

FIG. 611.

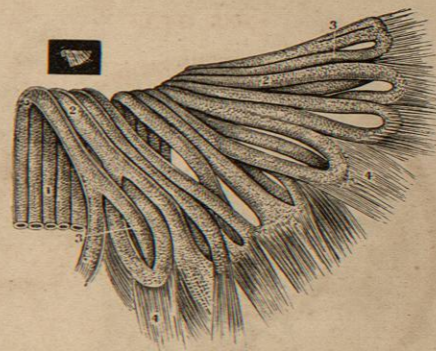


FIG. 612.

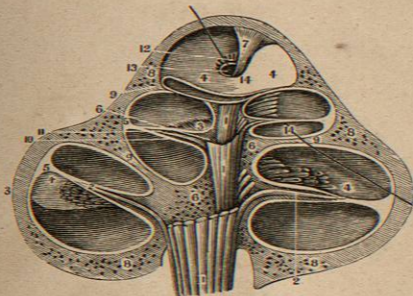
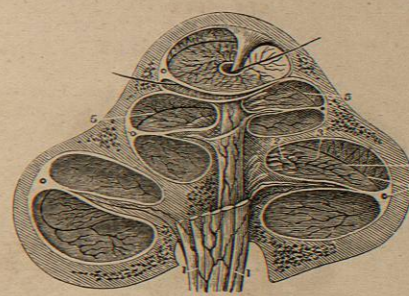


FIG. 613.



THE COCHLEA.

FIG. 611.

A HIGHLY MAGNIFIED VIEW OF A SMALL PIECE OF THE LAMINA SPIRALIS, SHOWING THE GLOBULAR STRUCTURE OF THE NERVES AND THE MANNER IN WHICH THEY LEAVE THEIR NEURILEMMA AS THEY ANASTOMOSE.

The natural size of the piece is seen on the side of the Figure.

- 1. Portion of the Auditory Nerve.
- 2.2. Osseous Canals in the Zona Ossea of the Lamina Spiralis.
- 3.3. Anastomoses in the Zona Mollis.
- 4.4. The Neurilemma leaving the Nervous Loops and interlocking to form the Layer of the Zona Membranacea.

FIG. 612.

A VERTICAL SECTION OF THE COCHLEA, HIGHLY MAGNIFIED TO SHOW THE ARRANGEMENT AND CONNEXION OF ITS PARTS.

- 1.1. The Trunk of the Auditory Nerve.
- 2.2. Filaments of it in the Zona Ossea.
- 3.3. Anastomoses in the Zona Vesicularis.
- 4.4. Zona Membranacea.

- 5.5. The doubling up of its external edge.
- 6.6. The Axis of the Cochlea.
- 7. The Modiolus.
- 8.8. Exterior osseous parietes of the Cochlea.
- 9.9. The bony plates of the Lamina Spiralis.
- 10. The Scala Tympani.
- 11. The Scala Vestibuli.
- 12. The Hamulus Cochleæ.
- 13. The Infundibulum.
- 14. A Bristle passed through the course of the Lamina Spiralis.

FIG. 613.

A MAGNIFIED VIEW OF THE VEINS IN THE INTERIOR OF THE COCHLEA, AS GIVEN BY A VERTICAL SECTION. THE ARTERIES ACCOMPANY THE VEINS.

- 1.1. Veins accompanying the Auditory Nerve.
- 2. The First Anastomosis on a line with the periphery of the Zona Ossea.
- 3. The Second Anastomosis on a line with the periphery of the Zona Coriacea.
- 4. The last Branches occupying the Zona Membranacea.
- 5. The Venous Sinus in the periphery of the Zona Membranacea.

FIG. 614.

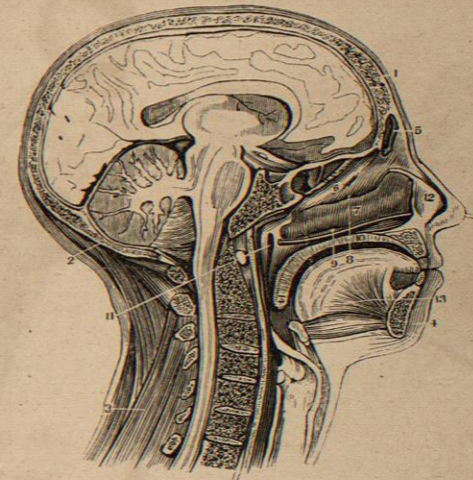


FIG. 615.

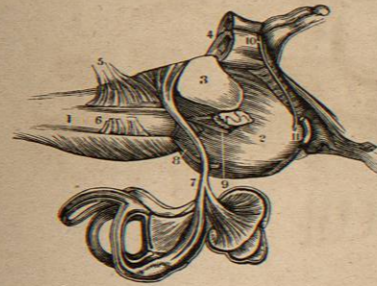
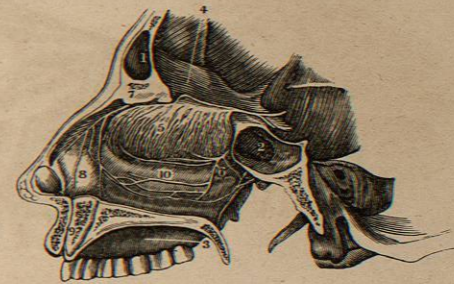


FIG. 616.



THE NERVES.

FIG. 614.

A VERTICAL SECTION OF THE HEAD AND NECK THROUGH THE MESIAL LINE, IN ORDER TO SHOW THE OPENING OF THE EUSTACHIAN TUBE AND ITS RELATIONS TO THE PHARYNX.

1. Section of the Os Frontis.
2. Section of the Os Occipitis.
3. The Muscles on the back of the Neck.
4. The Integuments on the Chin.
5. The Frontal Sinus.
6. The Middle Spongy Bone.
7. The Inferior Spongy Bone.
8. The Middle Meatus of the Nose.
9. The Inferior Meatus of the Nose.
10. Thickness of the Roof of the Mouth and Floor of the Nostril.
11. Opening of the Eustachian Tube. A Catheter is introduced in the Nostril and about to enter the Tube.
12. Cartilaginous Nasal Septum.
13. Genio-Glossus Muscle.
14. The Soft Palate.

FIG. 615.

A VIEW OF THE ORIGIN AND DISTRIBUTION OF THE PORTIO MOLLIS OF THE SEVENTH PAIR OR AUDITORY NERVE.

1. The Medulla Oblongata.
2. The Pons Varolii.

- 3.4. The Crura Cerebelli of the Right Side.
5. The Eighth Pair of Nerves.
6. The Ninth Pair.
7. The Auditory Nerve distributed to the Cochlea and Labyrinth.
8. The Sixth Pair of Nerves.
9. The Portio Dura of the Seventh Pair.
10. The Fourth Pair.
11. The Fifth Pair.

FIG. 616.

A VIEW OF THE FIRST PAIR OR OLFACTORY NERVES, WITH THE NASAL BRANCHES OF THE FIFTH PAIR.

1. Frontal Sinus.
2. Sphenoidal Sinus.
3. Hard Palate.
4. Bulb of the Olfactory Nerve.
5. Branches of the Olfactory Nerve on the Superior and Middle Turbinate Bones.
6. Spheno-Palatine Nerves from the Second Branch of the Fifth Pair.
7. Internal Nasal Nerve from the first Branch of the Fifth.
8. Branches of 7 to the Schneiderian Membrane.
9. Ganglion of Cloquet in the Foramen Incisivum.
10. Anastomosis of the Branches of the Fifth Pair on the Inferior Turbinate Bone.



FIG. 617.

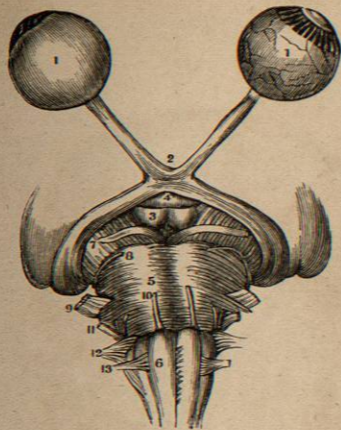


FIG. 619.



FIG. 618.



THE SECOND AND FIFTH PAIRS OF NERVES.

- FIG. 617.**
 A VIEW OF THE SECOND PAIR OF OPTIC NERVES, WITH THE ORIGIN OF SEVEN OTHER PAIRS OF NERVES.
- 1.1. Globe of the Eye; the one on the Left Hand is perfect, but that on the Right has the Sclerotic and Choroid Coats removed in order to show the Retina.
 2. The Chiasm of the Optic Nerves.
 3. The Corpora Albicantia.
 4. The Infundibulum.
 5. The Pons Varolii.
 6. The Medulla Oblongata.
 7. The Third Pair, Motores Oculi.
 8. Fourth Pair, Pathetici.
 9. Fifth Pair, Trigemini.
 10. Sixth Pair, Motor Externus.
 11. Seventh Pair, Auditory and Facial.
 12. Eighth Pair, Pneumogastric, Spinal Accessory and Glossopharyngeal.
 13. Ninth Pair, Hypoglossal.

- FIG. 618.**
 A VIEW OF THE THIRD, FOURTH AND SIXTH PAIRS OF NERVES.
1. Ball of the Eye and Rectus Externus Muscle.
 2. The Superior Maxilla.
 3. The Third Pair, or Motores Oculi, distributed to all the Muscles of

- the Eye except the Superior Oblique and External Rectus.
4. The Fourth Pair, or Pathetici, going to the Superior Oblique Muscle.
5. One of the Branches of the Seventh Pair.
6. The Sixth Pair, or Motor Externus, distributed to the External Rectus Muscle.
7. Spheno-Palatine Ganglion and Branches.
8. Ciliary Nerves from the Lenticular Ganglion, the short Root of which is seen to connect it with the Third Pair.

FIG. 619.

- A VIEW OF THE DISTRIBUTION OF THE TRIFACIAL OR FIFTH PAIR.
1. Orbit.
 2. Antrum Highmorianum.
 3. Tongue.
 4. Lower Jaw-Bone.
 5. Root of the Fifth Pair, forming the Ganglion of Gasser.
 6. First Branch of the Fifth Pair, or Ophthalmic.
 7. Second Branch of the Fifth Pair, or Superior Maxillary.
 8. Third Branch of the Fifth Pair, or Inferior Maxillary.

9. Frontal Branch, dividing into External and Internal Frontal Nerves.
10. Lachrymal Branch of the Fifth Pair.
11. Nasal Branch. Just under the Figure is the long Root of the Lenticular or Ciliary Ganglion and a few of the Ciliary Nerves.
12. Internal Nasal Nerve, disappearing through the Anterior Ethmoidal Foramen.
13. External Nasal Nerve.
14. External and Internal Frontal Nerve.
15. Infra-Orbitary Nerve.
16. Posterior Dental Branches.
17. Middle Dental Branch.
18. Anterior Dental Nerve.
19. Terminating Branches of the Infra-Orbitary Nerve, called the Labial and Palpebral Nerves.
20. Subcutaneous Mala; or Orbital Branch.
21. Pterygoid, or Recurrent Nerve, from Meckel's Ganglion.
22. Five Anterior Branches of the Third Branch of the Fifth Pair.
23. Lingual Branch of the Fifth Pair, joined by the Chorda Tympani.
24. Inferior Dental Nerve.
25. Its Mental Branches.
26. Superficial Temporal Nerve.
27. Auricular Branches.
28. Mylo-Hyoid Branch.



FIG. 620.

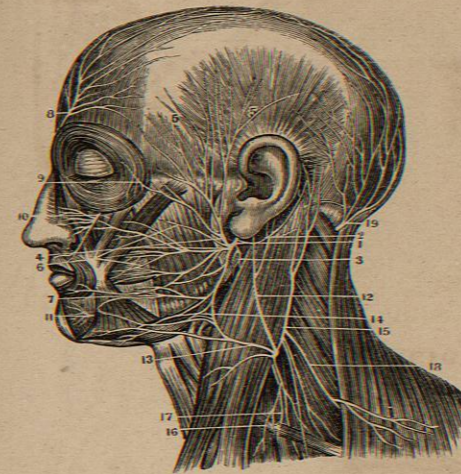
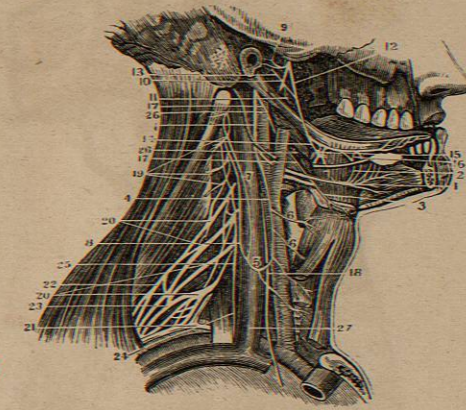


FIG. 621.



THE FACIAL AND HYPO-GLOSSAL NERVES.

FIG. 620.

A VIEW OF THE FACIAL NERVE, TOGETHER WITH THE BRANCHES OF THE CERVICAL PLEXUS, &c.

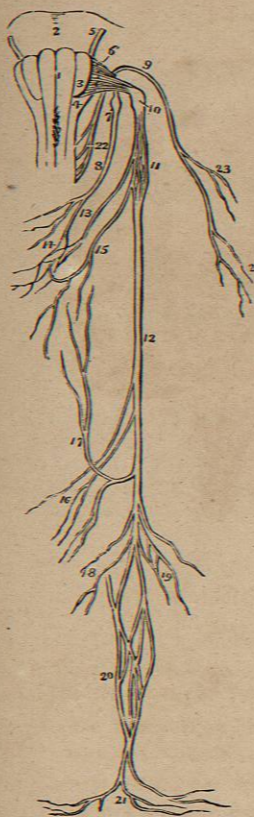
1. The Portio Dura or Facial Nerve escaping from the Stylo-Mastoid Foramen. The Parotid Gland has been removed in order to show the Nerve more clearly.
2. Its Posterior Auricular Branch.
3. The Stylo-Hyoid Branch.
4. The Pes Anserinus.
5. Temporal Branches of the Facial Nerve.
6. Malar Branches.
7. Cervico-Facial Branches.
8. Supra-Orbital Nerve.
9. Sub-Cutaneous Malæ, a branch of the Superior Maxillary Nerve.
10. The Infra-Orbital Nerve.
11. Terminal Branches of the Inferior Dental Nerve.
12. Nervus Auricularis of the Cervical Plexus.
13. The Superficialis Colli Nerve.
14. The Plexus formed between the Superficialis Colli and the branches of the Facial.
15. The Occipalis Minor Branch, of the Cervical Plexus.
16. Descending branches of the Cervical Plexus.
17. The Phrenic Nerve.
18. The Nervus Accessorius of the Eighth Pair.
19. The Great or Posterior Occipital Nerve.

FIG. 621.

THE COURSE AND DISTRIBUTION OF THE HYPO-GLOSSAL OR NINTH PAIR OF NERVES. THE DEEP-SEATED NERVES OF THE NECK ARE ALSO SEEN.

1. The Hypo-Glossal Nerve.
2. Branches communicating with the Gustatory Nerve.
3. A Branch to the origin of the Hyoid Muscles.
4. The Descendens Noni Nerve.
5. The Loop formed with the Branch from the Cervical Nerves.
6. Muscular branches to the Depressor Muscles of the Larynx.
7. A Filament from the Second Cervical Nerve, and
8. A Filament from the Third Cervical, uniting to form the communicating branch with the Loop from the Descendens Noni.
9. The Auricular Nerve.
10. The Inferior Dental Nerve.
11. Its Mylo-Hyoidean Branch.
12. The Gustatory Nerve.
13. The Chorda-Tympani passing to the Gustatory Nerve.
14. The Chorda-Tympani leaving the Gustatory Nerve to join the Sub-Maxillary Ganglion.
15. The Sub-Maxillary Ganglion.
16. Filaments of communication with the Lingual Nerve.
17. The Glosso-Pharyngeal Nerve.
18. The Pneumo-Gastric or Par Vagum Nerve.
19. The three upper Cervical Nerves.
20. The four inferior Cervical Nerves.
21. The First Dorsal Nerve.
22. 23. The Brachial Plexus.
24. 25. The Phrenic Nerve.
26. The Carotid Artery.
27. The Internal Jugular Vein.

FIG. 622.



THE EIGHTH PAIR OF NERVES.

FIG. 622.

A PLAN OF THE ORIGIN AND DISTRIBUTION OF THE EIGHTH PAIR OF NERVES.

1. The Corpus Pyramidale of one side.
2. The Pons Varolii.
3. The Corpus Olivare.
4. The Corpus Restiforme.
5. The Facial Nerve.
6. The origin of the Glosso-Pharyngeal Nerve.
7. The Ganglion Petrosum.
8. The Trunk of the Nerve.
9. The Spinal Accessory Nerve.
10. The Ganglion of the Pneumogastric Nerve.
11. Its Plexiform Ganglion.
12. Its Trunk.
13. Its Pharyngeal Branch, forming (14) the Pharyngeal Plexus, assisted by a branch from the Glosso-Pharyngeal (8), and one from (15) the Superior Laryngeal Nerve.
16. Cardiac Branches.
17. Recurrent Laryngeal Branch.
18. Anterior Pulmonary Branches.
19. Posterior Pulmonary Branches.
20. Esophageal Plexus.
21. Gastric Branches.
22. Origin of the Spinal Accessory Nerve.
23. Branches to the Sterno-Mastoid Muscle.
24. Branches to the Trapezius Muscle.

FIG. 623.



FIG. 623.

A VIEW OF THE DISTRIBUTION OF THE GLOSSO-PHARYNGEAL PNEUMO-GASTRIC AND SPINAL ACCESSORY NERVES, OR THE EIGHTH PAIR.

1. The Inferior Maxillary Nerve.
2. The Gustatory Nerve.
3. The Chorda-Tympani.
4. The Auricular Nerve.
5. Its communication with the Portio Dura.
6. The Facial Nerve coming out of the Stylo-Mastoid Foramen.
7. The Glosso-Pharyngeal Nerve.
8. Branches to the Stylo-Pharyngeus Muscle.
9. The Pharyngeal Branch of the Pneumo-Gastric Nerve descending to form the Pharyngeal Plexus.
10. Branches of the Glosso-Pharyngeal to the Pharyngeal Plexus.
11. The Pneumo-Gastric Nerve.
12. The Pharyngeal Plexus.
13. The Superior Laryngeal Branch.
14. Branches to the Pharyngeal Plexus.
- 15.15. Communication of the Superior and Inferior Laryngeal Nerves.
16. Cardiac Branches.
17. Cardiac Branches from the Right Pneumo-Gastric Nerve.
18. The Left Cardiac Ganglion and Plexus.
19. The Recurrent or Inferior Laryngeal Nerve.
20. Branches sent from the curve of the Recurrent Nerve to the Pulmonary Plexus.
21. The Anterior Pulmonary Plexus.
- 22.22. The Esophageal Plexus.