material. No fewer than 40 cases were traced within the space of a few days by following the movements of the implicated material and of the persons who manipulated it.

A REPORT SHOWING THE EFFECT OF VACCINATION UPON THE RECENT EPIDEMIC OF SMALL-POX IN MARYLEBONE.

By E. CLIMSON GREENWOOD, L.R.C.P., M.R.C.S.,
Public Vaccinator of Marylebone.

IMMEDIATELY upon the outbreak of small-pox, temporary vaccination stations were opened by the guardians in the two wards where the outbreak occurred, a house-to-house visitation made in these wards, and those persons found to be unvaccinated were called upon to have the operation performed at once; every inmate of each house where small-pox occurred was interviewed, and recommended to be vaccinated or revaccinated then and there. The principal houses of business were written to, recommending that their employees should be revaccinated. All Board and other schools were visited, and those children attending examined, and the unvaccinated sent home and forbidden to return until they had been vaccinated. The result of this was that there were in all 1,725 primary, and 2,306 revaccinations, performed.

From the house-to-house visitation and the inspections at the various schools it is estimated that about 26 per cent. of the inhabitants were, at the time of the outbreak, unvaccinated.

Not a single case of small-pox occurred amongst those successfully vaccinated or revaccinated during the epidemic, with the exception of one or two who were in the incubatory stage of the disease. The importance of this statement is evident when one realises that nearly all those vaccinated or revaccinated were from the actual locality, and in many cases living in the same houses, in which the disease occurred.

Preserved calf lymph was used in every case; this I considered necessary, as vaccination from arm to arm when small-pox is prevalent might be attended with some considerable risk.

There were 225 cases between July 23rd and September 23rd, and of these 92 were unvaccinated, and 133 had been vaccinated in infancy. There were 23 deaths, 17 from the unvaccinated and 6 from the vaccinated. The following table shows the age, character of the disease, etc., of all the 224 cases:

TABLE I.—*Vaccinated in Infancy.*

Age.	Vaccination Marks.	Hemorrhagic.	Confluent.	Severe Discrete.	Mild Discrete.	Deaths.	Total.
Under 5 years ...	1	—	—	—	—	—	1
5 years and under 10 years ...	1	—	—	—	1	—	1
10 years and over ...	1	1	9	3	12	2	25
Under 5 years ...	2	—	—	—	—	—	1
5 years and under 10 years ...	2	—	—	—	1	—	1
10 years and over ...	2	—	3	2	17	1	22
Under 5 years ...	3	—	—	—	—	—	—
5 years and under 10 years ...	3	—	—	—	—	—	—
10 years and over ...	3	1	4	2	16	2	23
Under 5 years ...	4	—	—	—	—	—	—
5 years and under 10 years ...	4	—	—	—	1	—	1
10 years and over ...	4	1	3	1	18	—	23
Under 5 years ...	5	—	—	—	—	—	—
5 years and under 10 years ...	5	—	—	—	2	—	2
10 years and over ...	5	—	1	3	31	1	35
							133
<i>Unvaccinated.</i>							
Under 5 years ...	—	—	13	3	7	11	23
5 years and under 10 years ...	—	—	11	10	9	1	30
10 years and over ...	—	1	15	14	9	5	39
							92

The effect of vaccination upon small-pox is clearly shown by the duration of the disease in the vaccinated, as compared with the unvaccinated.

The following table shows the average length of stay on the hospital ships of the first 160 cases discharged:

TABLE II.—*Average Length of Stay on Hospital Ships.*

Unvaccinated.	1 Mark.	2 Marks.	3 Marks.	4 Marks.	5 Marks.
36.5 days	32.2 days	25.4 days	21.1 days	23 days	22.1 days

Throughout the epidemic there was only 5 cases of small-pox occurring in revaccinated persons, of which the following are the particulars:

When Revaccinated.	Age.	Character of Disease.	Remarks.
Fifteen years ago	43	Moderate discrete	—
Ten " "	34	" "	—
Twenty " "	34	" "	—
Nine " "	34	" "	—
Ten " "	45	Confluent	Chronic alcoholism and bronchitis; died

The conclusions to be drawn from the foregoing report are as follows:

1. That the protective influence of primary vaccination up to five years of age is perfect.
2. That the modifying effect of vaccination upon small-pox is greatly influenced by the number of vaccination marks.
3. That everyone should be revaccinated at the age of 10 years.
4. That vaccination in less than four places should not be allowed.
5. That in time of epidemics temporary stations should be opened and house-to-house visitations made, so that everyone may be vaccinated immediately a case occurs in their house.
6. That in time of epidemics there would be no occasion to close the schools if the children were examined, and the unvaccinated or the imperfectly vaccinated excluded.

I have to acknowledge with thanks the great assistance that Dr. Firth, of the hospital ships, has rendered me in compiling these statistics.

THE DISCOVERY OF ANÆSTHESIA.

In a recent number of *The Century* Mr. E. L. Snell gives an interesting account of Morton's discovery of anæsthesia. Morton, who was born in 1819, began his career as a dentist, but afterwards took a medical degree. It was customary among dentists at that time to fix false teeth on gold plates placed directly above the fangs of the old teeth. Morton devised a new kind of solder for attaching artificial teeth to the plate, but the application of the new method made removal of the roots of the decayed teeth necessary. As few persons were of sufficiently heroic mould to submit to this procedure, Morton's attention was thus early directed to the search for some means of dulling sensibility to pain. He made experiments with all the anodynes then known, including mesmerism, but without success. In July, 1844, a lady came to him to have a tooth filled. To deaden the pain Morton applied chloric ether to the affected part; the use of that agent for this purpose was at that time no secret among dentists. The result was so successful that Morton, in speaking of the matter, says: "The idea instantly occurred to me that if I could devise some means for bringing the whole system under the influence of ether, it would be a most valuable means of relief in more intense and more diffused pain." He forthwith went to a farm belonging to a relative, and made a series of experiments with chloric ether on birds, insects, and various small quadrupeds. The results of these experiments were entirely negative. Morton, though discouraged, was not