the dressings in these cases should be applied cold, and be of the mildest kind; dry lint will sometimes inflame much; the epulotic cerate is a very good application; lapis calimarnis has nothing irritating in its properties. Opium is perhaps the best application to stop ulceration, which in those cases is very frequent. Bark should be given internally, which is particularly useful in removing irritability and restoring health.

ON THE BEST METHOD OF EXAMINING THE AUDITORY APPARATUS.

By P. MENIERE,

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In this memoir I propose to examine with care the various means by which the medical man may arrive at a knowledge of the several diseases to which the organ of hearing is subject. Although the structure, position, and form of the ear present many obstacles to our diagnosis of its affections, yet the ignorance of the profession on diseases of the ear seems to depend, not so much on the real difficulties of the subject, as on the little attention which has been bestowed upon it. The great majority of medical men have never explored the meatus externus, or seen the membrana tympani in the living subject; how then can they understand the diseases which may occur in these parts, or still less discover those of the cavity and Eustachian tube?

Considerable experience at the deaf and dumb institution has convinced me, that if the surgeon desire to obtain fixed ideas on any disease of the ear, he must first carefully examine the affected organ, and determine every change that may have taken place in its form and texture. Most treatises on diseases of the ear contain a few scattered directions for examining the meatus, tympanum, cavity, and Eustachian tubes; but these directions, imperfect and incomplete as they are, seem to have been monopolised by the aurists, and neglected almost entirely by medical men.

I thought, therefore, that some benefit might result from collecting together the rules alluded to, and rendering them more complete; describing, in a word, the manner in which our senses should be applied to the study of the structure of the ear. This forms a necessary introduction to a still more delicate study, viz. the appreciation of symptoms.

Lobe of the ear.

The position of this part of the ear renders its examination comparatively easy; we must, however, bestow some attention on the folds of skin, underneath which certain cutaneous lesions may lie concealed. Chronic eczema, lichen, acne, &c., may occasionally attack this part of the ear, and escape our notice. The skin should be carefully examined, and its temperature noted, and we should also open out the folded parts, and see that no cutaneous eruption exists there, for similar affections may exist in the meatus and on the tympanum. In another paper I shall show that the lobe of the ear and integumentary covering of the meatus are subjected to most of the diseases of the skin. When we examine a great number

of individuals, whether they be deaf or hear perfectly well, we shall soon be convinced that the size, form, &c. of the lobe of the ear, exercise very little influence on the sense of hearing.

Meatus externus.

The parts which constitute the external ear, present a great variety of form and dimension; the length of the external meatus, its breadth and degree of inclination, vary, not only according to age, but to individual peculiarities. Sometimes a very remarkable difference will exist between two ears that are equally healthy, although, generally speaking, this want of symmetry depends on disease.

In some cases, the external meatus is sufficiently wide to allow of the tympanum being easily seen, but this is rare; in the great majority it will be necessary to employ an instrument for the purpose of dilating the canal. Authors usually advise us, when introducing the speculum auris, to seize the upper part of the lobe of the ear, and draw it outwards and upwards; in this way we can generally succeed, but in many cases it fails, from the great curve of the meatus, its narrowness, &c.

The orifice of the external meatus sometimes deviates, from a peculiar disposition of the meatus which runs downwards and forwards underneath the condyle of the lower jaw; here the use of a speculum is indispensable; or the antero-posterior diameter of the orifice may be so short, that its edges touch each, and appear like a simple slit, concealed by the tragus.

The external meatus, as we know, is composed of two parts, one external, formed of fibro-cartilage, the other internal, and constituted by an osseous plate of the temporal bone; the former is more or less flexible, and capable of being dilated; the latter not so. The degree of obliquity of the meatus depends on the angle formed by the junction of these two parts; hence it is evident, that to obtain a clear view of the tympanum, we should endeavour to bring these two parts into the same line, so as to let the light fall on the bottom of the meatus. For this purpose I place the patient on a chair, near a window, exposed to a bright light. I dispense with the use of any back piece or pillow, because we should have the power of turning the patient's head towards the rays of light; besides, the patient should have the liberty of withdrawing his head, when the separation of the blades of the speculum causes too much pain. The direct light of the sun is indispensable; English and German aurists employ lamps with reflectors, but the artificial light is less manageable; when we are compelled to have recourse to it, I find that a single candle is preferable; the candle may be held in one hand, and the light reflected from a silver spoon on the sides of the speculum; with a little practice, we soon acquire a knowledge of the required inclination.

The lobe of the ear being drawn upwards and backwards with the left hand, the speculum is passed into the meatus to the depth of about five or six lines, according to the length of the soft portion of the conduit. Here the instrument generally stops, but it may pass on a little further into the osseous portion. In most cases, however, the soft parts form a truncated cone, the top of which corresponds to the edge of the bony canal, and beyond this the instrument cannot ac

The speculum being thus introduced, we separate its branches gently, so as to expand the membranous canal as widely as possible; having done so, and the light falling on the bottom of the meatus, we now examine this latter part, the tympanum, and the membrane which lines it: as the speculum is gradually withdrawn, we also ascertain the state of the meatus, unfolding it by the pressure of the branches of the instrument. This mode of proceeding can only be employed in cases where the meatus is not conical; for the contraction at the middle part would oppose the complete introduction of the speculum.

In a healthy state, the external moiety of the skin which covers the meatus is lined with cerumen. Most diseases of the ear modify this secretion, which then prevents us from freely examining the state of the parts. Some aurists advise us to inject warm water and remove the cerumen; but it is better to examine the bottom of the ear in the first instance, and without removing this vitiated secretion, in order to ascertain the nature of the matter secreted by the follicles and epidermis. When, however, the quantity or position of the cerumen prevents us from obtaining a fair view of the meatus, we should remove it with caution; in some cases this substance is so solid, that its removal with an instrument occasions severe pain; or the wax may adhere so firmly to the skin, that the epidermis comes away with it, and more or less hæmorrhage ensues from the superficial vessels of the rete mucosum. To remedy these inconveniences, we should first soften the cerumen with some almond or olive oil, when it is easily removed by an injection of warm water; generally speaking, the injections will succeed, and it will seldom be necessary to employ an instrument, by which mechanical injury might be inflicted.

When the cerumen is healthy, we can remove it with a small piece of cotton held by a long, thin forceps; this instrument should be long and straight, and with it we can conveniently ascertain the sensibility of the skin lining the meatus. The same means may, also, be employed in all cases of otorrhœa, but it will be more prudent to inject warm water whenever the canal is narrow and irregular, or the lining membrane deprived of its epidermis, ulcerated, or highly sensitive. In cases of superficial, or deep-seated phlegmon, the introduction of any foreign body will cause acute pain, and hence injections of tepid water are preferable. As we have already mentioned, the sensibility of the membrane lining the meatus presents numerous varieties. Many patients tell us that the inside of the ear is dead; the skin as insensible as a bit of parchment; and as proof, they mention that an instrument may be introduced to the bottom of the meatus, without exciting the slightest sensation; the disease (they say) gradually extended from the orifice of the meatus to the tympanum, and the deafness was increased in proportion to the loss of sensibility in the parts. In a majority of cases this loss of sensibility coincides with more or less complete suspension of the secretion of wax, and sometimes the latter substance loses its natural properties altogether, and becomes white, dry, and friable, or granulated, and of a lamellar appearance. I shall presently point out the value of these different alterations.

The forceps, which guides the small bit of cotton, on being introduced half-way down the

meatus, should be rotated gently on its axis, in order to determine the degree of adherence of the epidermis. When this is done, the epidermis often rolls up or forms a septum across the meatus, which might be mistaken for the tympanum. The surgeon, indeed, might readily fall into an error, unless he were aware that a portion of the meatus was deprived of its epidermis, and at the same time remembered that the physical properties of this accidental membrane are quite different from those of the tympanum. I have seen several cases in which mistakes of the kind now alluded to had been made. Hitherto I have supposed that the meatus is of a natural size, or even slightly enlarged; but in many cases we have an opposite disposition of parts. The most frequent cause of contraction of the meatus is chronic eczema, and under the influence of this affection the walls of the canal often become so tumid as to touch each other, and render the introduction of a speculum impossible. In cases of this kind we must endeavour to dilate the contracted canal by means of small pieces of prepared sponge or strong harp or violoncello strings; occasionally I have succeeded in reducing the tumefaction by lightly cauterising the parts with nitrate of silver.

Erysipelas of the external ear, also, sometimes occasions temporary obstruction of the meatus; but this disappears as the inflammation subsides; the same remark applies to other superficial inflammations of the ear; when the inflammation occupies the bony portion of the canal, it often occasions necrosis, which is very difficult of cure. In all the cases now mentioned, the use of the speculum auris is indispensable, and without it I do not think that we can make a correct diagnosis of most of the diseases which affect the external ear.

Membrana tympani.

The examination of the membrana tympani is of the utmost importance as a basis of diagnosis in diseases of the ear, and hence we cannot become too intimately acquainted with its physical characters in a state of health. We should consider its general form, degree of inclination, concavity, colour, polish, the mode in which the malleus is inserted, &c. All that has been already said about the use of the speculum, applies to the examination of the membrana tympani; but this means alone will not always suffice.

Most of the foreign aurists recommend the use of a small blunt probe to determine the tension, sensibility, &c. of the membrane, and to ascertain its integrity. This mode of exploring the external surface of the membrana tympani is recommended by Kramer, Lincke, Saunders, Pilcher, and others, as being at once very simple and useful. Let us examine this opinion.

Whenever the meatus externus is not too narrow or oblique, (that is, in the majority of cases,) we can easily see two-thirds of the surface of the tympanum and examine its condition, provided we have removed with warm-water injections any matter which may have collected on it. I cannot conceive how the passage of a blunt probe over the surface of the membrane can teach us more than the eye, and in cases where the membrane is concealed altogether from view, I fancy that the instrument can be of little use. In many cases,

where the patient complained of want of sensibility in the ear, I have found that the cotton and forceps were better suited for ascertaining the degree of sensibility than the probe; the application of the latter usually produced a pricking sensation, whilst the cotton merely gave a slight feeling of tickling. In some cases, however, the sensibility of the meatus and tympanum is so acute, even though no inflammation exist, that the slightest contact of any instrument occasions severe pain, and we are compelled to renounce all attempts of this kind.

When the patient has been in the habit of frequently introducing instruments himself, the case is different, and we may then employ the blunt probe; I have sometimes passed it all over the surface of the tympanum without occasioning the slightest sensation of its presence in the ear; this mode of examination, however, enables us to ascertain a fact which is rather connected with affections of the internal ear, and which seems to me destined to throw some light on the diagnosis of diseases of the vestibule and its annexes; I now allude to the curious fact that the power of hearing has been suddenly restored in cases of considerable deafness, by making pressure on the long process of the malleus, which pressure is transmitted along the chain of bones to the foramen ovale. I merely point out this fact, as it seems to me novel, and shall recur to it again.

By simple inspection, then, we can determine the general form, colour, transparency, and thickness of the tympanum. The remarks of the ancients, and of some modern writers on the tension and laxity of the tympanum, have been regarded as pure suppositions since the time of Itard; however, we cannot deny that the membrane may not be drawn inwards by the long process of the malleus, and thus rendered much more concave than natural; or pushed out and made convex by accumulations of mucus, pus, or even air, in the cavity of the tympanum. These circumstances demand all our attention, and are discovered by the greater or less projection of the long process of the malleus and the general form of the meatus at its bottom. forcible expiration, the mouth and nose being closed, is another mode of exploration which should not be neglected. The air is forced through the Eustachian tube into the cavity of the tympanum, distends the membrana tympani, and thus we obtain much useful information concerning its physical properties. Should the Eustachian tube be obstructed, we must introduce a catheter into it, and blow the air up; but in most cases the patient himself succeeds in forcing the air into the cavity of the tympanum. When the tympanum is perforated, this method enables us to ascertain the lesion with great certainty. We may often examine the external surface of the membrane with the utmost care, and discover no breach of continuity; but when the patient blows his nose, we see the bubbles of air escaping through the membrana tympani with a whistling noise, some pus or mucus is forced through into the external meatus, and no doubt remains on the nature of the lesion; if it be the anterior part of the tympanum which is perforated, the curve of the meatus will prevent us from seeing it, but the whistling noise of the air passing through the opening sufficiently reveals its existence. By this method we obtain in a very rapid and easy manner the knowledge which we require. It frequently happens, in hospital practice, that I

discover perforations of the tympanum in persons just recovered from typhoid fever, or consumptive, by merely holding the nose, and desiring them to make a strong expiration. Having determined the existence of an opening in the membrana tympani, we should endeavour to ascertain its exact position, size, and the quantity of pus or mucus which may pass through it. When the perforation exists at the superior and posterior part of the tympanum, it may be useful to pass a small blunt probe through it, and ascertain the condition of the neighbouring osseous surfaces, but this must be done carefully, lest the ossicula may be deranged.—*Gaz. Med. No. 34.*

SKETCH

OF

THE TREATMENT OF SMALL-POX,

By Senor MIGUEL MUNOZ of Mexico.

(Read by Dr. Black, at the York Meeting of the Provincial Medical and Surgical Association.)

HAVING lately been favoured, through the medium of a friend at Mexico, with some of Dr. Munoz's publications on small-pox, accompanied with some extracts from his book of cases, and also two late numbers of the Journal of the Academy of Medicine of Mexico, which contain a few articles on variola, I have been induced to present a short summary of their contents before this meeting of the association, presuming that some of the therapeutic means adopted by our Mexican brethren in the treatment of the disease may be interesting, if not altogether novel, to British practitioners, who have to treat patients, when afflicted with small-pox, under very different circumstances, as to original race, constitution, habits, modes of living, and also as to climate and temperature.

Dr. Munoz, in his "Simple and Easy Method" of treating those afflicted with epidemic small-pox, when stating the nature, history, symptoms, and cadaveric appearances of the disease, which are not much different from those witnessed in this country, remarks that, in the benign climate of Mexico, the small-pox is not endemic but periodical, with intermissions of about sixteen years at least, and that he has sought for, and inquired in vain, in different places, for the vaccine or variolous pock being met with on the cow, since the establishment of the Spanish government.

After summarily detailing the phenomena of small-pox, both before and after death, Dr. Munoz proceeds to give his explication or pathology of the disease by stating, that it appears probable that the first action of the variolous miasma is of an irritant nature, affecting principally the external and internal surfaces of the body; that from the external surface the irritation is communicated to the nervous system, and to the arterial from both surfaces; that the combined irritations of the skin, lungs, nerves, and arterial system, evidently occasion inflammation of the several surfaces and of the blood, the gradual progress of which at length occasions the eruption, which he holds to be *symptomatic* and not *critical*. The respiratory organs being more susceptible to the irritative action of