doubt, be something interesting; but, as yet, I have been unable to find the paper.

Next to Dr. Budd's works upon cholera and typhoid, his communications and his pamphlet on scarlet fever and on cattle-plague and its prevention will perhaps be considered most important; and I have a reference to a paper published on cattle-plague in the *Medical Times and Gazette* for 1865. He was undoubtedly the originator of the plan that was, after long discussion and much severe criticism of the author of it, adopted all through the country, and made compulsory by an Act of the Privy Council. He was a member of the Commission of the Privy Council on the Cattle-Plague. His views on cattle-plague were largely discussed in one society, and for a long time he was connected with the pole-axe and the lime-pit in the minds of many.

For this, and for much other work of a public character, which will continue to confer immense benefits upon mankind, I have long been of opinion, and I have often heard the same opinion expressed by others, that Dr. Budd more than earned one of those pensions which are given by a grateful country to unusual services. But Dr. Budd died without any public honour to testify to his work. Had he lived to enjoy more leisure, he would, I doubt not, have gradually reproduced his work in a more tangible form; and it is extremely likely that his services would, in some way or other, have been recognised. As it was, he lived long enough to know that his views were gradually, but steadily, taking firm hold of the profession, and that they were being acted upon to the great prevention of disease and misery throughout the land. He died undoubtedly a martyr to his work, of which the greatest part and the most exhausting was done for the public good. What he desired to accomplish, that he bravely dared; and what he bravely dared, he nobly won; and let us hope that, in the time to come, when a nation is scared by the alarm of cholera, or a household by that of typhoid fever, and the preventive measures so fully insisted upon by the associate whose loss we mourn to-night have been put in force, and (God willing) the plague has been stayed, there will be a grateful remembrance of the self-sacrificing life of William Budd.

ANTISEPTICS IN OPHTHALMIC SURGERY.

By EDWARD NETTLESHIP, F.R.C.S.Eng.,
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A SHORT note on the use of antiseptics in operations on the eye may be of interest at the present time, especially as the subject was alluded to by Mr. Lister in his speech at the recent discussion. The question as regards operations on the eyeball refers almost solely to the extraction of cataract, and especially to the prevention of that suppurative inflammation which, beginning at the wound, spreads to the iris and uveal tract, and ends in panophthalmitis. Iridectomy and other procedures involving smaller wounds of the cornea are almost never followed by inflammation of the wound, and the same is true of operations for strabismus, etc.

The belief that suppuration after extraction is due in most cases to infection is undoubtedly gaining ground, though the advanced age of most of the patients, the large size of the wound, and the exposure and friction of its edges during the steps of the operation, must doubtless act as auxiliary causes, by tending to retard immediate union. I do not say that some of the more chronic and less serious forms of iritis and irido-cyclitis following extraction may not also be due to infection; this point is at once more difficult to determine and less important. The percentage of cataract-operations lost by suppuration of the eye is not easy to ascertain, and undoubtedly varies in a remarkable manner at different times and in different hands; but probably from two to four per cent. may be taken as about the proportion in Europe and America at the present time; in India, it appears that a much larger percentage of losses may be expected.

No extended use has, I believe, yet been made of the antiseptic spray in eye operations, most operators having feared that it would irritate the eye or interfere with a clear view of the parts; it is, indeed, accused by Horner and Becker of sometimes causing ulceration of the cornea. Kossander of Stockholm has used the spray and all other details of Lister's method in twenty-seven extractions of cataracts. Mr. Story of Dublin has also used the spray in a smaller number. The results so far have been excellent, and no inconvenience appears to have been found.

Within the last few years, however, various attempts have been made to secure partial antiseptics in cataract-extraction by the use of carbolic water and antiseptic dressings, hitherto without, to say the

least, any marked success. Schiess, in 1874 and 1876, described his method, and stated that, of one hundred eyes so treated, four suppurated: 1. the conjunctival sac was treated with one per cent. carbolic water the evening and morning before operation; 2. after operation, the eyelids and surrounding skin were freely sponged with the same solution; 3. the dressing consisted of a piece of Lister's protective oiled silk and carbolised cotton-wool, and latterly a carbolised bandage. Horner of Zürich spoke, in 1876, of his experience with salicylic and boracic acid dressings, and considered that the latter substance was well borne by the cornea. In 1878, Alfred Gräfe of Halle adopted a partially antiseptic method, not differing much from that described by Schiess, except in the more assiduous use of carbolic water and in the employment of moist boracic lint covered by oiled silk, instead of dry salicylic or carbolic wool for dressing. His results, decidedly favourable in the first one hundred and fourteen cases, were afterwards marred by an unusual number of suppurations. Gräfe's method has been tried also by O. Just, and with slight modifications by Wecker. Wecker remarks that, although he had a run of nearly two hundred cases without loss by suppuration of a single eye under the ordinary (non-antiseptic) plan, he had not found the new method perfectly free from risk. Other equally long series of successes without antiseptics have, if we may trust published statements, been obtained; and series of fifty, sixty, and upwards are sufficiently common. I tried Gräfe's plan in thirty-four extractions at the end of 1878, and first half of 1879, and with results so much worse than any before, that I gave it up, several eyes being lost by the suppurative inflammation which it was intended specially to prevent. I at present content myself with dipping all instruments into alcohol, and using carbolic water instead of plain water for cleansing the eyelids and conjunctiva at the operation. It may be remarked that complete antiseptics of the conjunctiva cannot be guaranteed, even under the spray, since a considerable part of this membrane is always hidden by the lids, and that the use of the spray in the after-dressings might be dangerous by causing spasm of the lids or unexpected movements of the head.

It appears to me that the question of the practicability and usefulness of the spray and gauze in extraction of cataract can only be decided by a very large series of cases, operated upon in a comparatively short time by a few men with ripe experience and a large field of practice; or by its general adoption at a large hospital like Moorfields, where all cases are afterwards attended and treated by the same house-surgeon and nurses. Small series of cases operated upon under many different conditions can hardly, within a reasonably short time, furnish data for trustworthy conclusions.

ON THE TREATMENT OF GLAUCOMA BY THE APPLICATION OF ICE.*

By HENRY GREENWAY, M.R.C.S., Plymouth.

SEEING that the treatment of glaucoma is to form a subject for discussion at the annual meeting of the British Medical Association, 1879, I embrace the opportunity for bringing before the notice of the members my method of dealing with that disease.

In the summer of 1867, I conversed with Mr. Haynes Walton on the surgical treatment of glaucoma by iridectomy; and he agreed with me that the results of the operation were so frequently unsatisfactory, that that mode of treatment must ultimately be discarded for one more reliable and unobjectionable. In June 1868, I wrote Mr. Walton, reminding him of our former conversation, and said: "The more I think about that disease (glaucoma), the more I am inclined to regard the vitreous body or humour as the ultimate offender. A moment's glance shows us the amount of space it occupies in the eyeball. We also know that inflammation and congestion in a given part are attended with increased secretion and increased temperature. This last effect, in my opinion, makes matters worse by increasing the bulk of the vitreous humour, irrespective of the extra secretion; and it is, as it were, crying out for elbow-room, but cannot get it, as the globe is 'hide-bound' (to use a common phrase) by the dense sclerotic and the cornea." After suggesting the puncturing the sclerotic and removing some of the vitreous humour by means of my suction-tractor, I went on to say: "Supposing my idea that the increased bulk of the vitreous body is partly depending on increased temperature, would the application of cold by means of ice or ether-spray on the closed eyelid be prudent?" In the latter part of 1872, I was consulted in a case of acute glaucoma; and, finding the

* Read in the Subsection of Ophthalmology at the Annual Meeting of the British Medical Association in Cork, August 1879.