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#### Contributors

Windley, Thomas. London School of Hygiene and Tropical Medicine

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9 DEC. 1902

# Leicester and Smallpox.

THIRTY YEARS' EXPERIENCE.

A Paper read at the Annual Meeting of the Royal Institute of Public Health, held at Exeter, August, 1902, with additional details as to the cases of Smallpox which have appeared during the present year,

BY

# THOMAS WINDLEY.

CHAIRMAN OF THE SANITARY COMMITTEE

FOR THE

BOROUGH OF LEICESTER.

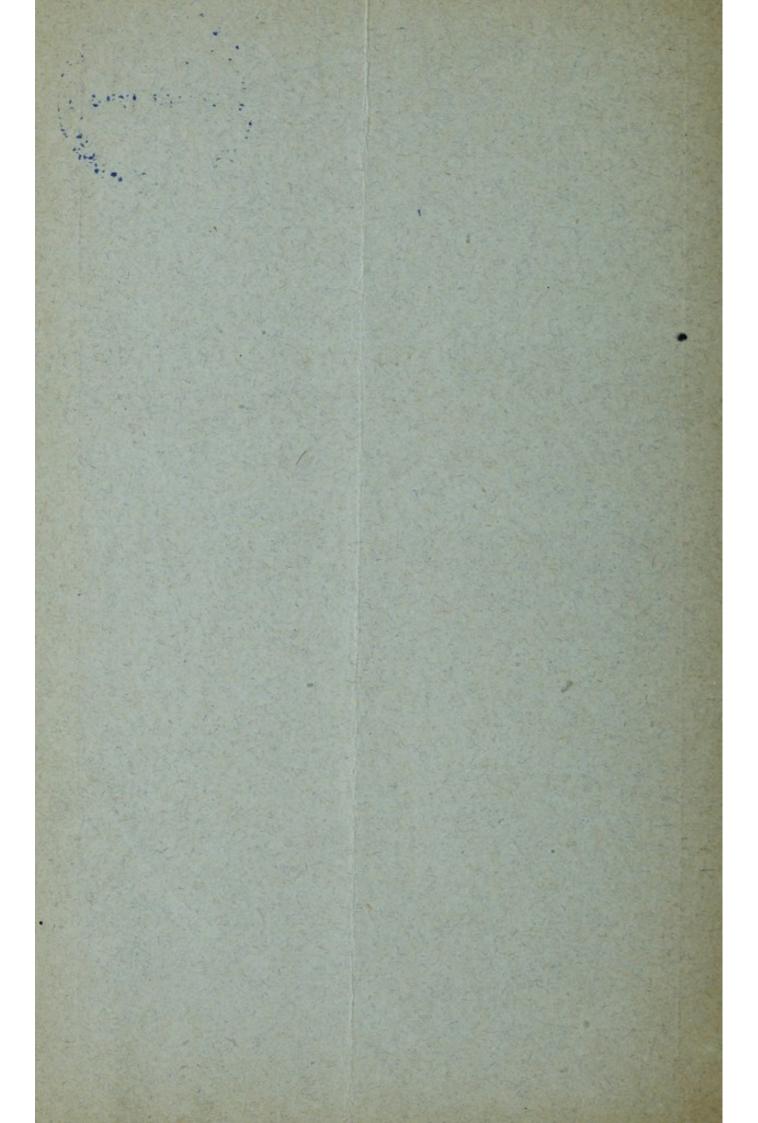
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## A PREFACE.



The terrible epidemic of smallpox in London, which has attacked some thousands of persons, has led to small outbreaks of the disease in other towns, and has naturally called public attention to the steps which are taken by local authorities to grapple with this disease. The generally accepted opinion of the medical profession is that vaccination and re-vaccination are the only protection against the spread of the disease, and that the vaccination of infants ought to be compulsory in order to ensure the public safety, and get rid of this most loathsome complaint. I am far from saying that vaccination is a delusion, but the experience of Leicester during the past thirty years has been unique, and shows that compulsory vaccination is not essential for the effectual control of smallpox, for despite the neglect of vaccination, the authorities here have been successful in stamping out numerous outbreaks of smallpox, the deaths from the disease have been very few, and the expense involved, when compared with that in other well-vaccinated towns, has been trifling. Under these circumstances I have ventured to publish the following paper, read at the Congress of the Royal Institute of Public Health, held at Exeter, in August, which explains in detail what is known as the "Leicester system of dealing with smallpox." I have also added to the paper a few facts concerning an outbreak of smallpox in 1892-3, and the experience of Leicester during the present year, together with a few paragraphs quoted from the paper read by Dr. Killick Millard, Medical Officer of Health for Leicester, at the Exeter Congress. I am assured that nothing but good can arise from the publication of the experience of Leicester on this subject, and that must be my excuse, if excuse is needed, for issuing the paper in its present form.

T. W.

## LEICESTER AND SMALLPOX.

## THIRTY YEARS' EXPERIENCE.

A Paper read at the Annual Meeting o, the Royal Institute of Public Health, held at Exeter, August, 1902.

It has been suggested to me that a paper on the subject of Leicester and its treatment or experience of smallpox might be of some interest to this Conference, and possibly of some value as a contribution to a subject of great importance to the nation at large.

It has also occurred to me that it was perhaps time that we of the Leicester Sanitary Authority attempted to put our case and set ourselves right, not only with the medical profession, but with the public generally. For I am afraid in many quarters when Leicester is mentioned people shrug their shoulders, elevate their eyebrows, as who would say, "Oh! Leicester; there is something wrong there." In fact, I am not sure but we are regarded as a lot of fanatics, if not actual cranks, on the subject of vaccination and smallpox. "Leicester, Leicester!" said some gentlemen in a Yorkshire town to a deputation from Leicester some years ago. "That is where they refuse to vaccinate, and play cricket on a Sunday!" Well, the attempt to play cricket was made by a few Secularists, but it failed, and we have not heard of it since; but it remains true that Leicester is a place where they do not believe in, or submit to vaccination, except in infinitesimal numbers when compared with the number of births.

What has been the consequence of the neglect of vaccination on the health of the town, especially when smallpox appeared? It was quite expected by the medical profession that once we had the horrible disease imported, our population would be decimated by it—it would spread like wild fire; and many were the prognostications as to what would happen, uttered, not only by medical men in various parts of the country, but by one of our Medical Officers of Health, who came to Leicester after our method of dealing with smallpox had been initiated.

Writing in his annual report for 1886, on the neglect of vaccination, this gentleman said: "The sad feature about the whole business is that it is the young children of the town who are growing up in thousands unprotected, and are running a risk to their lives. They have but to come in contact with the first breath of infection of smallpox to at once contract this loathsome disorder."

And in his report for the following year, 1887, in reference to the same subject, he wrote: "Should the present state of things continue to go on, and ten per cent. only of the children born are vaccinated, as happened last year, then, in the course of eight or ten years from the present time, there will be accumulated a sufficient amount of inflammable material to warrant the use of the term, "Leicester Experiment" being applied to the town. Whether the present vigilant measures of isolation and quarantine will suffice to successfully deal with any outbreak of smallpox which may then arise, time only can prove. One thing is, however, certain, that any of these unprotected children have but to be brought in contact with a breath of infection from smallpox to almost inevitably contract the disease."

We, as a Sanitary Authority, then were in this position: we had a Medical Officer of Health, a strong vaccinist, uttering such warnings as I have quoted; we had a Committee, the majority of whom were of the same opinion as the Officer of Health as to the necessity of vaccination, we had the medical press and medical men in all parts of England prophesying the most terrible misfortunes as certain to come upon us in time, as the result of the neglect of vaccination, and as an Authority, we were helpless, for the duty of carrying out the Vaccination Acts rested not upon us, but upon the Board of Guardians, and the members of that Board were elected by a large majority on the non-compulsory vaccination ticket. This was rather hard upon us, for we received the lion's share of the blame for the neglect on the part of the people of a system which most of us believed in, but in the enforcement of which we had no authority. And, indeed, I am not

sure whether even down to the present time we are not looked upon as the chief culprits.

I have depicted the state of the case as it stood with us in Leicester in the years 1872 to 1877. The question was what should we do, and this leads me to deal with what was for some years spoken of as

# "The Leicester Experiment," or the "Leicester System of Dealing with Smallpox."

At the time this was begun our then Medical Officer of Health, the late Dr. Johnston, was a firm believer in vaccination, but, as I have said, neither he nor we had anything to do with the enforcement of the vaccination laws. He was, however, responsible for advising us as to the best method of treating smallpox whenever it should arise. What he advised was the immediate removal of cases of smallpox to hospital, the closing and disinfecting of infected houses and bedding, where a case had occurred, and the taking of persons who had been in contact with the patients into hospital quarantine for a fortnight. On this I cannot do better than quote from the doctor's own words. In his Health Report for the year 1877 Dr. Johnston said :- "As the plan which I adopted in the removal of these cases (i.e., smallpox) is novel, and may be found useful by Officers of Health in other towns for preventing the spread of the disease, I may be pardoned if I again draw attention to it. In any house where a smallpox case occurred I endeavoured to impress the inmates with the fact that the removal of all the members of the family to the hospital was the best course to adopt, not only as regarded their own individual welfare, but also that of the town at large. And I am glad to say that all complied with my request, left their infected habitations, and became inmates of the hospital. Altogether 22 unaffected cases were thus admitted into quarantine, and of these three after admission sickened. The first in 48 hours, the second in 72 hours, and the third on the 12th day. All these cases must have been infected before admission, as smallpox appears on the skin on the 14th day after the infection of the disease has been received into the system. The epidemic had got firm footing in the town, as it expressed itself in no less than six

different streets. The suppression of what might otherwise have proved a widespread epidemic was entirely due to the early information received of the cases affected and the promptitude observed in their removal." Dr. Johnston upon this urged the Sanitary Committee to go for powers of compulsory notification of infectious diseases, which we did, notwithstanding the opposition of the local Medical Society, which was carried into a Committee Room of the House of Commons. We succeeded, and Leicester was the third town in the country to secure those powers by means of a Local Act.

In the following year, 1878, the disease was again imported; this time by a family of vagrants from London. They had taken up their residence in a lodging-house in one of the poorest localities in the town, and two of them were suffering from smallpox. Notice was given to the Sanitary Inspectors and the cases were forthwith removed to the hospital. The following day the Medical Officer of Health after considerable difficulty prevailed upon all the other lodgers in the house, 19 in all, to allow themselves to be placed in quarantine, at the hospital. The lodging-house thus emptied was thoroughly disinfected, and some of the bedding destroyed. A few days after another case was reported in a house opposite the one where the others had resided. This was at once removed, the parents were quarantined in the hospital, the house being disinfected. The Inspectors kept a careful watch over all the houses in the vicinity, but no fresh case appeared, and the outbreak was found to have been stamped out. "But for the facilities afforded by the hospital," wrote the doctor, "there is no doubt the disease would have spread rapidly over the town, and given rise to great mortality, as it was of a very virulent form—the confluent." Three of the quarantined people sickened after admission; one on the second day, one on the fourth, and one on the eleventh, showing that each had received the infection previous to entry into the institution."

When these results were reported it was thought too soon to draw any strong conclusions, and indeed it was believed that the system would inevitably break down in course of time. To show what followed I now quote from Dr. Johnston's Health Report for 1883. He says:—"In the last 7 years there have been no fewer than

17 importations of smallpox into the town. In 1877 one importation, and the disease appeared in six separate localities; in 1878 two importations, and affected two houses; in 1880 one importation, but no extension; in 1881 four importations reported, each unattended with extensions; in 1882 four importations, in one of which the disease extended to fourteen different localities before it was subdued ; in 1883 five importations reported, and in one instance affected two houses. Notwithstanding this large number of importations the disease has always been stamped out, and the town thus saved from the distress and mortality which has hitherto accompanied its prevalence." The doctor then gave a table showing the deaths recorded from smallpox in eleven of the large towns. "The continued exemption from smallpox experienced in Leicester, under so many instances of its importation," he wrote, "was highly satisfactory, and was altogether due to the success which had hitherto attended the efforts of the Health Committee in securing not only the immediate reporting, but also the prompt removal to hospital of all the cases as they came under notice." He concluded in words which have received striking confirmation in the years that have followed. He remarked, "A review of the facts here stated will offer to most minds conclusive proof that if Health Authorities throughout the country could only secure the removal and isolation of initial cases of any of the essentially infectious fevers, the excessive mortality now annually arising from them would rapidly be reduced to insignificant proportions when compared with the fatality from other classes of disease."

To proceed. In 1884 there were three distinct outbreaks of smallpox in the town and neighbourhood, and in each instance the infection was conveyed from London. Six cases were found and removed to the hospital, together with the other inmates of the infected houses, and the disease was stamped out.

In 1885 smallpox made its appearance in four points in the town; three were importations, one from Sheffield, and two from London. The usual methods were adopted, and the disease was successfully stamped out. This was the first year of Dr. Tomkins' experience as Medical Officer of Health in Leicester, and in his health report, while

admitting past success in dealing with smallpox, he expressed himself afraid that when the unprotected population should have grown up and increased in number "a terrible Nemesis would overtake it in the shape of a disastrous epidemic." He also suggested the use of animal lymph to meet some of the objections of the opponents of vaccination. I have already quoted the experience of the same officer in 1886-7, and the fears which he repeated in his reports for those years. In 1888, 21 cases of smallpox were met with in the town. The patients were removed to hospital, and 39 persons were taken into quarantine, 3 of whom developed smallpox whilst under observation. Fifteen tramps were also kept under observation at the Workhouse for a fortnight. Despite the discovery of cases in various parts of the town, the disease was again stamped out. In 1889-90-91 there were no cases of smallpox in Leicester. During 1892 38 cases were found, Dr. Priestley being now Medical Officer of Health in succession to Dr. Tomkins, deceased. The same methods of isolation and quarantine were adopted in 1892-3. As this was the worst year since 1872, I may refer to it at greater length than in my paper at Exeter.

The following particulars are taken from Dr. Priestley's report: "During the epidemic of 1892-3 there were 347 cases of smallpox arising in 195 infected houses, situated in all parts of the town, the highest numbers being in the most thickly-populated districts. The first case that occurred was that of a tramp, who in August entered the Workhouse for a few nights, having been in lodgings in the town a few days previously. Afterwards there were 11 separate importations of smallpox into the Borough by tramps, and 17 tramps contracted the disease in Leicester. Up to the end of 1892 there were 38 cases treated in the smallpox wards, including 13 children, who at the time they contracted smallpox were suffering from scarlet fever, and being treated for that disease in the Hospital.

Of the 347 cases reported, 240 were of persons 10 years old and upwards, leaving 107 under 10 years. Of these, 176 were males, 103 being vaccinated, and of 171 females 87 were vaccinated. Of those under 10 years of age one male was vaccinated, and 44 unvaccinated, and one female was vaccinated, and 61 unvaccinated." "A very large proportion, therefore, of our cases," said Dr. Priestley, "have been

children under 10 years." On page 99 of the same report, the doctor says: "Of that 347 cases of smallpox, 240 were 10 years or over, and it was clear, therefore, that smallpox had broken out chiefly amongst the vaccinated adult population, and has been preve ted from spreading, not only by prompt isolation and other measures taken, but also by the fact that our adult population is vaccinated, and therefore semi-protected; while at the same time 107 children under 10 years have suffered. What would have happened had the smallpox 'caught on' amongst children of that age period it is serious to contemplate."

I have already quoted Dr. Tomkins' remarks in 1887, that the "unvaccinated children had only to come in contact with the first breath of infection of smallpox to at once contract this loathsome disorder." Now we have Dr. Priestley, six years later, showing that 107 children under 10 years contracted smallpox and yet the disease had not "caught on." Is not this a most remarkable fact? "What would have happened if smallpox 'caught on' it is serious to contemplate,' but according to all medical theories and prognostications smallpox ought to be "caught on" under such conditions, seeing that cases were discovered in all directions, and no less than 107 children under 10 years out of a total of 1,261 persons had come into "more or less direct contact with smallpox in infected houses."

The number of deaths which occurred during this outbreak was 21, giving a case mortality of 6.05.

In the preface to his report to the Sanitary Committee for the year 1893, Dr Priestley wrote:—"Having succeeded in holding in check two such epidemics (smallpox and typhoid) you are entitled to great credit—more especially in the case of smallpox, which by the methods you have adopted, has been prevented from running right throughout the town, thereby upsetting all the prophesies which have again and again been made. I need only mention such towns as Birmingham, Warrington, Bradford, Walsall, Oldham, and the way they have suffered during the past year from the ravages of smallpox, to give you an idea of the results you in Leicester have achieved—results of which I, as your Medical Officer of Health, am, justly, I think, proud."

In 1894 there were 9 cases of smallpox notified, in 1895, 4 cases.

During the five years 1896-1900 we were entirely free from the disease. In 1901 there were 4 cases, and during the present year there have been 14 cases. Our present Medical Officer of Health, Dr. Millard. writing upon his experience of the Leicester system-the principal measures of which are now generally adopted -- says :-- "The essential characteristic in the method of combating smallpox in Leicester is the entire absence of compulsory vaccination, which is regarded as so allimportant in most places. Against this it has been urged that vaccination has to some extent been resorted to in Leicester. This, no doubt, is true. A handful of the population, including the medical men, sanitary staff, smallpox nurses, etc., are as well vaccinated in Leicester as in any other town, so that a cordon of protected persons can at once be drawn round any case of smallpox which may occur. Persons accidently brought into contact with the disease also frequently submit to the operation, and amongst the well-to-do classes vaccination and re-vaccination are freely practiced. But all this is quite voluntary, and it may be truly said that compulsory vaccination does not exist. The vast majority of the children and young persons amongst the masses are unvaccinated, and it is in this respect that there is a radical difference between Leicester and most other towns."

I may say here that during the time Dr. Priestley was our Medical Officer of Health—1892-5—the system of taking persons who had been in contact with smallpox cases into quarantine at the hospital was given up, mainly for want of room—during the outbreak in 1893. In lieu of that method the names and addresses of all "contacts" were obtained by the inspectors and daily visits were paid to each house for fourteen to sixteen days. In certain cases where it was thought advisable that the "contacts" should stay away from work, information was given to employers, and the Sanitary Committee awarded these persons various sums to make up in part for loss of wages. This plan has proved satisfactory, and is being pursued at the present time.

The facts of Leicester briefly summed up then, are, that whereas in 1872 when the Anti-Vaccination Movement had scarcely been heard of, and when Leicester was looked upon as a well-vaccinated town, there were 346 deaths from smallpox, and during that severe

epidemic a hospital was built, after plans adopted in London at that time. How many cases there were it is impossible to say, but probably several thousand. In the years that followed, faith in vaccination was weakened, and the movement against compulsion became so strong that many persons suffered imprisonment rather than pay fines, and many others had their goods seized and sold on account of their refusing to have their children vaccinated. I have quoted from the reports of our Officers of Health as to what they expected would happen say in ten years from 1886. During that period the number of children vaccinated was reduced until it was down to less than two per cent. of the births. We have seen how each successive outbreak was controlled, and the disease was stamped out. The fears expressed by the medical profession have not been realised, the Nemesis has not overtaken us. It is not surprising, therefore, that the feelings of the people on the subject of vaccination should remain virtually unchanged.

In conclusion, I may add that during the period referred to in this paper the Sanitary Authorities in Leicester have been engaged in carrying out the provisions of the Public Health Acts. The old middens and most of the ash pits have been abolished, the courts have been repaved, and sanitary appliances introduced; thousands of surface wells were closed, and the public water supply put on; a new main drainage scheme had been carried out, outfall sewers have been laid down, large sewage farm secured, and a constant inspection of houses and removal of nuisances has gone on. A large staff of scavengers and others for the frequent removal of house refuse has been employed. In these various ways-including also the carrying out of a great floods prevention scheme of river and canal widening all through the town-hundreds of thousands of pounds have been expended. Not only so, but during the same period three large public swimming baths have been built, and two outdoor baths provided; several extensive parks and recreation grounds have been secured. During this time also scarlet fever cases have been treated in hospital, and within the last two years a new Isolation Hospital, consisting of seven separate blocks with administrative buildings has been erected at a cost of £60,000. Since that we have also removed

and re-erected several large wood and iron hospital wards for the reception and treatment of smallpox. The result of these various measures, involving as they have done, the expenditure of great sums of money, is that we can claim to be one of the healthiest manufacturing towns in the country. Our death rate, which in 1872 was 26.95 per 1,000 per annum, was in 1901, 15.71.

These facts must be left to speak for themselves. I have not entered upon the merits or demerits of vaccination, because, as I have said, we have had as a Sanitary Authority to act upon independent lines. Our experience has fully confirmed the opinion expressed by Dr. Johnston, and which I gave myself when before the Royal Commission on Vaccination, which will be found in the published Report of the Commission. I do not see why the plan adopted in Leicester of dealing with outbreaks of smallpox should not be equally successful in every other large town where good sanitary conditions are maintained. And although my opinion met with little apparent favour with the Commission I was pleased to hear the other day from Dr. Priestley, the Medical Officer of Health for Lambeth, Chairman of the London Society of Medical Officers of Health, that our methods have been largely followed in the Metropolitan boroughs during the recent terrible epidemic of smallpox in London, with gratifying results. I agree with our present Officer of Health, Dr. Millard, that our experience in any case goes to show that compulsory vaccination, against which our people have so strongly protested, is unnecessary wherever the Public Health Acts are efficiently carried out, and where on the first appearance of smallpox the Leicester methods are adopted. On the question of vaccination, as upon others of importance to the moral and physical well-being of the people I would say: "Let every man be fully persuaded in his own mind."

No body of men is more influential perhaps than those composing the medical profession. They are still able to advise as to the best course, in their opinion, for the public to adopt in relation to vaccination. At the same time, seeing that the evils which they conscientiously believe would follow the absence of vaccination in a great manufacturing town like Leicester have not been experienced, they may fairly be asked to consider whether the time has not arrived when they may give a little credit to Leicester for what it has done in stamping out repeated outbreaks of smallpox, and for being the first to set an example of the most successful methods of dealing with this loathsome and terribly infectious disease, which has since been followed by nearly all the great towns of the country.

## Appendix.

I append on following page a table showing the number of public and private vaccinations, from 1872 to the end of last year, 1901, together with the births, the cases of smallpox, and deaths from smallpox occurring during the same period.



# Appendix.

Year.	Vaccinations.				Smallpox.	
	Public.	Private.	Total.	Births.	Cases.	Deaths
1872	2,466	1,990	4,456	4,162	_	346
1873	2,145	1,547	3,692	4,447	_	2
1874	2,377	1,387	3,764	4,375	0	0
1875	2,072	1,455	3,527	4,260	0	C
1876	2,080	1,346	3,426	4,781	0	0
1877	2,010	1,643	3,653	4,753	12	6
1878	2,004	1,368	3,372	4,779	8	1
1879	1,942	1,204	3,146	4.687	0	0
1880	1,960	926	2,886	4,830	1	0
1881	1,998	1,419	3,417	4,860	6	2
1882	1,710	1,396	3,106	4,856	29	5
1883	1,203	755	1,958	4,787	12	3
1884	994	769	1,763	4,921	3 8	C
1885	908	934	1,842	4,652	8	C
1886	611	511	1,122	4,857	I	C
1887	196	275	471	4,679	9	C
1888	72	242	314	4,787	21	0
1889	27	145	172	4,789	0	C
1890	12	119	131	4,699	0	0
1891	6	86	92	4,790	0	0
1892	12	121	133	5,816	38	6
1893	44	205	249	6,006	308	15
1894	29	104	133	5,995	8	0
1895	12	63	75	5,962	4	0
1896	19	67	86	6,212	0	0
1897	11	70	81	6,252	0	0
1898	12	80	92	6,152	0	0
1899	56	100	156	6,273	0	0
1900	155	188	343	6,207	0	0
1901	148	209	357	6,169	4	(

## The Experience of Leicester in 1902.

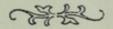
The following details of the cases of smallpox which have occurred in Leicester during the present year were given by Dr. Millard, at the Exeter Congress. They afford still further confirmation of the success of the Leicester system of meeting smallpox. The Doctor said:—

"Since February of this year up to the present date there has been seven distinct outbreaks of smallpox in Leicester. The first of these was imported by a workman from Horsham, who developed the disease a day or two after arriving in Leicester; but, owing to the nature of his illness not being at first recognised, the case did not come to the knowledge of the sanitary department till the eruption, which was confluent, had been out three days, and meanwhile the man continued to go about. In spite of this, however, only two further cases resulted. The second outbreak was imported by a tramp from London. This. case, although also a confluent one, which afterwards proved fatal, was also not at first recognised; but, although the man was going about the town for four days with the eruption upon him, visiting publichouses, etc., and must have come in contact with a large number of persons, no further cases resulted. The third outbreak was also imported by a tramp, and resulted in one other case. The fourth outbreak was imported by a workman from Leeds, who, while engaged upon temporary work in Leicester, suffered from an abortive attack of smallpox, the nature of which was not recognised till three other persons had developed the disease. (5) The fifth outbreak was untraced a single case only occurring. (6) The sixth outbreak was imported from Wellingborough in the person of an engine-driver, who developed the disease whilst on a visit to Leicester. Although the case was a malignant one, which proved fatal, no spread occurred. (7) The seventh outbreak occurred in July. The origin of it could not be traced, and up to the present it has resulted in six cases in three houses, one of the cases being an abortive attack and unrecognised until two others had arisen from it. This brings the total number of cases which have occurred to 18, including two unrecognised cases.

In the discussion which took place at Exeter, it was urged by medical men that Leicester had been "fortunate-very fortunate" in its experience. But-! There is always a "but" when doctors speak of Leicester. I admit that we have been fortunate, but our good fortune has lain mainly in the fact that members of the Leicester Town Council have for the last thirty years been imbued with a sense of the grave importance of good sanitation, and have not hesitated to adopt measures necessary to put the town in a good sanitary condition. And I submit that our success in grappling with smallpox, is due, not to "luck" or "good fortune," but to the fact that the town is clean throughout, and that the people are sufficiently intelligent, not only to appreciate the efforts which have been put forth in their interests, but to co-operate with the authorities, and cheerfully act upon the advice of the Medical Officer of Health, and the Chief Sanitary Inspector, the last-named officer, Inspector Braley, having had experience of each of the outbreaks named in this book.

The measures which are essential, therefore, to control outbreaks or importations of smallpox, may be briefly summarised as follows:

- 1. Immediate notification.
- 2. Removal of patient to hospital.
- 3. Disinfection of houses, clothing, bedding, &c.
- 4. Obtaining the names and addresses of all persons who have come in contact with the smallpox patient.
- 5. Careful watching of the "contacts" for a fortnight or a little more.
- 6. Where necessary burning any bedding, &c., that may be found used by a patient.
- Keeping "contacts" from work during the second week, after discovery of cause of smallpox, and contributing towards loss of wages.



### Opinions of the Press.

Editorial comments and criticisms on this paper were published by the London Daily News and Standard, and Leicester Daily Post, and the Leicester Evening Mercury. The following are extracts from the last mentioned paper:—

"Ald. Windley's paper on the Leicester system of dealing with outbreaks of smallpox was discussed at the Health Congress at Exeter, yesterday, being supplemented by a striking address by Dr. Millard, our Medical Officer of Health. Of course, the debate tended very strongly in the direction of vaccination and its efficacy. It is a strange thing that so many medical men are chary of accepting new ideas on this subject. They have been brought up in the belief that vaccination is the only safeguard, and some of them seem to think it disagreeable that other methods should be proved effective. But there is no gainsaying the experience of Leicester as described by Ald. Windley, and testified to by Dr. Millard. Let it be thoroughly understood that the Medical Officer is a convinced advocate of vaccination as a protection against smallpox. He thinks re-vaccination is efficacious, but he acknowledges the efficiency of the

Leicester system, and advocates this too.

Dr. Hope, of Liverpool, urged the authorities of this town not to rely too much upon our admirable sanitary condition, and cast aside vaccination, which is "the only safeguard." But Leicester depended upon vaccination, "the only safeguard," in 1872, and suffered a serious epidemic. Twenty years later, in a population almost doubled, but living amid healthier surroundings, and with a system of notification and isolation, there was another epidemic, but there were then no more cases than there were deaths on the former occasion. The facts are too patent to be overlooked. A West Ham doctor said that all the Leicester experience proved was that if a man was put in a glass case in a museum he was not likely to be run over in the street. But where does the laugh come in? We are not in a glass case. In the present year we have had importations of smallpox, some of them very bad cases, but the disease has never obtained a hold of the community, thanks to the efficacy of the "Leicester system," and the intelligent activity of those who administer it. Dr. Hope said we had been fortunate in getting hold of cases in the initial stages of the disease, but that is part of the policy. If it fails, it must be because cases of smallpox were wrongly diagnosed in the first instance. We have heard of such instances, but they are not to be held accountable against the "Leicester plan." Vaccination may have some of the virtues claimed for it, but it is idle to ignore, or to pretend to ignore, or to belittle, 30 years' experience of our own system. Even those who affect to do so resort to it." WEIENE

LEMUEL BELL, PRINTER, 8, RUTIAND STREET, LEICESTER.

