

FIG. 356.



FIG. 359.

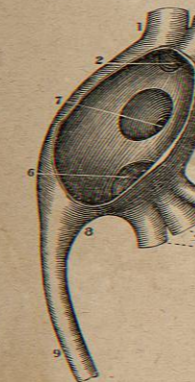


FIG. 355.

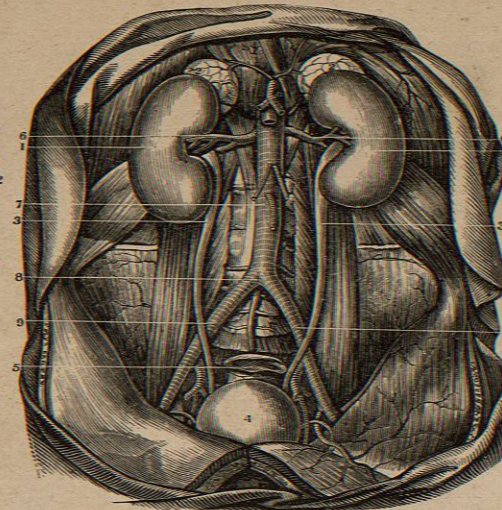


FIG. 360.



THE KIDNEYS AND RENAL CAPSULES.

FIG. 355.  
A VIEW OF THE URINARY ORGANS IN SITU.

- 1.1. The Kidneys.
- 2.2. The Capsulae Renales.
- 3.3. The Ureters in their course to the Bladder, and their relations to the Blood-Vessels.
- 4. Bladder distended with Urine.
- 5. The Rectum.
- 6. The Emulgent Arteries.
- 7. The Abdominal Aorta.
- 8. Its Division into the Iliacs.
- 9. The Primitive Iliacs at the point where the Ureters cross them.

FIG. 356.  
A VIEW OF THE RIGHT KIDNEY WITH ITS RENAL CAPSULE.

- 1. Anterior Face of the Kidney.
- 2. External or Convex Edge.
- 3. Its Internal Edge.
- 4. Hilum Renale.
- 5. Inferior Extremity of the Kidney.
- 6. Pelvis of the Ureter.
- 7. Ureter.
- 8. Superior and Inferior Branches of the Emulgent Artery.
- 9. The three Branches of the Emulgent Vein.
- 10. Superior Branch of the Emulgent Vein.
- 11. Middle Branch of the Emulgent Vein.
- 12. Inferior Branch of the Emulgent Vein.
- 13. Anterior Face of the Renal Capsule.
- 14. Its Superior Edge.
- 15. Its External Edge.

FIG. 357.  
A FRONT VIEW OF THE LEFT KIDNEY. — THE NUMBERS POINT TO THE SAME PARTS OF THE GLAND AS IN THE PRECEDING CUT.

FIG. 358.  
A PORTION OF THE SURFACE OF THE KIDNEY SEEN THROUGH THE MICROSCOPE.

- 1. Superficial Veins forming a network on the Surface.
- 2. The Capillary Vessels that these Veins receive from the Cortical Substance of the Kidney.
- 3. Areola formed on the Surface by the Superficial Veins.
- 4. Smaller Veins forming Stars over this Surface.

FIG. 359.  
A VIEW OF THE PELVIS OF THE URETER WITH THE CALICES.

- 1.1. Two small Calices at the Upper Portion.
- 2. A larger Calix formed by the union of the two preceding.
- 3.4. Two other Calices.

FIG. 357.

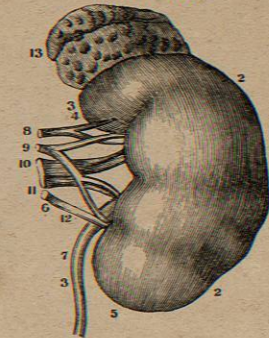


FIG. 358.

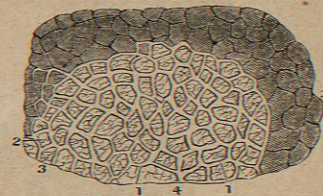


FIG. 361.

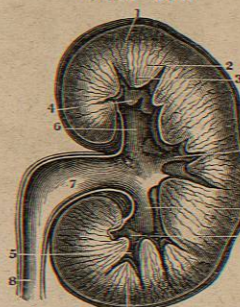


FIG. 360.  
A SECTION OF THE RIGHT KIDNEY SURMOUNTED BY THE RENAL CAPSULE.

- 1. Supra-Renal Capsule.
- 2. Cortical Portion.
- 3. Medullary or Tubular.
- 4. Two of the Calices receiving the Apex, of their corresponding Cones.
- 5. The Infundibula.
- 6. The Pelvis.
- 7. The Ureter.

FIG. 361.  
A VERTICAL SECTION OF THE LEFT KIDNEY.

- 1. Cortical or Vascular Structure.
- 2. Pyramids of Malpighi or Tubular Structure.
- 3. Papillae or Apices of Pyramids.
- 4. Terminations of other Papillae in Infundibula.
- 5. Calices.
- 6. The three Infundibula.
- 7. Pelvis of the Ureter.
- 8. The Ureter.

FIG. 362.

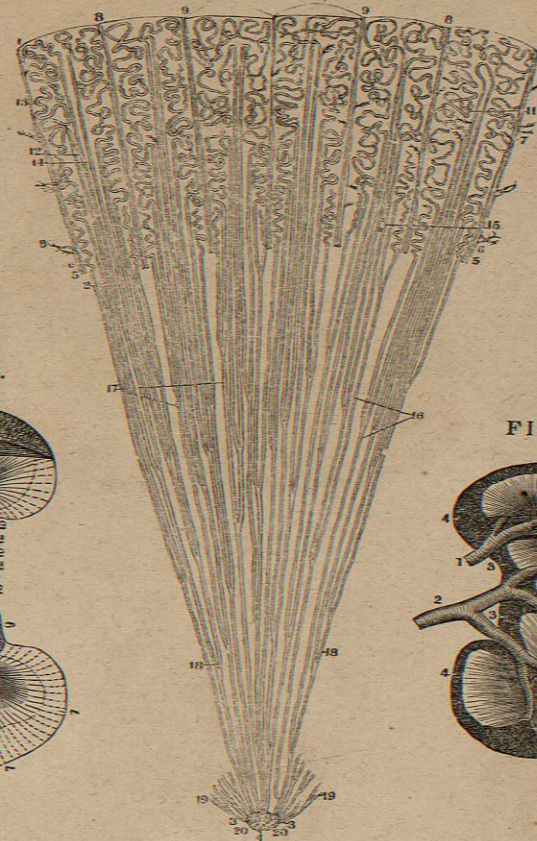


FIG. 363.

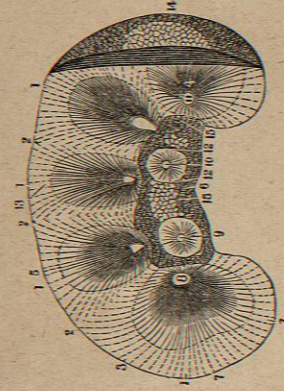
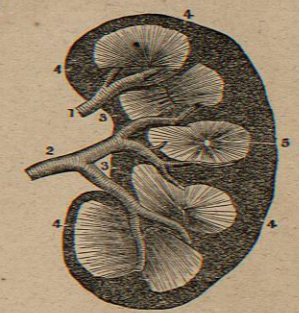


FIG. 364.



MINUTE STRUCTURE OF THE KIDNEY.

FIG. 362.

A SECTION OF ONE OF THE PYRAMIDS OF MALPIGHI, AND OF ITS CORRESPONDING CORTICAL SUBSTANCE, AS SEEN UNDER THE MICROSCOPE.

- 1. Portion of the Surface of the Kidney.
- 2. From this Figure up to 1, is the Cortical Substance of the Kidney.
- 3. From 2 to this number is the Tubular portion.
- 4. The Foveola.
- 5.6. Arteries and Veins ramifying through the Kidney.
- 7. Arteries to the Acini of the Kidney.
- 8. Capillary Extremities of Veins anastomosing with corresponding Arterioles.
- 9. Tortuous Extremities of the Arteries directed into the Interior of the Gland.
- 10. Bases of the Cones of the Cortical and Pyramidal Substance of the Kidney. From 10 to 4 is a collection of these Cones.
- 11. The Envelope of the Cortical Layer.

- 12. Prolongations of the Tubular portion.
- 13. Tortuous Tubes, or those of Ferriën.
- 14. Straight Tubes, or those of Bellini.
- 15. Vessels which wind between them.
- 16. Course of the Uriniferous Tubes in the Tubular portion.
- 17. The matter between these Tubes.
- 18. Bifurcation of the Straight Tubes.
- 19. Sections of these Tubes.
- 20. Their Orifices.

- 7.7. Points to the Tubes of Bellini.
- 8. One of the Papillæ.
- 9.10. Two other Papillæ, uncut but deprived of the Calices that surrounded them.
- 11. One of the Foveolæ in the Papilla.
- 12.12. The Vascular Circle surrounding the Papillæ.
- 13. Circumference of the Tubular portion.
- 14. External Surface of the Kidney.
- 15. The portion of its External Surface on a Line with its Fissure.

FIG. 363.

A VIEW OF HALF A KIDNEY DIVIDED VERTICALLY FROM ITS CONVEX TO ITS CONCAVE EDGE. ONE OF ITS EXTREMITIES IS PERFECT.

- 1.1. The Lobes which form the Kidney.
- 2.2. The Lines of Separation of these Lobes.
- 3. The Cortical Substance.
- 4.5. The Pyramids of Malpighi.
- 6. The Hilum Renale split up and cleared of its Vessels.

FIG. 364

REPRESENTS THE HALF OF A KIDNEY DIVIDED VERTICALLY, AND WITH ITS ARTERIES INJECTED. THE MATTER HAS ALSO PASSED INTO THE EXCRETORY DUCTS.

- 1.2. Branches of the Emulgent Artery.
- 3.3. Hilum Renale.
- 4.4. Cortical Substance, as essentially formed by the Capillary Terminations of the Vessels of the Kidney.
- 5. Medullary or Tubular portion.

FIG. 365.

FIG. 366.

FIG. 367.

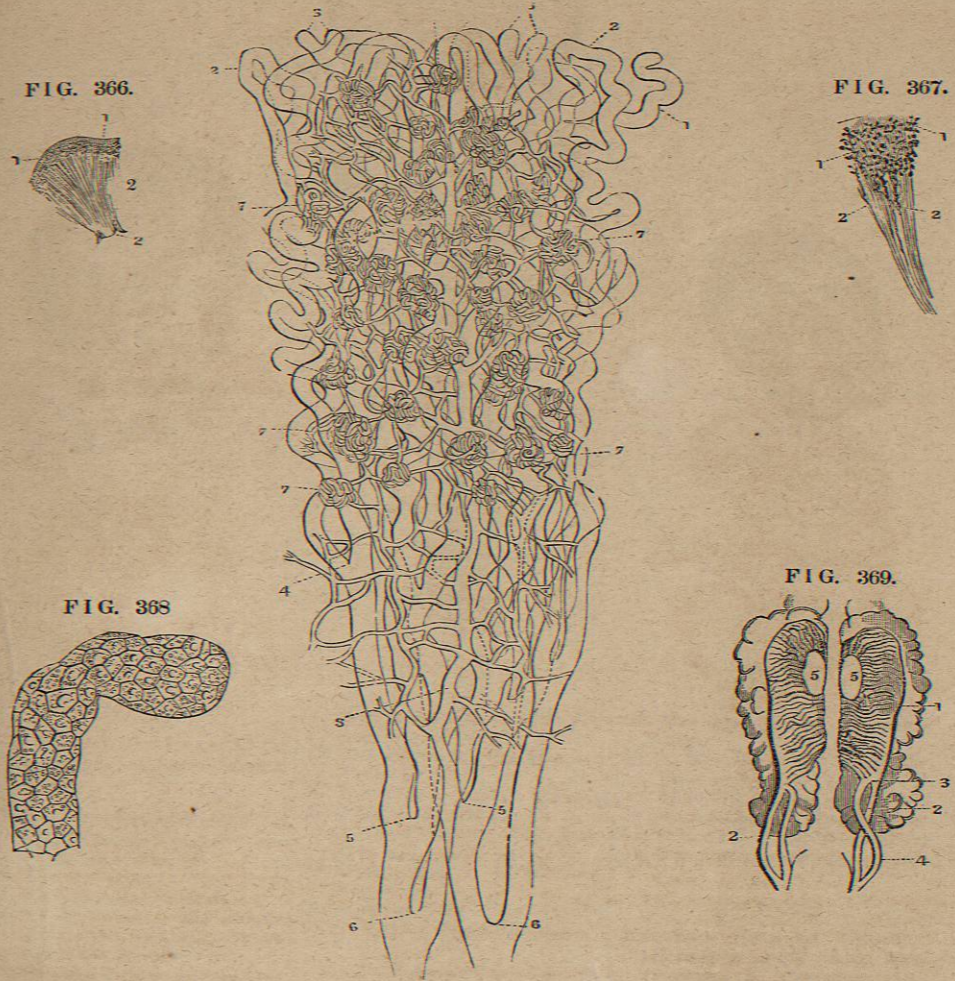


FIG. 368.

FIG. 369.

MINUTE STRUCTURE OF THE KIDNEY.

FIG. 365.

A SMALL PORTION OF THE KIDNEY MAGNIFIED ABOUT SIXTY TIMES.

- 1. Cecal Extremity of a Tubulus Uriniferus.
- 2.2. Recurrent Loops of Tubuli.
- 3.3. Bifurecations of Tubuli.
- 4. Tubuli converging towards the Papilla.
- 5. Corpora Malpighiana seen to consist of Plexuses of Blood-Vessels, connected with a Capillary net-work.
- 7.7.
- 8. Arterial Trunk.

FIG. 366.

PORTION OF THE KIDNEY OF A NEW-BORN INFANT. NATURAL SIZE.

- 1.1. Corpora Malpighiana as dispersed Points in the Cortical Substance.
- 2.2. Papilla.

FIG. 367.

A SMALLER PART, MAGNIFIED.

- 1.1. Corpora Malpighiana.
- 2. Tubuli Uriniferi.

FIG. 368.

EXTREMITY OF ONE OF THE TUBULI URINIFERI FROM THE KIDNEY OF AN ADULT, SHOWING ITS TESSELATED EPITHELIUM. MAGNIFIED 250 DIAMETERS.

FIG. 369.

CORPORA WOLFFIANA AS SHOWN IN THE EMBRYO OF BIRDS, WITH THE KIDNEY AND TESTES.

- 1. Kidney.
- 2.2. Ureters.
- 3. Corpus Wolffianum.
- 4. Its Excretory Duct.
- 5.5. Testicles.—On the top of the Figure are seen the Supra-Renal Capsules.

FIG. 371.

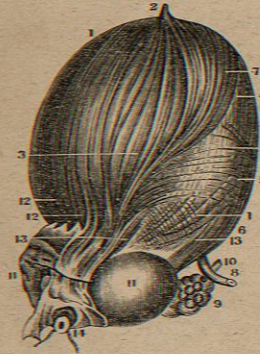


FIG. 370.

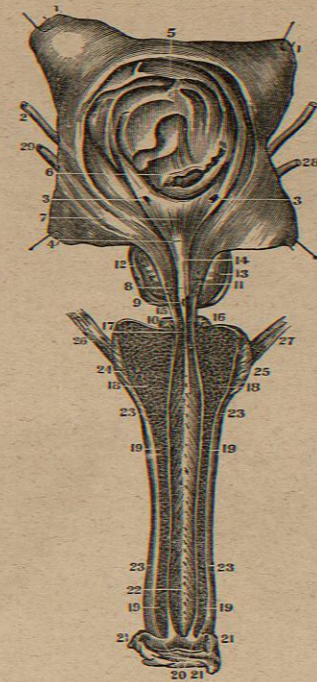
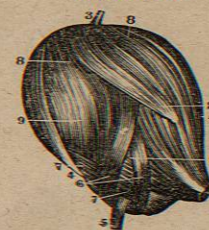


FIG. 372.



THE BLADDER AND URETHRA.

FIG. 370.

THE BLADDER AND URETHRA OF A MAN, LAID OPEN IN ITS WHOLE LENGTH.

- 1.1. The Bladder, cut open by a crucial incision and the four Flaps separated.
2. The Ureters.
3. Their Vesical Orifices.
4. Uvula Vesicæ. The Triangle formed by the Points at 3.4 is the Vesicle Triangle.
5. Superior Fundus of the Bladder.
6. Bas Fond of the Bladder.
7. The smooth Centre of the Vesical Triangle.
8. Verumontanum or Caput Galinaginis.
9. Orifice of the Ductus Ejaculatorius.
10. Depression near the Verumontanum.
11. Ducts from the Prostate Gland.
- 12.13. Lateral Lobes of the Prostate Gland.
14. Prostatic Portion of the Urethra; just above is the Neck of the Bladder.
15. Its Membranous Portion.
16. One of Couper's Glands.
17. The Orifices of their Excretory Ducts.
18. Section of the Bulb of the

- Urethra with its Erectile Tissue.
19. Cut Edges of the Corpora Cavernosa.
20. Cut Edges of the Glans Penis.
21. Prepuce dissected off.
22. Internal Surface of the Urethra laid open.
23. Outer Surface of Corpora Cavernosa.
- 24.25. Accelerator Urinæ Muscle.
- 26.27. Erector Penis Muscles.

FIG. 371.

A THREE-QUARTER VIEW OF THE URINARY BLADDER, DISTENDED WITH AIR AND SHOWING ITS MUSCULAR FIBRES.

- 1.1. The Bladder.
2. Urachus.
3. Two Planes of Longitudinal Muscular Fibres on the Anterior and External Portion of the Bladder.
4. A Band of Fibres separating from these and running upwards and outwards.
5. Muscular Fibres which form Loops on the Posterior Surface of the Bladder.
- 6.7. Other Muscular Fibres forming a Layer between the External and the Internal.
8. Left Ureter.
9. Left Portion of the Vesiculæ Seminalis.

10. Vas Deferens of the same Side.
- 11.11. The Lateral Lobes of the Prostate Gland.
12. Muscular Fibres which run on the Sides of the Prostate.
13. Other Fibres on its Anterior.
14. The Urethra tied with a Cord.

FIG. 372.

ANOTHER URINARY BLADDER DISTENDED WITH AIR, AND SHOWING A DIFFERENT ARRANGEMENT OF THE MUSCULAR FIBRES.

1. Neck of the Bladder.
2. Two Bands of Fibres on the Anterior and External Faces of the Bladder, running up to its top, and answering to those marked 3, in Fig. 371.
3. Urachus raised up on the summit of the Bladder.
4. Inferior Fundus.
5. Right Ureter surrounded by Muscular Fibres.
6. Very strong Muscular Fibres running upwards to lose themselves under No. 2.
7. Other strong Fibres intercrossing with these.
8. Fibres passing from the Neck and Inferior Fundus to the Superior Fundus.
9. Internal Layer of Fibres.

FIG. 373.



FIG. 374.

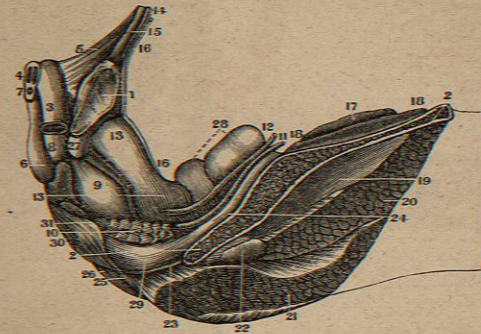
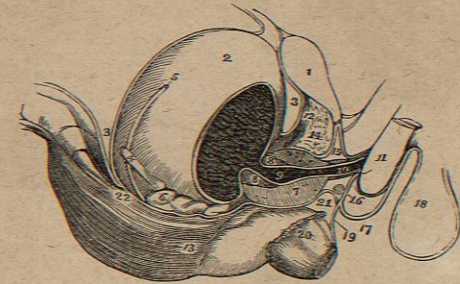


FIG. 375.



THE GENITO-URINARY ORGANS.

FIG. 373.

A VIEW OF THE SPHINCTER APPARATUS OF THE NECK OF THE BLADDER, AS DESCRIBED IN VOL. II, P. 94, HORNER'S SPECIAL ANATOMY. 1843.

- 1.1. Orifice of the Neck of the Bladder.
- 2.2. Orifices of the Ureters.
- 3.3. The Triangular Muscle under the Vesical Triangle.
- 4.4. The Crescentic Muscular Fibres at the Neck of the Bladder.
- 5. The Transverse Fasciculus of Muscular Fibres.

FIG. 374.

A SIDE VIEW OF THE POSITION OF THE URINARY BLADDER, PROSTATE AND VESICULÆ SEMINALES, IN THE CAVITY OF THE PELVIS.

- 1. Symphysis Pubes.
- 2. Section of the Ilium.
- 3. A Section of the Left Corpus Cavernosum.
- 4. A Vertical Section of both of the Corpora Cavernosa.
- 5. Ligamentum Suspensorium of the Penis.

- 6. Bulb of the Urethra.
- 7. A Vertical Section of the Urethra.
- 8. Membranous Portion of the Urethra.
- 9. Prostate Gland.
- 10. Left Seminal Vesicle.
- 11. Left Vas Deferens.
- 12. Left Ureter.
- 13. Urinary Bladder, emptied and flattened.
- 14. Tendon of the Rectus Abdominis.
- 15. Right Pyramidalis Muscle.
- 16. Peritoneum.
- 17. Section of the Psoas Magnus.
- 18. Section of the Iliacus Internus.
- 19. Gluteus Minimus.
- 20. Gluteus Medius.
- 21. Gluteus Maximus.
- 22. Section of the Piriformis.
- 23. Musculus Ischio Coccygeus.
- 24. Obturator Internus.
- 25. Last Bone of the Coccyx.
- 26. Gluteus Maximus.
- 27. Right Ramus of the Pubis.
- 28. Sigmoid Flexure of the Colon.
- 29. Rectum.
- 30. Anus.
- 31. External Sphincter Muscle.

FIG. 375.

A SIDE VIEW OF THE VISCERA OF THE PELVIS, SHOWING THE BLADDER AND ITS SURROUNDING PARTS.

- 1. Symphysis Pubis.
- 2. The Bladder.
- 3. The Recto-Vesical Fold of the Peritoneum.
- 4. The Ureter.
- 5. The Vas Deferens.
- 6. Vesicula Seminalis of the Right Side.
- 7. Section of the Prostate Gland.
- 8. Section of the Neck of the Bladder.
- 9. Prostatic Portion of Urethra.
- 10. Membranous Portion.
- 11. Corpus Spongiosum.
- 12. Anterior Ligament of the Bladder.
- 13. Rectal End of the Pelvic Fascia.
- 14. Space between the Deep and Pelvic Fascia.
- 15. Triangular Ligament.
- 16. One of Couper's Glands.
- 17. Continuation of Superficial Perineal Fascia.
- 18. Scrotum.
- 19. Deep Fascia prolonged to the Rectum.
- 20. Portion of the Levator Ani.
- 21.22. Course of Deep Fascia.