weight as that of a more level-headed man. And Semmelweiss's views were not accepted. (It is credibly supposed that grief at this fact was largely responsible for his insanity.—ED.)

The conditions which he found in the lying-in hospital in Vienna were that there were two blocks. In one the deliveries were made by doctors and students, and the results in the midwives' block were considerably better than in the doctors', partly, no doubt, because the more difficult cases were naturally sent to the doctors' block, but also because antiseptics were then entirely unknown.

There was an instance, which would now be incredible, of a woman suffering from cancer of the womb, who was examined by students, who then went to the lying-in wards and examined eight patients, seven of whom subsequently died. Again, a septic knee-joint in the surgical block (and joint infections are usually very virulent) was attended by doctors, who subsequently examined eight women in the lying-in block. Every one of the eight died.

Then Semmelweiss attended a colleague who had pricked his finger at a post-mortem examination, and found that his symptoms were the same as those of patients suffering from puerperal fever in the maternity block, and he argued that these symptoms were due to a dirty instrument; then puerperal fever must be due to something introduced into the body of the woman from outside.

That was the inspiration of Semmelweiss. He was cute enough to put two and two together, and holding that theory, he insisted that all his midwifery students should dabble their hands in a solution of chloride of lime before touching their patients. The result was to bring down the deathrate in the Vienna Maternity Hospital from 40 to 10 per thousand. Semmelweiss achieved this result because he had got an inkling that the usually accepted view as to the spread of infection of puerperal fever was incorrect, but directly he died the use of chloride of lime was discontinued. If his advice had been acted upon, obstetrics, and not surgery, would have had the honour of giving to the world the antiseptic method of treatment.

The third stage, that of experiment, was demonstrated by Mr. (afterwards Lord) Lister. About 1860 he became very interested in Pasteur's theory of fermentation, and arrived at the conclusion that the fermentation which took place in wounds was due to their exposure to the air. He accepted the theory that microbes are present in the air, hence his use of the carbolic spray. He realised, however, that that precaution was insufficient if his instruments were exposed to the air, so he covered them with 1 in 20 carbolic, and he kept his hands, and those of his assistants, wet with 1 in 20 carbolic while operating. Very few people knew that the late Queen Victoria was one of the first to have a small operation performed under these conditions.

Lord Lister at first kept his wounds air-tight by covering them with putty. He was, however, not quite satisfied, and impregnated his dressings with an antiseptic. Anybody could go round Mr. Lister's wards at King's College Hospital and see the results of this treatment, and the experience of the method was complete. If you did not use antiseptics, fever usually ensued. If you did use antiseptics, wounds healed by first intention.

For some time, however, Mr. Lister's colleagues could not see the importance of his methods, or be persuaded to carry them out.

Mr. Willett mentioned the interesting fact that his father performed the first successful ovariotomy at St. Bartholomew's Hospital. The pedicle was tied with waxed whipcord obtained from a cobbler. Reviewing the case years afterwards, he said that he thought perhaps he was a little cleaner than most people. He always washed his hands before touching a patient, as he disliked being touched with dirty hands himself, and thought that probably his patients felt the same, but his coat was as dirty and as stiff with blood as anybody's. He was careful of his instruments, and the case was an easy one, so that he did not have to handle the abdominal viscera much, but no one was more amazed than he was when the patient recovered.

Eventually Lord Lister issued a challenge to his colleagues. At the time there were two courses of treatment with regard to compound fractures: (1) The injured limb was amputated, and some patients recovered; (2) The limb was not amputated, and all died. Lord Lister said: "If I can get recoveries without amputation, will you accept my teaching as to the importance of the use of antiseptics?" The challenge was taken up, and 15 cases treated by him at King's College Hospital actually recovered without amputation, while similar cases were dying in other London hospitals.

But while surgery was thus triumphing, the midwifery death-rate was 40 per 1,000, and the words, "All hope abandon ye who enter here," were actually quoted in relation to a London lyingin hospital. The best chance of recovery was for a patient to have her baby on the doorstep.

Mr. Willett prayed his hearers to remember the value of antiseptic methods, if asepsis could not be strictly carried out in district midwifery. He concluded by impressing on them the importance of observation. One could only honestly accept what one had oneself observed. One should make deductions from observation, and from experiments based on observation. One would then be able to answer cranks and misguided people who did not realise the importance of antiseptics in midwifery by proving why the maternal death-rate, which in 1850 was 40 per thousand, is now 2 per thousand.

He urged the avoidance of the use of lubricants in tubes, as there was no means of knowing who put them up, or what the inside of the tube was like when they were put there.

It is a warning midwives will do well to note. M. B.

An anonymous couple promise  $\pounds 5,000$  to the London Hospital if four others will do the same. Viscount Knutsford has received  $\pounds 5,000$  anonymously, so that three more such donations are needed to secure the gift for the hospital.



