

is that of careful observance and patient analysis. By keeping the details well in our memory—instead of trying to forget them—we in time find out their position in our noso-taxic scheme, either in the light of our own later experience or of that of others.

These remarks are certainly true of the specialties to which this Journal is devoted, and are well exemplified by the descriptions of certain morbid conditions of the nose which up till comparatively recent times have not been clearly distinguished. Thus, certain cases registered as purulent rhinitis or ozaena, but of “atypical” forms, are now recognized at once as examples of disease of the nasal sinuses. Again, most of us have been sorely puzzled at times by the occasional occurrence of comparatively marked ulceration of the tonsils, the nature of which we have been apt to consider as syphilitic, but “atypical” in many respects, and especially in regard to the extreme rapidity with which they heal. It has fallen to the lot of Dr. Moure, of Bordeaux, to see a number of such cases and to satisfy himself of their non-specific nature. He recently read a paper on the subject before the Société Française de Laryngologie, etc., which we have the privilege of placing before our readers in this Journal.

Of similar interest are the “thirty-seven cases of serous disease of the maxillary sinus” detailed by Dr. Noltenius, of Bremen (*“Monatschrift für Ohrenheilkunde,”* April, 1895), in which the symptoms were usually those of hypertrophic rhinitis, but “atypical,” inasmuch as the cause of the subjective obstruction was not obvious on inspection, nor until exploratory aspiration of the antrum was carried out. This was accomplished by means of a needle and syringe through the inferior meatus, a variable amount of serous fluid being withdrawn. Simple puncture and removal of the fluid by means of a modification of Krause’s trocar, also introduced through the outer wall of the inferior meatus, was in all cases sufficient to effect a cure without any irrigation or further treatment whatever. Many of us must be able to look back to cases presenting similar “atypical” characteristics, which a study of this communication may help to clear up.

Dundas Grant.

ABSTRACT of a LECTURE upon the relation between the MOVEMENTS of the EYES and the MOVEMENTS of the HEAD.

By A. CRUM BROWN, M.D., F.R.S.

HAVING experimentally demonstrated that our sensation of “the fixity of the earth” is associated with certain intermittent unconsciously executed compensatory movements of the eyeballs, the author proceeded to consider the probable cause or mechanism through three sources of information, viz. :—(1) from personal experiments, (2) anatomical observations and measurements, and (3) from observations of the effects of injuries to the labyrinth.

He demonstrated the first group by means of a smoothly revolving table made for lighthouse purposes, which, from its accurate adjustment, could be driven at uniform speeds, thereby excluding any sensations due to inertia of the soft parts of the body. The patient being seated in an upright position, with eyelids closed, the author observed that, on rotating the table at a moderate speed, the eyeballs executed regular jerky movements, and were attended by sensations of rotation; but both movements and sensations ceased after a few revolutions, only to return on stopping or slowing the table, or altering the axis of rotation of the head. These phenomena he further illustrated with the well-known trick of walking several times round a poker held vertically, the forehead resting on the knob, and then attempting to walk erect.

This information he interpreted as substantial evidence of the localization of a special mechanism in the head. Of the view that the semicircular canals (as originally advanced by Flourens) were the responsible organ he sought confirmation in a consideration of their physical arrangement, and their relation to the several planes he investigated by a specially constructed goniometer. He concluded that the *stretching* of the membranous ampulla was the real cause of the sensation of rotation, through excitation of the *cristæ acusticæ*, for when either canal was rotated in a direction *following* the ampulla, the pressure in the endolymph of the ampulla was increased, but in the perilymph was decreased. Cessation or a reversal of the rotation caused reverse pressures and corresponding changes in sensations, for relaxation of ampullary walls and diminution of endolymph pressure did not stimulate the *cristæ*. This hydro-kinetic theory was first advanced by Mach of Prague and Breuer of Vienna. Although Cyon, by plugging, caused an increase of pressure in the bony canals, without any nystagmus or rotatory movements of the head, this did not negative, but supported the author's views that an *increase* of intra-membranous pressure was essential to the creation of the foregoing phenomena.

The author did not agree with the view that the semicircular canals were concerned in appreciating the direction of sound.

He further aptly compared the ampullary organs with clerks in a merchant's office, of whose usefulness we were only aware when they ceased to work properly.

The intimate correlation between the ocular movements and the ampullary organs was strongly supported by the fact that a large proportion of deaf-mutes were strangers to the sensation of rotation, and exhibited no jerking movements of the eyeball when rotated; the want of these organs being supplied by a greater activity and increased acuteness of other sense organs—it being a matter of pathological observation that, in the subjects of deaf-mutism, the semicircular canals were frequently absent.

(Wyatt Wingrave) Dundas Grant.
