

FIG. 587.

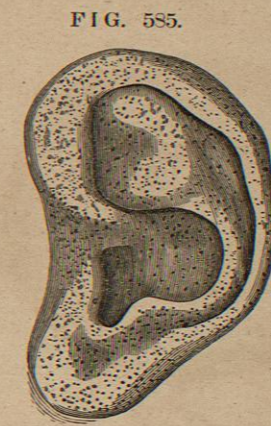
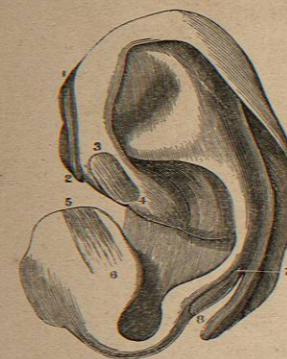


FIG. 589.

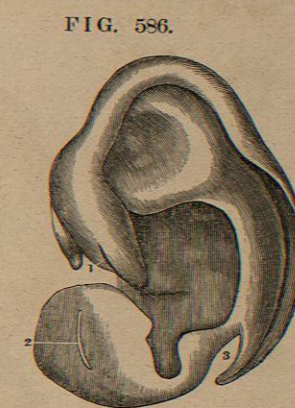


FIG. 588.



THE EXTERNAL EAR.

**FIG. 584.**  
 A VIEW OF THE LEFT EAR IN ITS NATURAL STATE.  
 1.2. The origin and termination of the Helix.  
 3. The Anti-Helix.  
 4. The Anti-Tragus.  
 5. The Tragus.  
 6. The Lobus of the External Ear.  
 7. Points to the Scapha, and is on the front and top of the Pinna.  
 8. The Concha.  
 9. The Meatus Auditorius Externus.

**FIG. 585.**  
 A VIEW OF THE SEBACEOUS FOLLICLES OF THE EXTERNAL EAR. THEY ARE RENDERED MORE APPARENT FROM MACERATION.

**FIG. 586.**  
 A VIEW OF THE CARTILAGE OF THE EXTERNAL EAR,—DE-

PRIVED OF ITS SKIN AND SHOWING HOW MUCH THE SHAPE OF THE EAR IS DUE TO THE CARTILAGINOUS PLATE.  
 1. A Fissure found in the lower front portion of the Helix.  
 2. The Fissure found in the Tragus.  
 3. The Fissure and Caudate Shape of the lower end of the Helix.

These Fissures favour the Flexion of the different portions of the Cartilaginous Plate of the External Ear.

**FIG. 587.**  
 THE CARTILAGE OF THE EXTERNAL EAR, WITH SOME OF ITS MUSCLES.

1.2. The Helicis Major Muscle on the front of the Helix.  
 3.4. The Helicis Minor Muscle.  
 5.6. The Tragicus Muscle on the front surface of the Tragus.  
 7.8. The Anti-Tragicus Muscle.

**FIG. 588.**  
 A VIEW OF THE INNER SIDE OF THE CARTILAGE OF THE EXTERNAL EAR, OR THAT NEXT TO THE CRANIUM.  
 1.2.3. The Transversus Auriculæ Muscle in its usual position.

**FIG. 589.**  
 AN ANTERIOR VIEW OF THE EXTERNAL EAR, AS WELL AS OF THE MEATUS AUDITORIUS, LABYRINTH, &C.

1. The Opening into the Ear at the bottom of the Concha.  
 2. The Meatus Auditorius Externus or Cartilaginous Canal.  
 3. The Membrana Tympani stretched upon its Ring.  
 4. The Malleus.  
 5. The Stapes.  
 6. The Labyrinth.



FIG. 591.



FIG. 592.



FIG. 593.



FIG. 594.



FIG. 590.

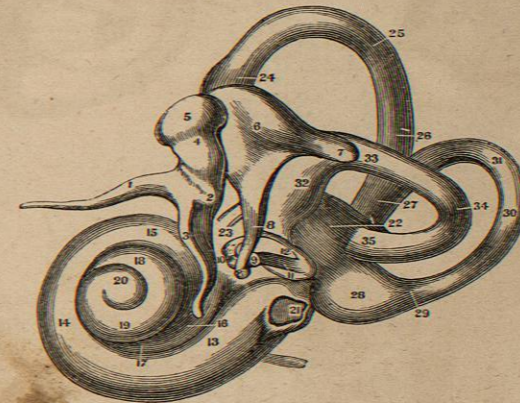


FIG. 595.



FIG. 596.



FIG. 597.



THE BONES OF THE EAR.

FIG. 590.

A VIEW OF THE LABYRINTH AND TYMPANUM OF THE EAR, WITH THE BONES IN SITU; HIGHLY MAGNIFIED.

1. Processus Longus of the Malleus.
2. Its Processus Brevis.
3. Its Manubrium.
4. Its Neck.
5. Its Head.
6. Body of the Incus.
7. Its Processus Brevis.
8. Its Processus Longus, with the little head for articulating with the Stapes.
9. The Head of the Stapes.
10. Its Anterior Crus.
11. Its Posterior Crus.
12. Its Base.
- 13.14.15. The first turn of the Cochlea.
- 16.17.18. Its second turn.
19. Its half turn.
20. The Cupola.
21. The Fenestra Rotunda.
- 22.23. The Vestibule.
- 24.25.26. Anterior Semicircular Canal.
27. Its junction with the Posterior Canal.
- 28.29.30.31. The Posterior Semicircular Canal.
- 32.33.34.35. The External Semicircular Canal. The Enlargements on these Canals are called Ampullae.

FIG. 591.

A FULL VIEW OF THE MALLEUS.

1. Processus Longus.
2. Processus Brevis.
3. The Manubrium.
4. The Neck.
5. The Head of the Malleus; near the Figure is seen a small Articulating Face for the Incus.

FIG. 592.

A VIEW OF THE INCUS.

1. Its Body, with the Articular Face for the Convex Head of the Malleus.
2. Its Short or Horizontal Process.
3. Its Long or Perpendicular Process.
- 4.4. The Head of this Process for articulating with the Head of the Stapes. It is also called the Orbiculare.

FIG. 593.

A VIEW OF THE MALLEUS, SHOWING ITS PROCESSUS BREVIS AND THE ARTICULATING FACE FOR THE INCUS.

1. The Processus Brevis.

FIG. 594.

A FRONT VIEW OF THE STAPES.

- 1.2. The Head of the Stapes with its Articulating Face placed Obliquely.
3. Its Neck.
4. Its Anterior Crus.
5. Its Posterior Crus more curved than the other.
6. Its Base, the part which covers the Fenestra Ovalis.

FIG. 595.

A MAGNIFIED VIEW OF THE STAPES FROM ABOVE, SHOWING THE FENESTRUM IN ITS BASE.

1. Cartilaginous Articular Face, with the Orbiculare attached to it.
2. Its Anterior Crus.
3. Its Posterior Crus.
- 4.4. Its Base slightly open.

FIG. 596.

A MAGNIFIED VIEW OF THE CELLULAR STRUCTURE IN THE CENTRE OF THE INCUS.

FIG. 597.

A MAGNIFIED VIEW OF THE INTERNAL OR CELLULAR STRUCTURE OF THE MALLEUS ON THE SIDE OF ITS PROCESSUS BREVIS.





FIG. 598.



FIG. 600.

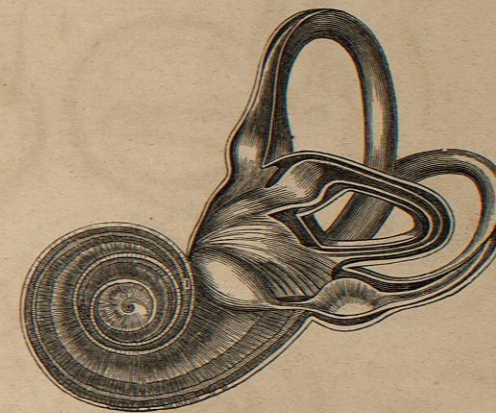


FIG. 599.



FIG. 601.



THE INTERNAL EAR.

FIG. 598.

A VIEW OF THE LABYRINTH OF THE LEFT EAR OF A FÆTUS OF 8 MONTHS, AS SEEN FROM ABOVE.—MAGNIFIED 4 DIAMETERS.

- 1.2.3. The Cochlea.
- 1.1. Its First Turn.
- 2.2. Its Second Turn.
- 3.3. Its Third or Half Turn, and Apex or Cupola.
- 4. The Foramen Rotundum.
- 5. The Foramen Ovale.
- 6. The Groove around it.
- 7.7. The Vestibule.
- 8.9.10. The Inferior Semicircular Canal, with its Ampulla at 8.
- 11.11. The Superior Semicircular Canal.
- 12. The External Semicircular Canal.

FIG. 599.

AN OUTLINE, OF THE NATURAL SIZE, OF FIGURE 598.

FIG. 600.

A VIEW OF THE LABYRINTH OF THE LEFT SIDE LAID OPEN AND SHOWING ITS CONTENTS.

This Figure has the same References as Fig. 598, and is the same as it, except that the Elliptical Sacs and the Membranous Semicircular Canals, &c., are seen within the Bony Cavity as shown in Fig. 602.

FIG. 601.

THE NATURAL SIZE OF FIG. 600.





FIG. 602.

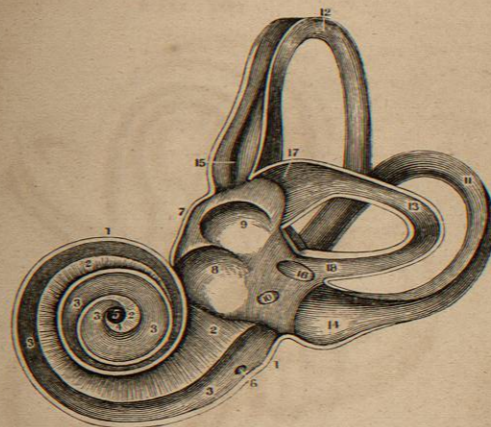


FIG. 603.

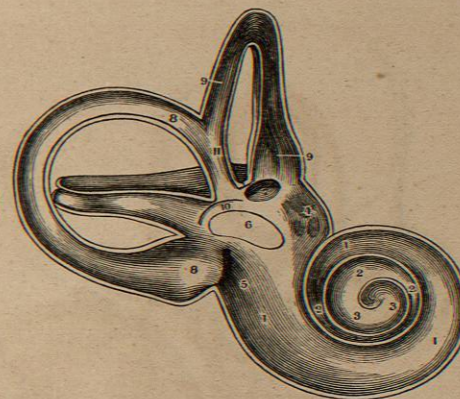
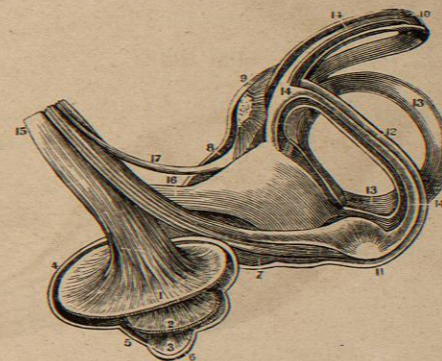


FIG. 604.



THE INTERNAL EAR.

**FIG. 602.**  
A VIEW OF THE LABYRINTH OF THE LEFT SIDE, LAID OPEN IN ITS WHOLE EXTENT SO AS TO SHOW ITS STRUCTURE. THESE FIGURES ARE ALL MAGNIFIED.

- 1. The Thickness of the outer Covering of the Cochlea.
- 2.2. The Scala Vestibuli or upper Layer of the Lamina Spiralis.
- 3.3. The Scala Tympani or lower Layer of the Lamina Spiralis.
- 4. The Hamulus Cochleæ.
- 5. Centre of the Infundibulum.
- 6. The Foramen Rotundum communicating with the Tympanum.
- 7. The Thickness of the outer Layer of the Vestibule.
- 8. The Foramen Rotundum.
- 9. The Fenestra Ovalis.
- 10. The Orifice of the Aqueduct of the Vestibule.
- 11. The Inferior Semicircular Canal.
- 12. The Superior do. do.
- 13. The External do. do.
- 14. The Ampulla of the Inferior Canal.

- 15. The Ampulla of the Superior Canal.
- 16. The common Orifice of the Superior and Inferior Canals.
- 17. The Ampulla of the External Canal.

- 9.9. The Superior Canal.
- 10. Part of the Ampulla of the External Canal.
- 11. The Union of the Superior and Inferior Canals.

**FIG. 603.**  
THE LABYRINTH OF THE LEFT SIDE, LAID OPEN THROUGHOUT ITS WHOLE EXTENT, AND SHOWING ON ITS LOWER HALF, MORE PLAINLY THAN THE PRECEDING FIGURES, THE THICKNESS OF ITS DIFFERENT PARTS.

- 1.2.3. The lower part of the Cochlea or the Scala Tympani.
- 1.1. The First Turn or Layer.
- 2.2. The Second Turn or Layer.
- 3.3. The Half or Third Turn.
- 4.5. The Inferior Half of the Vestibule.
- 6. Is in the Fenestra Ovalis.
- 7. The External Canal opening into the Vestibule.
- 8.8. The Inferior Canal.

**FIG. 604.**  
A VIEW OF THE LABYRINTH IN AN INVERTED POSITION, LAID OPEN SO AS TO SHOW THE DISTRIBUTION OF THE NERVES.

- 1.2.3. The Cochlea laid open in its fullest extent, so as to show the Lamina Spiralis. The Figures are placed on the Two Turns and a Half.
- 4.5.6. The remains of the Parietes of the Cochlea.
- 7.8. The Vestibule.
- 9.10. Superior Canal.
- 11.12. Inferior Canal.
- 13. The External Canal.
- 14.14. The Semicircular Membranous Canals.
- 15.16.17. The Auditory Nerve in its course to the Labyrinth.





FIG. 605.

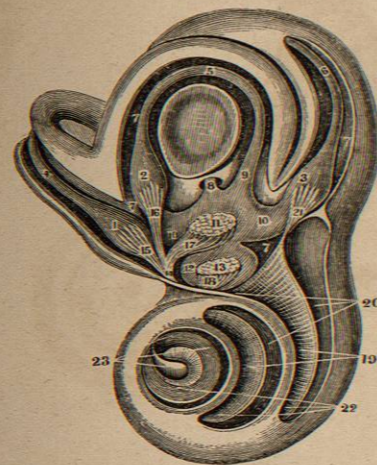


FIG. 606.

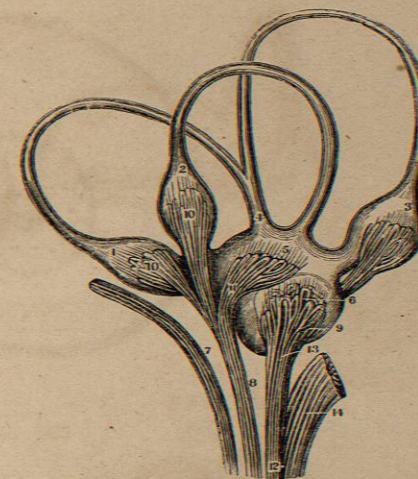


FIG. 607.



THE INTERNAL EAR.

FIG. 605.  
A HIGHLY MAGNIFIED VIEW OF THE EXTERNAL FACE OF THE BONY LABYRINTH OF THE LEFT SIDE, OPENED SO AS TO EXPOSE THE VESTIBULE AND ITS CONTENTS, &c.

The difference of Colour in the shades of this Figure, is intended to assist in distinguishing the external from the internal faces of the Labyrinth, and also the cavities supposed to be occupied by the Liquor of Cotunnus.

1. The Ampulla of the Superior Semicircular Canal.
2. The Ampulla of the External Canal.
3. The Ampulla of the Inferior Canal.
4. The Superior Membranous Semicircular Canal.
5. External Membranous Canal.
6. The Inferior Membranous Canal.
7. The Spaces between the Bony and Membranous Semicircular Canals, thought to be occupied by the Liquor Cotunnii.
8. The common Tube formed by the union of the Superior and Inferior Membranous Canals.

9. The place where the Internal Semicircular Canal opens into the Sacculus Ellipticus of the Vestibule.
10. The Sacculus Ellipticus containing the Otoconie of Breschet, seen at 11.
12. Sacculus Sphericus, containing also some Otoconie, as seen at 13.
14. 15. 16. 17. 18. The expansions of the Auditory Nerve to the Membranous Canals and the Sacculus Ellipticus, and also to the Sphericus.
19. The turns of the Lamina Spiralis.
20. The Scala Tympani.
21. The Nervous expansion to the Posterior Ampulla.
22. The Scala Vestibuli.
23. The Modiolus.

FIG. 606.  
THE SOFT PARTS OF THE VESTIBULE TAKEN OUT OF THEIR BONY CASE, SO AS TO SHOW THE DISTRIBUTION OF THE NERVES IN THE AMPULLÆ.

1. The Superior Semicircular Membranous Canal or Tube.

2. The External Semicircular Tube.
3. The Inferior Semicircular Tube.
4. The Tube of union of the Superior and Inferior Canals.
5. The Sacculus Ellipticus.
6. The Sacculus Sphericus.
7. The Portio Dura Nerve.
8. The Anterior Fasciculus of the Auditory Nerve.
9. The Nerve to the Sacculus Sphericus.
10. 10. The Nervous Fasciculi to the Superior and External Ampullæ.
11. The Nerve to the Sacculus Ellipticus.
12. The Posterior Fasciculus of the Auditory Nerve, furnishing
13. The filaments to the Sacculus Sphericus, and
14. The filaments to the Cochlea, cut off.

FIG. 607.  
THE AMPULLA OF THE EXTERNAL SEMICIRCULAR MEMBRANOUS CANAL, SHOWING THE MODE OF TERMINATION OF ITS NERVE.





FIG. 608.

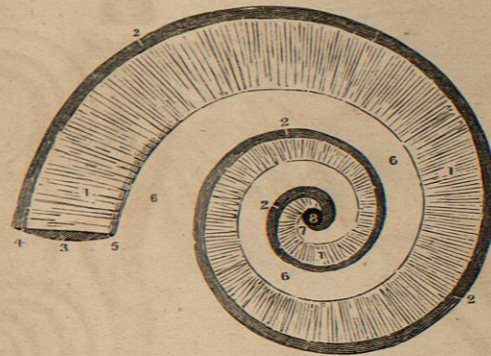


FIG. 609.

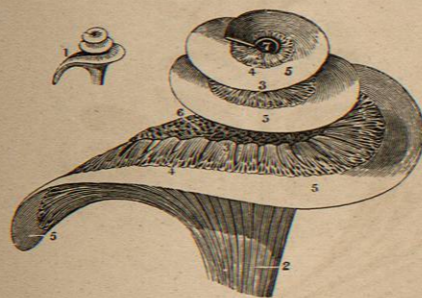
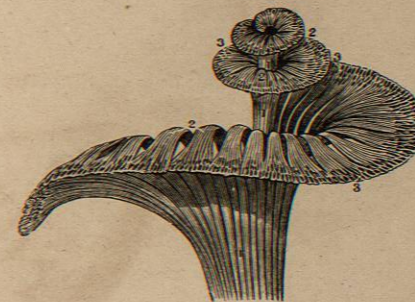


FIG. 610.



THE COCHLEA.

FIG. 608.

AN IMAGINARY FIGURE OR PLAN OF THE COCHLEA.

This Figure is designed to show how the two Scalae of the Cochlea communicate in its Summit. The Parietes of the Scala Vestibuli are supposed to be removed.

- 1.1. The Osseous portion of the Lamina Spiralis. Its small end is the Hamulus Cochleæ.
- 2.2. The dark ground here represents the Membranous portion of the Cochlea or the Zona Membranacea.
- 3. The commencement of the Scala Tympani.
- 4. Its External Edge.
- 5. Its Internal Edge.
- 6. Corresponds to the Modiolus around which the Lamina Spiralis is wound.
- 7. Its Summit.
- 8. The point of communication of the two Scalae.

FIG. 609.

A VIEW OF THE AXIS OF THE COCHLEA AND THE LAMINA SPIRALIS, SHOWING THE ARRANGEMENT OF THE THREE ZONES. THE OSSEOUS ZONE AND THE MEMBRANE OF THE VESTIBULE HAVE BEEN REMOVED.

- 1. The natural size of the parts. The other Figure is greatly magnified.
- 2. Trunk of the Auditory Nerve.
- 3. The distribution of its Filaments in the Zona Ossea.
- 4. The Nervous Anastomosis in the Zona Vesicularis.
- 5. The Zona Membranacea.
- 6. The Osseous tissue of the Modiolus.
- 7. The opening between the two Scalae.

FIG. 610.

THE AUDITORY NERVE TAKEN OUT OF THE COCHLEA.

- 1.1.1. The Trunk of the Nerve.
- 2.2. Its Filaments in the Zona Ossea of the Lamina Spiralis.
- 3.3. Its Anastomoses in the Zona Vesicularis.