

other, he perceived the one or the other smell, but that when both were in exact equilibrium, either no odor at all was perceived, or at most a very weak and uncertain impression was made, which partook of the qualities of neither of the two substances employed.

But as some sort of union of the gaseous molecules could not be altogether excluded by this method, such as an indifferent osmotic or physical combination preventing sensory perception, it was deemed expedient to make use of a double olfactometer in experiments of this character. The instrument consists merely of two of the olfactometers described above, one for each nostril. By the use of the double olfactometer one may easily convince himself that even in this procedure one odor will overwhelm another, rubber, for instance, causing the smells of paraffin, wax, and tolu to disappear. Even with very strong excitants there is never a mingling of sensations. Either the one or the other odor is distinguished by one or the other nostril, until, by careful equilibration of the two, no sensory effect is at all perceived. Sensibility is absolutely eliminated. Each nasal half becomes in this manner completely insensible to the odor inhaled through it, although its sensitiveness is really the same as before.

We are constrained to believe that there is something in the vibratory theory already applied to sight and hearing, to account for these remarkable facts in the domain of smell, and that is the interference of molecular waves with each other, producing in the former cases darkness and silence, and in the latter temporary anosmia.

NEUTRALIZATION OF THE BACILLUS OF TETANUS.—In June last Professor Sormani of Milan announced to the Lombard Institute of Sciences the results of his experiments on the neutralization of the tetanigenous microbe — results which seemed to justify his conclusion that iodoform, iodol, and corrosive sublimate are absolutely destructive to the bacillus in question. To these disinfecting agents he has, says the *Lancet*, as the result of further experiments, added three more — namely, chloroform, chloral hydrate, and camphorated chloral, the latter being, he alleges, in a marked degree efficacious; while camphor and camphorated alcohol he found inert. On a general review of the whole, however, he gives the preference to iodoform. Seven rabbits were inoculated with materials charged with the tetanigenous virus. From six of these, after an interval of twelve hours, the foreign body was removed during the period of incubation; from the seventh the substance was removed only when the first symptoms of local tetanic convulsions had declared themselves. In all these animals the wound was scraped and thereafter freely medicated with iodoform. The seventh rabbit died of tetanus. Of the first six five were saved. From this Dr. Sormani concludes that medication of wounds with iodoform ought to be practised before the setting in of the first tetanic symptoms. Nevertheless, even during declared tetanus, the application of iodoform to the wound is capable of disinfecting it and of removing from it all trace of virulence. Wounds and sores treated with iodoform, especially wounds or sores contaminated with earth, yield results highly welcome to the surgeon — such medication preventing the access of that fatal tetanic symptom which, having once declared itself, leaves but little chance for skilled interference. Dr. Sormani gave confirmatory proof of his thesis by cases of tetanus in hospital, where iodoform opportunely applied saved the patients, and where, from its use having been unfortunately suspended, two lives were sacrificed.

BOXING THE EARS AND ITS RESULTS.—We would fain hope that, in deference to repeated warnings from various quarters, the injurious practice of boxing the ears, once common in schools, is fast and surely becoming obsolete. It is too much to say that this desirable end has yet been realized. Certainly the recent observations of Mr. W. H. R. Stewart do not give color to any such view. In a pamphlet on "Boxing the Ears and its Results," lately published, and referred to in the *Lancet*, Dec. 21, 1889, he briefly summarizes his own experience in the matter. Notwithstanding the toughness of the aural drum-head, its tense expanse will rupture too readily under the sudden impact of air driven inward along the meatus, as it is in the act of cuffing; and Mr. Stewart shows that in one instance at least this injury resulted from a very slight though sudden blow. Given early and skilled attention the

wound may heal very kindly, but if the beginning of mischief be overlooked, as it often has been, further signs of inflammation soon follow, and a deaf and suppurating tympanum is the usual result. There is practical wisdom in the statement that this consequence most readily follows in the case of the poorly developed and underfed children who abound in every board school. In them an ear-ache would probably receive no very strict attention, and disease might for a time work havoc unimpeded. Where chronic suppuration exists already, and it is only too common, a random knock on the ear may, and has resulted, in fatal brain complications. The close connection between ear and brain should never be forgotten, and the reflection that injury to the former organ most easily terminates in total deafness, and in suppuration which may any day take a fatal course, should assist in the preservation of a sometimes difficult patience.

BOOK-REVIEWS.

First Lessons in Political Economy. By FRANCIS A. WALKER. New York, Holt. 12°.

PRESIDENT WALKER in this work has undertaken to bring economic science down to the comprehension of a younger class of students than have hitherto pursued the subject, those from fifteen to seventeen years of age. To accomplish this task is not easy, and the author himself expresses some misgiving as to the success of his undertaking; for he has not treated his theme in a childish, or so-called popular, way, but in a thoroughly scientific manner and with the same closeness of reasoning that is employed in larger treatises. How far his book is adapted to its purpose — only actual trial, as he says, can tell; but if the subject can be made comprehensible to such young pupils, we should think this work well fitted to do so. It is perhaps as simple in style as a treatise on economics can be, and it is in the main free from controversial matter. It contains, however, some things that might better have been omitted; such, for instance, as the discussion of the multiple standard of deferred payments, which is of no practical importance, and is out of place in an elementary work.

The book is divided into two parts, the first treating of production and exchange, the second of distribution and consumption, and the various subdivisions are in general well made. President Walker's views are so well known that we need not state them, and in most cases we find ourselves in accord with them. His theory of profits, however, we cannot agree with, and we fail to see the cogency of the reasoning by which he endeavors to support it. He holds that "prices are determined by the productive capability of the lowest class of employers who are actually producing for the supply of the market; and all excess of those prices, over the cost of production in the hands of the more capable men of business, goes to these latter, individually as profits" (p. 222). But it seems to us that prices are determined rather by the higher class of employers, who by superior ability or larger command of capital often force prices down so that the lower class of employers are driven out of business. Moreover, President Walker, like other economists, overlooks the fact that the highest profits, as a rule, are not made in production at all, but in exchange. But though we cannot agree with all the author's views, we shall be glad if his work should be successful in teaching economics in the high schools.

AMONG THE PUBLISHERS.

THE fourth volume of M. Grandeau's "*Etudes Agronomiques*," just issued, contains a review of British and American agriculture, as represented at the Paris Exhibition.

— M. Victor Giraud, the African explorer, has just published the narrative of his explorations in the African Lake Region from 1883 to 1889. The work contains many illustrations.

— The fifth part of the second volume of the *Internationales Archiv für Ethnographie* has been issued. It maintains in all respects the high level reached by previous numbers. Among the contributions are an article in German, by F. Grabowsky, on death,