

The forms, causes, and treatment of tinnitus aurium / by W. Douglas Hemming.

Contributors

Hemming, William Douglas, 1848-1881.
Royal College of Surgeons of England

Publication/Creation

London : Office of the British Medical Association, 1880.

Persistent URL

<https://wellcomecollection.org/works/tx37znf9>

Provider

Royal College of Surgeons

License and attribution

This material has been provided by This material has been provided by The Royal College of Surgeons of England. The original may be consulted at The Royal College of Surgeons of England. where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

182 268

THE
FORMS, CAUSES, AND TREATMENT
OF
TINNITUS AURIUM.

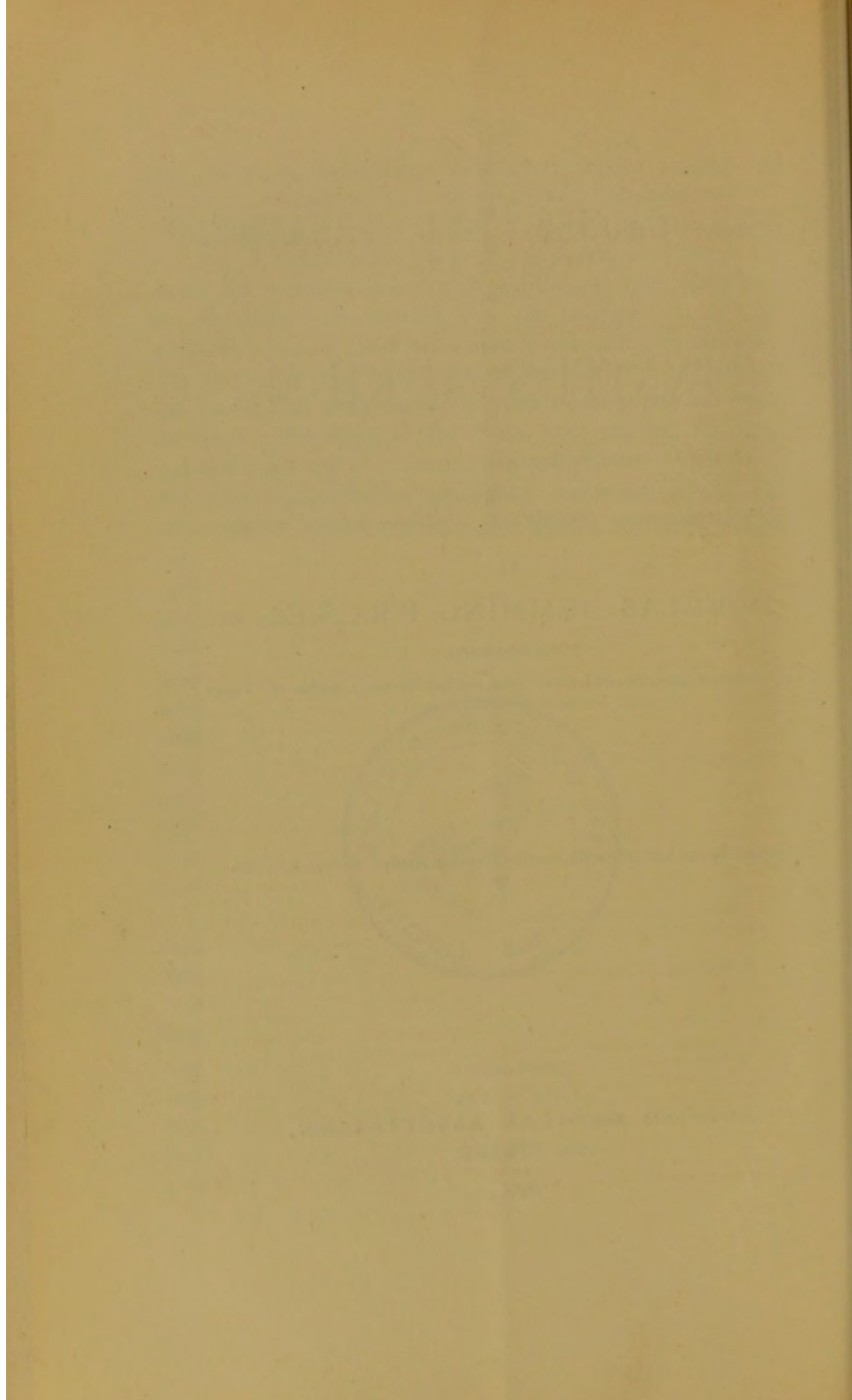
BY
W. DOUGLAS HEMMING, F.R.C.S.Ed., ETC.,
BOURNEMOUTH.

Late Assistant-Surgeon, Central London Throat and Ear Hospital; Author of "Papers
on Aural Affections," etc.

Reprinted for the Author from the BRITISH MEDICAL JOURNAL of Sept. 25th, 1880



LONDON:
OFFICE OF THE
BRITISH MEDICAL ASSOCIATION,
161A, STRAND.
—
1880.



THE FORMS, CAUSES, AND TREATMENT OF TINNITUS AURIUM.*

THE subject of tinnitus aurium being one of those selected for special consideration in the Subsection of Otology, I thought it might be as well, partly as an introduction to the discussion, to give a slight sketch, necessarily of course brief and incomplete, of the various forms of the affection, its most common causes, and the methods of treatment found generally valuable. Into pathological considerations I do not propose to enter, confining myself entirely to purely practical points.

Tinnitus is one of the commonest symptoms coming under the aural surgeon's notice, and it is decidedly one of the most intractable. It has been, by some authors, treated of almost as a distinct disease; this, however, it cannot be considered, as, though cases may, and do, occasionally occur in which no morbid condition is discoverable in any part of the organ of hearing, yet, even in these instances, there is, if not any local lesion, some deranged condition of the system interfering with the circulation or innervation of the auditory apparatus, and thus originating the symptom.

Of the various forms and kinds of noises, the descriptions given by patients are often perplexing, and not seldom ludicrous. The account varies with the occupation of the patients and the sounds most familiar to them. Careful consideration and examination of the various descriptions given in large numbers of cases show that noises in the ears may be divided into about six classes, which for convenience I will here arrange in tabular form, with the causes producing them in corresponding column, upon the lines first laid down by Dr. Woakes.

KIND OF NOISE.

1. Tidal "to-and-fro" noises, like the sound produced when a shell is held to the ear.
2. Humming or buzzing noises, like the sound of a humming-top or the buzzing of a bee.
3. Gurgling or bubbling noises, as of air bubbling through fluid.
4. Rustling or crackling noises.
5. Constant, rushing noises, like the falling of water in a cataract.
6. Pulsating noises, often said to be like the beating of a drum; frequently synchronous with the pulse.

CAUSES.

Tobacco; chronic catarrh of the middle ear, ending in undue contraction of intrinsic muscles.

Impacted cerumen, eczema, foreign bodies or parasites in the external meatus.

Fluid in either (*a*) the tympanum, or (*b*) the Eustachian tube; the result of catarrh.

Deficiency of cerumen; (hairs in the meatus or on the membrane give sounds like an *Æolian* harp); acute catarrh in its later stages.

Venous congestion of the labyrinth.

(*a*) Extra-aural causes, anæmia, aneurism, etc.; (*b*) Arterial congestion of the labyrinth.

* Read in the Subsection of Otology at the Annual Meeting of the British Medical Association in Cork, August 1879.

The above are the principal forms in which we find the symptom showing itself. In considering a little more in detail the causes of them, it will be convenient to divide them into two great classes, extra-aural and intra-aural, and to subdivide the latter class again, in accordance with the three divisions of the organ of hearing.

The extra-aural causes of tinnitus may depend upon a derangement of some part of the body in the immediate vicinity of the ear, or may be due to a morbid state of the system generally. Causes situated in the immediate vicinity of the auditory apparatus are such as narrowing of a vessel, for example, a branch of the temporal, of the posterior auricular, or of the carotid artery. The position of this last-named vessel renders any abnormality in the circulation of blood through it especially likely to produce aural symptoms. The cause in other cases will be more remote, and may be found in an aneurism of a branch of the aorta or of that vessel itself.

Of general constitutional causes, anæmia is a very common one, the well known *bruit de diable* propagated from the vessels of the neck causing sounds which in this case, as well as in aneurism, are of a pulsating character. Other general causes are numerous; bathing, mental excitement, overwork of the brain, depression of spirits, hysteria, hypochondriasis, gout, dyspepsia, obstructed portal circulation, exposure to blasts of cold air, the effect of explosions or of artillery practice, have all been mentioned by authors as causes of the symptom. The effect of quinine in producing tinnitus is also well known.

Childbearing and lactation are frequently accompanied by troublesome tinnitus, which is also common about the menopause. It is probable that, in these cases, the actual cause is found in the anæmic condition of the vascular system in the former cases, and the generally disturbed state of the nervous system in the last.

Tobacco, whether smoked, chewed, or snuffed, is a more frequent excitant of tinnitus than is supposed. The sound produced is of a "sea-shell" character; and, according to Dr. Ladreit de Lacharrière, it is the result of changes in the Eustachian tube, being more intense according as the obstruction of the tube is more complete. It is accompanied by deafness.

Tinnitus may or may not accompany the deafness frequently produced by the diseases of infantile life, mumps, whooping-cough, and the exanthemata, especially scarlatina.

Cerebral disease frequently accompanies, if it do not cause, tinnitus; but in the case of insane patients it is necessary to differentiate from tinnitus the hallucinations of hearing of which they are so often the victims.

Intra-aural causes, as I have said, may be subdivided according to the three divisions of the organ of hearing.

1. *External Ear*.—The conditions of this part causing tinnitus are: (a) Inflammation of the external meatus; (b) Impacted cerumen; (c) Deficiency of cerumen; (d) Hairs in the meatus or lying on the membrane; (e) Dried pus pressing on the membrane; (f) *Aspergillus* in the meatus; (g) Any other foreign body in the canal which presses on the membrane. Detailed consideration of these conditions is unnecessary, as they are all discernible by means of the aural speculum.

2. *Middle Ear*.—The following conditions of the middle ear cause tinnitus: (a) Adhesive mucus on the inner surface of the membrane, in the tympanic cavity, or at or near the orifice of the Eustachian tube, due to middle ear or postnasal catarrh; the tinnitus is of a bubbling

gurgling character; (*b*) A foreign body in the Eustachian tube; (*c*) Acute catarrh, or inflammation of the middle ear; (*d*) Chronic catarrh having as its result contraction of the tensor tympani and intrinsic muscles, which causes incursion of the stapes into the fenestra ovalis, and consequently increased intralabyrinthal pressure. Tidal noises result.

3. *Internal Ear*.—Our knowledge with respect to the abnormal conditions of this region is still limited, in spite of the many laborious investigations which have been carried on, principally by our German and American *confrères*. The most common and obvious cause of tinnitus in this part is congestion of the labyrinthine circulation. According as this is either (*a*) venous, or (*b*) arterial, the tinnitus will be rushing or pulsating. In the pulsating arterial tinnitus, the beats will often be found to be synchronous with the pulse of the patient.

In many cases, two or more causes will be found co-existing. Thus an extra-aural cause, such as an overwrought brain, may be found in combination with a chronic catarrh of the middle ear, or a disturbed state of the digestive functions may be coincident with the presence of impacted cerumen in the meatus. When different kinds of noises are present together, the differentiation of the classes of sound will often facilitate the discovery of the cause, but it is frequently most difficult to trace the tinnitus to its origin in these complicated cases.

The limited time accorded to papers forbids my entering into more detail with respect to etiology, and I must hasten to say a few words in reference to the most effective methods of treatment.

With respect to the treatment of cases due to extra-aural causes, little need be said, as it resolves itself into the treatment of the constitutional or local condition originating the symptom. Anæmia will require tonics; excited action of the heart may be combatted by digitalis; aneurism must be treated on the recognised principles; where there is suspicion of syphilis as the origin of cerebral or nervous disorder, iodide of potassium must be tried; disturbance of the portal circulation must be met with the familiar weapons, and the *primæ viæ* should always be regulated.

On the treatment of cases due to intra-aural causes I will endeavour to speak a little more fully.

1. *The External Ear*.—(*a*) Inflammation of the external meatus may be either circumscribed or diffuse. Tinnitus is more commonly a symptom of the latter than of the former. The treatment of diffuse inflammation consists in the application of leeches in front of the tragus in the early stages, followed by irrigation with warm water poured continuously (not syringed) into the meatus. If the pain be very severe, anodynes may be added to the water; laudanum or morphia, for example. Constitutional treatment must be combined with local, as the general health is usually deranged. (*b*) Impacted cerumen must be treated by removal, the membrane and meatus of the affected side being afterwards restored to a normal condition. For the removal of wax, the syringe and warm water are the only weapons which should be employed. If the cerumen have become very hard, the application for a few hours of a warm solvent solution, as oil, or a solution of bicarbonate of soda (ten grains to an ounce) will facilitate the process. After the cerumen has been removed, the membrana tympani should be carefully examined; if it be retracted, the tympanum should be inflated by Valsalva's or Politzer's method. The tinnitus will then probably cease; if not, some other

cause is present, and must be sought for and treated. (c) If the secretion of cerumen be deficient, it is probable there will be co-existent a torpidity of the digestive canal, which may be advantageously treated by a combination of tonics and aperients. Deficient cerumen is often connected with a gouty or rheumatic diathesis. It may follow cold bathing. Weak astringent solutions, as of nitrate of silver or acetate of lead, may be applied locally. The condition of the throat must also be inquired into and examined, as enlargement of the tonsils or relaxation of the mucous membrane will not unfrequently be found. (d) Tinnitus resembling the sound of an Æolian harp, and apparently due to an abnormal growth of hairs in the meatus, can only be relieved by their removal. They should not be pulled out, but cut off close and removed with the aid of the syringe. A hair lying on the membrane may be dislodged by gentle syringing, or by means of a small brush moistened with equal parts of glycerine and water. (e) Dried pus on the membrane must be removed by the syringe. (f) The aspergillus fungus will have to be removed with the forceps under a good illumination. Syringing with warm water and alcohol will be of use to prevent a recurrence. (g) For the removal of foreign bodies, nothing but the syringe should be employed. There are two or three cardinal rules on this point, which, from the importance of the subject, I make no apology for introducing here. First, it should be remembered that a hard substance may be left in the meatus, even for years, without causing injury. Secondly—and this rule should *never* be departed from—*no attempt should be made for the removal of a foreign body which cannot be seen.* Thirdly, force must *never* be used for the extraction of substances from the ear. To effect removal by the syringe, the body having been seen, the fine nozzle, known as Toynbee's, should be employed; and, the auricle being drawn backwards and upwards so as to straighten the canal as much as possible, the jet of water should be directed along its upper wall. In this manner, the water will get behind the body and force it out. In some cases, removal will be facilitated by turning the patient on his side, with the affected ear downwards, and syringing from below. A small round substance, as a marble, may be removed by means of a brush, dipped in glue or coaguline, which, being placed in contact with it, is allowed to harden, and then brush and body are withdrawn together.

2. *The Middle Ear.*—(a) Collections of adhesive mucus about the pharyngeal orifices of the Eustachian tubes are not uncommon in the postnasal catarrh, which is so frequent a cause of middle-ear catarrh; in these cases, mucus will also probably be found in the tympanum and on the drum-head. In such conditions, benefit will accrue from the use of vapour inhalations, as of benzoin, benzole, and creasote, which should be forced into the tympanum by the Valsalvan method of inflation. The condition of the throat must be attended to, and the secretion in the nasal passages may be best removed, and that region brought into a healthy condition, by means of the posterior nasal syringe, for use with which a tepid solution of carbolic acid (gr. j. to ʒj.) will be found suitable. The Politzer bag must be frequently employed, and the Eustachian catheter, if necessary. Should these measures fail to remove the mucus from the tympanum, the membrane must be incised and the middle ear washed out with a weak solution of sulphocarbonate or bicarbonate of soda. For internal use in purely catarrhal cases, chloride of ammonium is of much value. (b) Foreign bodies in the Eustachian tube are very rare, and their

removal presents much difficulty, each case requiring a special mode of treatment to be devised for it. (c) In acute catarrh there will be, besides tinnitus, severe pain, deep-seated in the ear, impairment of hearing, bulging of the membrane, and vascular injection. The warm douche should be employed, and leeches applied in front of the tragus. Poultices should, if possible, be avoided, or, if used, they should be made small enough to go into the canal. If there be much accumulation of mucus in the tympanum, early paracentesis of the membrane is indicated, and is, as Dr. Cassells has shown, a truly "conservative" measure. On the subsidence of the acute symptoms, inflation of the middle ear must be practised. General constitutional treatment must be coincident with the local measures, and this remark applies to all aural affections. We must be careful, while paying attention to local conditions, not to overlook their connection with, and frequent dependence upon, constitutional derangement. (d) In those cases where, from chronic catarrh, there is contraction or paralysis of the intrinsic muscles, we must endeavour to stretch these muscles, or restore to them their lost contractile power. The former indication is sometimes met by the employment of Siegle's speculum, which draws out the retracted membrane, and with it the ossicles and attached muscles. More powerful forms of tractor have been devised and recommended; but I cannot but think that their use is attended with some danger. For restoring the lost muscular tone, the application of electricity is of value. The magneto-electric and galvanic current has often proved efficacious in the treatment of this form of tinnitus. Lastly, the tendon of the tensor tympani may be divided. In some cases, simple incision of the membrane, without division of the tendon, has afforded relief.

3. *The Internal Ear*.—In the cases due to congestion of the labyrinthine blood-vessels, more is to be hoped from internal than from local measures. Hydrobromic acid has had claimed for it by Dr. Woakes the position of "a specific remedy for congestive labyrinthine conditions, providing always that the auditory apparatus be first relieved of any well-marked process which by its presence might tend to keep up excessive vascular action". I have obtained good results from this remedy in many cases. The dose is from fifteen drops upwards.

The flight of time warns me that I must conclude this brief and imperfect sketch. There are many points on which I would gladly have enlarged had time permitted; but I must content myself with a hope that my paper will be indulgently received, and may form the basis for a discussion which will throw more light on this interesting subject.
