There may or may not be truth in the theory of infection. Let us not, without careful examination, take it for granted that there is not: for, if there be, and we become satisfied there is, we may, by prevention and by alteration of present treatment, be able to save the lives of thousands.

A NOTE ON RESPIRATORS, OUTDOOR AND ANTISEPTIC.

By EDWARD MACKEY, M.D., Brighton.

I BELIEVE that more advantage may be gained from the judicious use of outdoor respirators than is commonly recognised; and, according to my experience, the objection of the public to wearing them has become less, whilst the profession prescribes them less often than formerly. Messrs. Maw and others have recently favoured me with a selection of specimens for the Sanitary Exhibition at Brighton; and I think it may be useful to name these, with a few brief notes as to some of them.

A. Metal Respirators.

1. The principal forms made by Jeffries (named "original") are three: one for the mouth only (the men's size larger than the women's); a second (Himalene), for the mouth, with a scarf; and a third, for mouth and nose (ori-nasal). Most of them are made in two "strengths"—i.e., with more or fewer separate wire plates; and some so that plates can be added or removed according to the weather. Their speciality lies not only in excellence of workmanship, but also in the fact that all the wires are vertical, so that there is less tendency for moisture to accumulate than there is on crossed wires or netting. Mr. Jeffries claims also that the objection commonly made to all respirators—viz., their retaining, for re-inspiration, injurious elements of air already breathed—does not apply to the vertical arrangement; and that it retains enough moisture and enough warmth for comfort, whilst carbonic acid and other gases pass through. Certainly, when this form is used only for outdoor exercise, it has seemed to me to answer its purpose well. Of two ladies under observation, wearing the single-mouth form, one, with tubercular disease (at present quiescent, but rendering her very sensitive) has gone out here almost daily throughout the winter without catching cold or complaining of inconvenience; the other, the subject of chronic pleurisy and bronchial catarrh, with much dyspnoea, has been able to go out in the evening without any of her former inconvenience.

2. A wire respirator by Roof (named "Eclipse"), light, and well shaped to the mouth; worn with marked advantage by a man suffering from strumous deposit in one apex, liable to hæmoptysis; also by a girl with an old cavity in one apex, and liable to bronchial attacks. Both these patients have been constantly in the open air throughout this winter. But respirators are apt to be kept in use too long without cleaning, and patients seem to expect them to last for ever; and these slighter-made wire ones are not calculated for continuous effective use more than one winter.

3. The same remark applies to the wire-respirators of Maw, Son, and Thompson. These are made in many sizes and qualities—some only of perforated metal, others of wire. There must be a fair demand for these, for all chemists show them; their price is moderate. My own experience of them is not very large; but they have seemed of service in a few cases with tendency to relax and irritable throat.

B. Charcoal, Wool, and Cork Respirators.

4. The charcoal respirator of Dr. Stenhouse is still met with, and contains about one-fourth in-layer of charcoal, protected by wire gauze.

5. Messrs. Bourne and Taylor have constructed a cotton-wool ori-nasal respirator, inspired by the sanguine lecture of Professor Tyndall on wool filters. A movable metal plate, perforated, protects the wool. It is presumed useful in infected atmospheres.

6. The "cloud respirator" of Captain Mackenzie Douglas really deserves a favourable mention. It is named, I presume, from a ladies' "cloud" shawl, and is of wool, woven or knitted, smooth inside, and shaped to the lips, rough and woolly outside, and fastening by elastic. The cost is about a shilling. A girl with softening tubercle at one apex has been able to go out most days (at mid-day), with the air-passages protected only by this, and has not suffered. Another girl, liable to much congestive dyspnoea and catarrh, and accustomed to sleep with a "cloud" shawl round her mouth and nose (which relieved her, but often excoriated her neck from retained moisture), has found the greatest comfort from this simple substitute.

7. A cork respirator, of equal cheapness, is on sale, and might answer; but I have not used it.

With "antiseptic" respirators, we pass from the idea of prevention to that of cure; and their use marks unquestionably a great step in advance.

8. Dr. William Roberts's form is of blackened metal, perforated with large holes at the front, shaped to the lips, and about three-fourths of an inch in depth, with a hinged lid opening outwards, allowing the introduction of a saturated sponge or wool. With this, and the following form, it is necessary to carefully regulate inspiration through the mouth, and expiration through the nostrils.

9. Dr. Sinclair Coghill's early form is a hollowed oval of plated metal, perforated with small holes, enclosing a movable and shaped plate, also perforated; between these wool is placed. His later form is of somewhat similar shape externally, but has a hinged plate opening outwards, with wool between the two. This is a decided improvement; and, in this form, his respirator is identical with one (10) sent me by Messrs. Aitken of York, on a request for Dr. J. Carrick Murray's.

A patient with chronic cavity, and profuse foetid expectoration, which has not been checked by ordinary remedies or vaporous inhalations, has worn one of the last-mentioned pattern for about an hour night and morning (making use of the compound antiseptic fluid, dispensed according to Dr. Coghill's formula), with marked improvement in the character, and lessened amount of expectoration.

11. Dr. McDowel Cosgrave's "skeleton" (John Whyte, Dublin) is a very light and ingenious form of wire cage, shaped to the mouth, and enclosing between a spring-hinged plate a piece of lint, about one inch from the lips, and just under the nostrils. Of course, the vapour is not so completely charged with the remedy used; but, on the other hand, the apparatus is well borne by children and others, who could scarcely tolerate a heavier one. One phthisical girl, who inhales terebene on the lint, for about an hour morning and evening, has certainly improved, and I believe partly on account of this practice; her temperature is now normal (or subnormal), instead of 101° Fahr., and there is no septicæmia.

12. But, certainly, the most complete and effectual instrument for its purpose, is that of Dr. Hunter Mackenzie (Edinburgh), named though it has been by some of my patients the "portable coal box." It is in metal, and shaped like a chloroform-inhaling mouth and nose piece; it has four rubber valves, two on the sides opening outwards, and two inwards from the antiseptic chamber; this is in front on the truncated nose piece, and an oval perforated rimmed plate fits on it, and can be taken off for the purpose of saturating a contained sponge. The valves enable the patient to breathe without trouble in the ordinary way, and secure the immediate exit of expired air.

Since this was written, Messrs. Meyer and Meltzer have introduced a much lighter and more elegant form of this respirator, in pink vulcanite; this leaves nothing to be desired.

Dr. Saundby has recently figured a form which recalls that adopted by Dr. Roberts, but is much more freely perforated; it is made also with a nose piece. His patients have found it "light, comfortable, well ventilated, and not fatiguing." (BRITISH MEDICAL JOURNAL, December 24th, 1881.)

ABSTRACT OF LECTURES

ON THE

ANATOMY, PHYSIOLOGY, AND ZOOLOGY OF THE EDENTATA.

Delivered at the Royal College of Surgeons of England.

By W. H. FLOWER, LL.D., F.R.S.,

Hunterian Professor of Comparative Anatomy.

LECTURE VII.

THE existing *Dasypodidae* or Armadillos are generally divided into six genera. Of these, the one called *Tatusia*, which contains the common Pebas or nine-banded Armadillo (*T. novicincta*), and a closely allied species, the Mulito (*T. hybrida*) is the most aberrant. The other genera are *Dasyops* proper, containing the equally common six-banded Armadillo (*D. sexcinctus*) and the Hairy and Little Armadillos (*D. villosus* and *D. minutus*), also a rare small species called *D. vellerosus*. *Xenurus*, containing *X. uncinatus*, a large species remarkable for the absence of bony scutes covering the tail. *Priodon*, with one species, *P. maximus*, the largest of all the group. *Tolypeutes*, with three species, all small, with only three movable bands in the carapace, and capable of rolling itself up into a ball; and lastly, *Chlamyphorus*, very remarkable for the peculiar character and arrangement of its dermal covering, having a strongly ossified, solid, bony shield, cover-