

than venesection, which would not only relieve the engorged venous system of thick, stagnant blood, but also relax any spasm of the pulmonary arterioles? Venesection has proved successful in cholera collapse as well as in many sorts of asphyxia. The injection of salt water might do good by diluting and reddening the blood, just as it does temporarily in cholera (though it was not recommended by Sir G. Johnson), but surely it is not sound practice to overfill the already distended veins. Saline injections are right and proper in syncope and collapse from hæmorrhage, but not in such cases as that; and if ether is at the bottom of the mischief it follows that it is not, after all, such a perfectly safe anæsthetic as is commonly assumed, and that it has its dangers as well as chloroform.

I am, Sirs, yours truly,

F. LUCAS BENHAM, M.D.

Elizabeth-street, S.W., March 30th, 1893.

VENESECTION.

To the Editors of THE LANCET.

SIRS,—Although retired from the profession for many years in favour of art and letters, I was brought up in the old school of sixty years ago and saw something of the practice of bleeding in inflammatory attacks on the vital organs. I have seen the beneficial effects of judicious depletion and sometimes the injurious effects of the treatment where it was adopted by mistake. I am quite certain that many lives have been saved by bleeding at the right moment in the right cases. The usual limit of our bleeding was from 12 oz. to 16 oz., measured in a graduated pewter basin—a porringer-shaped vessel marked with lines and figures on the inside surface. I think, as far as my memory serves me, in urgent cases 30 oz. were taken at one time, and frequently small repeated bleedings in the upright position were practised until the acute symptoms subsided. But the point I wish to have some evidence upon is whether such a quantity as 120 oz. was ever taken from a patient at one time. I find it stated by the author of a very pretentious and big work, two large octavo volumes, in which the medical profession is abused and ridiculed as all humbug—viz., “Gossip of the Century,” by the author of “Flemish Interiors” (not human interiors), who is, I believe, a lady, that the Duke of Kent, father of the Queen, was bled to 120 oz., and, as implied, bled to death, after having caught cold at Sidmouth from wet feet. I do not believe in this as a fact or that any physician would have done such a thing even at that time. I should like, at any rate, to know from some qualified authority whether such a phlebotomy as this ever was practised. I would simply add that 120 oz. are about eight solid pounds of blood.

I am, Sirs, yours truly,

GEORGE REDFORD, F.R.C.S.

Cricklewood, N.W., April 3rd, 1893.

THE WATER-SUPPLY OF CHICAGO.

To the Editors of THE LANCET.

SIRS,—Your able and exhaustive Report on the Water Supply of Chicago will be read with the deepest interest by all who think of attending the World's Fair this year, and I am sure you will be glad to learn that the well-known Jarvis-Conklin Company of Kansas City has just provided an abundant supply of absolutely pure drinking water, not only for Jackson Park during the period of the Exhibition, but for the City of Chicago and its neighbourhood permanently. This water, which comes from the Waukesha Spring in Wisconsin, 104 miles north west of Chicago, is correctly described by your Commissioner as being “perfectly satisfactory as regards organic purity;” it is brought in by means of a steel pipe with a non-soluble lining which protects it from any possible contamination, and, after being reduced to a temperature of 40° F. by an artificial cooling process without the admixture of ice, is dispensed at over two hundred fountains and booths in the grounds and buildings. I am sure that, when your Commissioner again visits Chicago, he will find that all the conditions which he lays down as necessary for health and comfort have been completely fulfilled, and that both in quantity and quality the Waukesha drinking water supplied to the World's Fair at Jackson Park and to the City of Chicago now leaves nothing to be desired.

I am, Sirs, yours sincerely,

Rutland-gate, S.W., April 10th, 1893.

EYRE M. SHAW.

“HOW UNION APPOINTMENTS ARE MADE.”

To the Editors of THE LANCET.

SIRS,—I am rather amused at the letter of “M.R.C.S.” in your issue of the 25th inst. on this matter. I read the letter of “M.R.C.P.” on the same subject, and I think with him that it is a farce for guardians to advertise an appointment when they have already made up their minds whom they will appoint. I cannot help thinking, however, that “M.R.C.S.” had two objects in view when writing his letter. One was, perhaps, on the above subject, and one might naturally ask, Has “M.R.C.S.” ever resided out of a village? He appears to look upon his practice and his appointments as what may, perhaps, just now be appropriately termed “vested interests” and which, therefore, ought not to be taken away either from him or his purchaser in succession. I submit that the guardians are perfectly justified in selecting the best man qualified to have the appointment, be he an old or be he a new resident. Why should the poor be neglected? Are they not just as much entitled to good treatment as we are? My experience is that guardians generally do their duty, and I am of opinion that public appointments ought in our profession as in all others to be given to the best men. The other object of the letter of “M.R.C.S.” is evidently to point out how “mean” and “unprofessional” it is for any man to oppose another who has purchased a village practice. What, then, is to become of all the young medical men if this contention is to be accepted as law? Is not a man free to settle where he pleases if he thinks he can live? I should like to know: Does “M.R.C.S.” write feelingly on the subject? Has he suffered through opposition? It would appear so from the tone of his letter. Let us suppose, for the sake of argument, that a man buys a village practice and lives there unopposed and subsequently neglects his patients, who cannot conveniently be attended by another man, and he treats them with no respect and charges exorbitantly. I ask him, Would it still be mean and unprofessional for a man to settle down in opposition to him? I say emphatically that it would not. It would teach the old practitioner a valuable lesson, and it would be quite a “god-send” to the residents, for I know how unopposed men are liable to neglect their patients. It may be disappointing for a village doctor to suddenly wake up and find that he has an able opponent; but if he has done his duty to his patients and is well up in his work they will have learnt to admire him and will not leave him. Competition, if fair, is always healthy; but I have always found that if a village doctor is well liked or respected he will not be readily opposed, and, as I have said before, if he is not liked or is not respected then it is good for the people that he should be opposed.

I am, Sirs, yours truly,

March 28th, 1893.

M.B., C.M. ED.

“LEICESTER AND ITS QUARANTINE SYSTEM.”

To the Editors of THE LANCET.

SIRS,—THE LANCET of March 25th contains an article by Mr. Bremner adversely criticising what is known far and wide as the “Leicester method” of dealing with small-pox. Apparently, the idea of writing this critique was suggested to my colleague on the Leicester Town Council by an article of mine which was published in the *Vaccination Inquirer* of Nov. 1st, 1892. As my writings are largely quoted for purposes of criticism, I trust you will allow my reply to appear in your columns, especially as you conferred a similar favour some years ago in publishing a letter of mine in reply to the late Dr. Tomkins, our then medical officer of health. A misconception has arisen as to the date when my article was written. Although it did not appear until November, it was written for publication in September, and the two months' delay was owing to circumstances which would take too long to explain here, but which, fortunately, I have documentary evidence to sustain. Had Mr. Bremner known this, there are some parts of his article which probably would not have been written, and indeed I doubt very much whether the article would have appeared at all. This explanation is a sufficient reply, therefore, to those parts of his article which appear to reflect upon my veracity. I should be equally justified in impugning Mr. Bremner's veracity when he says, in THE LANCET of March 25th, “there have been 132 cases of small-pox in Leicester during the present outbreak,” whilst THE LANCET

of April 1st says there have been 140, and it is now seen in a return just issued there are 145. It would be childish on my part to attempt to make capital out of this variation of numbers, or to hold either THE LANCET or Mr. Bremner responsible for not writing upon events which transpired subsequently. I have carefully read the whole of Mr. Bremner's article appearing in your columns with the hope that some useful and practical hints for future guidance might be abstracted therefrom. It is deeply disappointing in this respect, for the general tone of the language used is deprecatory of a system which has worked remarkably well. The impression left on the mind is that the "Leicester system" is useless and that its virtues have been imposed upon a too credulous world. Now at last it is reserved for Mr. Bremner to expose its fallacies, and we need expect to hear little more of it beyond execration and contempt. But, like a distinguished and ancient prophet, that which he intends to curse Mr. Bremner ends in blessing altogether. He says: "I may here express my ardent appreciation of the principle of isolation and quarantine, with the distinct proviso that this principle to be effectual must be carried out on rational and scientific lines." Of course. Yet one would expect that if this principle were not carried out in Leicester on "rational and scientific" lines it is the bounden duty of those eminent gentlemen who possess this knowledge to give the benefit of it to the sanitary committee of which they are members. Instead of this we are told that "when we have supplied means of isolation and quarantine in practice and not in theory, *when we have adopted vaccination and revaccination as our first line of defence*, then and then only shall we be able to claim that the 'Leicester system' is a method worthy of imitation and not a fantastic phrase which means nothing." The words I have italicised contain the gist of the whole article. We trusted to the "unscientific" processes of vaccination and revaccination in 1871-73 and paid the penalty of our folly in being well-nigh "decimated" by small-pox, but since the advent of the "Leicester system" we do not expect to be thus stranded again, believing that the "rational" means will save us where the "scientific," so called, have failed. Now what was the *origin of the "Leicester method"?* Contrary to the assumption of Mr. Bremner, the term "Leicester method" did not originate with "misguided enthusiasts," nor did the first "præans of praise" or "loud-voiced laudation" respecting the "marvellous success" of this "much-vaunted system" "proceed out of the mouths of the anti-vaccination party." What the anti-vaccination party have done is to discriminate between the "scientific" claims of a "grotesque empiricism" which has always proved to be a failure and a "rational" system which has invariably proved itself successful. Mr. Bremner tells us that the "advantages of isolation have been known from an early period of the world's history," and were "appreciated even in the year 1490 B.C., this period being antecedent to the anti-vaccination movement." I agree with this, because Jenner's peculiar prescription for small-pox only dates from the latter part of last century and was opposed from the beginning, and therefore both the vaccination and anti-vaccination movements are equally removed from the remote date referred to—namely, 1490 B.C. But this ancient knowledge, if not lost, had certainly fallen into desuetude, and has only comparatively recently been revived. The "Leicester system" was introduced by Dr. Johnston (one of our former medical officers of health) in conjunction with Mr. Braley, our present chief sanitary inspector, in 1887 and 1888, and from that time the "Leicester system" began to be quoted by medical authors. Therefore it is seen that the "Leicester method" and its name were introduced by medical confrères of Mr. Bremner, and it is they whom he is treating with so much contempt in his criticism. It follows, therefore, that the vials of wrath which have been poured out by medical writers fall naturally, not upon us, but upon their medical colleagues. Whilst we have advocated in season and out of season, with "tireless reiteration," the advantages of sanitation, we ourselves lay no claim beyond this advocacy to the authorship of the "Leicester system." Nevertheless medical writers have never been weary of twitting us with our inconsistency in the *stringency of its enforcement*. We have been told that, whilst we strongly oppose compulsory vaccination, we have no compunction in regard to personal liberty in the vigorous enforcement of our system of quarantine. THE LANCET of June 5th, 1886, in an article written by a Special Commissioner sent down to Leicester to investigate on the spot, says: "The radical community of Leicester has no compunctions in restricting personal liberty except in

the matter of vaccination." This we have often denied, and we therefore welcome the additional testimony of Mr. Bremner that isolation regulations "are carried out in many towns more rigorously" than in Leicester. This goes to confirm what we have always contended—that sooner or later our "system" would be adopted, and that then those who had opposed us would claim not only to carry it out but to do so even more stringently than we. It also shows that the rigour of its enforcement in Leicester has not interfered with individual liberty. Ever since the "Leicester system" has proved so successful we have been compelled to listen to the story, dinning into our ears with "tireless reiteration," that the *Leicester Fever Hospital* is unsuitable and little less than a disgrace to the authorities. We have never contended, nor have we heard others contend, that our hospital was an up-to-date institution. Let me say that I entirely agree with Mr. Bremner as to the desirability of an improved hospital. But this should not prevent us applauding the good work done in the past by the much-despised existing buildings. They were erected under panic in 1871-72 to meet the emergency then arising, at a time when Leicester was more fully vaccinated than at any other period of its history, and when thousands of small-pox cases were occurring, followed by hundreds of deaths, and compared with which the present outbreak is little more than a drop in the ocean. We were indeed at that time "living in a fool's paradise." Panic never conduces to completeness or efficiency; but such as it is, I honour the medical men who were the authors and carried out the erection of our hospital, which, with the aid of the much-despised "Leicester system," has enabled us in the past to checkmate the numerous outbreaks of small-pox since 1873. This is what vaccination failed to do for us in 1871-72. All attacks upon the hospital are, like the assaults upon the "Leicester system" directed against medical workers of the past whose shoes' latches, the carpers of to-day would have been unworthy to unloose. Why do not these medical critics of their past colleagues suggest some more practical scheme than the one at present in vogue? Why, when improvement schemes are matured, do they not support them in the Town Council? It is notorious in Leicester, that they have done neither the one nor the other. Instead of this their efforts have been directed to thwarting the "Leicester system" by making it difficult and expensive. Now in the light of our experience of the past twenty years I ask, *Is the "Leicester system" difficult and expensive?* I emphatically answer, No. Mr. Bremner might usefully have quoted a little more from my article upon this point. In the course of my inquiries for the preparation of evidence for the Royal Commission on Vaccination I requested the borough accountant to supply me from the official accounts with the whole amount which had been paid either for bedding and clothing destroyed or as compensation for loss of time. After an exhausting search in the archives of the borough, all that could be found was the not very startling sum of £11 5s. Of this only a few shillings were paid as compensation for loss of time, and the remaining balance for destroyed bedding and clothing. Now, Mr. Bremner says, "When the 'little bill' for compensation for loss of time and for carrying out the other details of the 'Leicester system' is produced" it will "afford an instructive object-lesson to all students of sanitation." Whatever the "little bill" may prove to be, a considerable part of it will be due to the policy pursued on the Sanitary Committee by Mr. Bremner and his friends. The old successful policy of Dr. Johnston and Dr. Tomkins has partly been abandoned. These gentlemen were at least loyal to the system and to the committee, and a small outlay was the result. If the increased expenditure is large enough to be an "object-lesson" the reason is not far to seek. Compensation has been too freely voted by the medical men and their friends, and where this is done you cannot blame either "Oliver Twist" or anyone else for asking for more if they are likely to get it. I for one have protested, but without effect, against this newly improvised system of granting quasi-relief, which is the proper duty of the guardians and not of the sanitary committee. Even when the bill of costs for the present outbreak is finally made out and loaded with every conceivable charge in the effort to pile up an enormous and prohibitive cost it will, I doubt not, favourably compare with the "little bill" of £32,257 4s. 7d. which it cost well-vaccinated and "protected" Sheffield during its small-pox epidemic of 1887-88. To obtain a fair comparison between Leicester and other towns suffering from small-pox, one must take the expenditure of each upon vaccination and the hospital com-

bined and then compare the result achieved. Leicester need not fear any such comparison being made with any well-vaccinated town in the Kingdom. We may therefore ask with that complacent demeanour which appears so unnecessarily to irritate our opponents, *Has the "Leicester system" ever been tried and found wanting?* Our answer is, Never. Mr. Bremner has only pointed out what we all knew before, that our hospital was not all we could wish. But this is a mere truism. Besides, a deficient hospital has nothing to do with the "Leicester system." If we can achieve so much with defective appliances, what may we expect to achieve with a perfect hospital? The "Leicester method" has been the sport of members of the dominant majority of our sanitary committee. So far, even during the present outbreak, it has succeeded too well for the prophets of evil, who have told us for years that small-pox would spread like wildfire if once it gained a footing in our midst. We were to be decimated, which means that over 18,000 people were to die. What is the result? There have been less than 150 cases and only ten deaths. Who dare gainsay the fact that the "Leicester system" has been the all-potent factor in limiting the outbreak to these moderate dimensions? Neither vaccination nor revaccination have had part or lot in the matter. There have been more cases amongst the vaccinated and revaccinated than amongst the unvaccinated. Moreover a vaccinated person originated the outbreak. The principal part of the revaccinations which have been performed has taken place amongst the population furthest from the hospital and least exposed to contagion, and whose social circumstances would enable them to more easily resist the attack. Such is the confidence exhibited in the Jennerian process that very few of the members of the sanitary committee who have been vaccinated have put the efficacy of the operation to the test by visiting the hospital. The very worst that can be said against us is that notwithstanding our enormous unvaccinated child-population we have had comparatively but a few attacks and only eight deaths. When one remembers the large number of mistakes in diagnosis that have characterised the present outbreak, as, for example, the case of small-pox in a crowded house, under medical treatment for twenty days, and infecting four others before the true disease was discovered, our surprise, and indeed wonder, must be that there are so few attacks and so few deaths. Especially is this the case when one remembers, too, that half the fatality is due to the outbreak at the hospital, which also occurred through a mistake in diagnosis. Mr. Bremner might tell us whether these are part of the "scientific" attainments he advocates. To form a true opinion of the "Leicester system" and of what it is capable, one has only to compare former with present times. In 1871-73 upwards of 95 per cent. of vaccination failed to protect us and the epidemic amongst an "insusceptible" population resulted in 360 deaths. At that time the "Leicester system" was not in vogue. Like Micawber, our sanitary officials waited for cases to "turn up," and as a consequence the disease spread fatally. Now, without "protection," only having 2 per cent. of vaccination performed, but with the "Leicester system" in operation, although perhaps imperfectly, even in the very midst of a "susceptible" population the outbreak is checked and the disease practically stamped out. What "loud-voiced laudations" one would hear if the result were the other way. If we had folded our arms in despair as they did in 1872 and in Sheffield in 1887-88, what sane person would affirm that we should not have suffered more severely? Dr. Tomkins, speaking of Sheffield on page 15 of his annual report on the health of Leicester for 1887, says: "Had any such efficient system been in force at Sheffield, it need not have been to-day suffering from a wide-spread epidemic, which has got beyond all control." The quarantining at the houses of the people has been even more successful than that at the hospital, the attacks in the former being only 3.9 per cent. and those at the latter 6.7 per cent. All we require (until our new hospital, projected for some years, is erected) is an additional building to accommodate families from infected houses for a day or two whilst their homes are disinfected. But when this tentative proposal came before the Council the medical men, instead of being present to support it, were conspicuous by their absence. *Where, then, has the "Leicester system" failed?* Instead of failing it has once more triumphed under a severe ordeal and under adverse conditions. The sanitary committee may have suffered from divided counsels, the "system" has been a constant theme of derision; there have been many mistakes in diagnosis, perhaps some errors in administration, and inadequate means for quarantine;

also there is a defective and almost worn-out hospital: yet, in spite of these obstacles, the "Leicester system" has succeeded where vaccination and revaccination have failed. *Compare Leicester with other towns*, with Sheffield, Warrington, Manchester and others, where the Vaccination Acts have been in full operation, and Leicester will emerge favourably from the ordeal. Instead of carping at the "Leicester system" let Mr. Bremner give us the benefit of some *practical suggestions* which will have the effect of lessening our mortality. We shall be prepared to go with him quite as far as he will care to go in the path of enlightened sanitation on truly "rational and scientific" lines, and these have been our principal bulwark in the past, and will be in the future, against all inroads of zymotic and epidemic disease.

I am, Sirs, yours truly,

Leicester, April 10th, 1893.

J. T. BIGGS.

* * Although the columns of THE LANCET are of necessity restricted to communications from members of our profession, we publish Mr. Biggs' letter in spite of its inordinate length, that our readers may judge for themselves of the worth of his arguments as a reply to Mr. Bremner's criticism. We would point out that the plan of "quarantining at the houses of the people" is *not* the system which was introduced into Leicester by Dr. Johnston. It is, moreover, a plan which can never be as effectively controlled as the alternative method. Mr. Biggs has dwelt on the number of vaccinated persons who have been attacked by small-pox, but he carefully abstains from a reference to the notorious fact of the greater severity of the attacks amongst the unvaccinated children.—ED. L.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Town Smoke.

AT the annual meeting of the Manchester Society of Chemical Industry, held last week, Dr. Bailey of Owens College read a paper on Town Smoke. In connexion with a committee of the Field Naturalists' Society, Dr. Bailey has for some months past been prosecuting his inquiries into the cause of this nuisance at Manchester. The Society have already published one report by the committee on the subject, and on Thursday evening last Dr. Bailey carried the discussion of smoke prevention a step further. He is decidedly of opinion that the careless or the improper use of the domestic fire-grate is responsible for a large amount of the town-smoke nuisance and that the remedy must be sought in the larger use of gas instead of coal for heating purposes. He thought that it was quite practicable to get rid of a large proportion of the smoke—i.e., the unconsumed carbon which is now suffered to escape into the air. The acids, he said, might be left to take care of themselves, because if there were no smoke there would be no fogs and the noxious matters which accompany fog would no longer give us trouble.

Another Fatal Lamp Explosion.

An inquest was held on Friday last touching the death of a poor widow who lived at Medlock-vale, Clayton. It appears from the depositions that the deceased had retired to rest on the preceding Saturday night without extinguishing her paraffin lamp, which she left on a chair close to the bed. The lamp, which was unprovided with a chimney, appears to have exploded, seriously burning the poor woman, who awoke to find herself enveloped in flames. Her cries attracted the attention of the neighbours, who rendered every assistance and succeeded in extinguishing the flames, but not until the sufferer was terribly burnt. She was removed to the Royal Infirmary, where she died.

Prevalence of Small-pox.

According to the latest accounts, small-pox still continues to spread at Manchester and in its neighbourhood. Thirteen fresh cases were reported last week in the city and a considerable number in the districts immediately contiguous. The disease was also reported to be still prevalent at Oldham and in several other Lancashire towns in frequent communication with Manchester. The medical officer of health still continues to report the occurrence of fresh cases in the