

in the proportion of 10 to 2,000 of sewage and beef, produced but little alteration in the smell; with 1 per cent. of sanitas, the smell was much abated; but the living organisms were more abundant than even in the Condy's fluid of the same strength. Sanitas powder was more energetic in its action than sanitas fluid.—In the discussion which followed, Dr. BUCHANAN BAXTER, Dr. BUCHANAN, Dr. ALFRED CARPENTER, and Mr. WYNTER BLYTH took part.

REVIEWS AND NOTICES.

TRAITÉ D'ANESTHÉSIE CHIRURGICALE; CONTENANT LA DESCRIPTION ET LES APPLICATIONS DE LA MÉTHODE ANESTHÉSIQUE DE M. PAUL BERT. Par le Docteur J. B. ROTTENSTEIN. Paris: Germer Baillière. 1880.

Dr. ROTTENSTEIN is already favourably known in this country by his excellent treatise on *Caries of the Teeth*, in conjunction with Leber, which has been translated by the American Chandler, and is accepted as a valuable standard research on the subject, as well as by his practical work on the subject of the *Composition and Character of Dentifrices*, favourably received at the Odontological Society of Great Britain and elsewhere. The subject of surgical anaesthesia has always been one especially interesting to dentists, probably because they, among professional men, are especially called upon to perform many times in a day a minor surgical operation which is one of a very painful character, and in which people in general are especially glad to have the advantage of anaesthesia. Dentists have played a large part in the practical history of anaesthetics. Horace Wells, now generally recognised as the real inventor of anaesthesia by ether, was a dentist; and it is to dentists that we owe the introduction of protoxide of nitrogen as a surgical anaesthetic. Dr. Rottenstein may claim, therefore, for his profession a large part in the development of this extremely important subject, and he is following in the useful path in producing this important monograph.

The subject is dealt with very completely. The first chapter includes a thorough investigation of existing chemical views on the principle of anaesthetic agents; protoxide of nitrogen especially is fully considered, and its action on the circulation and general physiological action on the economy is elaborately discussed, including the most recent researches of Golstein and Zuntz, conducted in the laboratory of Pflüger. They have shown that a complete narcosis is only produced and maintained with protoxide of nitrogen in the absence of oxygen; that is to say, it is the combination of asphyxia with the respiration that produces complete narcosis; and they have shown that the pressure of blood, and the frequency of blood and the heart-beat, change under the influence of the respiration of protoxide of nitrogen in the same manner as under the frequency of asphyxia by suffocation. M. Paul Bert has, however, in his well-known researches, laid before the Academy of Sciences, on the influences of respiration under considerable atmospheric pressure, succeeded, by making the patient breathe in an apparatus where the pressure is carried as high as two atmospheres, in enabling him to respire a mixture of protoxide and oxygen under such pressure as enables him to obtain complete anaesthesia, while maintaining in the blood the normal quantity of oxygen. To enable a sufficient quantity of the gas to penetrate into the organism to produce a complete insensibility, it is, according to M. Bert, indispensable that the tension of the gas be equal to one atmosphere. It is sufficient to augment the pressure under which respiration of the gas is carried on by one-fifth of an atmosphere, and to cause the patient to respire a mixture of five-sixths of protoxide of nitrogen and one-sixth of oxygen, to obtain complete anaesthesia without asphyxia. For this purpose, as is known, a special apparatus has been constructed, which is formed of a diving-bell, under which operations are carried on with this method of mixed anaesthesia for prolonged periods of an hour or more—the operator, the patient, and his assistant being all enclosed in the pressure-chamber. M. Péan, M. Labbé, and other surgeons, have, during the last season, performed a considerable number of operations by the method of M. Paul Bert; and Dr. Rottenstein, who, has given great attention to this subject, describes it at great length, and gives his own practical experience in the matter. These parts of his book are especially new and full, and will be read with great interest by English readers, to whom the subject is but little known. The other chapters, on the application of surgical anaesthesia to ocular, dental, and obstetrical surgery, the examination of malingersers, the employment of combinations of ether and chloroform, the methods of local anaesthesia, and a discussion of the accidents produced by anaesthetics, are all dealt with very carefully, and with a thorough examination of available modern authorities. This treatise is the most complete which has yet been published on the sub-

ject. It is thoroughly scientific in its conception, and thoroughly practical in its execution; and Dr. Rottenstein is to be congratulated on having produced a monograph which has no rival of its kind, and is likely to remain of permanent value in the history of the subject.

REPORTS AND ANALYSES AND DESCRIPTIONS OF NEW INVENTIONS IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

DUROLEUM (HARD OIL).

We have received from Messrs. Ferris and Co., of Bristol, specimens of duroleum (hard oil), a neutral solid hydrocarbon, manufactured from petroleum; and of duroleum combined with a variety of medicinal preparations, such as carbolic acid, belladonna, boracic acid, calomel, chalk, galls, galls and opium resin, sabine, sulphur, turpentine, zinc, etc.

From an examination of duroleum, and the compounds thereof, we are disposed to recommend it strongly to the notice of the profession, as it is free from taste and smell, does not turn rancid, and can confidently be relied on as a base for ointments of all kinds. In one way, it is preferable to vaseline, as it does not possess that peculiar viscosity which makes the latter objectionable. Messrs. Ferris and Co. are prepared to supply duroleum in combination at the prices usually charged for *B.P.* ointments.

THE THERMHYDRIC VENTILATING HOT WATER OPEN FIRE-GRATE.

THIS invention of Mr. H. Saxon Snell consists of an open fire-grate, surrounded on three sides and on top by a wrought-iron chamber containing water, which, when warmed by the fire, circulates through upright coils of pipes placed on each side. The hearth is made of iron, and the whole space below the grate and pipes is formed into a chamber for the admission and collection of air from the outside. The outer fresh air thus admitted passes upwards, and, impinging against the sides of the hot-water chamber and pipes, becomes thoroughly heated, without being burnt, before entering the room. The whole is enclosed with a handsome case, surmounted by a vase containing water, and is so designed as to be easily adapted either for hospitals, infirmaries, drawing-rooms, dining-rooms, entrance-halls, large public rooms, or churches; but architects may have casings and urns constructed in accordance with their own designs. Cases are not, however, essential, and, when dispensed with, the apparatus is less expensive. The obvious advantage possessed by this grate is that, unlike all other such inventions, the air cannot be burnt or be heated above the temperature of boiling water; and that the water contained in the vase being slightly warmed, it evaporates, and thus keeps the air of the room moist. The heating power of these grates is enormous, and their first cost is thus likely to be soon repaid by the annual saving of fuel. When used in infirmaries, they are made with fires back to back, and with descending flues, so as to stand in the centres of the wards. These grates burn the anthracite smokeless coal. They are supplied by Messrs. Potter and Sons, 298, Oxford Street, London, W.

WEST BROMWICH.—The state of affairs described by Mr. Manley in his last annual report as existing in this district is hardly satisfactory; and it is surprising that the mortality statistics of the place have not long ago roused the local authority from its sanitary apathy. The death-rate for 1879 was 23.3 per 1,000, against 23.0 in 1878 and 21.6 in 1877. Of the total number of 1,251 deaths, 669, or no less than 53 per cent., occurred in children under one year of age; a proportion which Mr. Manley is hardly justified in describing as a "result, with our surroundings, satisfactory", or in passing over without some attempt at explanation. As no tables are given in the report, it is impossible to guess the causes which have contributed to so terrible a sacrifice of infant life; but the subject is clearly one for close and sustained local investigation. The total number of deaths recorded from zymotic disease was 223, against 269 in 1878. The high rate (4.1 per 1,000) is reported as entirely owing to an epidemic of scarlatina and whooping-cough in the earlier months of the year. West Bromwich can hardly hope to present a more favourable bill of mortality whilst it has no infectious hospital accommodation, no mortuary, and no disinfecting character; whilst its main drainage is uncompleted, and pure water is unprovided; whilst buildings continue to be built on insanitary sites, and the model by-laws are not yet adopted.