

## THE FREQUENT ASSOCIATION OF DISEASE OF THE EAR WITH INSANITY.\*

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Physiology and psychology both recognize the influence of the special senses over mental phenomena. Pathology also ascribes to disease and derangement of the special senses, mental perversion and disorders. In view of this it would seem that alienists have not paid that attention to the causes of the disorders of the special senses, and their association with insanity, that the importance of the subject demands. Physiology and psychology attribute to the ganglia of the *sensorium commune*, the function of transmitting to the superior cortical cells of the grey matter, sensations and impressions, which stimulate the ideational cells into functional activity, the various ideational and ideomotor manifestations resulting therefrom. The impressions made upon the sensory ganglia originate from two principal sources—internal or subjective, or external or objective. Both sources of sensations and impressions are subject to derangement and perversion, so that mental phenomena elaborated by the cortical cells, in response to impressions made upon the sensory ganglia, conform, in their normal or abnormal manifestations, to the physiological and pathological status of the sources of sensation. Abnormal subjective sensations are dependent upon a variety of conditions, only a few of which it will be necessary to mention. There

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may be a fatty degeneration of the neurine constituting the ganglionic cells, owing to hereditary or other hidden diseases, that are manifestly innate. Hallucinations of the special senses of infants result from this cause. Again, there may be a combination of several defects, and these may result in a partial or entire arrest of development of the sensory ganglia, causing diminished or complete absence of sensation. Excessive use exhausts the function of the special senses, and the poisonous action of medicinal agents, as also the specific virus of disease, often induce violent perturbations in their action. Any one of the many causes operating to derange the nutrition of the organs, likewise produces hallucinations of the special senses, as may be seen in persons suffering from chlorosis, chorea, or other forms of cachectic conditions, notably *anæmia*, either general and progressive, or immediate from sudden and exhausting hæmorrhage. These hallucinations may be both aural and visual. I have observed marked instances of sensorial hallucinations from loss of blood, during my army experience.

Excessive and sudden determination of blood to the cerebral vessels causes roaring and buzzing in the ear, optical scintillations and visual confusion. Likewise, excitation of the *sensorium commune* of eccentric origin produces the same result. Irritation of the terminal nerves, reflected to the sensory ganglia, frequently gives rise to most violent sensory and motor disturbances. Paralysis of sensibility, convulsions, amaurosis, auditory sounds, vertigo, hallucinations and illusions are frequently the results of irritation originating in centripetal nerves. The most violent sensory motor symptoms have been known to subside in infants, after excising the gums over an advancing tooth. I have seen a child four years old, in a state of wildest delirium, shrieking fear-

fully, and manifesting auditory hallucinations, and shielding her head with her hands and clothing, with a facial expression of abject terror, relieved by the removal of a cherry stone from the auditory canal, which had caused inflammation of the canal and drum. The infliction of injury upon the semi-circular canals of birds, causing vertiginous movements, has its pathological indication in the association of the phenomena now under consideration. The numerous instances recorded in the literature of practical medicine, surgery, and psychiatry render further citation of cases unnecessary. Anticipating a more elaborate report, after more extended observations on the association of aural disease with insanity, I will at the present time merely add to the recital of cases, which have come under my observation, a few practical reflections regarding auditory hallucinations associated with aural disease and insanity. I select the following as typical cases:

Case I.—Miss E. M., age 54; insane two years; no hereditary predisposition apparent, or assigned cause of insanity. Physical condition tolerably good; nutrition somewhat lowered; hearing defective from early youth, the result of inflammation and suppuration of middle ear—a sequela of measles. With advancing age the hearing capacity diminished, and at the present time she can not distinguish the tick of a watch, even in contact with the ear, and the loudest sounds are scarcely audible. She is tormented by aural hallucinations, and is constantly listening to the imploring appeals of a despairing mother, or the piteous wails of a helpless infant, and with profound sympathy in her looks, manner and voice, persistently offers them consolation and assistance. The ears have sustained the destruction of the tympani, loss of the ossicles, and closure of the eustachian tubes.

Case II.—M. G., age 50 years; insane five years; family history not known, hearing defective in both ears, the result of catarrhal otitis media, which may have produced structural changes of internal ear and auditory nerves. He has been the subject of auditory hallucinations during the entire period of his insanity. Every night he stops all the cracks, crevices and key holes, in the windows and doors of his room, to prevent the intrusion of persons, whose evil whisperings disturb his repose.

Case III.—Mrs. S. G., age 43; hereditary history free from insanity. She was a farmer's wife, of previous good constitution and health, the mother of eight children. The only disease preceding insanity was a severe form of nasal catarrh and otitis media, both of which persisted for sometime after admission to the Asylum. She suffered severe pain both from the aural and nasal disorders. She vacillated for weeks, between exhausting delirium and acute mania, first one then the other predominating, with auditory hallucinations of warnings to flee the wrath to come. She improved to complete recovery *pari passu* with the improvement of the aural and nasal disorders.

Case IV.—Miss E. H. age 24; with no hereditary taint, a school teacher, insane thirty days before admission, with acute mania; previous health, good. Shortly after admission, symptoms of prostration and wasting rapidly set in. The cervical and maxillary glands became enlarged, extremities œdematous, with purpuric spots, symptomatic of constitutional infection and disorder of the blood. Suddenly at this stage, there supervened intense pain in the left ear, which resulted, in spite of treatment, in suppuration of the middle ear. Aural hallucinations made their appearance upon the accession of the otitis, and perplexed her both day and

night. She asserted that she heard the roaring of the waves, and the cry of a shipwrecked sailor, and often repeated the well known line, "The boy stood on the burning deck whence all but him had fled;" accompanying this with violent efforts to rescue the ship and crew. The aural and mental disorders are improving; the hallucinations having ceased with the arrest of the otitis. These acute and chronic aural cases indicate the relation between disorders and lesions, and insane auditory hallucinations.

#### DEDUCTIONS.

In a large proportion of the insane, who have marked and persistent auditory hallucinations, there are pathological changes in the organ of hearing. Sensational and ideational perversion are closely associated with aural hallucinations. Melancholia, and those suffering from nervous depression, and also the homicidal and suicidal insane, are frequently the subjects of aural disease and auditory hallucinations, but with the latter classes, the hallucinations, are generally of a subjective character. The auditory complications occur more frequently in females than in males, in the aged than in the young. Subjects of *tinnitus aurium* frequently manifest some vice of constitution, and generally the aural trouble ante-dates the mental perversion. Subjective sensations are marked symptoms in those who have lost their hearing from inflammatory processes, and generally their hallucinations are of the most mournful, sad and pathetic character. The insane who are subject to auditory sounds suffer from insomnia, loss of appetite, malnutrition, while those who are subject to auditory hallucinations are uncertain in their impulses, irritable, and always dangerous.

A passing reference to one of the common causes of aural disease will not be out of place here.

The disease commonly known as nasal catarrh has, within a few years, either become one of the fashionable diseases, or is really a very common one. To this disease, and to the improper treatment by the various "catarrh remedies" and instruments in general use, an increase of aural disease is attributed by aurists. These specialists are emphatic in condemning all the douches, spray instruments and syringes, now so generally in use in the treatment of this nasal disease. They admonish the profession of the dangers incurred in the use of any instrument that may make the injection of the Eustachean tube possible, and thereby lead to the inflammation of the aural organ.

Prof. Moos, in his history and anatomy of the Eustachean tube, says the tubal os is naturally closed, and necessarily so in tumefaction and inflammatory conditions of the surrounding mucous membranes, and therefore the passage of fluid into the tube is a very difficult operation. I leave the gentlemen of the aural specialty to settle this and the other equally important question, the cause of the prevalence of nasal catarrh, and its relationship to aural disease.