

## HYGIENE.

### THE DRY EARTH SYSTEM.

The Fourth Annual Report of the State Board of Health of Massachusetts contains a conjoint report by Prof. W. M. Nichols and Dr. George Derby on sewerage, water supply, etc. Speaking of the dry earth system, the reporters state that the conditions under which this plan can be used are exceedingly limited. The earth must be dried, and kept dry at all times for immediate use. This involves labour and intelligent care and foresight. The artificial drying of the earth for use a second time in private houses would be expensive, well-nigh impracticable, and inconsistent with existing social arrangements. As no slope, sink-wash, or other fluids can be added, drains and sewers would still be required, and the dry-earth system could not supplant these. The reporters incidentally remark that it has yet to be shown that the foul odour is any measure of the danger from the retention of human excreta about our dwellings. It may be that, while deprived of offensive smell, these materials may yet, under certain circumstances, convey disease. The difficulties, cost of labour, and other considerations attending the general use of the dry-earth system in densely populated cities or towns seems to be insuperable. But the case is altogether different with country houses, for which there are several very weighty reasons why it should be preferred. Supposing that the dry-earth plan had been the only means of disposing of excreta, as it is said to be in China, and that our present water-carriage systems were proposed for the first time as a substitute, would it not be hailed as a blessing? our reporters shrewdly ask. The disadvantages of the water system are familiar to us by long use; while those of the earth system, as applied to large communities, have yet to be determined. The water-carriage system will soon, in the opinion of the reporters, be the universal method employed in cities and towns. Its advantages are many and obvious. The remarks which follow on the ventilation of house drains are both sensible and practical. The only cities in Massachusetts now provided with a system of sewerage which can be regarded as approaching completeness, are Boston and Worcester. In the former city, the reporters regret that authority to erect buildings has been given of late years very freely in sections which cannot be properly sewered. At Worcester, the sewage works are said to be on a very complete scale, and are a subject of just pride to the city and commonwealth. In the vast majority of households in Massachusetts, however, human excrement is still deposited under small buildings, either entirely detached from the dwelling or connected by a wood-shed or other passage-way. The dangers attending this system, if not looked after by careful and intelligent persons, are well known.

Air and water pollution may very readily ensue, as we know full well from occurrences in this country, giving rise to fevers and intestinal disorders.

## PHYSIOLOGY.

### ON THE RELATION OF PHYSIOLOGY TO MEDICINE.

Scientific medicine, or that condition of medical science in which practice shall be deduced with certainty from theory, can only be based on physiology or an accurate knowledge of the structures and functions of the healthy organs. The two are inseparably united, and although medicine existed long antecedently to physiology, it was not the less based upon it, and the history of its errors and shortcomings shows clearly enough that these were due to the faults and imperfections of the physiological foundation on which it rested; and it may fairly be said that in proportion as the methods of investigation and the accuracy and extent of our physiological knowledge have increased, in that proportion has medicine emerged from its earlier and empirical state and advanced to the dignity of a science. Every thoughtful man must agree with the views recently expressed by one of the greatest masters of experimental physiology, Claude Bernard, that physiology cannot and ought not to be regarded in the light either of a mere accessory to the study of medicine or as the complement to anatomy. Its pursuit is a part of that training which is indispensable to the physician and surgeon alike, for it is obvious that the same methods of research and the same modes of reasoning demanded for the investigation of the actions of the body in health are required to prosecute successfully an inquiry into the causes and nature of disease and of the effects of remedies.

## PRACTICAL MEDICINE.

### USE OF THE ASPIRATOR IN HEPATIC ABSCESS.

Professor Maclean gives an account of a case of abscess of the liver at Netley Hospital, in which Dieulafoy's aspirator was employed:—

On the 18th he was in great pain and looked anxious and ghastly; his temperature had fallen more than 2°; his pulse and respiration were quickened. Much increase of swelling was noticed, especially behind the last puncture, and the area of hepatic dullness was much increased; some florid blood was coughed up before the morning visit. Dr. Fyffe at once introduced the largest trocar and canula belonging to the aspirator into the most prominent part of the swelling, and drew off the enormous quantity of ninety-six ounces of pus, of a reddish-brown colour and creamy consistence. Towards the close of the operation he became very weak, but the relief of all the most urgent symptoms was immense

and immediate. A full dose of morphia was given, and the patient passed a tranquil night.

From this day, indeed from the hour of the last operation, his recovery commenced, and his history was one of steady improvement; his cough subsided, his breathing became tranquil, the sweats disappeared, his temperature became normal, his appetite returned, and he gained flesh with surprising quickness. So rapidly did the abscess contract that a needle passed near the last puncture some days after the operation did not enter a cavity, but encountered only the solid substance of the gland. After spending in all eight weeks in hospital the patient was found "fit for duty," and discharged on June 6th, and, I regret to add, celebrated his restoration to health and freedom from hospital restraint by getting drunk and spending the night in the guard-room.

This case presents some points of great practical interest. 1st. The case was clearly of pyemic origin, secondary to dysentery. 2nd. As is usual in such cases, the foregoing history clearly establishes the fact that there were more abscesses than one. Even if it be assumed that the purulent matter passed by stool was not of hepatic origin, it is hardly possible to believe that a cavity which was completely emptied by the aspirator on the 16th could have filled to such a prodigious extent as by the 18th to contain ninety-six ounces of pus. It is more probable that between the abscess opened on the former date and that evacuated on the last occasion there was a more or less thin wall of separation, which, under the pressure of the larger abscess, had given way, converting the two evacuations into one. 3rd. The fall of temperature on the 18th (the date of the last operation), amounting to 2° F., was very remarkable, and a true indication of the extreme depression and consequent peril of the patient; for, as I have had many opportunities of observing and recording, the thermometer rises a degree or more when an abscess in the liver, which has been emptied, fills again—thus giving a most reliable indication of the fact, apart from all other signs. 4th. The rapidity with which this great cavity closed, and never again filled, was most remarkable; and, as a consequence, the speedy amendment, convalescence, and final complete recovery of the patient—an event, under the apparently hopeless circumstances of the case, I did not for a moment anticipate. 5th. A most noteworthy point in this case was the relief afforded by the abstraction of blood directly from the liver, by the aspirator; in my first search for the site of the abscess on the 14th. This was carefully noted by the young medical officer in charge, and was apparent to all who watched the case. If this were a solitary example I would not be disposed to dwell much on the fact. But on the same day, in ward 27A of the medical division, I found a soldier, private H— of the 109th Regt., just arrived from India, with all the symp-