voices whispering to her were at a greater distance than they had been. The delusions, as to their reality, still, however, continued. During the day the pain in the head disappeared, as did also the voices. Little by little the force of the false beliefs was lessened, and after a few days there were no further abnormal, mental, or physical symptoms.

Case II.—I. K., a young man twenty-two years of age, came under my observation January 20, 1870, suffering from severe vertigo, noises in the ears, deafness, and intense mental depression. These symptoms had come on suddenly six days before, shortly after a cold bath in which the water had entered the ears. His expression was one of great anxiety; there was an apprehension of impending evil, and he walked the floor of my consulting room with a staggering gait, his hands pressed to his head and tears running down his face.

On examining his ears, which I was induced to do mainly from the facts that there were pain, tinnitus, and vocal resonance, in addition to the special cerebral symptoms, I discovered that both auditory canals were obstructed with cerumen. A few syringes of warm water removed this, and the symptoms almost immediately disappeared.

Mr. X., a lawyer, of Brooklyn, consulted me about three years since for hallucinations of hearing, together with vertigo, pain in the head, confusion of ideas, insomnia, and frequent flushings in the face, from which he had suffered for several weeks. On his way to my house he heard voices apparently saying to him, "What is the use of your going to a physician? You are no use in the world. Go and jump into the river. Jump off the ferryboat; jump, jump now; at this very instant," and so on. He stated that it was impossible for him to follow his profession, for that the voices interfered to the extent of preventing his clearly distinguishing what was being said in his presence. Even as he was talking to me the hallucinations of hearing were present in full force.

These voices did not actually impose upon his intellect, but he stated that he was conscious of a gradually increasing inability to resist accepting them as realities.

Although there were many of the symptoms of cerebral hyperæmia present, I was induced, from the fact that the disorder had come on immediately after bathing in the ocean, during which water had entered the ears, to examine these organs in the very beginning of my interview. Both ears were found full of inspissated cerumen. This was thoroughly softened by the solution of soda in glycerine, and removed by syringing with warm water. On the instant the voices ceased, and the patient left, feeling, as he said, entire relief from his annoying symptoms.

I heard no more of this patient till about two months afterwards, I read in the newspapers of the day that he had been violently abusive in court of the judge on the bench, and had been punished by fine and imprisonment for contempt, and soon afterward his wife called to tell me of the trouble into which her husband had gotten. As she explained it to me, he imagined that the judge was calling him names and cursing him, and had replied in like manner. I had no doubt that there was an accumulation of cerumen, and that the hallucinations of hearing had returned in so aggravated a form as to convince the intellect of their reality. A letter from me to the judge secured his release, and on his visiting me I found my suspicions confirmed. The impacted cerumen was removed, and so far as I know there has been no recurrence of the disorder.

These are only a part of the instances in which impacted cerumen has caused cerebral symptoms that have fallen under my notice, but they are typical, and nothing would be gained by detailing the others.

As regards the cause of noises in the ears I have no information to offer, except to state that it is not the mere stoppage of the internal meatus by impacted cerumen, for such closure does not give rise to any subjective sensation. It is true that if the canal be stopped by the finger a sound is heard, but this is derived entirely from the body, and is probably from the action of the heart, the circulation of the blood through the tissues, muscular contraction, etc. A cork or other substance put into the ear so as to close the canal, and left there without being held by the hand, does not give rise to any sound. If, however, the fingers hold it in place, it transmits the sound from them, as would any other solid substance.—*Hospital Gazette*.

CURE OF SYMBLEPHARON.

By A. W. CALHOUN, M.D., Atlanta, Ga., Professor of Eye and Throat Diseases in the Atlanta Medical College.

MISS E—, of Georgia, now in her 24th year, in attempting, when three years old, to remove a vial of nitro-muriatic acid from a mantel, emptied the entire contents upon her face, a quantity of it running into the right eye. The acid destroyed the epithelial covering of the whole conjunctiva of the lower lid and of the adjacent parts of the ball, besides burning the delicate corneal tissue almost to a crisp. Most violent inflammation immediately followed, lasting several weeks and finally resulting in total loss of vision, with partial atrophy of the ball and firm and complete adhesion between the ball and the lower lid in its entire extent, constituting that form of disease known as symblepharon. In addition to this, the edges of the upper and lower lids became adherent at the outer canthus to the extent of about two lines.

As may be imagined, all this presented a most conspicuous and unsightly appearance; the lusterless and shrunken ball, hindered in its movements by the adherent lid, affording the picture of a very marked deformity.

When it became known to her that the separation of the adherent parts, one from the other, would enable her to wear an artificial eye and thus conceal the defective ball, she readily consented to an operation.

Every experienced surgeon will understand and appreciate the necessity of inserting some sort of tissue as a covering for one of the opposing raw surfaces, after dividing and separating parts unnaturally united by burns, etc., in order to prevent their reunion. Upon this fact it is needless to dwell.

For the purpose I had in view, a portion of the rabbit's conjunctiva seemed most suitable, and was used as described below:

The patient was chloroformed and the lower lid separated from the ball, from the inner to the outer canthus, the incisions extending to the bottom of the lid, or as far down as the point at which the lower conjunctival fold should naturally be found. At the same time the outer canthus was slit up, so as to make the palpebral fissure of the same length. This left the whole inner side of the lid and the opposing portion of the ball in the condition of two large contiguous wounded surfaces. After the bleeding had altogether ceased, the rabbit's conjunctiva was prepared for transplantation. A large young white rabbit was selected,

and the conjunctiva was rapidly but carefully dissected from its upper lid and the upper portion of the sclerotic, and from the two surfaces of the semilunar fold, at the inner canthus. This gave me a piece somewhat larger than a nickel, though of course of a different shape, which was spread out upon my thumb nail and kept constantly moist with warm water, the epithelial surface being downward or next to the finger. Four sutures were passed through the corners or angles of the conjunctiva, which (with the raw surface inward) was immediately transferred to the wound upon the ball, so that the epithelial surface of the transplanted piece opposed the wounded surface of the lid. The piece was large enough to almost entirely cover the wound upon the ball, and also the bottom of the incision, and to extend slightly up the inner side of the lid. It was made firm in its position by stitching it to the ball in three or four places, and the fold in the bottom of the wound was fastened by passing two sutures entirely through the lid from within outward, and tying them on the surface of the skin. Particular care was taken not to put too much tension upon the piece of conjunctiva, and to keep it smooth in its new position. After thorough cleansing a roller bandage was placed over both eyes and the patient left till the following day. Each day the eye was dressed externally, but for fear of breaking up whatever adhesion that might have already formed, no examination was made of the transplanted piece until after the sixth day. The secretions were merely removed from the edges of the lids and the bandage replaced at once, keeping the patient quiet in bed. When on the sixth day the wound was examined, the rabbit's conjunctiva had taken firm hold upon the ball and that part of the lid covered by it, except upon its very edges, which sloughed off and became smooth in a few days. The transplantation could for some time be distinguished from the surrounding parts by its white appearance, but ultimately became of the same color. The lid was thoroughly separated from the ball, which now moved with perfect freedom in every direction. The lids, at present, admit the comfortable wearing of an artificial eye, which so perfectly conceals all the deformities as almost to appear natural.

It is very essential to the success of this operation that no clots of blood, however small, should remain between the transplanted piece of conjunctiva and the tissue upon which it is placed, and that the surfaces should fit smoothly upon each other and be held firmly together until union has taken place. It is unnecessary to chloroform the rabbit, as it can be kept quiet without difficulty, and moreover, the operation of dissecting the conjunctiva is not at all a painful one. I saw the rabbit several weeks after operating, and strange to say, the ball and lid had cicatrized without the slightest adhesion between them, as I had naturally supposed there would be. This is no doubt due to the fact that the secretions from the wounded surfaces separated them from each other until each had healed.—*Southern Practitioner*.

FEEDING BY THE NOSE.

By T. NEWINGTON, Assistant Medical Officer at Bethlehem Hospital.

HAVING had great opportunities of observing patients who obstinately refuse to take food, and thereby necessitate their being fed by some mode or other, I have come to the conclusion that feeding by the nose is much preferable to any other method. Now, in order to do this in the cleanest and quickest way, with the least struggling on the part of the patient and medical attendant, I have, with the aid of Messrs. Walters & Co., of Palace-road, Lambeth, had an instrument constructed. It consists of a hollow ball, made of vulcanite, which unscrews in the center; to this are at-

tached three tubes, two of which are nearly parallel and fifteen inches long, for inserting through each nostril, while the third is of larger size, and has attached to it a funnel for pouring milk or beef-tea into.

The advantages I claim for the instrument are the following: (1) It does away with the necessity of having to open the mouth, which, with patients with good teeth and strong jaws, is sometimes exceedingly difficult; thus the mouth and teeth are never damaged, which very often happens when the former has to be forcibly opened. (2) It is very expeditious, having two tubes; thus taking less time than when only one is used. (3) The fluid will pass through in three minutes, and none need be spilt; and I think there is less tendency to vomit than when a tube is passed through the mouth.

With regard to the instrument itself, there is nothing to get out of order. No metal is used in its construction; and, as it unscrews in the center, it is very easily cleaned. I will only add that in feeding patients they are laid on their back on a mattress and fixed with a sheet across the body, steadying their head with a towel over the forehead and kneeling on the ends of the towel.—*Lancet*.

OBSESITY—HOW CAUSED—HOW CURED.

CORPULENCE or obesity is, there can be no doubt, one of the most widely spread of the minor troubles to which the human race is subject, and as such worthy of the most careful attention on the part of hygienists and therapeutists. Until within a very few years it was universally taught that the great sources of fat within the human body were the fatty and hydro-carbonaceous elements of the food; and, although it was admitted that the albuminates might, under certain circumstances, give rise to fat, this was put forward rather as a doubtful hypothesis than an admitted fact. The recent labors of physiologists have cast no little doubt upon the old views, and the last writer on the subject of corpulence (Immermann, who contributes an article to

Ziemssen's "Encyclopædia") throws over the old views entirely, and adheres absolutely to the doctrines put forward by modern physiologists. It is now held that fat is formed principally from the albuminous elements of the food, just as the fat in fatty degeneration of the tissues is derived from the organized albumen of those tissues. The albuminates eaten with the food are used in part for the nutrition of the albuminous tissues, and the surplus which is not so used undergoes continued processes of metamorphosis and oxidation, and appear among the excretions in the form of urea, uric acid, carbonic acid, and water. If, however, the albumen taken in with the food be in excess of the requirements, or if obstacles stand in the way of its proper oxidation within the body, then a great part is deposited in the form of fat, instead of being burnt up into carbonic acid and water. It is hardly necessary for us to repeat, in this place, the various arguments, physiological and chemical, which have been put forward in support of this view. It must be sufficient to state that they appear tolerably conclusive, and place the albumen source of fat upon a basis which seems to us to be fairly secure.

The value of the other varieties of food in determining obesity depends, it would seem, mainly on their doing away with the necessity of the ultimate oxidation of the non-nitrogenous products of the metamorphosis of the albuminates, and so enabling them to take the form of fat and settle in the tissues, instead of making their escape by the lungs in a more volatile state of being. The formation of fat from albuminates would appear to be greatly favored by this incomplete combustion, and when fats and hydrocarbons are taken with the food as well as albuminates, the former, as regards a dividend of oxygen, are in the position of preference shareholders, and until their claims for oxygen are satisfied, the non-nitrogenous products of the decomposition of the albuminates get a scanty supply, and must be content to remain in a condition of penultimate metamorphosis.

From this it will be manifest that, apart from diet, a deficiency in the supply of oxygen favors obesity. This is evident, whether the deficiency be due to sedentary occupation or to a want of red blood-corpuscles to carry the oxygen to the tissues. On the other hand, a good supply of oxygen, which is favored by rich blood and healthy exercise in the open air, favors the complete combustion of the food and diminishes the tendency to obesity.

It is generally admitted that animal fats are capable of forming fat within the body, but, according to recent views, it is extremely doubtful whether hydrocarbons are capable of a similar transformation. We cannot in this place give the various physiological arguments which seem to support this revolutionary view, but must be content with stating that it is commonly accepted that the hydrocarbons of the diet lead indirectly, and not directly, to obesity.

Although these statements, which come to us with such high authority, change completely the chemical view of corpulence, yet, as a practical disease requiring to be combated by therapeutic measures, it stands precisely where it did. Whether the albuminates or the hydrocarbons be the immediate source of the fat, it is evident that by cutting off the latter from the diet we stand the best chance of attaining a diminution of the superabundant adipose tissue. By permitting the patient to consume a fair proportion of albuminates, we keep his tissues well nourished, prevent anæmia, and encourage that activity of function which is the greatest enemy of undue corpulence; while by cutting off the hydrocarbons we necessitate a thorough combustion of the albuminates, which thus form water and carbonic acid in the place of adipose matter.

The observations of Brillat Savarin on obesity, made more than fifty years ago, are marked by all his well-known acuteness, and his hints to the obese leave nothing to be desired. He insists on three things—(1) Discretion in eating; (2) moderation in sleeping; and (3) exercise on foot or on horseback; but at the same time he remarks that his knowledge of human nature tells him that the self-indulgent mortals to whom he preaches will turn a deaf ear to all his good advice. Brillat Savarin's "antiobesique" diet consisted in excluding farinaceous articles, such as Italian pastes, rice, potatoes, macaroni, and white bread. In addition, he was most particular not to allow eggs, as if his observant eye had foreseen what physiological chemistry has just told us. He replaced the greater number of farinaceous articles by toast and rye bread, of which latter he astutely observes, people are certain not to eat too much. To allow a sufficient interval between meals, and always to rise from a meal with appetite, were among the precepts which he thought it right to give. These were the precepts of Savarin in 1825; they were the precepts of Banting in 1869, and are the precepts of Immermann in 1878.—*London Lancet*.

THE POISON GLANDS OF THE CENTIPEDES.

It has long been known that the Chilopoda Myriopoda, commonly known as Centipedes, which are carnivorous in their habits, kill their prey by a poison injected at the first bite of their formidable nippers. The seat of the glands secreting the poisonous fluid was, however, unknown, the organs formerly supposed to secrete the venom being found to pour their secretions into the cavity of the mouth, and not into the nippers. Mr. McLeod, during a residence in Java, took the opportunity of examining some of the large centipedes with which that island abounds, and especially *Scolopendra horrida*; and finding that, as above stated, the glands which might easily be taken for poison glands had nothing to do with the nippers, which, nevertheless, always exhibited a very distinct orifice at the tip, he was led to search for the glands in the interior of those organs themselves.

The process he adopted has of late given admirable results in the investigation of the anatomy of many animals; namely, the preparation of sections of them in various directions after they had been immersed in melted paraffin, the subsequent hardening of which keeps all parts in their natural positions during the operation of cutting. By this means he detected the poison gland, which is situated partly in the actual biting portion of the nipper, and partly in the broad basal joint which supports the latter. The glandular apparatus consists of a chitinous duct leading to the orifice at the apex of the organ, and forming the axis of the gland. It is perforated in its course by a multitude of small apertures, each of which leads into a minute cylindrical tube terminating in a long secreting cell, the whole mass of these cells being arranged in a radiating fashion around the duct. The entire organ is surrounded by a membrane, and has the general form of a four-sided prism. Notwithstanding its comparatively small size, Mr. McLeod has detected the same arrangement in *Lithobius forficatus* (the common European centipede).—*Bull. Acad. Roy. de Belgique*.