sac-wall to the trocar, after puncturing, it tore, and as it was very thin I enlarged the opening in the sac, and allowed the contents to run direct into the bucket, none escaping into the abdomen, as the adhesions of the sac were still unseparated. Having emptied and sponged out the sac with carbolic lotion, I detached it from the anterior abdominal wall, to which it was everywhere adherent. The omentum was adherent at two places, which I tied with carbolised gut,* and divided with scissors. I also tied three bleeding arteries in it, wounded during the operation. Posteriorly the sac was very adherent in the pelvis, over the whole of the left and part of the right iliac fossæ. As I could not detach this part, I cut it off with scissors, and left the adherent portion undisturbed. Another very strong adhesion existed below the left false ribs; this I tied with gut and divided, leaving the attached part in position. Many small vessels torn in separating the peritoneal adhesions had to be twisted. The pedicle sprang from the left broad ligament, about a quarter of an inch from uterus. It was thin, soft, and about two inches wide. As there was a good deal of bleeding from the sac wall, I tied the pedicle early in two sections

with carbolised gut, and divided it, thus cutting off the source of hæmorrhage. I applied ice freely to the peritoneal wall for some time to check oozing from minute vessels, and, having very carefully performed the "toilet" of the peritoneum with sponges wrung out of warm carbolic solution (5 per 100), I closed the abdominal wound with deep and superficial ligatures of gut (the former embracing the peritoneum), the abdomen having been an hour and a half open. The wound was covered with regular antiseptic dressing.

There was a little sickness for two days. After forty-eight hours I dressed the wound under carbolic spray, and found it all healed, without the formation of a drop of pus. It was not dressed again for six days, and then it was as sweet as if there had been no wound at all. On the second day she ate two eggs; on the fifth she had chicken. On the third day she began to menstruate—four or five days earlier than usual. She menstruated normally a month later, but not again up to the present date. The temperature ran high, as will be seen by the following. Wunderlich states that it is "quite exceptional" for traumatic fever to rise to 40.5°C. (=104.9°F.)*

	MORNING.				EVENING.			
	Rectum.	Axilla.			Rectum.	Axilla.		
Day before operation	100° F.	—	...	...	99.4° F.	—	...	...
Morning of " " " " " "	100°	—	...	...	—	—	...	...
Immediately after operation	99.8°	—	...	...	103°	—	...	...
First day after operation	102°	—	...	...	105°	—	...	...
Second day after operation (menstruating)...	102°	101.4°	...	...	103.6°	102°	...	...
Third " " " " " "	101.4°	100°	...	...	102.6°	99.6°	...	...
Fourth " " " " " "	101.6°	100°	...	...	102°	100°	...	...
Fifth " " " " " "	102°	99.8°	...	...	103°	100.4°	...	...
Sixth " " " " " "	101.4°	99.6°	...	...	104°	101°	...	...
Seventh " " " " " "	101.6°	100.6°	...	...	102.6°	100.6°	...	...
Eighth " " " " " "	100.2°	98°	...	...	101.4°	99°	...	...
Ninth " " " " " "	100.4°	99°	...	...	100.8°	99°	...	...
Tenth " " " " " "	100.8°	98.6°	...	...	101.4°	99°	...	...
Eleventh " " " " " "	100.6°	99.4°	...	...	102°	100°	...	...

The temperature in the rectum continued from 99° to 100.8°. On the eighth day the bowels were open; on the eighteenth she was up; and on the twenty-fifth she left the hospital for her home, some six miles distant.

I saw the patient on Nov. 6th, when she looked plump and well, and felt, she said, "as well as ever in my life."

Sheffield.

ON THE IMMUNITY FROM SMALL-POX SECURED BY REVACCINATION.

By THOMAS N. ORCHARD, M.D.

THE epidemic of small-pox which has prevailed in Manchester and Salford during the past twelve months has been the means of affording some valuable statistics, which prove in a remarkable manner the protective influence of revaccination against this loathsome disease.

In the township of Pendleton, which includes the western division of the borough of Salford, the epidemic raged with greater severity than in any other part of the town, and it is principally to this district that my remarks will apply. The disease assumed an epidemic form at the commencement of last December, and continued with more or less severity until the end of May. During the summer months it declined considerably, but since the beginning of October it has increased in severity, and at present there are no signs of its abatement. Large numbers of persons availed themselves of the opportunity of being revaccinated, and this desire on the part of the people to protect themselves has had a most beneficial effect in limiting and restraining the severity of the epidemic.

At the request of some of the mill-owners in this neighbourhood I visited the mills and revaccinated as many of

the operatives as desired to be done. The total number revaccinated was about 700. The managers and overlookers undertook to inquire into every case of sickness arising among them, and promised to report to me any case of small-pox occurring among those who had been successfully revaccinated. They have all declared that after careful observation and inquiry they have not heard of one case of small-pox having occurred among those that had been successfully revaccinated. I was informed of one case in which the girl was seized with small-pox the day after she was revaccinated. The appearance of the disease so soon after vaccination proved that she must have caught the infection previous to being revaccinated. It was a mild case. A manager informed me of a young woman who desired to be revaccinated, but her mother, being opposed to vaccination, would not give her consent. In a fortnight after the girl was seized with small-pox and died. All these revaccinations were done in less than a fortnight, during the month of May last, when the epidemic was at its height.

The information given me by the managers at the mills can be thoroughly relied upon; several of them at first doubted the value of revaccination, and one was opposed to it. I have, since the commencement of the epidemic, revaccinated altogether about 1700 persons, and have heard of no case of small-pox having occurred among them, only I cannot vouch for them all in the same manner as I can for those who were revaccinated at the mills. Mr. Stocks, the medical officer to the Salford Union Hospital, has reported that, out of 538 cases of small-pox admitted into the hospital, there was not one patient found among them who had been previously successfully revaccinated. These facts seem to prove that it is almost impossible for a person recently revaccinated to take small-pox, and one cannot help coming to the conclusion that if, on the occurrence of an outbreak of small-pox, all persons liable to infection were revaccinated the disease would be immediately stamped out.

An instance in support of what I have just stated occurred at the Manchester Workhouse Schools, at Swinton, where there are between 500 and 600 children kept. On the 4th of last June, a case of small-pox occurred among them, and by the 22nd of the month there were twenty-three

* This gut had been nearly two years in steep, and was in excellent condition.

* Das Verhalten der Eigenwärme in Krankheiten.

children admitted into hospital suffering from it. The majority of the cases were mild, and all completely recovered. Speaking of the advantages of revaccination, Dr. Williams, the medical officer, goes on to say that the number operated upon was 586, their ages varying from seven to fifteen years. In 324 cases, or rather more than one-half, the operation was successful, the effect in a great number being equal to primary vaccination; in 99 cases the result was fair, but decidedly modified by previous vaccination; and in the remaining 163 cases there was little or no effect. Dr. Williams concludes by saying that his "experience at Swinton schools showed clearly two things—(1) that revaccination at once arrested the spread of small-pox, for although up to the time of revaccinating the boys, two or three cases a day were sent to the infirmary, not a single case occurred after the vaccination had time to take effect; and (2) that after seven years the effect of primary vaccination is, in the majority of cases, more or less worn out, and that revaccination is absolutely necessary."

I have been favoured with the following analysis of the small-pox cases admitted into the Salford Union Hospital since the commencement of the epidemic. From Oct. 4th, 1875, to Nov. 14th, 1876, the number of cases admitted was 538, and of these 103 died.

	Cases.	Deaths.	Rate per 100.
Cases vaccinated ...	361	30	8.31
„ unvaccinated ...	79	37	46.83
No cicatrix ...	76	30	39.47
Doubtful if vaccinated ...	22	6	27.27
	538	103	

Those included under "no cicatrix" were cases in which the patients were too ill when admitted to be able to tell if they had been vaccinated, and others had no recollection of having been done. Their arms showed no marks of vaccination. The "doubtful cases" were those in which there was some resemblance of a cicatrix, and in a few of them there was no record kept as to whether they had been vaccinated.

The information given in this communication, which so conclusively proves the value both of vaccination and revaccination, ought to induce those who are endeavouring by means of leaflets, pamphlets, and unreasonable abuse, to prejudice persons unable to judge for themselves, to consider that they are incurring a serious responsibility in trying to mislead the public regarding an important and valuable remedy which has been the means of saving thousands of lives.

Pendleton, Manchester.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

GUYS' HOSPITAL.

CASES OF COMPOUND FRACTURE IN WHICH THE WOUNDS WERE CLOSED WITH COMPRESSES SOAKED IN COMPOUND TINCTURE OF BENZOIN.

(Under the care of Mr. BRYANT.)

We commence this week an interesting series of fourteen consecutive cases of compound fracture treated by Mr. Bryant by closing the wound as soon as possible after the accident with lint saturated with compound tincture of benzoïn. The favourable opinion which, from frequent inspections, we had formed of this clean and simple mode of practice led us to examine the records of a large number of cases. A perusal of the subjoined notes shows that the results obtained are almost uniformly satisfactory.

CASE 1. *Compound comminuted fracture of bones of leg; wound sealed by compound tincture of benzoïn; recovery, with*

good limb. (Reported by Dr. E. Hicks.)—Michael M—, aged sixty-six, an intemperate cab-driver, was admitted on August 7th, 1871, with a compound comminuted fracture of the left leg. The injury was produced from the kick of a horse, and was therefore direct, the fracture being at the junction of the middle and lower thirds of the limb. A piece of bone projected through a lacerated wound, and the skin was severely bruised, and there was much venous bleeding. The dresser, Mr. Peacock, acting on Mr. Bryant's suggestion, at once reduced the fracture, and closed the wound with several pieces of lint saturated with the compound tincture of benzoïn, fixing the limb upon a posterior splint, with two lateral ones, and swinging it. No pain or constitutional disturbance of any kind followed the accident. When the lint was removed on the twenty-fifth day, the wound had completely healed, and the fracture united. On Sept. 15th a stiff apparatus was applied, and on Oct. 3rd the man left the hospital well.

CASE 2. *Compound comminuted fracture of the tibia and fibula; wound sealed with the compound tincture of benzoïn; recovery.* (Reported by Mr. Fry.)—William B—, aged twenty-four, a warehouseman, was admitted Nov. 25th, 1871, with a compound comminuted fracture of the left tibia and fibula. It had been caused by a weight falling upon the limb and crushing it. The man was carried to the hospital immediately after the accident. The dresser, Mr. Burgess, detected a comminuted fracture of both bones of the leg at the lower third, and a contused wound of the integument covering the bones and communicating with them.

The wound was at once cleaned, and then sealed with pieces of lint saturated with the compound tincture of benzoïn. The leg was then put up with a posterior and two lateral splints, resting on a swing. No constitutional or local trouble followed, and the dressing was not disturbed till Dec. 25th—that is, for twenty-seven days after the accident,—when it was taken away, the wound having healed and the fracture consolidated.

A flannel gum-and-chalk bandage was then put on and the man got up. He left the hospital on Jan. 19th, with a good leg, well.

CASE 3. *Compound fracture of leg; wound sealed with the compound tincture of benzoïn; recovery.* (Reported by Mr. St. C. Shadwell.)—Albert G—, a drayman, aged eighteen, was admitted on the 13th March, 1872, with compound fracture of the leg at the junction of lower with middle thirds. While driving in a low van, his horse kicked up behind and struck him on the upper part of the right leg. He fell on one side into the van, and was conveyed at once to hospital. On admission he was unable to stand, and lost a great deal of blood from the wound.

The wound was sealed with compound tincture of benzoïn, and the leg was put up on a back and two side splints. The patient slept well, and was not at all feverish, but complained of pain about the seat of injury.

March 15th.—Temperature 97.5°, and from this time to the 8th April he progressed most favourably. The benzoïn dressings were then removed, and the wound was found to have scabbed over; two days later the splints were taken off. Union was complete.

April 18th.—The leg was put up in gum-and-chalk bandages extending from the foot to five inches above the knee. He got up on the 22nd, and left the hospital on the 26th.

CASE 4. *Compound fracture of left tibia and fibula; compress of compound tincture of benzoïn; recovery.* (Reported by Mr. D. T. Evans.)—I. K—, a carrier, aged thirty-two, was admitted on Nov. 15th, 1872, with a severe compound fracture of the tibia and fibula at the junction of the middle and lower thirds of the limb; the bone protruded. He complained of great pain and coldness in the limb. Whilst he was alighting from his cart his foot slipped off the step, and he fell, the wheel passing over his leg. He was quite insensible after the accident, and unable to move his leg.

The day after admission, the wounds of the skin over the fractures were covered with lint saturated with compound tincture of benzoïn, and the limb placed on a posterior splint with two side-splints, and swung in a cradle.

Nov. 18th.—Pulse 80, regular and strong; temperature 99.6°. He slept badly in the night, on account of violent twitchings of the limb, and he complained of pain in the ankle-joint. He passed his water freely, but it was high-