too small for its purpose, and hundreds of patients are necessarily turned away. The Board has granted an appropriation for this crying need, but the money has not all been secured yet. The Gospel is daily preached to the crowds that come to the dispensary, but far better results, both physical and spiritual, could be obtained by a hospital."

AN INCIDENT FROM DAMASCUS.

The following incident, though not perhaps strictly admissible in the columns of a journal devoted to medical mission work in China, seems to us worthy of reprinting, as showing in a very marked manner the wonderful workings of God.

"A judge in one of the law courts of Damascus came in hot haste to the house of Dr. Mackinnon and besought him to rush off at once to the abode of the Chief Cadi.

" 'What's wrong?' said the English Hakeem.

" 'Dakheelak! dakheelak! have pity and come at once!' was the eager response; 'the Cadi's little boy, so dearly loved, is very, very ill.'

"It was evening, and Dr. Mackinnon, tired and hungry, would fain have sat down to dinner, but no—the call of duty and of mercy has a prior claim; so off he set. Arriving at the house he was promptly shown in, no tedious waiting, as is so often the case, ere one can enter a Moslem dwelling.

"The inmates were in great alarm; dread and disquietude were everywhere apparent. Ushered into the sick chamber the English Hakeem saw a child of three years, livid and well-nigh pulseless. A glance at the child, a glance around, and the diagnosis is made—opium poisoning.

"There and then began a struggle with death. For full two hours he fought and wrought, stimulating the dying boy and keeping up constant artificial respiration. A hard and anxious fight it was, but in the end death was routed. Slowly the flickering signs of life grew stronger and steadier, until at last anxiety began to lose itself in gratitude and in praise to God. With tears, and words of heartfelt thanks, the powerful Cadi embraced the foreigner declaring that through life he is his debtor. This startling incident occurred at a time when a question with regard to the purchase of the proposed Hospital site was being discussed in the very court over which this Cadi presides. Up till now he had not shown any marked interest in helping on our just claims; he had not bestirred himself to hasten on matters, as is quite within a judge's power to do. We did not, and we do not, cringe for favour, but we do ask justice.

"A change came over the Cadi. From that day he began to display quite a new interest in our pending lawsuit, and in the succeeding stages of the case seems to have done all he could to secure to us what of justice and of right can be extracted from the amazing intricacies of Turkish law."

MEDICAL WORK AMONGST WOMEN IN PEKIN.

The *Missionary Herald* in a recent issue published a letter from Miss Morrill, from which we make the following extracts:—

"The work in the dispensary waiting-room has claimed a large share of my noon hours. Several of the patients have had diseases that demanded a course of treatment, so I have had a chance for some regular teaching. One noon I was delayed at home, and on reaching the city found that it was nearly

time for the clinic to open, so I went to my class in the inner court. I was busy there when I heard the sound of women chattering outside, and on going to the door was greeted with, 'We want you to come and talk with us.' They had already received their medicine and usually would have gone home, but felt moved to inquire further into the truth. There were ten women at the door, and for lack of a more secluded place to take them I went to the waiting-room. There were others still waiting, and those women, much to my surprise, stayed with me nearly two hours. Such eager, earnest questions, as though they felt their need. After some questions and answers on the subject of sin and the means of being cleansed from its stain, one woman turned round to the others with such a bright look on her face and said: 'I understand, I understand; the Lord has given us these two hands, and he gives us water. He knows if our clothing is dirty or torn we can mend or wash that for ourselves, but when the heart and life get wrong we have no help for it, and then he will help us if we ask him.'

"There was an old blind woman there who begged the privilege of putting her hands on my head: she wanted to know how my hair was dressed. I tried to tell her of the home where the eyes of the blind would be opened, and while the dear old soul was delighted to hear about it she mournfully said: 'But after all, seeing there forever would not be nearly as good as seeing here for a little while.' Before we separated the women asked me if I would pray with them, since I had said that God wanted neither paper nor incense. So I offered a few simple petitions concerning their physical and spiritual needs. The room was very quiet, and more than one expressed their surprise at the simplicity of our worship."

LONDON MISSION HOSPITAL, TIENTSIN.

Dr. G. P. Smith, writing in *Medical Missions at Home and Abroad* on the work of the above hospital tells the following incidents:—

"When making the evening visit on Chinese Old Year's night the wounded soldiers were sitting round the fire eating nuts. Beside them lay a heap of cash. Thinking that I had possibly interrupted them in a night's gambling I asked, 'What is this money for?' 'This money,' said they, 'has been subscribed by ten of us soldiers to help the poor in the hospital.' Very precious does this gift seem! A military mandarin, also from Port Arthur, handed us 10,000 cash. Whatever the Chinese may or may not be, one thing we notice, they are grateful.

"As they were sitting round at prayers a few mornings ago these patients, who have for weeks daily heard the Gospel, were asked, 'Who can say, 'Jesus is my Saviour?'' Several at once said, 'He is my Saviour.' We

interrupted them and said, "Now stop! You would, we know, do almost anything to please us; but do not say this to please, for it must be said in the sight of God." Again the question was asked, and one after another calmly answered in the affirmative, until twelve had done so. The others wouldn't, or rather couldn't. A poor opium smoker looked up with a smile and said, "He is my Saviour too." Three of the soldiers have since given in their names."

TAI-CHOW MEDICAL MISSION.

The following narrative of the conversion of the first in-patient of this mission has come to our notice:—

"This was the best case in the eyes of the natives; many and curious were the eyes that eagerly scrutinized the progress of this patient to see if the foreigner could effect a cure. It was a severe case of dropsy, a disease the Chinese place in the category of incurable diseases. Contrary to our own most sanguine hopes in two months he was quite cured, and an applicant for baptism. During residence here a poor but very zealous Christian was also under treatment for acute dysentery, and he exhorted this man and prayed by his bed-side most earnestly and fervently night and day for his salvation, while the pastor set forth the Gospel truths, and my teacher further testified to the same, both by word and also by unwearying vigilance in exhorting him to abstain from eating improper food, and also in frustrating him in continual attempts to consume the same. A doctrine which would lead men to such vigilant care of *others* must be a true one. These things, together with his rapid and complete cure (and we believe the faithful prayer of the poor Christian for the Holy Spirit's enlightenment was heard and answered), decided the patient to become a Christian. After six months' probation he was admitted to baptism, and his faith was soon severely tried by the illness and death of his mother and his wife's illness. In these trials he remained steadfast in spite of the representations of his friends that all this was due to the anger of the idols and ancestors, whose sacrifice and worship he had despised and forsaken."

MEDICAL WORK IN THE SHANSI MISSION.

In an article with the above heading in the *Missionary Herald* the Rev. I. J. Atwood, M.D., of Ten-cho-fu, says that "the general ignorance of the people makes the treatment of their diseases outside of the hospital walls exceedingly difficult. The uncertainty of their following directions with any degree of intelligence, except in the most simple cases, makes the outcome in most cases very uncertain.

"The extent to which they are controlled by ignorance and superstitious fears is a considerable factor in the problem. A calamity that recently befell a community in our near vicinity illustrates this to such an extent that it may be worth relating. About three o'clock one recent afternoon a military graduate and some friends came to the dispensary and besought me to go to their assistance. They said that nine men had gone down into a cellar, one at a time, in which were stored spirits of wine and meats. Each one as he reached the bottom of the cellarway gave a sharp cry and fell insensible into the vault. They said they believed some infernal spirit or ghost seized the men as they descended and dragged them inside and smothered them. One, a scholar, said there lived in the vault an aged scorpion of gigantic size who was able by drawing in his breath to draw all the blood out of the men's bodies, or by blowing out his breath could fill them with a deadly poison. I was asked if I could render any assistance in this terrible condition of affairs.

"Surmising that the men had been asphyxiated with carbon gas I immediately took a jug of ammonia and hastened to the scene of the disaster. The wine shop was on one corner of a cross roads and the people jammed the roads in every direction, so that it was with difficulty we forced an entrance and the doors were closed behind us with a bang, to shut out the surging crowd.

"Arrived at the cellarway we saw a ghastly sight—a heap of men entangled in a mass, with here and there a ghastly face or hand protruding from the mass. The stupid crowd at the top had at length, after the cost of nine lives, learned better than to descend into the deadly vault, and were vainly trying to fish their comrades out with meat-hooks at the end of ropes. The cellarway was about thirty feet deep, and they made but little progress. One had been dragged out, but lay lifeless. It was the work of a minute to pour the ammonia down the hole. In a few seconds one man who lay a little to one side of the rest began to stir a foot, and at length an arm, and soon in answer to the shouts of the crowd he seized the hook and hooked it into his girdle and was hauled out of the death-hole.

"The others were buried up by one another so much that they could not have breathed the ammonia fumes, even had there been life enough. But a noose was made at the end of a rope, and while a foot was raised from the ground by a hook the noose was slipped over and the corpse drawn up. The other eight were asphyxiated beyond hope of recovery. A little intelligence, applied two or three hours before, might have saved these eight lives. The magistrate came while we were there and held an inquest. The owners of the shop were made to pay a large sum to the survivors of the dead and to close up the distillery and saloon (for such a combination it was), as the neighbours would not endure such terrible goings on in the neighbourhood. Some said they had seen and heard the venerable scorpion in the night"

Dr. Atwood, in the same article, states that "the number of attempted suicides by swallowing opium seems to be increasing, and the work of rescuing them has proved such a tax on the time and strength of the foreigner that this part of the work has been given over almost entirely into the hands of a trained native assistant."



THE ENTRANCE OF PROTESTANT MISSIONARY WORK INTO HAINAN.

The Rev. F. P. Gilman, of Hainan, writing to the *Church at Home and Abroad*, tells the story of the entrance of Protestant missionary work into Hainan. The work was begun in 1881 by Mr. C. C. Jeremiassen, of the American Presbyterian Mission:—

"Before Mr. Jeremiassen came to the island he had prepared himself for medical work; by means of this form of activity our mission has been introduced to, and established among the people. When Mr. Jeremiassen came there was some doubt whether a foreigner could travel safely through the interior, which had been notorious as a resort for pirates. In the second year he made a long inland journey, going all around the island, keeping a few miles from the coast. On this trip he was everywhere met in a friendly manner by crowds of natives, who flocked to him to secure his medical aid. The next year in travelling farther into the interior he found near Nodoa a colony of Hakkas, and having secured a native preacher from the Basle missionaries, who had worked for many years among the Hakkas living north of Hongkong, he placed this preacher among the Hakka colony near Nodoa.

"Mr. Jeremiassen afterwards visited his native preacher during the time when an epidemic of fever had come to the locality, and had especially attacked a body of soldiers who were temporarily in the vicinity. They were dying in great numbers from the fever, but of those who came under Mr. Jeremiassen's care not one died. His success was so marked that the anti-foreign mandarin who commanded these troops called Mr. Jeremiassen to him and asked if he could do anything to assist him in the care of his troops. Mr. Jeremiassen told him that he would like very much to have a hospital where he might collect the sick together . . . The Chinese General told him to go outside of the town and select any piece of land which would be suitable, and that he would give it to him when the expedition was finished, and that he would also assist him in putting up a cheap building as a hospital. On this piece of property is now located our hospital, chapel, preacher's residence and missionaries' residence."

After giving an incident in proof of the statement that the medical work has been the means of removing superstition Mr. Gilman points out that it has also been the means of bringing quite a number under the influence of the truth and has led to their conversion.

"The case of a young man who was baptized last year in Kiung-chow is a remarkable example of this. He had come to the hospital the year before blind in both eyes. His eyes were operated upon for cataract by Dr. McCandliss, and his sight was partly restored. As he remained under treatment for several months he attended daily the hospital prayers. As he heard the Word of God read and explained he became interested, and was led to see God as the true and living God. His spiritual eyes were opened, he recognized Jesus as his Saviour and he therefore came asking for baptism.

"When he was questioned as to his religious history he said that when he began to grow blind he had been a fortune-teller, and he then began to pray to the idols for the preservation of his sight. Instead of getting better his sight gradually faded out. He then lost faith in the idols and began to pray to Heaven under the name by which the true God seems to be described in the Confucian books which are taught in every Chinese school, and one day, as he was standing outside of the door of his house, with his sightless eyeballs turned to the sky, according to their custom, asking Heaven to restore his sight, he was asked if he knew that there were foreigners in Kiung-chow who worshipped Heaven and who had the power to remove blindness. He was then directed to go to our physician, which he accordingly did, with the result described. His further history is interesting. When he returned to his home he began to instruct his family in respect to what he had learned in the hospital, and is at present a lay preacher travelling from place to place on the island."

"I'LL SHOW YOU MY NECK."

Dr. Peck, of the Williams' Hospital, Pang-chuang, contributed the following incident to a recent number of the *Missionary Herald* :—

"Years ago, while living at Pao-ting-fu, a little man made his appearance at my hospital with a large tumour on his neck. He had never seen a European before, but came with his mind fully made up for an operation, owing to reports he had heard of us in his country home from patients who had been at the hospital. Against the remonstrances of his friends and neighbours he had sold his little property, in order to get money to live on. His simple reply to these remonstrances was that his life was made a burden to him by his tumour, and he was going to try the foreign doctor, and in the expressive idiom of his

language, if he was "*cured well*" he could earn more money, and if he was "*cured dead*" he wouldn't need it. The foreign doctor tried to persuade him against so formidable and risky an operation, but without avail.

"Fortunately he lived through it, and the healing of the wound went on normally until delayed by a rather severe attack of erysipelas.

"Before this danger was passed he sent word by the gatekeeper that he must go home, as his money was spent. I replied that he must on no account go then; that I would feed him myself; but the next morning he was missing. The gatekeeper said he went with his little roll of bedding at daylight, saying that he was already greatly indebted to us for what we had done for him, and would not think of burdening our hospitality by *eating our food*. So he vanished into the unknown from whence he came, and we concluded that he would probably die. Months afterwards one of our colporteurs, reporting the incidents of a tour in a region seldom visited, asked me if I remembered such a man. I said I did, but supposed he was dead. He said he was not; he had found him alive and well and preaching the Gospel at a fair.

"While in the hospital he had seemed very stupid; no one thought he had taken in much of the truth; but he had bought and paid for a little elementary book and learned to read it. The simple explanation had remained in his memory, and after his recovery at home he had taken his book with him when visiting the little fairs, where all the business of neighbouring villages is done; he had been notable as the man with the large tumour, and now when he came around without it he was naturally an object of curiosity.

"They said he kept a kerchief around his neck, and when the crowd gathered round him he would say: "My friends, when I was in the hospital they taught me of a religion there that is far more precious than the cure of my body. I have a little book here which tells about it, and if you will sit down and let me read and explain it to you *then I'll show you my neck*."

"And so a self-appointed evangelist had been telling his story. That place is one of the most encouraging of the out-stations around Pao-ting-fu; a circle of believers is gathered there, and the little patient remains a humble and converted Christian."

WUHU HOSPITAL, METHODIST EPISCOPAL CHURCH.

The Report of this Hospital for the sixteen months ending September, 1895, is full of encouragement. The notion that the Hospital was unfortunately situated, in that it was two miles from the busy portion of Wuhu, has been

dispelled, the hospital having been full. The total number of in-patients was 717. The surgeon holds the appointment of Customs' surgeon, with the result that it has not been necessary to ask the missionary society for funds to support the Hospital. We endorse heartily the opinion that "if this arrangement is continued the officials of the mission should endeavour to relieve the doctor once in a year or two, that he may have a rest." If medical men and ministers at home require an annual change of air we cannot see why a man who combines both offices in a trying climate should be expected to work all the year round.

"Four complimentary boards have been presented as testimonials by grateful patients. The centurion showed his gratitude for amputating a hand for his servant by bringing the tablet with an escort of seventeen soldiers. The approach to I-ki-san was heralded by braying of trumpets and firing of muskets as the company marched along the shore of the great Yang-tse. The gift was presented by the captain between the guard ranged upon the opposite sides of the walk and, as the soldiers presented arms, the hills and valleys resounded to the din of the fire-cracker. The sentiment was Eo Si Yuen Hwa or the Yuen Hwa of the extreme west. Yuen Hwa was one of ancient China's famous surgeons who flourished during the golden age when China contained the brainy men who invented gunpowder, movable types, etc."



The China Medical Missionary Journal.

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No. 1.

Editorials.

We have great pleasure in presenting our readers with a full index of our Journal up to the present date. For its completion we have to thank the Rev. G. A. Clayton, of the Wesleyan Mission, Hankow, by whom the greater part of the work has been done. We have also to thank several members of the Association, who very kindly wrote and offered assistance in the work; if we have not accepted those offers it is only because there were so many difficulties in the way of carrying out the work on those lines that we delayed in the hope of finding help nearer home, help which we finally obtained. We ask them to excuse a personal reply to each letter and to accept this public acknowledgment of their goodwill. The need of an index has long been felt, and we trust that it will in future be a yearly institution; we hope the present one will help to make the journal, that which it should be, a useful reference library to the busy medical missionary. The Index of Authors is very interesting; it suggests many practical reflections, and we commend it to the thoughtful and repentant consideration of many of our members.

We must apologise for the delay of the March No., rendered inevitable by the labour involved in preparing the Index. It has seemed best, for financial and other reasons, to amalgamate the March and June numbers into one issue of a larger size than usual. The Indices are bound separately for the convenience of those who wish to bind them up with the previous issues of the Journal.

We have been surprised that the very important letter of Dr. Beebe in the December No. has called forth no communication from any member of the Association. We cannot believe that the subject is not interesting to the Association, and we are loth to fall back on the explanation that there is an inability to see the relative importance of

various questions; there remains, therefore, only one other way of accounting for the silence, and that is *sheer apathy*. It is a melancholy but true fact, the explanation of which we will not now attempt, that this very serious complaint has long afflicted our Association and threatens one day to prove fatal. Whether it be in serving on a Committee, or accepting the responsibilities of an office, or in doing any work *pro bono publico* of the Association or Journal, one is constantly meeting with this terrible disease. We have known members of the Association meet in consultation over this malady, acknowledge that they themselves are afflicted, prescribe active remedies and correctives, and then be nothing bettered but rather made worse. Was ever any disease so obstinate! To return to the subject of Dr. Beebe's letter, it must commend itself in its broad principle to all who hope to see a useful native faculty one day in existence. It deserves, therefore, and we trust will obtain in future numbers of the Journal, the thoughtful consideration of those who are training native students. We content ourselves with two criticisms: (1) The meeting of the examiners "once a year at some central point to examine all applicants for the diploma" is, in our opinion, on many grounds not feasible. The various candidates can be examined by means of printed papers at several centres at once, but always *under the eye and control of a foreigner*. (2) A fee should be charged for the examination, both to cover expenses of the same and to guard against the common notion that what is cheaply obtained is of little value. Whilst we avoid making the conditions of examination so difficult as to shut out many promising candidates, let us not fall into the opposite error of making them so easy as to waste the examiners' time over any nincompoop or otherwise undesirable aspirant.

The list of questions drawn up by the Committee on the Opium Report will be found appended to the front of the present issue on a perforated slip. The questions have been drawn up under great difficulties, and, in fact, to get them out at all a good deal of personal responsibility has had to be assumed by one of the members. He believes they will be found to embody all that the other members of the Committee wished to see included and asks their indulgence for not forwarding a final proof, pleading the difficulties of time and distance and the urgent need of delaying no further. We trust that members will carefully, and from personal experience, answer these questions; we call their especial attention to the note appended to the foot of

the page relative to information which any member can give outside the scope of these questions. Note also the date on which answers have to be returned to the Editor.

The mention of this Committee leads us to advert very naturally to Dr. Cousland's plea in the present No. for medical statistics. With that plea we have a great deal of sympathy, and shall rejoice if any good and useful work can be done in this direction; but we implore Dr. Cousland to spare us the infliction of another Committee. It will run the way of all our Committees and do nothing, for the obvious reason that its members cannot consult. We suggest that the best Committee for this purpose is Dr. Cousland himself, who will do the work *con amore*. We shall be very glad to offer him the pages of our Journal for this purpose and to afford him all help in our power. Even so, with the greatest care, we must remember statistics are very unreliable things; persons classify and often diagnose very differently, and all this will affect the result. Still much useful information may be gathered if the work is done carefully, but we are of opinion that the statistics should be on certain diseases only, and confined to cases treated inside the hospitals. The reason for this suggestion is that out-patient practice is frequently such a rush that there is seldom time to make a careful and accurate diagnosis, and so the chance of error in the records will be much greater.

In the last number of the Journal we ventured to point out some, in our opinion, errors of commission in the Constitution of the Society. It is our intention in the present article to indicate some errors of omission and to respectfully commend them to the attention of the members. Dr. Whitney, in a letter which we are publishing, has formulated some propositions for revising the Constitution, and, in a private letter to ourselves, has suggested that a special circular be sent round to the members, giving the required two months' notice of the same. We trust the doctor will forgive us for not having accepted his suggestion; we felt that the matter was too important to be thus hastily dealt with, that there were other subjects which had not been touched on and other views of the matter which had not been expressed; in short, that it would be wise to make haste slowly. But, further, the suggestion was that these two months' notice be issued on the supposition that there would be a meeting of the Association in May in Shanghai. Now by Art. I. of the By-Laws the only person who can summon a meeting of the Association is the

President. It was obviously useless to issue circulars before we knew the President's views on the subject of a conference, and as the President lived in Pekin, instead of next door to us, the time that must necessarily elapse before he could be communicated with made it impossible to act as Dr. Whitney suggested.

To proceed then with our criticisms. Article I. of the By-Laws is too meagre. As it stands it can be interpreted by any President to mean not only that he must *call* the meeting, but that he, and he alone, is to decide the *necessity* of the meeting. It is usual in such an Association as ours to make it possible for a certain number of members, the number being fixed, by signing a requisition to the proper authorities, in this case our President, to convene a meeting of the Society. Most societies having at least one regular *annual* meeting, such a meeting would be an *extraordinary* one; but as our Association, owing to the peculiar circumstances under which we exist, has no regular annual meeting, there exists no necessity to so style such a meeting. Such requisition should be signed by not less than — members, and should state the object or objects for which the meeting is called; the presidential call for such a meeting should give a certain length of notice (to be fixed by law) and should name place and time of meeting and also state the general or particular business. Article II. makes no provision for the chairmanship of a meeting in the absence of both President and Vice-President; such a contingency actually occurred during the last medical conference in 1890; further, nothing is said as to what constitutes a quorum of a meeting. This last point will not be an easy one to settle, as the long distances the majority of our members have to travel to a conference, and the expense involved, both tend to make our attendances small. A more important point it seems to us is whether or no the resolution passed at a conference should be final, whether it would not be better to report the discussion and voting in the next Journal and take a final vote of all the members of the Association by means of voting papers in the Journal; another solution would be to allow members to vote by proxy, but on many grounds this is undesirable. Article III. is good enough as far as it goes, but, when one remembers that all the duties of the Secretary there enumerated refer only to the time of a conference, and that, practically, all correspondence is done with the Editor of the Journal, one asks what has the Secretary to do? Already one Secretary has resigned, because he considered his tenure of the office "a burlesque," and though we do not entirely agree with him, yet the actual wording of Article III. gives him

some ground for his opinion. We would suggest that it should be the Secretary's duty to receive all nominations, that before forwarding them to the Editor he should forward a copy of the Constitution and By-Laws to the candidate for membership and ascertain whether he or she accepts them ; that on the election of a member he should communicate the fact to him ; that he should keep a roll of all three classes of members, with their addresses, and publish a revised list annually in the Journal. We are further of opinion that as the Journal is the official organ of the Association he should be very closely associated with it, and that he is the proper person to superintend the collection of subscriptions and make the financial arrangement for advertisements, etc. If this suggestion were acted on there would be no necessity to alter the first clause of Article IV. ; the Treasurer would still "receive" from the Secretary the monies collected. The whole subject of the collection of subscriptions, however, needs looking at, and fresh arrangements making. Our belief is that the best solution will be found in putting the keeping of the books, collecting subscriptions, etc., into the hands of a business man, who would do it on commission ; it being always understood that the Treasurer alone can authorise the payment of any bills. As our Association meets only once in several years there seems to us great need of some small central body, similar to the councils of the large home medical and other societies, to manage the affairs of the Association, and to which could be relegated many practical details of administration which at present belong to nobody in particular, *e.g.*, the auditing of accounts ; the filling up of any vacancies caused in the ranks of the officers of the Association by death or resignation ; the arranging for and fixing the details of a conference, general or local ; the formulating and recommending of any new legislation to the Association ; the initiative action in any question affecting the Association as a whole or the cause of medical missions throughout the world ; to be a permanent Collective Investigation Committee and a General Committee of Management for the Journal. If the officers were reduced to the five we mentioned in our last article they would conveniently form such a council, with the President as their Chairman ; such a council should meet once a year and have their travelling and other expenses defrayed by the Association. The importance of this proposition cannot be adequately put forth in this article, but after a fairly intimate acquaintance with the affairs of the Association, since its formation, we deliberately say that unless such a step is taken one of two things will happen—either that the Association will die of sheer debility, or the Editor of the Journal

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will practically be the Association—both very undesirable results. We mention but two other matters. One is that we think the time has come for legislating on the subject of prompt payment of subscriptions, the other is that the formation of local branches of the Association should be under some recognised regulations. At present their relation to the Association is nebulous, their privileges are nil, their officers have no *locus standi* outside their own body. Their formation should be encouraged for many reasons, and they should have the power to elect members to the Association without appealing to the vote of the whole constituency.



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"FRED. C. ROBERTS OF TIENTSIN."

A REVIEW.

It was with mingled feelings of satisfaction and fear that we learnt that the writing of the memoir of Roberts of Tientsin (to use the title by which we have learnt to speak of him) was entrusted to Mrs. Bryson. Mackenzie of Tientsin, Gilmour of Mongolia and Roberts were kindred souls, and we felt that it was but right that one who had so beautifully portrayed the lives of the two former should write of the last. But we were afraid, lest the work should fall below its predecessors in literary style and, through this, should meet with criticism which would diminish its sale and prevent the attainment of the hope of the authoress, as stated by the Rev. F. B. Meyer in his "Prefatory words," "that, as in the Old Testament story, many a young life, touching the grave of the prophet, may live, may be baptized for the dead, and may dedicate all to the cause for which Dr. Roberts counted not his life dear." We are glad that our fears were groundless. Just as fittingly as Roberts was laid to rest side by side with Gilmour and Mackenzie in the English burying ground at Tientsin, so will this volume be placed side by side with its two predecessors on the book-shelf by every lover of biography. In literary style, in skilful arrangement of the materials placed at her disposal and in sympathetic insight into the character of her subject, the authoress has maintained her former standard. Higher praise than this we need not bestow.

There is another fact that we cannot refrain from mentioning. Mrs. Bryson is, as we have noticed, a successful biographer,

and was an intimate friend of Roberts. If she had obtruded these facts on our notice she might have pleaded the example set by the authors of many recent biographies. She has entirely overcome this temptation, the only references to these things being such as any other biographer of Roberts must have made. Take, for example, the reference on page 204 to her former writings. "Dr. Roberts was always deeply interested in any work he thought likely to increase sympathy with foreign missions. He took an active part in the preparation of the memoir of his beloved predecessor, Dr. Mackenzie, reading the manuscript through with the writer and suggesting many alterations and some additions . . . a short sketch of Gilmour's life was also written with his help." This is typical of the personal references throughout.

That certain details of the work might be criticised we do not deny. But after reading the book we are not inclined to dwell upon details. We prefer to devote the space at our disposal to a glance at the contents of the book as a whole.

"He is a wonder. Most careful in his work; he has done twenty-five years' work in seven years: a man of his nature could not go slow." When Dr. Frazer said that he voiced our feelings after reading the biography. From the autumn of 1880, when at eighteen years of age, Roberts "commenced the medical duties which were to fit him in future days for that loving service among the sick and the dying which made his name a household word in many a home over the bare plains of North China," to the day when he finished his life's course he worked at high pressure.

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The letters written during his student life at Edinburgh show how faithfully and conscientiously he worked. "For the true medical student," he writes, "there are very few holidays: I fear they are a thing of the past." Nor was the time that his duties did not claim, spent in idleness. Both publicly and in the quiet by-paths of daily service he worked hard in the service of his Lord. At the free breakfasts in the Drill Hall, in the wards and at the Sunday services in the infirmary, in connection with the great wave of religion which swept over the University in 1884-5 and the meetings which were afterwards continued in Edinburgh and elsewhere, Roberts found opportunities for work which he seized upon with avidity. In July, 1886, he successfully passed his final examination, whereupon he wrote to his sister, "Medical work has all at once become doubly interesting to me, because I am for ever free from the slavery of exams. I feel I shall make far more progress in my work now than ever before." With this feeling many of our readers will sympathise.

Long before he commenced his medical course Roberts had had his attention turned to the needs of China, and soon after he had qualified he wrote to his sister Mary, who afterwards joined him at Tientsin: "I feel my work is not in England; I don't wish it to be. The teeming multitudes of sick in soul and body call for help louder than any Macedonian messenger. Mine is the upward look for the pointing of God's hand to China and its millions. Oh, when will the message come, and with it the needed power and grace?" The call came one Sunday when Mr. Hudson Taylor spoke in Dr. Whyte's Church. "The Lord, I believe, spoke through him to me, assuring me of His will to send me to the heathen abroad." When once that call was heard Roberts responded to it with the same enthusiasm which we have seen him putting into all his work. Nothing could be more decisive than the following senten-

ces from one of his letters to his father: "I feel truly grateful for the guidance I have received . . . and if, as I fully believe, He is calling me to China as a medical missionary to China I shall go, though all the directors of all the missionary societies in London unanimously reject my services."

After a tour on the continent, undertaken for the sake of his friend and future colleague, Dr. G. P. Smith, Roberts returned to London and made his offer to the London Missionary Society. He was accepted, and was appointed to be Gilmour's "long-awaited-for earnestly-prayed-for colleague." He sailed in the autumn of 1887, and in due course reached Tientsin, where the directors of the London Missionary Society wished him to remain while he gained some knowledge of the language and of Chinese medical work. The story of the growth of the medical work in this town is to be found in Mrs. Bryson's biography of Mackenzie. Those who have read that volume and know the beauty of Mackenzie's life will agree with the statement that to have been in Tientsin at that time would have been an inestimable privilege. But imagination fails us when we try to picture that day of which Roberts writes: "The chief news is that Mr. Gilmour has arrived. I had been out with Dr. Mackenzie and, on our return, heard that he had come. Entering the study we found Mr. Gilmour, dressed in Chinese clothes." What would we not give for a report of the conversation between these three?

Gilmour was called away within a few hours of his meeting with Roberts, and it was not till the next year that Roberts joined him in his work. We notice Mrs. Bryson's statement that after his arrival Roberts so loyally followed the lead of his senior colleague "that the general impression of the people at first was that the young missionary had come to learn the art of healing from Gilmour!"

For over eight years Gilmour had longed

for a qualified medical colleague and with Roberts' arrival his longings were satisfied. But he had soon to see his dearest plans shattered. "It was on a bright April day, while Gilmour and his young medical colleague were busy attending to the crowd of those afflicted with many diseases . . . Suddenly there was a stir among the people, as a dust-covered courier appeared, looking as if he had travelled fast and far . . ." "What news do you bring?" asked the missionaries; but the man only shook his head and groaned audibly. On the way to the poor Chinese inn . . . the question was repeated, but with the same result. Too anxious to wait longer Gilmour drew the man aside into a quiet corner and demanded the news at once. It came slowly and sadly: "Dr. Mackenzie is dead, after a few days' illness." Entering the bare room of the inn the man opened his broad blue girdle and took out of it a little bundle of letters. . . It seemed as if no more crushing blow could have fallen upon any mission. Gilmour was trying to realise what it meant . . . suddenly his young colleague looked up from his letters and said one of them enclosed a telegram from the Directors of the London Missionary Society, requesting him to leave for Tientsin immediately and take charge of the hospital there." For forty-eight hours Gilmour was almost overwhelmed, but grace proved triumphant, and "after much united prayer" Gilmour and his young colleague came to the conclusion that it was the duty of the latter to proceed at once to Tientsin.

Writing home during the journey Roberts says: "What an interesting, happy work is before me! A hospital which will accommodate over sixty in-patients, a large dispensary and consulting room, a strong staff of Christian assistants; while for colleagues in the spiritual work I shall have a band of happy, united workers." Little did he think of the peculiar difficulties that lay before him. For some

time before Mackenzie's death the Viceroy and other officials who had supported his work had felt that the hospital, in so far as it was a Christian institution, was conducted in a manner which they could not approve. It was undoubtedly due to the wonderful influence which Mackenzie exercised that they hesitated to withdraw their support from him. But as soon as he was dead their opportunity came. They withdrew their pecuniary aid, tried to claim all the buildings, drugs and instruments, and erected a government hospital, which they staffed with the most distinguished of Mackenzie's students. Roberts' feeling through all was, "I am sure that God is with us."

But though these difficulties could not deter him from carrying on the work they became the first cause, from a human standpoint, of the shortening of his career. Dr. Mackenzie, as we know from his biography, was seriously overworked, although he was assisted by his qualified English-speaking students. Roberts had to take up this already over-great work single-handed, as the few assistants who remained with him were not accustomed to the diagnosis of disease. "For some time he changed every dressing and bandage himself." The task was great; Roberts' faith and devotion were greater, and within a year it was clearly seen that the hospital had more than maintained its position. The years that followed were years of ceaseless toil. Morning, noon and night—sometimes all through the night—did the doctor labour as well for the spiritual as for the physical healing of the patients. Nor was he disappointed. Within the pages of this book there is ample proof that medical missions are a truly missionary agency. We gather together a few of the incidents narrated.

"One man, Liu Wei-hsien, has come back to Tientsin after an absence of one and a half years. He was baptised as a patient; and, going home, took fire, all

alone, for the Gospel's sake. One day this spring he was at death's door, and his friends all taunted him, saying that his sickness was owing to his strange religion (his faith in Jesus Christ); but he replied that, even if he died, he would never return to idolatry or give up faith in his Saviour." "One man who left us in the spring, thought by the native hospital assistants to be a hypocrite, has turned out A 1. He has burnt his idols and got four men in his village to destroy theirs, and is giving testimony to many. Altogether there are now eight enquirers in the neighbourhood of his home." "The patient was a man of some little rank . . . Some injury to the leg had been so maltreated by native doctors that it had endangered his life . . . The leg was now nearly healed . . . Nor was the bodily cure the only one that was going on. The gentle, patient, sympathetic care of his skilful Christian physician . . . was winning its way into the heart of at least one: the sick man had spontaneously put away his idols, and was diligently studying a little elementary book of Christian teaching . . . The man had not yet found his Saviour, but seemed to be feeling after Him."

To most it would seem that Roberts had in Tientsin a sphere of usefulness in which he could have expended all his energies. But he knew that there was other work which needed to be done, and therefore he could not rest. So to his hospital work he added the task of itinerating in the country districts around the city. These journeys were mostly undertaken for medical and evangelistic purposes, but on more than one occasion he went for the purpose of distributing relief amongst those who were suffering through famine, flood and rebellion. Many extracts from his accounts of these journeys could we make. We content ourselves with one simple extract from the doctor's diary: "Saw sick till sundown; supper at six; then, from 6.30 to 8 p.m. talk upon the fundamental truths of the

Gospel, and was much helped in speaking; evening meeting from 8 to 9; subject, Matt. v. 1-16 . . . After this some of the Christians came into the room in which I sleep, in the old chapel, saying: 'It's only now and again we see you; let us stay and have a chat' . . . This was a lively prospect after a long day's work, but I felt more than cheered that they cared to talk of these things, and were so friendly. When at last they left I turned in to rest."

It was at the end of one of these itinerations, early in 1894, that Roberts returned to Tientsin to find that his colleague had been attacked with influenza. Under the pressure which Roberts brought to bear upon him, pressure which seemed the more justified, because Roberts was hoping soon to take his furlough to England, Dr. Smith reluctantly agreed to take a trip to Japan. The doctor continued the work, and seemed quite well, though tired, until May 29th, when he felt poorly, and was induced to go to bed. He never rose again. "The disease was very mysterious," says one of his colleagues. "It seemed as if some virulent fever had struck at once at the life centres . . . Perhaps the general Godward turn of his mind is the sweetest remembrance of those sad days . . . The fever had completely left him on the Tuesday, but he had no strength to rally after it. I believe he was completely broken down, shattered by over-work; first of all in Yen-shan, and then during Dr. Smith's absence in Japan . . . We all did our best for him, but God considered the harvest of his life ripe, and reaped it."

Shall we close by discoursing on the evils of overwork? We think we would rather quote the words of one of Roberts' friends: "You can't reason about such men. It's no use blaming them; they cannot help it. It's no use thinking of them as not having lived to do their work. His life of seven years will tell more than if it had been spread over twenty."

G. A.C.

THE VALUE OF LOCAL TREATMENT IN SEPTIC
INFECTION OF THE PUERPERAL WOMAN.

BY DAVID JAMES EVANS, M.D.

Theoretically this is an admirable paper, but to us it seems to savour more of the study than of the lying in chamber. It is most desirable that we should know exactly where the seat of the mischief is in all cases of so called puerperal fever (we are rather surprised that the author of this paper has not advocated thorough exploration of the interior of the uterus with the electric light), but human nature being what it is we are bound to consider the feelings of our patients; to make such an examination as Dr. Evans proposes, in all cases where we are in doubt, we believe would be productive of far more harm than good.

Septic infection from wounds of the vaginal walls or cervix uteri ought to be prevented by treating those wounds on the same principle which guides us in treating wounds in other parts of the body, namely keeping them clean. An antiseptic vaginal douche night and morning, which can be given by a nurse without exposing the patient and with very little inconvenience, is all that is necessary.

In the same way while admitting the value of the curette we feel that the writer's "prompt and energetic treatment by means of the curette brush and douche" will very seldom, if ever, be necessary in the practice of physicians, in whose hands only it would be a safe operation.

A. M. M.

REVIEW.

眼科證治. A new book on Diseases of the Eye, translated by J. B. Neal, M.D.

In the English preface to this book we are informed that it is a translation of the more important parts of a "Text book of Ophthalmology," by Drs. Norris and Oliver, lately published in Philadelphia. The nomenclature followed is almost entirely that of Dr. Kerr, of Canton, the trans-

lator having wisely judged that it was better to adhere to the terms now so widely used and understood than to confuse his readers by introducing new terms. The introductory chapter has been adapted from Osgood's translation of Gray's Anatomy.

Dr. Neal has spared neither pains nor expense in his endeavour to produce a book which he hopes "will be of some assistance in training up a body of well educated native practitioners of Western medicine in China." The type is large and clear, and the woodcuts, illustrating the instruments used in ophthalmic surgery, are very well executed; the plates are the same as in the original work, and are a most valuable addition to the translation.

Snellen's test type is here cleverly adapted to the Chinese character, and will be found exceedingly useful in dispensary practice.

Having said so much in favour of the book we would gladly go further and express entire approval of its pages. This, however, we are unable to do, for Dr. Neal has been unfortunate in his choice of a Chinese writer, and the book abounds with obscure phrases and unnecessary characters, such as we usually see in Chinese literary essays, written on nothing in particular, but which are altogether out of place in a book intended to convey definite information on an important subject. There can be no doubt that Dr. Neal made the subject of this treatise plain enough to his writer, for the first draft of the book was used in instructing his own class of students before being put into its present form, and any defect would then have been discovered; but, it is not easy to make a Chinese understand that a book—especially a medical or scientific book—should be written with the one object of instructing the reader, and not for the purpose of showing off the writer's cleverness in the use of obsolete characters, or the "depth" of his *Wên-li*. Some portions of the book are written clearly enough, for the writer's style is

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very irregular, but even these are not all free from error; for instance, on page 67, the student is warned not to remove too much skin from the eyelid, lest it be rendered too short to cover the ball; "*a piece one inch long and half an inch wide will suffice!*"

We have placed the book in the hands of several medical students and teachers, who are accustomed to read both native and foreign medical works, but they all declare that it is "difficult to understand," and therefore of little use as a text book for students.

We are sorry to be obliged to record and endorse this verdict, and venture to hope

that, ere a second edition is issued, Dr. Neal will have the book thoroughly revised, or rather re-written by a man more used to such work than the scribe he has employed in preparing the present issue.

A. D.

We have to acknowledge the receipt of three or four numbers of the China Customs' Medical Gazette and also of the Annual of the Universal Medical Sciences for 1895 (5 vols).

We are compelled by want of space to hold over our review of both these till our next issue.



Query and Answer.

Wanted.—1. Formula for a good cheap effective liniment and plaster. Camphor is too dear now, and drugs from home not cheap enough. Is there anything but capsicum to fall back on in the south? I should explain that they are for aches, pains and sprains.

2. A good way of keeping rubber. Pure rubber gets soft, vulcanised brittle. This is an old trouble. Has anybody a new tip?

3 Book beetles and grubs. Best method of disinfecting a book case and books. Tried sol. of corrosive sublimate 1—100 and turpentine without effect.

P. B. S.



Notes and Items.

The following extracts are taken from a very interesting paper on "Strange Medicines," in the *Medical Magazine* for November: "Flies are of great use to man, for their heads, when pounded up and used as pomade, form an infallible hair restorer for the head, beard or eye-brows . . . Bats are harmless animals and of great value in medicine; their flesh, applied as a poultice, is a sovereign cure for the stings of scorpions; roasted and eaten they dry up the excess of saliva in infants, and will cure sterility due to an excessively moist temperament . . . Every one knows that lice are used with white wine as a cure for jaundice; also in difficulty of micturition they are put alive into the urethral canal, so as to stimulate the expulsive faculty by their movement . . . There is nothing better for that dangerous disease—lethargy—than to put fleas in the patient's ears" . . . Speaking of bugs "certain devout and religious people" have been known to "put those animals in their beds, that they might be the more wakeful to contemplate divine things. One purpose of their creation was, doubtless, to keep us from pride . . . But the main object of the creation of bugs was the benefit of the sick. They are of remarkable efficacy in the hysteria of females, if one puts them in the patient's nose . . . for other smells such as snuffed candles, lamps and burnt feathers are as nothing compared with this. Seven bugs taken in barley water are of great value in quartan ague and for the bites of scorpions. Cooked in wine and vinegar they make leeches fast, and are useful in many other ways well-known to physicians." Heaven has certainly been bountiful to China and well stocked Nature's Dispensary.

Dr. Patrick Manson, in an address, which he gave before the Hunterian Society last February, drew attention none too soon to the lack of instruction in the medical schools in tropical diseases. We do not know how it may be in America, but we are sorry to say that the following words are absolutely true of England: "The student who proposes to enter the army or navy or the colonial services, or to become a medical missionary, or private practitioner in some tropical country, has no opportunity of learning, in any hospital or elsewhere, anything about the principal diseases he will be presently called upon to treat. The doctor who goes to the British colonies may find himself in a tropical wilderness amongst strange diseases and strange people, and is told to practise . . . Plenty of malarial cases can be found in the neighbourhood of the docks, also cases of beri-beri and dysentery and other tropical fluxes, liver abscess, mediterranean fever, ankylostomiasis, filariasis and other exotic diseases. This valuable clinical material is running to waste; whereas it might easily be utilised for teaching purposes. There is, says Dr. Manson, no place in the world, perhaps, where so great a variety of tropical diseases can be seen as in London. It is a disgrace to us, as the leading tropical power, that we close our eyes to our duties and interests, and that we make so little use of the unsurpassed opportunities lying at our very door." Clinical Sketches.

We are glad to see that, as a result of this address, St. George's Hospital has created "a chair," to which Dr. Manson has been elected, for the purpose of such special teaching.

"A French contemporary, the *Médecine Moderne*, reports a case in which a practitioner saved the life of a child aged ten years by giving subcutaneous injections of a strong decoction of coffee berries, prepared in the usual way, but very much stronger. He injected thirty drops of the very black coffee every ten minutes, and after the fourth injection the breathing became freer and the pulse more regular, and in six hours the child was out of danger, although moribund at the first injection . . . The hypodermic injection of caffeine is certainly indicated in all cases of opium poisoning."—*The Medical Magazine*.

[Doubtless but strychnine is far better, for it is a respiratory stimulant and a heart tonic of the first order. Opium kills chiefly through paralysis of the respiratory centre in the medulla, and our chief aim should be to stimulate that; in this respect the action of caffeine is slight as compared with strychnine.—Ed. *Medical Missionary Journal*].

Christianity is here to do something. Christianity is not an idea, it is not a picture, it is not a philosophy; it is a device for the accomplishment of palpable effects. It is not thought, it is not argumentation, it is not brain, although like all passion, properly amenable to the checks and restraints of brain. But it begins before brain. It is an impulse that brain does not produce, however much it may properly have to do in the way of regulating it. Christianity was first of all the divine passion of Him who so *loved* the world that He gave His only begotten Son, that whosoever believeth in Him should not perish, but have everlasting life. . . . No man has moved the world like Jesus Christ, because no man besides Him has embodied so wide, so profound and so divine an enthusiasm. People are passionate in everything but their passion for men; and that is the one Christian passion; it is the

one passion that makes a man Christian in heart, Christian in purpose and Christian in his effects. I say it to them that are Christians that if there were no more heat in business than there is in the Church half of the institutions of this town would be in the hands of a receiver inside of a week. Brain has been tremendously overworked as a means of evangelization. People have got to be loved into the kingdom of Heaven, not thought into it. It is the heart that requires to be touched; heart is the only thing that can touch heart. An affection costs more than idea. Our loves we coin from our own hearts; our ideas we make up as we go along. Hence it comes from this and other causes that Christianity easily degenerates from a condition of fervid love to men into a condition of highly intellectual interest in problems of Christian truth.—C. H. PARKHURST, D.D.

The success in resisting temptation, the habitual victory over sin which it is the joy of the fully consecrated Christian to know is, I think, due to the new way in which he meets temptation. There are two methods of meeting temptation which it is worth while contrasting. When temptation meets me I may brace my whole nature to resist it, opposing it with all the energy of my will and crying to God for help. I may attack the temptation directly, facing it with the determination not to be overcome; and to strengthen my determination I may summon to my aid all right motives and betake myself to prayer and the reading of God's Word. Or, on the other hand, when temptation approaches I may betake myself instantly to fellowship with the Lord Jesus . . . Instead of directing the energies of my soul toward the temptation in resistance I direct them towards the Lord Jesus in faith. In both cases there is effort; there is intense activity of soul, but in the one case the effort is to overcome the

temptation, in the other the effort is to maintain communion with the Lord. The first of these is what might be called the method moral resolve . . . Its characteristic is stress of soul . . . The other is what might be called the method of Spiritual Reliance. Its characteristic is rest of soul . . . I need scarcely add that it is this second method which it is the blessed privilege of the surrendered soul habitually to follow.—G. H. C. MACGREGOR, D.D.

One of the grand traits of the nineteenth century appliances is the shutting out of the needless things and the paring off of all useless material. The latest illustration is the military medical chest devised by Dr. N. Senn, the distinguished surgeon of Chicago. It pleases our fancy to imagine that he took a hint from a Russian chest displayed at the World's Fair; but wherever he got the ideas he has produced a marvel of compactness, durability and lightness. The outfit now in use in the United States is contained in two brass-bound chests, each 15 × 15 × 23 inches; the pair weighing 185 pounds. Dr. Senn has but one chest 12½ × 12½ × 19, and weighing seventy-six pounds, made, water-proof and pounding-proof, of aluminium, leatherine, etc., and containing fifty-two instruments and appliances in one surgical case of German-silver, weighing nineteen ounces; also thirty-six other surgical instruments, twenty-two dressings, plasters, etc.; many yards of bandaging, etc.; forty-two articles "miscellaneous," such as candles, goggles, lantern, pocket-stove, etc.; twenty-five kinds of medicines that are put into aluminium bottles, when they can be safely so used, and over fifty kinds of medicine in tablets. Stout iron handles fit it for transportation, and the Geneva cross on its front proclaims its merciful mission. It holds no less than 227 articles, among them "Carpenter's Medicine," to save a "frustrated" surgeon from mistakes.—*The Independent*.

"THE FEET OF JUDAS."

"Christ washed the feet of Judas!
Yet all his lurking sin was bare to him;
His bargain with the priest; and, more
than this,
In Olivet beneath the moonlight dim
Afore was known and felt his treacherous
kiss.

"Christ washed the feet of Judas!
And thus a girded servant, self-abased,
Taught that no wrong this side the gate
of Heaven
Was e'er too great to wholly be effaced,
And, tho unasked, in spirit be forgiven.

"And so if we have ever felt the wrong
Of trampled rights, of caste, it matters
not.
Whate'er the soul has felt or suffered long,
O heart, this one thing should not be
forgot:
Christ washed the feet of Judas!"

G. M. McCLELLAN.

The outside world knows but little and cares still less about the inward emotions of us who call ourselves Christians. Vitally important as a sound creed is to us the world cares very little about our creeds and our confessions of faith. But it looks, with the sharp eyes of a lynx, at our daily lives. People outside of the Church hear us talk about our faith in Jesus Christ; they hear us sing about it very sweetly and pray about it very devoutly; but their common sense echoes what the Bible declares that "*faith without works is dead*." From them, too, comes the protest against all attempts to divorce faith from works; for to the whole outside world it is a matter of vital importance that Christianity should not become bankrupt, or Christians become pious shams. It is clean godly living that the world looks for; it is more clean, Christly living that this sinful world is suffering for the want of; it is only such living that can bring happy dying when the Master "calls the roll."—THEODORE L. CUYLER.

A THOUGHT FOR THOSE WHOSE WORK
IS HARD.

Some of the generals who fought under Washington in the Revolutionary War acquired great fame, and their names live in history. What American is there but can tell of Putnam, and Lafayette, and "Mad Anthony" Wayne, and "Legion Harry" Lee, and many others? But there was one general of whom little was said then, and few know anything now, who rendered perhaps as good service as any of these, and for whom his commander-in-chief had a very special and loving regard—Benjamin Lincoln. General Lincoln could always be counted on to do the very best that man could do in any emergency, whether it won him fame or no.

Washington had at times to give orders, the reason for which no one knew but himself. Perhaps an attack had to be made *here* to prevent the enemy sending re-inforcements *there* where Washington meant to make the real attack, or a bridge was to be held or destroyed at any cost, to allow outnumbered American forces to take a new position.

Benjamin Lincoln was so good a soldier and so true a patriot that he was willing to do a difficult work well, even though others gained in the discharge of easier tasks far more credit than he; but once, when an important campaign ended in a great victory, Washington addressed him in words like these: "General Lincoln, this success is due, under God, to you."

Bishop, where work seems to you to be carried on under almost insuperable difficulties; parish priest, or lonely missionary, with much to discourage; man or woman, boy or girl, trying to be Christ's faithful soldiers but finding the conflict, oh, so hard—do not be cast down! May it not be that, as Washington gave Benjamin Lincoln the hard and unattractive tasks because he had such perfect confidence

in him, God is giving you work you would not choose, because He knows that, trusting in His grace and help, you will bravely discharge it?

He trusts *you*, trust *Him* in return. Perhaps you may learn some day that the plain, disheartening tasks you had to perform did far more to promote God's glory and man's good than the more showy work which seemed to you preferable. He trusts *you*, trust *Him* in return. Heartily and cheerily, in His strength, do the work He has appointed for you, and it will not be long before you hear the glad plaudit: "Well done, good and faithful servant; thou hast been faithful over a few things, I will make thee ruler over many things; enter thou into the joy of thy Lord."—Bishop HALE in *The Spirit of Missions*.

"What hinders the immediate effort to plant the Gospel in every nation and island and home in all the earth within the next decade? Nothing but the faltering zeal and purpose of the mass of Christian believers now on the earth. That precisely is the critical question. Are we, the Christians of to-day, awake to these facts and responsive to the claims of this glorious work? Do we understand that this vast responsibility rests upon us; that it is possible now, as never before in the world's history, to preach the Gospel to all the nations? And do we mean, God helping, that the work shall be done ere we die? This is the deep significance of the hour to this generation."—JUDSON SMITH, D.D.

"Go forth, then, ye missionaries, in your Master's name; go forth into all the world, and, after studying all its false religions and philosophies, go forth and fearlessly proclaim to suffering humanity the plain, the unchangeable, the eternal facts of the Gospel—nay, I might almost say the stubborn, the unyielding, the inexorable facts of the Gospel."—M. M. WILLIAMS.

"There is but one test with God of orthodoxy, of catholicity, of membership of the kingdom of heaven. It is given in the last utterance of Revelation by the beloved disciple. It sweeps away with one breath nine-tenths of the fiction and falsities of artificial orthodoxy and fanatical religionism. It is: "He that *doeth* righteousness is born of God."—Arch-deacon FARRAR.

HOLY DOGGEDNESS.

More than any other one thing the measure of a man's power, the criterion of the amount of effect that he will be likely to produce in the world, will be not the brilliancy or the impetuosity with which he takes hold, but the holy doggedness with which he hangs to after he has taken hold. Every once in a while I am told that such and such a brilliant young man or young woman has just come into our congregation, and that he or she will be likely to prove a great acquisition. I confess that it is a bait at which I nibble less than I used to do. If I want a light to read by I had rather have a good long tallow-dip than a streak of lightning. A very small river will carry a great deal of water to the sea if it keeps running.

Patient continuance in well-doing is the art of great living; it makes the man himself great; it ennobles the world he lives in; it leaves behind a bequest that can never be diverted to unintended purposes, and it puts a man distinctly upon the track of having fulfilled to him the promised award of the Lord: "Well done, good and faithful servant, thou hast been faithful over a few things, I will make thee ruler over many things; enter thou into the joy of thy Lord."—CHARLES H. PARKHURST, D.D.

When Essex County, N. Y., was a wilderness, an energetic and industrious settler had made a clearing and was

possessed of a comfortable house, over the kitchen fire-place of which always hung a loaded gun, for the family were mainly dependent for meat on such game as its head could shoot. In felling a tree, by a premature landing of it, his knee was caught and severely injured. He understood that it needed expert care, not to be had short of Albany; but a messenger was sent, and the ablest surgeon there came and did what was necessary; and as he did not expect to come again he left very minute and explicit directions as to care to be given; the limb was to be elevated, the man on no account to put his foot to the floor till the union of the ligaments was complete, and he painted the consequences of too early use of the limb in such lurid colours that the patient rigidly rested till thirteen months after the accident, being helped in his dressing and undressing, for he put an iron will into the thoroughness of the resting. But just at this time a fine deer bounded into the clearing before the window at which he was seated. Instinct got the better of prudence, he bounded up, seized the gun and shot the deer. Then turning to his wife he said: "I guess I'll go to work." He did.—*The Independent*.

. . . Who doubts that, times without number, particular portions of Scripture find their way to the human soul as if embassies from on high, each with its own commission of comfort, of guidance, or of warning? What crisis, what trouble, what perplexity of life has failed or can fail to draw from this inexhaustible treasure-house its proper supply? What profession, what position is not daily and hourly enriched by these words which repetition never weakens, which carry with them now, as in the days of their first utterance, the freshness of youth and immortality? When the solitary student opens all his heart to drink them in they will reward his toil. And in forms yet more hidden and withdrawn,

in the retirement of the chamber, in the stillness of the night season, upon the bed of sickness, and in the face of death, the Bible will be there, its several words how often winged with their several and special messages, to heal and to soothe, to uplift and uphold, to invigorate and stir. Nay, more, perhaps, than this: amid the crowds of the court, or the forum, or the street, or the market place, where every thought of every soul seems to be set upon the excitements of ambition, or of business, or of pleasure, there too, even there, the still, small voice of the Holy Bible will be heard, and the soul, aided by some blessed word, may find wings like a dove, may flee away and be at rest.—
W. E. GLADSTONE.

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We are glad to welcome Dr. Rankine, who has come out in connexion with the Church of Scotland Mission, Ichang, to take up the work Dr. Pirie was so suddenly called upon to lay down a little more than two years ago.

Dr. Rankine has had a distinguished career at the Edinburgh university, taking his M. A. degree with honours in natural science, and his M.B. and C.M. with first class honours. We wish him all success in studying Chinese and many years of useful work among the Ichang people.

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We are glad to hear that Dr. and Mrs. Dr. Gillison, of the L. M. S., Hankow, are deriving much benefit from their visit to England.

Dr. Turner has been appointed to Hankow (L. M. S.), and will carry on the work until Dr. Gillison returns. [Since this was written Dr. Gillison has returned.]

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It will be a great grief to many, beside ourselves, to see the announcement in this Journal of the death of Mrs. Parrott. A rare act of brotherly kindness to a brother missionary who had to leave his work brought us into close contact with Dr. and Mrs. Parrott in 1893, and whilst neighbours and fellow-workers in the same mission for a time we learnt to know them well. Dr. Parrott was away when Mrs. Parrott was taken ill, and only managed, by travelling night and day, to reach his wife shortly before her death. She seems to have died of sprue. In a private note to ourselves the Dr. says: "Nothing would stay the course of the disease. The dyspepsia was distressing. The last few days there was constant nausea and occasional vomiting." We sorrow not as those without hope, but we sorrow none the less truly, and the Master is not grieved at our sorrow.

"O God, to whom the faithful dead
Still live, united to their Head,
Their Lord and ours the same;
For all thy saints, to memory dear,
Departed in thy faith and fear,
We bless thy holy name.

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As we are correcting these proofs there comes the news of the death of Mrs. Douthwaite, of Chefoo, and of the Rev. David Hill, of Hankow. "They are gathering homeward—one by one."



Official Notices.

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BIRTHS.

At Sam-kong, Lien-chau district, Kwong-tung province, on Dec. 2nd, the wife of E. C. MACHLE, M.D., American Presbyterian Mission, of a son and daughter.

At Ch'ao-chow-fu, on the 4th of February, the wife of Dr. P. B. COUSLAND, E. P. Mission, of a daughter.

At Wei-hien, 17th April, the wife of Dr. W. R. FARIES, American Presbyterian Mission, of a son.

At Wuhu, on the 20th April, the wife of Dr. G. A. STUART, M. E. Mission, of a daughter.

MARRIAGES.

At Chefoo, China, 2nd April, Rev. RUFUS HOWARD BENT, to Miss SARAH AYERS POINDEXTER, M.D., both of American Presbyterian Mission.

At Soochow, on 21st April, by Rev. D. L. Anderson, Dr. FEARN, to Miss ANNE WALTER, M.D., both of American Southern Methodist Episcopal Mission.

At Canton, on 22nd April, by Rev. H. V. Noyes, Rev. J. J. BOGGS, M.A., Professor in Canton Christian College, to Miss RUTH C. BLISS, M.D., of Medical Missionary Society's Hospital, Canton.

DEATH.

On December 27th, 1895, at Lao-ho-k'ou, *vid* Hankow, ANNIE, the beloved wife of

Albert George Parrott, M.R.C.S. (Eng.), L.R.C.P. (Lon.), aged forty years.

ARRIVALS.

At Shanghai, 29th January, Dr. SAVIN, for C. I. M., from England.

At Shanghai, 15th February, Dr. and Mrs. J. R. WATSON and three children (returned), for English Baptist Mission, Shantung.

At Shanghai, 25th March, Dr. and Mrs. D. D. MUIR, for Scotch Presbyterian Mission, Manchuria.

At Shanghai, 8th April, Dr. J. M. GRIEVE and wife, Dr. KATE PATON, Dr. HOKNER, for Scotch Presbyterian Mission, Manchuria; also Dr. and Mrs. PARRY and family (returned), for C. I. M.

At Shanghai, 19th May, Dr. and Mrs. WESTWATER and family (returned), for Scotch Presbyterian Mission, Manchuria.

DEPARTURES.

From Shanghai, 29th January, Dr. E. R. JELLISON, of M. E. Mission, for Germany.

From Shanghai, 16th May, Dr. and Mrs. COX, for India.

From Shanghai, 23rd May, Dr. LUCY GAYNOR, Friends' Mission, for U. S. A.

Official Notices.

The following have been duly elected members of the Association:—F. G. Bergin, M.B., Lond.; L.R.C.P., Lond.; M.R.C.S., Eng., Unconnected; William L. Ludlow, M.D., Univ. of New York, U. S. A., American Protestant Episcopal Mission; E. D. Vanderburgh, M.D., Univ. of New York, U. S. A., American Presbyterian Mission.

Dr. R. C. Beebe has been elected Secretary of the Association vice Dr. J. C. Thomson resigned.

The Editor having received but one paper in answer to his appeal for a series of papers on the Medical Missionary Hospitals of China the project has to be abandoned.