

by which putrefaction was effected. But when it had been shown by the researches of Pasteur that the septic properties of the atmosphere depended not on oxygen or any gaseous constituent, but on the minute organisms suspended in it, which owed their energy to their vitality, it occurred to me that decomposition in the injured part might be avoided without excluding the air, by applying as a dressing some material capable of destroying the life of the floating particles."

What was to be the material? How was it to be applied? The great master had heard that carbolic acid had been used to disinfect the sewage used on the lands at Carlisle. So successful was this substance in its work that it destroyed the odour and prevented the cattle from becoming infected by destroying the entozoa. At first this substance was supplied in a very crude form. This crude drug, as Lister taught, was insoluble in water.

Prior to this time waxed silk ligatures had been used to ligate the larger arteries, while the smaller ones were twisted. Not one of the wounds in which these ligatures were used healed till they had sloughed away.

On December 12th, 1867, Lister ligated the carotid of a horse with a silk ligature which had been soaked for some time in carbolic solution. So successful was this operation that he felt justified when the opportunity presented itself, some six weeks later, to tie the external iliac artery of a woman for aneurism of the common femoral. So successful was this attempt that the patient left the hospital in six weeks. In about one year afterwards this patient died from rupture of an aortic aneurism. He found, on examining his work, that enclosed in a thin capsule of tissue there were a few drops of pus. Not considering this sufficiently satisfactory and safe to continue its use he set to work to find an absorbable ligature.

The results of Lister's work during this time are best described by Sir Hector Cameron in the following words:—"Wounds were found to heal without suppuration or constitutional disturbances; compound fractures and dislocations were robbed of their former dangers which surrounded them; large chronic abscesses connected with bone diseases proved no longer to be incurable even when occurring in the adult; arterial trunks were ligatured in their continuity without fear of secondary hæmorrhage or other mishap; joints opened, whether by accident or the surgeon's knife, healed without a disquieting symptom; ununited fractures were treated boldly by removing the ends of the fragments in open wounds; incursions were made with success into departments of practice

which up to that date were looked upon as forbidden grounds."

Thus the technique of surgery was established on a sound, scientific basis. It had evolved from a state of empiricism to that of well-grounded truth. The uncertainty which enshrouded surgery prior to Lister's time is well expressed by Ambrose Paré's statement: "I dressed him, God healed him."

In the year 1888 Robert Koch announced and proved by indisputable evidence that the germs of the air were mainly innocuous. After thoroughly satisfying himself as to the correctness of this statement, Lister abandoned the antiseptic spray.

Notwithstanding the mighty upheaval made in surgery by the dawn of antiseptics, it was not to rest on its achievements. Progress was its watchword.

By this method the field of operation, surgeons' hands, instruments, dressings, etc., are disinfected, by mechanical washing, scrubbing, and by antiseptic solutions and sterilisation by heat. The methods of procedure are too well known to every one engaged in this work for me to occupy valuable time detailing them. Under the conscientious practice of the aseptic method the skull and abdomen are opened. Even that delicate structure, the heart, has been operated on with success, thus saving scores of lives from what would prove inevitable death. The success of these operations are all the result of a careful operative technique. Thus surgery has passed from the night of infection and empiricism to the dawn of antiseptics and certainty; from antiseptics, with its limited field of operation, to the glorious noon-day of asepsis, with its broad operative field.

Progress of State Registration.

Senorita Margarita Nuñez, who has been appointed by the Cuban Government as a fraternal delegate to the International Congress, is the President of the Cuban Nurses' Association, and we learn that nursing in Cuba has made wonderful progress since the passing of the Registration Act in 1902. The three years' course of training is general. A nurse sits as a member of the Central Board of Hospitals, and Miss Nuñez holds the position of General Inspector of Nurses. The duties of this position are to inspect all schools for nurses, all hospitals, private or public, and all schools in sanatoria, etc., that employ graduate nurses. All this appears very wonderful, and is a striking contrast to the reactionary attitude of despotic managers of many nurse training schools in England.

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