Mr. C., wherein the daily use of the Turkish Bath has been equally as efficacious. This would weary you, and is, however, unnecessary, as my object is to bring before you the fact, obtained from some considerable experience, of the utility of the Turkish bath in diminishing dropsical accumulations—more especially those caused by Bright's disease of the kidney—and with the hope of inducing some of you at least to try so valuable an agent.

SMALL-POX AND SCARLET FEVER DISINFECTANTS.

By CHARLES ROBERTS, Esq., late Surgeon to the North
Yorkshire Prison, etc.

THE subject of disinfectants has got into a sad state of confusion; and, amongst the various substances recommended as such by their numerous advocates, we hardly know on which to lay our hands in our present emergency. Nothing can be more confirmatory of this than the experiments published in the JOURNAL for December 24th by Dr. F. C. Calvert, on the relative antiseptic powers of carbolic acid (in various forms), chloralum, chloride of zinc, chloride of lime, and permanganate of potash. He thinks that, by suspending pieces of meat over these substances, he proves that carbolic acid is the only true antiseptic. The experiments are simply worthless for any purpose whatever; for the various substances are very different in their mode of action, and the circumstances under which they were placed were all in favour of the carbolic acid. Common salt and sugar are powerful antiseptics; but what would be thought of the cook who hung her meat and fruit above them, instead of immersing the article to be preserved in them? Carbolic acid and chlorine were the only volatile substances employed, and their chemical action is totally different. It is quite unnecessary to examine Dr. Calvert's experiments further, and I only refer to them because they are likely to mislead many who are too busy with the practice of their profession to examine their merits. I think, too, that we have already laboured too long under the incubus of carbolic acid, which has, it seems to me, gained its popularity on purely theoretical grounds.

Many of us are so enamoured of the new germ-theory of disease, that we allow it to warp all our thoughts into one channel; and to the true believer carbolic acid is as necessary as the germs themselves.

All the substances mentioned above, and many others, as sulphurous acid, iodine, nitrous oxide, etc., have powerful antiseptic properties, if properly used; but their *modus operandi* differs much. Thus chloride of zinc, chloralum, carbolic acid, salt, tannin, corrosive sublimate, chromic acid, etc., prevent decomposition by excluding septic agents, by chemically combining with the albuminous elements, or by simple mechanical obstruction. These are direct or positive antiseptics. On the other hand, sulphurous acid, chlorine, permanganate of potash, nitrous oxide—and to these I may add heat—destroy septic agents, and prevent them from producing decomposition. These are indirect or negative antiseptics; they are also disinfectants; and it is to some of them that we must look for our remedy against small-pox and scarlet fever infection.

I have intentionally omitted carbolic acid from this latter class, because I think it still remains to be proved that it possesses active disinfecting powers. I saw it used very extensively during the epidemic of cattle-disease, and I used it myself very extensively during the recent epidemic of scarlet fever, without any apparent results. The carefully executed experiments of Mr. Crookes failed to prove that it checked the spread of the cattle-plague; and the recent observations of Trautmann, if they be worth anything, only show that the vapour of carbolic acid suspends, but does not destroy, cell-growth. Even in surgical practice, I believe, the mode of its action is quite misunderstood. Very dilute solutions of carbolic acid coagulate albumen; and the only noteworthy fact in a recent case of poisoning by it, recorded in this JOURNAL, was the firm coagulation of the blood all over the body. I think it will be found that its beneficial effect on wounds is due to this simple chemical action; and that, by coagulating the secretions, it gives the wound more time to heal. The compound of carbolic acid and albumen is very slow to enter into decomposition; and I have no doubt that the use of solutions of chloride of zinc, chloralum, or tannin, would be equally efficacious in the treatment of wounds.

The cheapest, oldest, and most easily applied disinfectants for general use are heat and sulphurous acid; and they are both so well known to the profession, that little need be said about them. Dr. Henry of Manchester showed, some years ago, that heat was the

most complete disinfectant which we possess. So low a temperature as 140 deg. was found to destroy vaccine lymph; and no doubt a temperature of 300 deg. would be amply sufficient for all purposes. Bedding and wearing apparel, exposed to this temperature for a few hours in a drying stove, would be perfectly disinfected; and boiling would suffice for linen and cotton goods. Much anxiety is naturally felt by the public lest small-pox and scarlet fever should be brought home from the laundry—and this is a most fruitful source of contagion; but, if the things were submitted for a couple of hours, in the drying stove, to the degree of heat I have mentioned, there need be no fear of that. I believe that stoves for disinfecting purposes are now made by a large firm in London.

Sulphurous acid is exceedingly inimical to organic life, and is probably equally potent in destroying organic poisons. The great objection to its use has always been its irritating effect on the respiratory organs; but, even in the small quantities in which it can be breathed with tolerable comfort, it must be a powerful disinfectant. To illustrate this, I may mention that sulphur was found to be the most powerful remedy for the vine and hop disease (*oidium Tuckerii*), which committed great ravages here and on the Continent about the years 1855 and 1856. On investigating the action of the sulphur, I found that it was due to the presence of a trace of sulphurous acid, which is always present in common commercial sublimed sulphur; and, when sulphur was still more highly impregnated with the gas, its beneficial action is very much increased. I believe also that the action of sulphur ointment in the cure of scabies is due to the presence of this small quantity of free acid; and its action may be increased by increasing its quantity. In a recent number of the *Pall Mall Gazette* there was a statement that cholera was much less frequent among the workers in the gunpowder factories in India than elsewhere. This is probably due to the presence of sulphur and sulphurous acid. If, then, so small a quantity of the gas suffices to destroy a rank vegetable growth like the *oidium* and the itch-insect, a much larger quantity in the air, though not more than can be comfortably breathed, may fairly be expected to destroy minute organic poisons and germs.

For disinfecting hospitals, prisons, schools, and private houses not occupied, nothing is required beyond burning sulphur with closed windows and doors, as recommended by the health-officers. Charging the room with steam would probably facilitate the disinfection by condensing on and precipitating any floating particles of cuticle or other matter. For local applications, the solutions of the gas in water or in alcohol, as recommended by Mr. John Gamgee, are useful; and for disinfecting water-closets, drains, etc., sulphur highly saturated with the gas—and it takes up a very large quantity—would answer very well; but some of the other disinfectants are probably more convenient for this purpose.

Bolton Row, February 1871.

PATHOLOGICAL MEMORANDA.

GANGRENE OF THE LUNG IN ASYLUM PRACTICE.

SINCE reading the interesting paper by Dr. Crichton Browne in the JOURNAL for the 11th inst., on "A Case of Gangrene of the Lung" occurring at the West Riding Asylum, I have taken the trouble to examine the records of such cases of that disease as have occurred in this asylum since its opening in 1845, and the following is the result.

I find that gangrene of the lung was the cause of death in fourteen cases out of 1,325 deaths from all causes up to the end of the year 1869. Eleven of these were males, and three were females. With the exception of two cases, aged respectively 15 and 40 years, all the cases were above fifty years of age at death. In four cases, both lungs were affected. The form of mental disease was, in four cases, mania; in three, dementia; in three, imbecility; in two, general paralysis; and in two, melancholia. In three cases only is it recorded that there was refusal of food, and only one of the patients was an epileptic. The records of cases in this asylum show that gangrene of any part of the body is by no means of common occurrence; and that, when it does occur, it most frequently affects the lungs. And this is not surprising, when we know how common inflammation and other diseases of the lungs are amongst the insane; and that there is an intimate connexion between injuries and diseases of the brain, especially of the base, and diseases of the lungs, as has been shown by Dr. Brown-Séquard in a recent number of a contemporary journal.

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Exminster, February 1871.