the addition of water to liquid chloral, produced by the action of dry chlorine gas or ethylic alcohol. The gas is passed through in a continuous stream for a length of time, when the alcohol is saturated and can absorb no more; the chloral separates as an oily layer, which is treated by being agitated with sulphuric acid, when most of the hydrochloric acid present will escape. The chloral is then rectified over carbonate of calcium. This constitutes chloral, which is a colourless liquid. On the addition of water it becomes hydrated, that is to say, the water combines with it, forming chloral hydrate or hydrate of chloral. The water is added to the chloral in flasks, and the hydrate is cast into cakes, or may be purified by crystallisation.

It is in colourless crystals with a very decided odour, very soluble in water. It will dissolve in less than its own weight. Soluble in alcohol, ether, or chloroform. On applying heat it will soon fuse to a colourless liquid. When treated with an alkali, chloroform and formic acid are formed. In fact, the purest chloroform is that prepared in this manner. The dose of chloral hydrate is 5 to 20 grains. There is a syrup in which it is dissolved in distilled water, and syrup added. The strength is 10 grains in 1 fluid drachm. The dose is 2 fluid drachms. There is no other preparation official. Its chief use as a medicine is as an anodyne and soporific. It acts on the nervous system, alleviates pain, and produces sleep. It is in this respect that it is so universally known. Though often spoken of as chloral, it is always chloral hydrate that is meant. There is a substance called butyl chloral hydrate or croton chloral hydrate, but when that is meant its full name is always given, whereas chloral itself is not used in medicine, and when mentioned it is only the general term for the hydrate. It is given in cases of asthma, in spasmodic affections, and whooping-cough. It is said to be of service in sea-sickness; it is also given in convulsions, infantile and puerperal. When saturated with camphor, an oily but clear liquid is formed, which is of service in neuralgia, applied to the affected part. If painted over the larynx it will allay spasmodic cough.

Chloral hydrate is frequently prescribed in obstetric cases, when fairly large doses are given. To cure the chloral habit, which is the habitual use of the drug, the amount taken must be reduced each day, the patient kept as much as possible in the open air, and given regular exercise and change of scene. In cases of poisoning from chloral hydrate the stomach-pump should be used, emetics given, and substances which antagonise its effect (which is to depress the heart and circulation). Appropriate remedies to employ are alcoholic stimulants, atropine, and strychnine. The patient must be kept very warm. Hot coffee may be given, oxygen inhaled, and artificial respiration employed if necessary.

Aural Hygiene.

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(Continued from p. 489.)

Although wax does not collect in the healthy ear, yet anomalies of secretion frequently occur either in the direction of diminution or increase. The former condition, resulting in an abnormal dryness of the meatus, is met with after inflammation of the external meatus, and is also a frequent concomitant of that non-suppurative disease of the middle ear called sclerosis. It causes a feeling of tension and itching, and is sometimes accompanied by a certain amount of epidermal desquamation. Any *treatment* should be directed to the relief of these symptoms. Applications of glycerine or vaseline will allay the itching and dryness, and the constant current has been recommended as useful.

The collection of, and consequent plugging of the meatus by, cerumen is one of the most frequent aural troubles for which the practitioner is consulted. These collections probably result from a combination of increased glandular activity and insufficient removal of the resulting excess of secretion. Penetration of water into the meatus during bathing, pricking and scratching the ear by misguided attempts at removal, and other unnatural conditions may be cited as serving to agglutinate the wax into masses that do not come away naturally, so that collections take place which result in large, compact plugs. I have known the continued irritation of the ivory ear-pieces of the binaural stethoscope to act in this way. Occupations of a dusty nature (*e.g.*, millers, coal-heavers, and the like) also play an important part in causing impaction of cerumen.

The connection between increased ceruminal secretion and other diseases of the ear is not yet fully worked out, but that there is some such connection is proved by the statistics of various observers. For instance, Toynbee found that 36 per cent. only of patients had normal hearing after removal of wax; Wendt gave 68 per cent., Schwartze 81 per cent. Plugs of wax are most frequent in middle age, and are rare in children (Hartmann). They are common in cases of chronic inflammation, and it is possible that the hyperæmia which accompanies inflammatory conditions is responsible for the increased glandular activity, and that the diminution of secretion found in middle-ear sclerosis is due to the atrophic nature of that disease.

The character of the plug of wax varies in colour from a yellowish brown to a lustrous black, and in consistence from very soft to very hard. Often the plug consists of a mixture of wax and dead epithelium. In size it may only occupy a portion of the meatus, or it may completely block that passage. It may extend down to the membrane, in which

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