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NEILL, J.
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3 items

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Inguinal Hernia

The external ring is composed chiefly to the External oblique muscle -- The internal - to Cremaster - oblique - Transversalis & a membrane between it & Internal oblique is inserted into one half - leaving an arch - under which the cord passes - It does not pierce it as it does the External oblique - The fascia transversalis & these are one membrane - So Gibson says that the internal ring was originally - an opening - but has since closed - distance between the two, is about an inch & a half - The epigastric artery - is connected with Femoral - The arteries & veins - Epidemics - connected with - Strangulated Hernia - It is a branch of the external pudic - Malgaigne with Internal - First layer is the Superficial fascia - Stronger & more condensed in the abdomen than anywhere else - particularly in the lower part - 2d layer - is fascia - the External oblique - 3d External oblique & Transversalis - 4th Cremaster muscle goes off from the edge of the internal oblique & the transversalis - 5th fascia transversalis -

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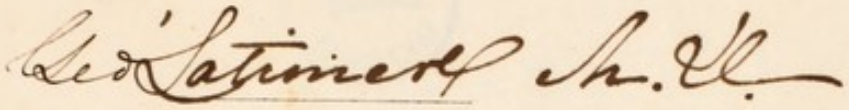
OUTLINES

OF

THE ARTERIES:

WITH SHORT DESCRIPTIONS.



DESIGNED FOR THE USE OF MEDICAL STUDENTS.

BY JOHN NEILL, A.M., M.D.,

Prosector in the University of Pennsylvania, Physician to Wills's Hospital,
Lecturer on Anatomy, etc., etc., etc.

PHILADELPHIA:

ED. BARRINGTON AND GEO. D. HASWELL.

1845.

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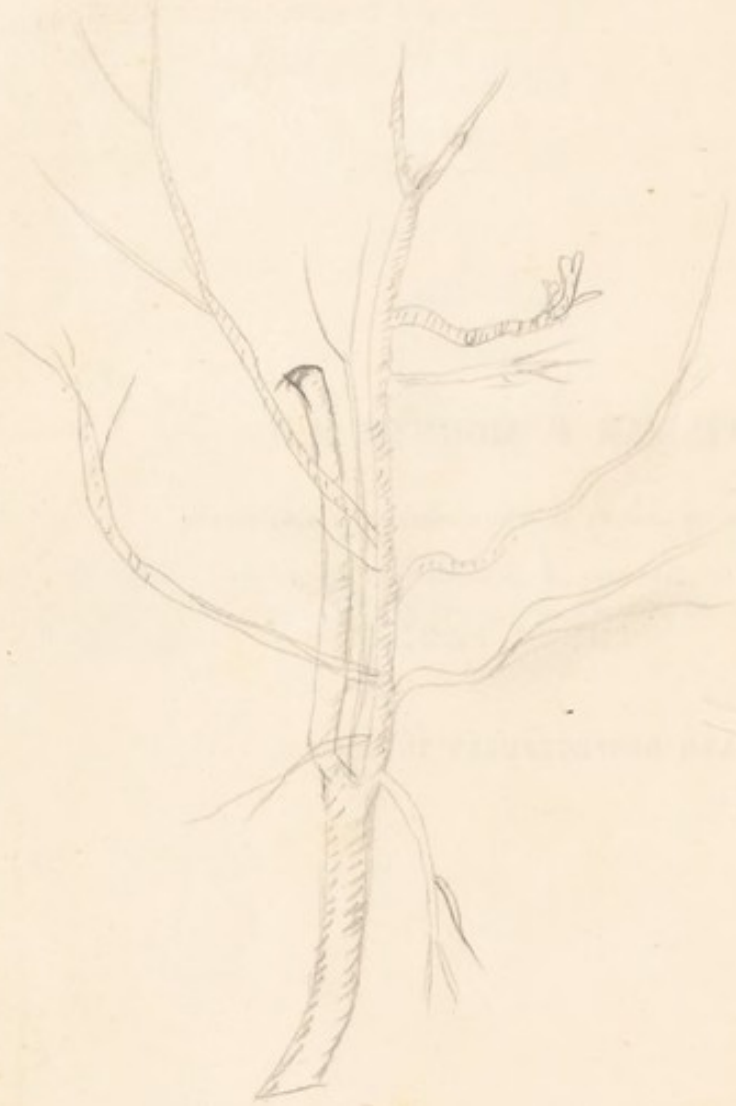
WILLIAM E. HORNER, M.D.,

PROFESSOR OF ANATOMY IN THE UNIVERSITY OF PENNSYLVANIA,

THESE PAGES

ARE RESPECTFULLY INSCRIBED.



INDEX.

PREFACE.

It may be asked, Why it was thought necessary to add another set of anatomical plates to those already published? or whether the work of Quain and Wilson, or of Bourgery, is not sufficient for all anatomical and surgical purposes? In answer to these questions, we would inform the reader, that this little book is not intended for minute anatomists or surgeons, but for students commencing the study of Arteries. The costly and elegant works of the day are not accessible to all students, and beginners are fatigued with the numerous references consequent upon their elaborate character.

At the request of several students to furnish them with an easy yet accurate mode of learning the Arteries, these drawings were prepared. They pretend to nothing more than *Outlines*, yet they are not mere diagrams or fancy sketches, since many of them were drawn from preparations. Minute detail has been sacrificed to clearness and simplicity of arrangement; and in order to avoid the tediousness of examining references, the names have been placed upon the arterial trunks, so that the position of a vessel and its name strike the eye at the same time.

The descriptions are condensed from a work of standard authority, and the plates, as far as possible, made to correspond.

If any of the time so valuable to a student of medicine can be saved, or, if his memory of the knowledge gained by close attendance upon lectures, frequent dissections, and constant poring over larger and more complete works, be refreshed, I shall feel that my labor has not been in vain.

Any merit which these drawings may possess is due to the pencil of my friend, Dr. William Lowber, of this city.

JOHN NEILL.

August 1, 1845.

Fig. 1.

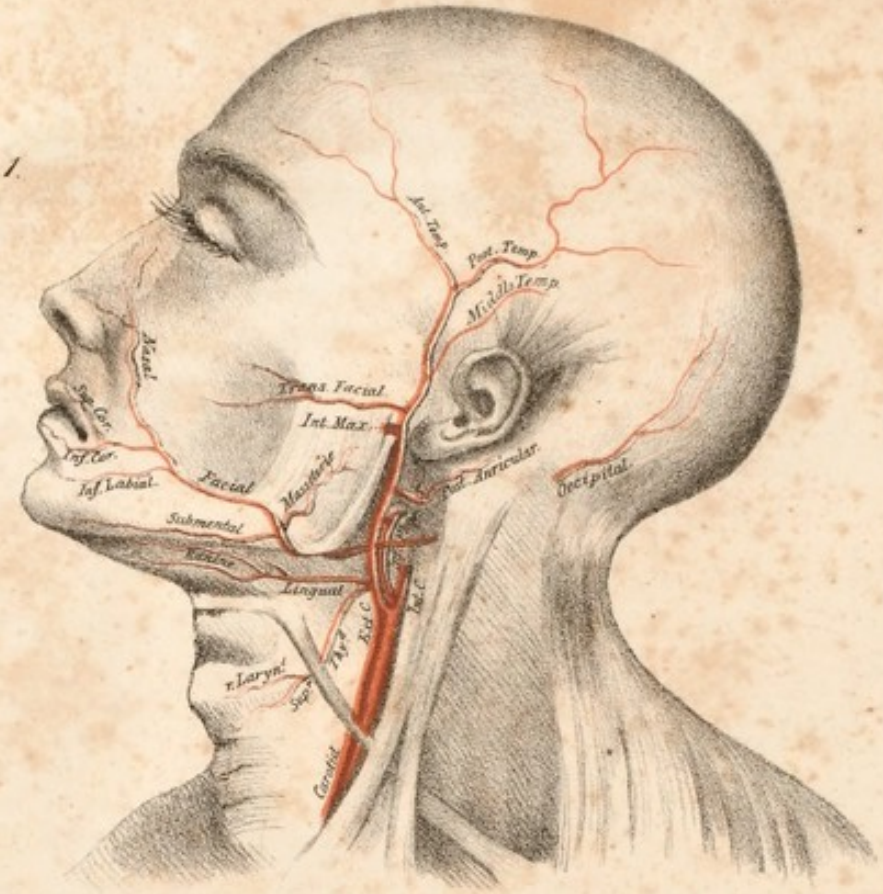
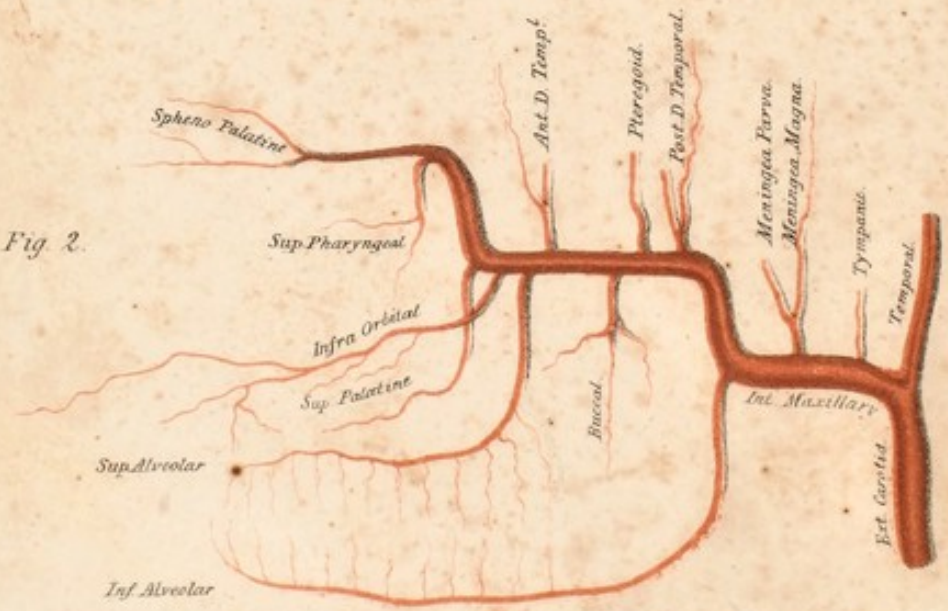


Fig. 2.



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ARTERIES.

CAROTID AND ITS BRANCHES.

PLATE I., FIG. 1.

Carotid. — It arises from the Innominata on the right side, and from the Aorta on the left. It ascends on the side of the Trachea; below it is covered by the Sterno Muscles; above it is superficial, and crossed obliquely by the Omo-Hyoid muscle. Between the Thyroid cartilage and Hyoid bone it bifurcates into the External and Internal Carotid. It is included in the same sheath with the internal Jugular Vein and Par Vagum Nerve, and is on the inner side.

Internal Carotid. — It bends outwardly, extends from the Larynx to the Sella Turcica, passes behind the Ramus of the Lower Jaw, goes through the Carotid Canal in the Temporal bone, and then gives off the Ophthalmic Artery to the Orbit, and the Anterior and Middle Cerebral to the brain. The ganglion of Laumonier, the origin of the Sympathetic Nerve, is formed upon it in the Carotid Canal.

External Carotid. — From the bifurcation of the Carotid it ascends, crossed by the Stylo-Hyoid and Digastric Muscles and the 9th Nerve, passes through the Parotid Gland, and when on a line with the neck of the Lower Jaw, it divides into the Temporal and Internal Maxillary.

Superior Thyroid is the first branch of the External Carotid, and arises near its root. It is crossed by the Omo-Hyoid, and is tortuous — makes a descending curve, supplies the Thyroid Gland, and gives off a branch called *Laryngeal*, which is distributed to the Larynx.

Lingual arises a few lines above the Superior Thyroid. At first it is concealed by the Digastric and Stylo-Hyoid Muscles, penetrates the Hyo-Glossus, ascends between the latter and Genio-Hyo-Glossus, and passes to the tip of the tongue. It gives off the *Dorsalis*, distributed about the root of the tongue, *Sublingual* to the sides and mouth, and *Ranine* to the tip, between the Lingualis and Genio-Hyo-Glossus muscles.

Facial arises from the External Carotid, is the first branch above the Lingual, passes under the Stylo-Hyoid and Digastric Muscles and the 9th Nerve; is connected with the Sub-Maxillary Gland, mounts over the Lower Jaw, is distributed to the face, and terminates upon the nose and eyelids.

Submental arises from the Facial — runs under the base of the Lower Jaw, then mounts upon the Chin, anastomosing with its fellow, Inferior Coronary, &c.

Masseteric arises from the Facial, and passes backwards to the Masseteric Muscle.

Inferior Labial is the next branch, and is distributed to the space between the Lower Lip and the Chin. Sometimes it is wanting.

Superior and Inferior Coronary arise from the Facial, are tortuous, and surround the mouth, anastomosing with their fellows. The Facial then sends a branch to the Nose and Eyelids, called *Nasal*.

Inferior Pharyngeal is very small. It arises from the

External Carotid, generally opposite to the Lingual, is distributed to the Constrictor Muscles and lining membrane of the Pharynx, and gives off the *Posterior Meningeal*, which goes through the Posterior Foramen Lacerum, between the Jugular Vein and the 8th Nerve, to the Dura Mater. (The name of which is not placed on the trunk in the Plate for want of room.)

Occipital arises from the External Carotid, nearly opposite the Facial, goes upwards and backwards under the Splenius Muscle, and is distributed to the back part of the head, anastomosing with the Vertebral, Posterior Temporal and fellow.

Posterior Auricular arises from the External Carotid, above the last, and below the Parotid Gland. It ascends backwards between the External Meatus and the Mastoid Process, and sends a branch through the Stylo-Mastoid Foramen to the Internal Ear.

Temporal arises from the bifurcation of the External Carotid, passes over the Zygoma, in front of the Ear, and is distributed to the side of the Head.

Transversalis Faciei arises from the Temporal, passes across the Masseter Muscle, near to the duct of Steno, and is distributed to the Face.

Middle Temporal arises from the Temporal, penetrates the Temporal Fascia, and is distributed to the Temporal muscles, anastomosing with the deep Temporals.

Anterior and Posterior Temporals are terminating branches of the Temporal, supplying the Forehead and side of the Head.

INTERNAL MAXILLARY.

PLATE I., FIG. 2.

This arises from the bifurcation of the External Carotid, and winds around the neck of the Lower Jaw. It passes between the Pterygoid Muscles. At first it is horizontal, then ascends, again is horizontal, and gives off the following branches:

1. **Tympanic** — To the Tympanum, through the Glenoid Fissure.

2. **Meningea Parva** — To the Dura Mater, through the Foramen Ovale.

3. **Meningea Magna** — To the Dura Mater, through the Foramen Spinale. A branch passes through the Vidian Foramen, or Hiatus Fallopii to the Internal Ear.

4. **Inferior Dental, or Maxillary,** descends, passes into the Lower Jaw, at the Posterior Mental Foramen, supplies the Teeth, and out again at the Anterior Mental Foramen, anastomosing with the Facial.

5 and 6. **Deep Temporals** are two in number. The *Posterior* arises next to the last, and is distributed to the Temporal muscles; the *Anterior* arises beyond the Pterygoid and Buccal.

7. **Pterygoid.** — The number and size vary. It is distributed to the Pterygoid Muscles.

8. **Buccal.** — Is irregular, and is distributed to the Masseter and Buccal Muscles, and to the mucous lining of the Cheek.

9. **Superior Alveolar, or Maxillary,** descends, winds

around the tuber of the Upper Jaw, and is distributed to the Teeth, Antrum, and Gums.

10. **Infra Orbital** passes through the Spheno-Maxillary Fissure, and supplies the Teeth, Muscles, and Lips; anastomosing with Facial and Ophthalmic.

11. **Superior Palatine** descends through the Posterior Palatine Canal, or Foramen, to Palate, Mouth, &c.

12. **Superior Pharyngeal** to the upper part of the Pharynx.

13. **Spheno-Palatine** is the terminating branch, and enters the Nose through the Spheno-Palatine Foramen. It goes to the Schneiderian Membrane and the Inferior Turbinated Bones.

ARTERIES OF THE BRAIN.

PLATE IV., FIG. 3.

These are derived from the two *Internal Carotids*, and from the two *Vertebrals*.

INTERNAL CAROTID enters the Cranium, through the Carotid Canal in the Temporal Bone, and, passing through the Cavernous Sinus, reaches the Anterior Clinoid Process of the Sphenoid Bone. It gives off the following, viz.:

Posterior Communicating.— It is directed backwards and joins the Posterior Cerebral.

Middle Cerebral.— This may be considered as the continuation of the *Internal Carotid*. It passes into the Fissure of Sylvius, and supplies the Middle and Anterior Lobes of the Brain.

Anterior Cerebral, or Arteria Callosa, passes forwards,

and engages in the Longitudinal Fissure. Just before the chiasm of the Optic Nerves a transverse branch passes between it and its fellow, which is called the *Anterior Communicating* Artery.

Ophthalmic arises from the Internal Carotid, near the Anterior Clinoid Process, passes through the Optic Foramen, and supplies the contents of the Orbit of the Eye.

VERTEBRAL. — It arises from the Subclavian, passes through six Superior Cervical Vertebra, and enters the Cranium through the Foramen Magnum Occipitis. It gives off the Anterior and Posterior Spinal Arteries ; and sometimes the *Inferior Cerebellar*, which is distributed to the Fourth Ventricle and Cerebellum.

Basilar is formed by the junction of the two Vertebrals, behind the Pons Varolii. It passes forward, in the Median Line, and gives off several branches.

Superior Cerebellar arises from the Basilar, and is distributed to the Cerebellum.

Posterior Cerebral. — One on each side, is the termination of the Basilar, and is distributed to the posterior part of the Cerebrum. It receives the *Posterior Communicating*.

The arterial circle thus formed is called the *Circle of Willis.*

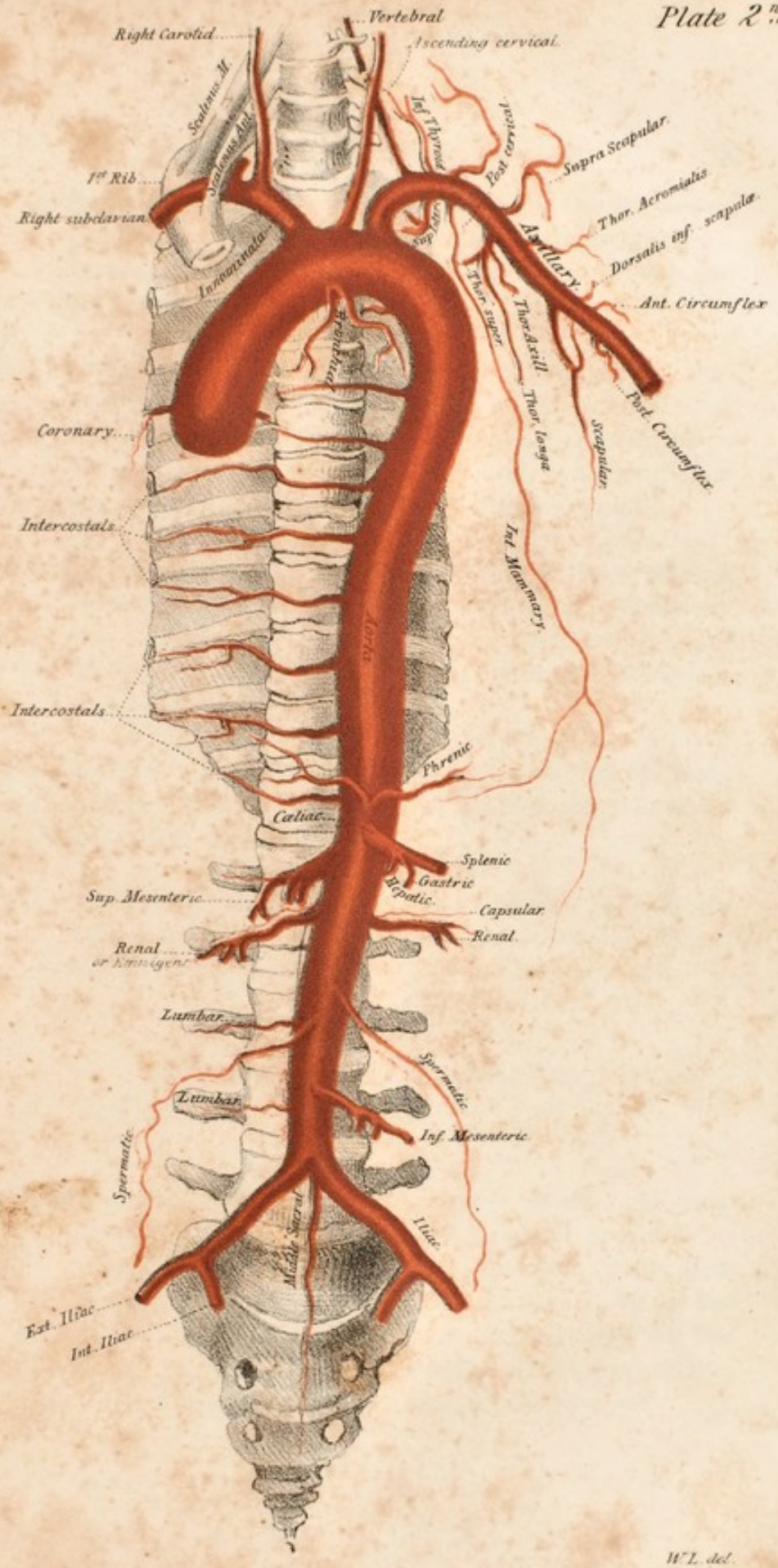
AORTA AND ITS BRANCHES.

PLATE II.

Aorta is the Trunk of the Arterial System. Arising from the Left Ventricle of the Heart, it passes under the root of the Pulmonary Artery, forms an arch, which passes over the

Arteries.

Plate 2nd.



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Right Pulmonary Artery, and descends on the left side of the Spine, going through the Foramen Aorticum in the Diaphragm ; it terminates at the junction of the 4th and 5th Lumbar Vertebræ in the Primitive Iliacs.

Coronary are the first branches, arising just beyond the Sigmoid Valves ; the *right* runs between the Right Auricle and Ventricle ; the *left* divides, one branch being distributed on the Septum between the two Ventricles, and the other on the Septum between the left Auricle and Ventricle.

Innominata arises from the arch of the Aorta, — ascends towards the right side, crossing the Trachea obliquely. It is from an inch to an inch and a half in length, and divides into the Right Carotid and the Right Subclavian. It lies behind the transverse Vein.

Left Carotid arises from the Aorta to the left of the Innominata. It is longer than that of the right side, but is distributed in the same manner.

Left Subclavian arises from the Aorta, a few lines to the left of the Left Carotid, makes a larger arch than that of the right side, but has the same distribution.

SUBCLAVIAN AND ITS BRANCHES.

PLATE II.

The Subclavian of the right side is much shorter and more superficial than that of the left, from its origin to its passage over the first rib between the Anterior and Middle Scalenus muscles. The right is crossed by the Par Vagum and Phrenic Nerves ; on the left side the Par Vagum is parallel with the Artery. At the inner margin of the Scaleni Muscles, five branches are given off.

1. **Vertebral** is the largest branch of the Subclavian. It ascends through the Foramina, in the transverse processes of the Six Superior Cervical Vertebræ, enters the Cranium through the Foramen Magnum Occipitis, and supplies the Brain.

2. **Inferior Thyroid** arises from the Subclavian, goes to the Thyroid Gland, giving off the *Ascending Cervical Artery*, which is distributed to the muscles of the Neck along the Spine.

3. **Superior Intercostal** arises from the under surface of the Subclavian, opposite the Inferior Thyroid. It descends, and divides into two branches, supplying the two Upper Intercostal Spaces.

4. **Internal Mammary** arises from the under surface of the Subclavian, and descends within the cavity of the Thorax, a few lines from the edge of the Sternum. Having reached the Diaphragm, it sends a large branch to it, and the rest is spent upon the Abdominal Muscles.

5. **Posterior Cervical** arises from the Subclavian, or Inferior Thyroid, crosses the root of the Neck, and is distributed upon the Muscles of the Back and Scapula.

These five branches may arise by a single trunk, which is called the *Thyroid Axis*. They differ in almost every subject.

AXILLARY ARTERY.

PLATE II.

This extends from the Subclavius Muscle to the lower margin of the Arm-pit, passing under the insertion of the Pectoralis Minor Muscle, and surrounded by the Axillary Plexus of Nerves, Lymphatic Glands, &c.

1. **Superior Scapular** varies in its origin, is tortuous in its course, passes over the upper portion of the Shoulder, goes through the Corocoid Notch, and is distributed upon the Spinati Muscles.

2. **External Mammaries** arise from the Axillary, either by a single or by distinct trunks, between the Subclavius and Pectoralis Muscles. They are four in number, viz.: *a*, *Thoracica Superior*, going to the upper part of the Pectoralis Major, and to the Pectoralis Minor Muscles. *b*, *Thoracica Longa*, descends between the Pectoralis Major and Serratus Magnus, supplying these muscles and the contiguous integuments. *c*, *Thoracica Acromialis*, extends to the fissure between the Deltoid and Pectoralis Major Muscles, dividing into an ascending and descending branch. *d*, *Thoracica Axillaris*, is distributed to the glands and fat in the Arm-pit.

3. **Scapular Artery** arises from the Axillary below the Shoulder Joint, descends along the anterior edge of the Subscapularis Muscle, and is distributed to the Muscles of the Back and Shoulder. Below the neck of the Scapula it sends off a large trunk, called the *Dorsalis Inferior Scapulæ*, which winds around the Inferior Costa, and is distributed to the Teres and Infra Spinatus Muscles.

4. **Anterior Circumflex** arises from the Axillary, above the tendon of the Teres Major, is about the size of a crow-quill, and is distributed upon the joint and the Deltoid Muscle.

5. **Posterior Circumflex** is much larger than the last, passes between the Bone and the Triceps Muscle, and is distributed to the joint and the Deltoid.

THE BRACHIAL.

PLATE III.

The artery now assumes the name of Brachial, which extends to

the Elbow, descending along the inner edge of the Biceps Flexor Muscle, in company with the Median Nerve.

1. **Profunda Major** arises from the Brachial, below the tendon of the Teres Major, passes between the first and third head of the Triceps, winds spirally downwards around the Os Humeri, in company with the Radial Nerve, and is distributed to the External Condyle, supplying the Triceps.

2. **Profunda Minor** arises two or three inches below the last, and is much smaller; is superficial, and is distributed upon the inner edge of the Triceps, and about the internal Condyle.

3. **Nutritious** arises from the Brachial, near the Medullary Foramen of the Humerus, which it penetrates; is not larger than a knitting-needle, and sends a few branches to the Biceps Muscle.

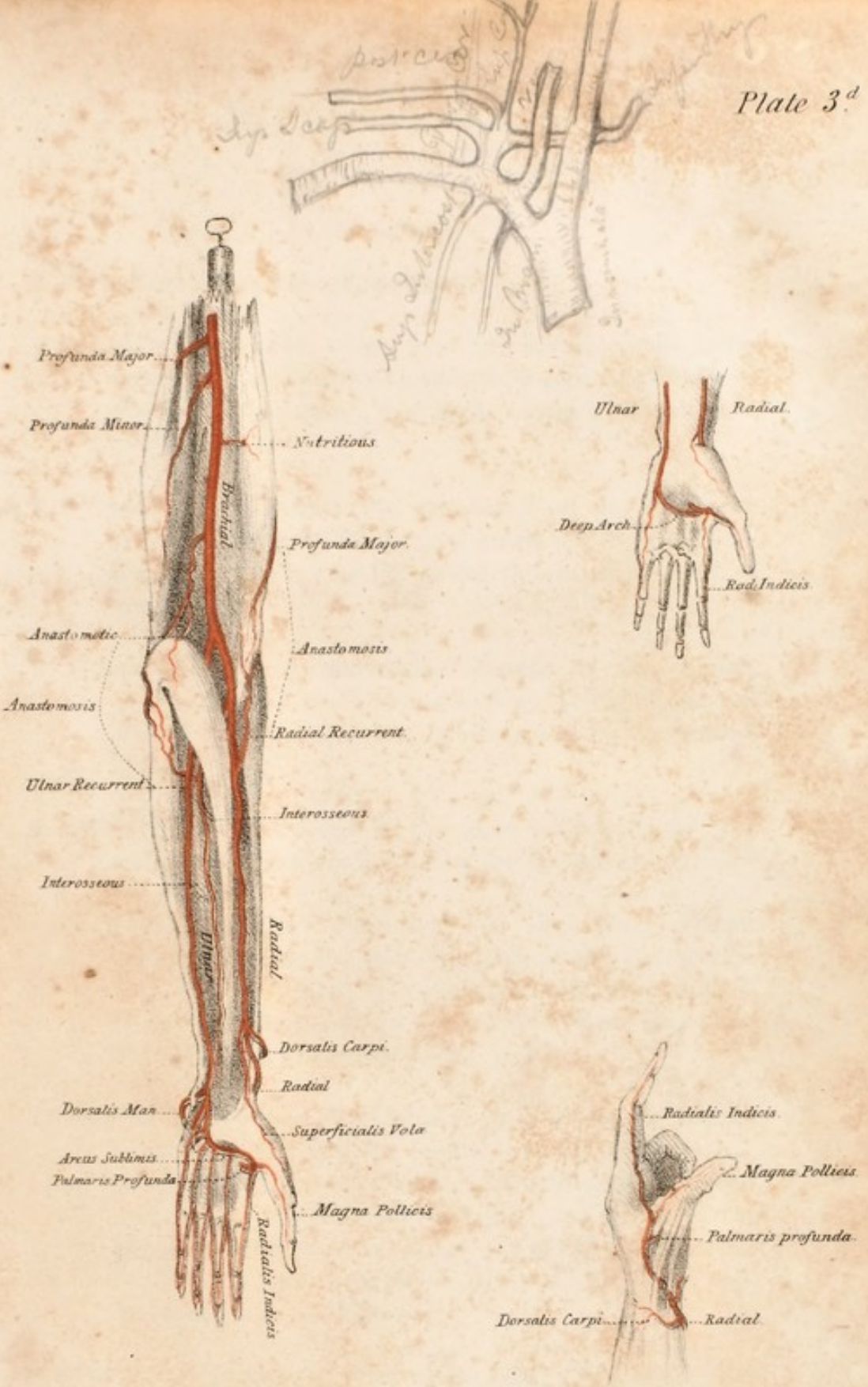
4. **Anastomotic** arises below the last, and is larger than it. It lies at the inner edge of the Brachialis Internus, and passes between the Internal Condyle and the Olecranon.

The artery now divides into two trunks, called *Radial* and *Ulnar*. The point of bifurcation is usually at the elbow, although it may occur at any part of the arm.

RADIAL ARTERY is smaller than the Ulnar, and extends from the Elbow to the Hand; above, it passes between the bellies of the Supinator Radii Longus and Pronator Teres; below, between the tendons of the Supinator and Flexor Carpi Radialis; it passes under the Extensor Muscles of the thumb, and penetrates to the palm of the hand, between the roots of the thumb and forefinger. Its branches are,

1. **Recurrens Radialis.** — It arises at the neck of the Radius, winds externally around the joint, and anastomoses with the Profunda Major.

Plate 3.d



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2. **Irregular Muscular Branches.**

3. **Superficialis Volæ** arises from the Radial, at the lower margin of the Pronator Quadratus, passes superficially to the ball of the thumb, and sends a branch to the Arcus Sublimis.

4. **Dorsalis Carpi** arises from the Radial, at the wrist, runs across the back of the Carpus, below the Extensor Tendons, and supplies the Interosseal Spaces of the back of the hand.

5. **Magna Pollicis** a terminating branch of the Radial, at the head of the Metacarpal Bone of the thumb; it divides into two branches, which run along the sides of the thumb.

6. **Radialis Indicis** arises at the same place with the last, and runs along the radial side of the fore-finger.

7. **Palmaris Profunda** arises near the same place, crosses the hand between the Metacarpal bones and Flexor tendons, forming the *Arcus Profundus*, which joins a branch of the Ulnar Artery, called the Cubitalis Manus Profunda, near the origin of the Superficial Arch.

ULNAR ARTERY is one of the forks of the Brachial, and is more in a line with it than the Radial. At its upper part it passes under the muscles arising from the Internal Condyle. At its lower part it is more superficial, and at the wrist it passes over the Annular Ligament, and forms the Arcus Sublimis, between the Flexor Tendons and Palmar Fascia. Its branches are the following:

1. **Recurrens Ulnaris** arises from the *Ulnar*, near the tubercle of the Radius, winds upwards over the Internal Condyle, and anastomoses with the *Anastomotica*.

2. **Interossea** arises below the last, and divides into two

principal branches. The *Anterior* runs in front of the Interosseal Ligament to the wrist: the *Posterior* perforates the Interosseal Ligament, sends off a *Recurrent* branch to the back of the Elbow, and then proceeds downwards, between the Extensor Muscles, to the wrist.

3. **Irregular Muscular Branches.**

4. **Dorsalis Manus** arises from the Ulnar, near the wrist, and passes under the tendon of the Flexor Ulnaris to the back of the hand.

5. **Arcus Sublimis** is apparently a continuation of the Ulnar. It is between the muscles and the Palmar Facia; it joins a branch of the Radial, near the Magna Pollicis, and gives off a branch which joins the Arcus Profundus. It is called *Cubitalis Manus Profunda.*

6. **Digital Arteries.** — These are three in number, passing from the Arcus Sublimis, along the Interosseal Spaces, to the fingers, where they divide into Digito-Ulnar and Digito-Radial, which terminate at the extremities of the fingers.

The Ulnar side of the little finger is supplied by an artery arising from the Arcus Sublimis.

THORACIC AORTA.

PLATE II.

Bronchial Arteries are the Nutritious Vessels of the Lungs; usually there is but one for each Lung. They arise from the Aorta, enter the root of the Lung, follow the course of the Bronchial Tubes, anastomose with the Pulmonary Artery, and supply the Parenchyma and black Lymphatic Glands.

Œsophageal Arteries, generally, are five or six in number, ramifying upon the Œsophagus.

Besides these, there are some arteries called *Posterior Mediastinal*, which are spent upon the Posterior Mediastinum.

Intercostal Arteries are ten on each side; the two upper Intercostal Spaces being supplied by the branch of the Subclavian, called the Superior Intercostal. Each artery runs into the Intercostal groove of the Rib for two-thirds of its length, when it divides into several branches. The last Intercostal is exceedingly large.

ABDOMINAL AORTA.

PLATE II.

Phrenic Arteries. — There is one for each side, arising in front of the Aorta, between the Crura of the Diaphragm. They are distributed to the Diaphragm.

Cœliac Artery arises just below the Phrenic, between the pillars of the Diaphragm, opposite the junction of the last Dorsal with the first Lumbar Vertebra. The trunk is large, but only half an inch long; it divides into the Gastric, Hepatic, and Splenic.

Gastric Artery is the smallest of the three, and is distributed to the lesser curvature of the Stomach. (Plate IV., Fig. 1.)

Hepatic Artery, larger than the Gastric, inclines to the right side, and reaches the liver, being enclosed in the Capsule of Glisson. It gives off the *right Gastro-Epiploic*, which supplies the right half of the greater curvature of the Stomach. It also gives off the *Cystic Artery*, which is distributed upon the Gall-bladder. The Hepatic Artery

divides into two large branches for the right and left Lobes of the Liver. (Plate IV., Fig. 1.)

Splenic Artery is the largest branch of the Cœliac, passes transversely to the Spleen, along the superior margin of the Pancreas, and is very tortuous. It gives off the *Pancreatic Arteries*, which supply the Pancreas, and are about the size of a knitting-needle. The *left Gastro-Epiploic* arises from the Splenic, supplies the left half of the greater curvature of the Stomach, and joins the artery of the right side. The *Vasa Brevia* also come from the Splenic, are five or six in number, and are distributed upon the greater extremity of the Stomach. (Plate IV., Fig. 1.)

Superior Mesenteric Artery arises from the Aorta, half an inch below the Cœliac, and is about the same size as the latter. It passes behind the Pancreas, and in front of the Duodenum, to reach the root of the Mesentery, between the laminæ of which it descends, making a curvature to the left, and giving of from fifteen to twenty large branches, which form the first row of Arterial Arches. The second and third Arches are formed by branches from the latter. This artery supplies the whole of the Small Intestines, and gives off three *Colic Arteries* to the Large Intestine, viz., the *Ileo-Colic*, which supplies the head of the Colon; the *Colica Dextra*, which supplies the ascending portion of the Colon; and the *Colica Media*, which supplies the right half of the transverse portion of the Colon. (Plate IV., Fig. 2.)

Emulgent Arteries arise on each side of the Aorta, below the Superior Mesenteric, and pass horizontally to each kidney; the right one is longer than the left, and goes behind the ascending Cava. They divide into several branches before reaching the Kidney, and generally give off the *Capsular Arteries*, which are about the size of a crow-quill, and terminate in the Capsulæ Renales.

Spermatic Arteries arise on each side of the Aorta, below

Arteries

Plate 4th.

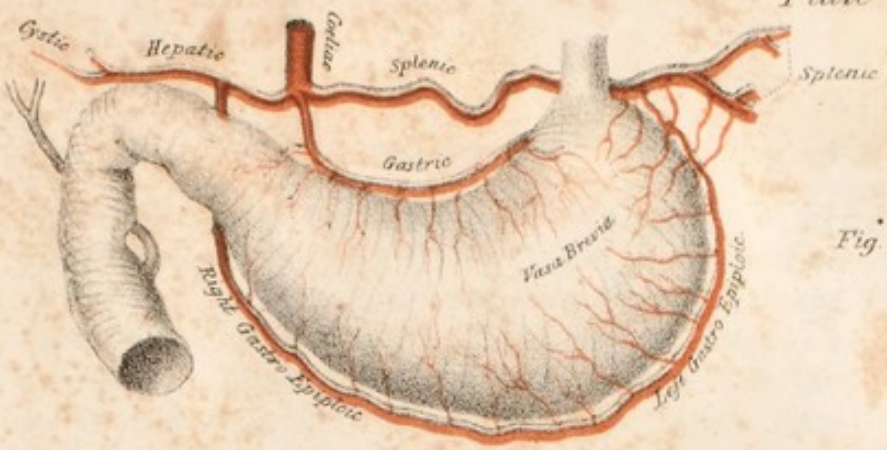

Fig. 1.

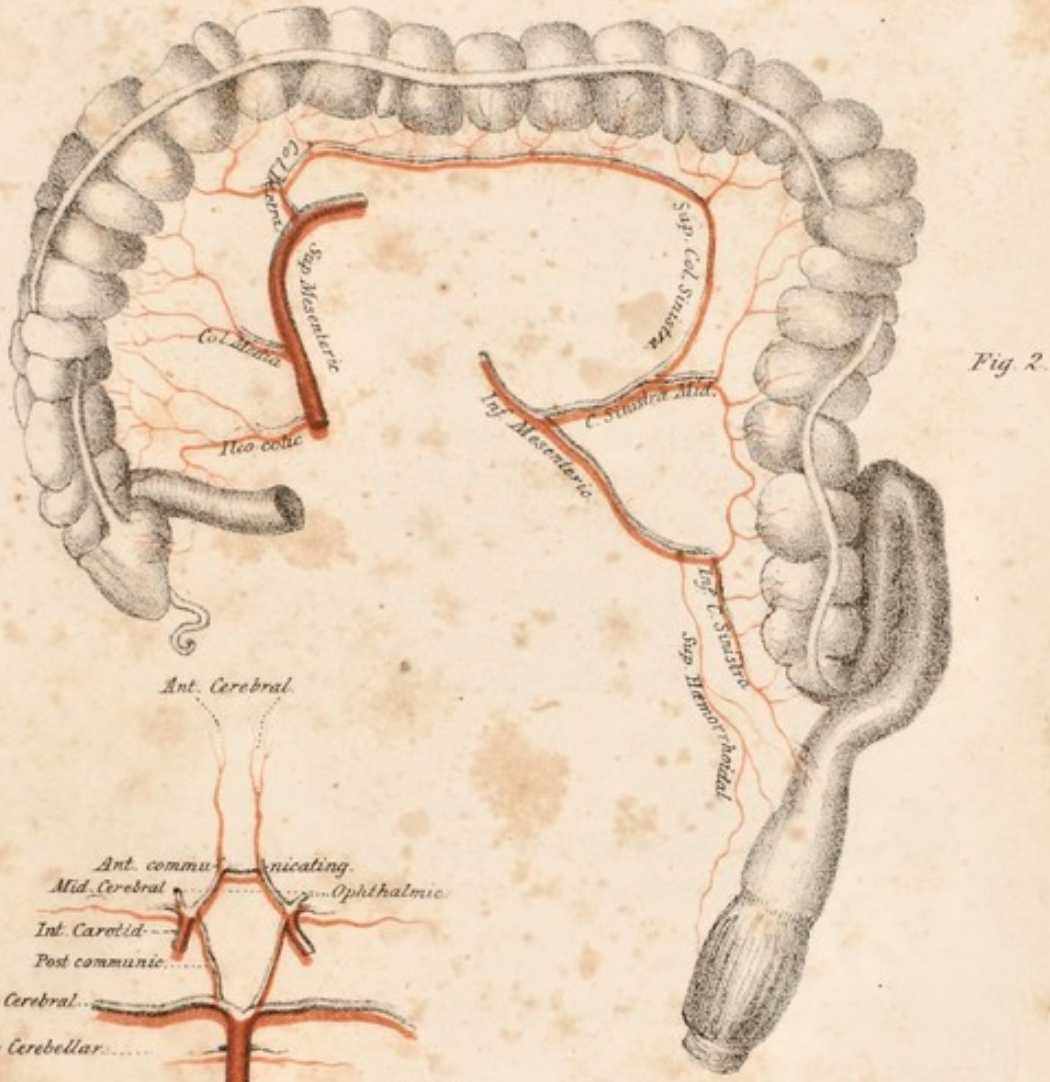

Fig. 2.

Fig. 3.

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the Emulgents, and sometimes from them; they are of the size of a crow-quill; they descend before the Psoæ Muscles, and behind the Peritoneum, in a tortuous manner crossing the Ureters in front. In the male, they descend through the Abdominal Canal to the Testicle. In the female, they supply the Ovary and Fallopian Tube. They are larger at their termination than at their origin.

Inferior Mesenteric Artery arises about half an inch above the bifurcation of the Aorta into the Iliacs. It inclines to the left side, and divides into three Colic Arteries, which supplies the left side of the Colon, viz., the *Superior Left Colic*, which ascends to the left portion of the transverse Colon; the *Middle Left Colic*, going to the upper part of the Sigmoid Flexure; and the *Inferior Left Colic*, which goes to the middle and lower part of the Sigmoid Flexure. (Plate IV., Fig. 2.)

Superior Hemorrhoidal Artery is the last branch of the Inferior Mesenteric; it descends, and supplies the upper portion of the Rectum. (Plate IV., Fig. 2.)

Lumbar Arteries are five in number, arising on each side of the Aorta, and correspond in their course with the Intercostal Arteries. They supply the Loins and part of the Abdomen.

Middle Sacral Artery arises at the bifurcation of the Aorta, and descends in front of the middle line of the last Vertebra, and of the Sacrum, to the Coccyx.

PRIMITIVE ILIAC ARTERY.

PLATE V.

It arises at the bifurcation of the Aorta, and extends from the fourth Lumbar Vertebra to the Sacro-Iliac junction, where

it divides into two branches, called *External* and *Internal Iliacs*. It is bounded on the outer side by the Psoas Magnus Muscle, behind by the Iliac Vein, and at its lower part it is crossed by the Ureter.

INTERNAL ILIAC ARTERY.

PLATE V.

It descends from the upper to the lower part of the Sacro-Iliac junction, where it divides into two large branches, the Gluteal and Ischiatic, but its distribution varies very much.

Ilio-Lumbar Artery arises from the Internal Iliac, ascends outwards and backwards, and supplies the Quadratus Lumborum Muscle, &c.

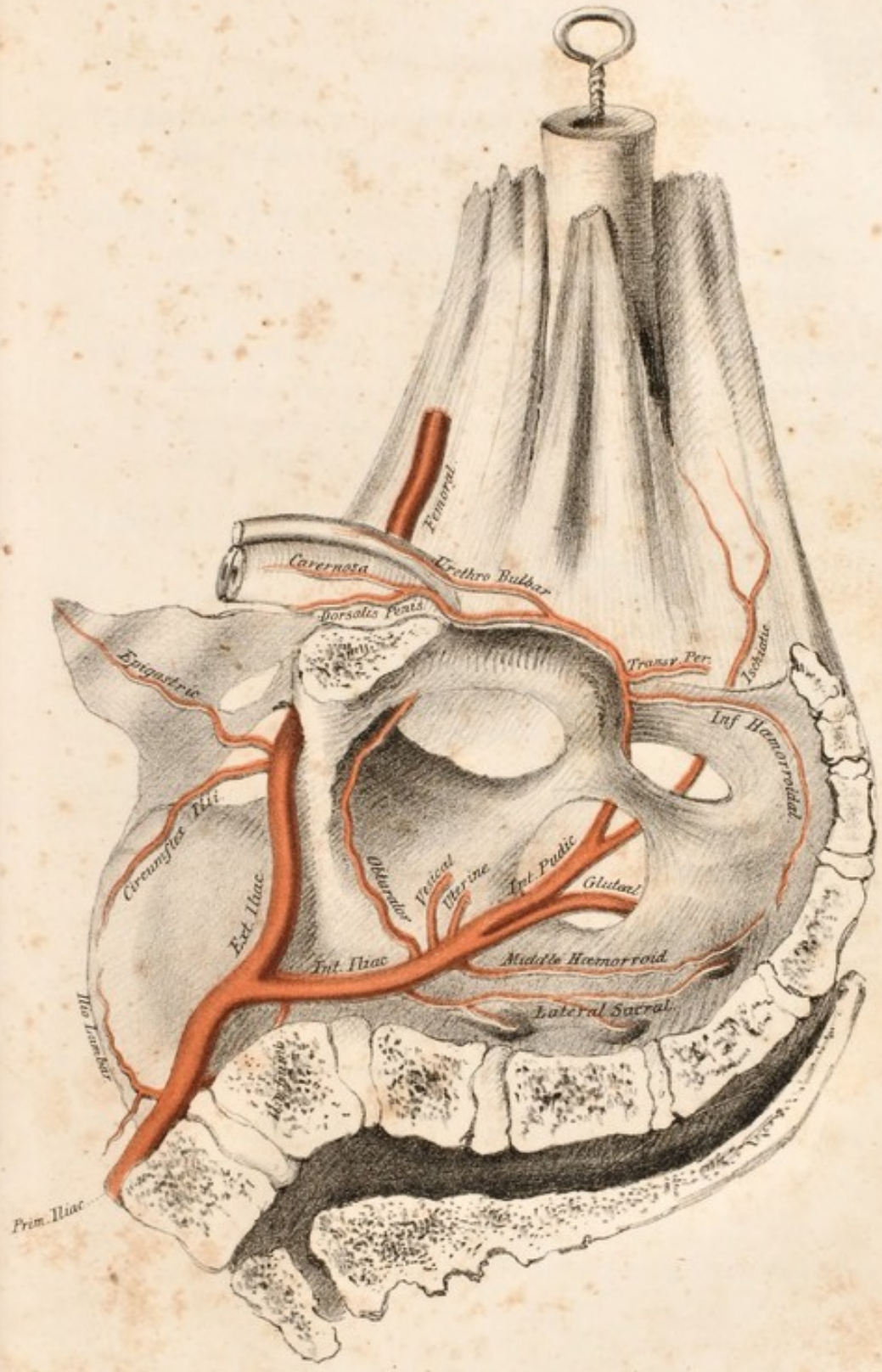
Lateral Sacral Artery, usually four in number; they cross the front of the Sacrum, and enter its Foramina to be spent on the Cauda Equina: they arise by one or more trunks from the Internal Iliac.

Obturator Artery arises from the Internal Iliac, passes forward, and goes through the upper part of the Thyroid Foramen; emerging from the pelvis, it divides into two branches, which supply the surrounding muscles.

Middle Hæmorrhoidal Artery descends in front of the Rectum, which it supplies, together with the Vesicula Seminalis and Prostate Gland.

Vesical Artery arises from the remnant of the Umbilical Artery, divides into several branches, and supplies the bladder, &c. The Umbilical Artery is converted into the round ligament of the Bladder.

Uterine Artery arises near the Vesical, and supplies the Uterus; its size varies with the stage of pregnancy.



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The Internal Iliac now divides into two large arteries, called the Gluteal and Ischiatic.

GLUTEAL ARTERY issues from the Pelvis, at the upper part of the Sciatic Notch, above the Pyriform Muscle, and divides into two branches which supply the Glutei Muscles.

ISCHIATIC ARTERY is smaller than the Gluteal, and emerges from the Pelvis, through the Sciatic Notch and below the Pyriform Muscle. It descends to the muscles on the back of the Thigh.

Internal Pudic Artery arises from the Ischiatic, within the Pelvis, above the Spinous Process of the Ischium, and emerges from the Pelvis between the greater Sacro-Sciatic Ligament and Pyriformis Muscle, and then returns into the Pelvis, between the two Sacro-Sciatic Ligaments, then ascends the Crus of the Ischium and Ramus of the Pubis, giving off the following branches:

Lower Hæmorrhoidal arises from the Pudic, after it has returned within the Pelvis, and is distributed to the lower portion of the Rectum and Sphincter Ani Muscle.

Perineal Artery is distributed to the transverse Perinei Muscles, and is cut in the lateral operation for stone.

Urethro-Bulbar commences behind the triangular ligament, and supplies the Corpus Spongiosum.

Dorsalis Penis arises at the arch of the Pubis, and advances to the end of the Penis, under the skin.

Cavernous Artery. — The terminating trunk of the Internal Pudic, penetrates the Corpus Cavernosum and supplies its cells.

EXTERNAL ILIAC ARTERY.

PLATE V.

It extends from the bifurcation of the Primitive Iliac to Poupart's Ligament, passing along the internal margin of the Psoas Magnus Muscle. In passing under the ligament, it lies between the vein on the inside, and the Anterior Crural Nerve on the outside.

Epigastric Artery arises from the External Iliac, behind Poupart's Ligament, ascends obliquely inwards, between the Fascia Transversalis and the Peritoneum, and is distributed upon the muscles of the Abdomen. It gives off a small branch called the *External Spermatic*, which is distributed upon the Cremaster Muscle of the male, or the round ligament of the female.

Circumflex Ilii Artery arises from the External Iliac, near the Epigastric. It ascends outwardly, towards the Anterior Superior Spinous Process of the Ilium, passing along the Crista, and is distributed to the muscles of the Loins and Abdomen.

FEMORAL ARTERY.

PLATE VI., FIG. 1.

This is a continuation of the External Iliac, and extends from Poupart's Ligament to a perforation in the tendinous insertion of the Adductor Magnus Muscle. It is spiral in its course, and at its upper part is quite superficial. It occupies the angle formed by the Vastus Internus and the Adductor Longus Muscle. It gives off the following:

Superficial Artery of the Abdomen arises just below

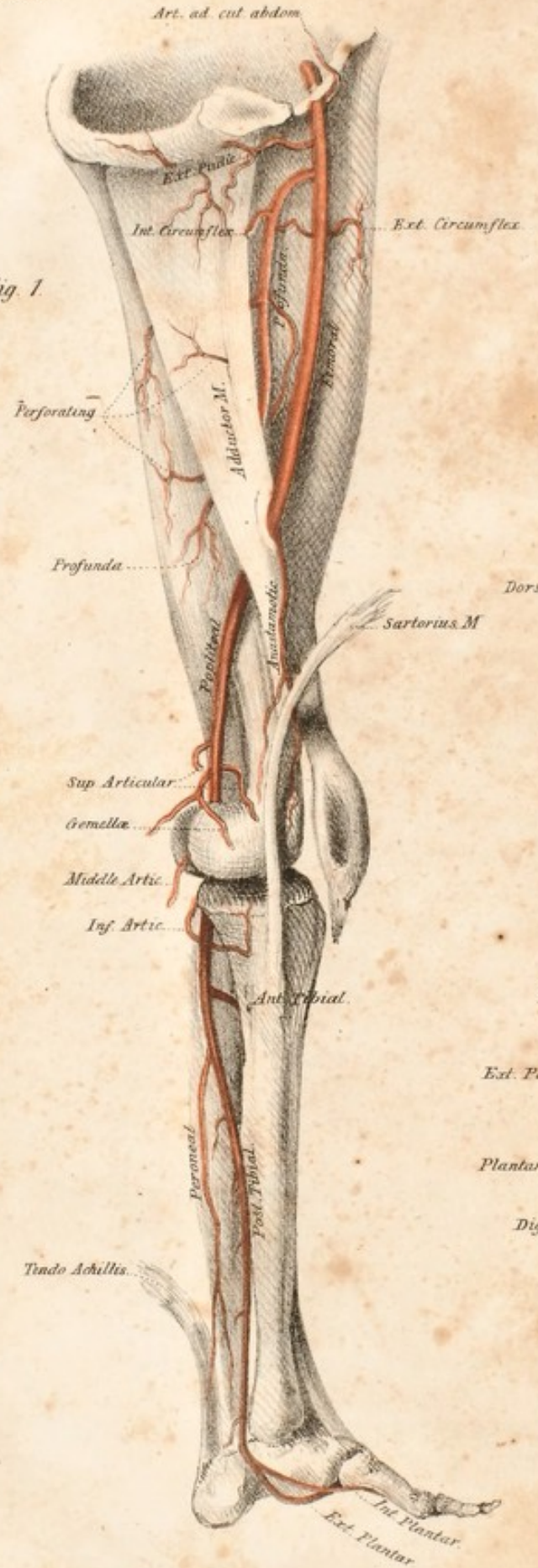
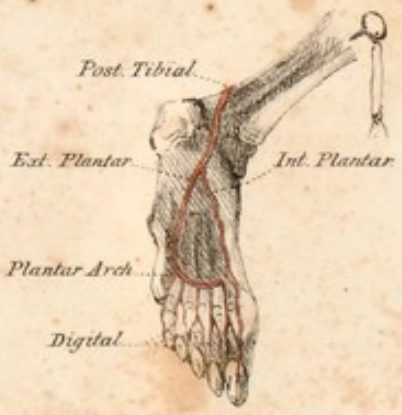


Fig. 1

Fig. 2.

Fig. 3.



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Poupart's Ligament, ascends towards the Umbilicus, and is distributed to the integuments.

External Pudic Arteries arise from the Femoral, at the same point with the last, are two or three in number, and are distributed to the Groin and External Organs of Generation.

Profound Artery arises from the Femoral, two inches below Poupart's Ligament, and almost equals it in size. It passes backwards, and divides into the External and Internal Circumflex, giving off, also, the *Perforating Arteries.*

External Circumflex Artery sometimes arises from the Femoral, but generally from the Profunda. It supplies the muscles at the upper and outer portion of the Thigh.

Internal Circumflex Artery arises from the Profunda, and sometimes from the Femoral, and divides into four large branches called *Perforating Arteries*, which supply the muscles at the internal and posterior portion of the Thigh.

Anastomosing Artery is the last branch of the Femoral, and arises from it just before it perforates the Adductor. It is about the size of a crow-quill, and is distributed to the inside of the knee.

POPLITEAL.

PLATE VI., FIG. 1.

The Femoral Artery becomes Popliteal after it passes through the Adductor Magnus, and extends to the opening in the Interosseous ligament of the leg. It passes through a mass of fat between the Condyles of the Femur.

Superior Internal Articulating arises from the Popliteal, above the Internal Condyle, and is distributed to the upper and inner portion of the Knee Joint.

Superior External Articulating arises above the External Condyle, and is distributed to the upper and outer portion of the Knee Joint.

Middle Articulating is smaller than either of the above, and is distributed to the Posterior and Crucial Ligaments of the Knee.

Inferior Internal Articulating arises below the Internal Condyle, and is distributed to the inner and lower part of the Knee Joint.

Inferior External Articulating arises from the Popliteal, below the External Condyle.

Gemellar Arteries are two in number; they arise between the Superior and Inferior Articulating Arteries, and supply the two heads of the Gastrocnemius Muscle. The *Popliteal* now divides into *Anterior* and *Posterior Tibial.*

ANTERIOR TIBIAL

Passes through the Foramen of the Inter-osseous Ligament, descends on the front of the leg, with the Tibialis Anticus on its inner side, and the Extensor Proprius Pollicis and the Extensor Communis Digitorum externally. It crosses the Ankle in front of the Annular Ligament, and at the base of the Metatarsal Bone of the great toe, penetrates to the sole of the foot, and joins the External Plantar Artery. (Plate VI., Fig. 2.)

Recurrent Tibial arises from the Anterior Tibial, penetrates the Tibialis Anticus Muscle, and ascends and anastomoses with the Articulating Arteries.

Internal Malleolar arises from the Anterior Tibial, an inch or two above the Ankle; it descends inwardly, and is distributed upon the Ankle Joint.

External Malleolar arises from the Anterior Tibial, in front of the Ankle Joint, and is distributed upon the Ankle Joint externally.

Tarsal arises from the Anterior Tibial upon the Instep, passes beneath the Extensor Brevis Muscle, and is distributed to the External Ankle.

Metatarsal arises just below the last, forms an arch at the heads of the Metatarsal Bones, and gives off three Interosseal Arteries for the three outer spaces.

Dorsal (or *Dorsalis Hallucis*) arises from the Anterior Tibial, at the head of the Metatarsal Bone of the great toe, and divides into two branches, — one supplies the great toe, and the other the inside of the second toe.

Pedal is the terminating branch of the Anterior Tibial, which penetrates to the sole of the foot, to join the External Plantar.

POSTERIOR TIBIAL

Extends from the head of the Tibia to the Os Calcis, descends under the Gastrocnemius and Soleus Muscles; at its lower third it is at the inner edge of the Tendo-Achillis.

Peroneal arises from the Posterior Tibial, an inch or two below the Anterior Tibial, descends on the posterior face of the Fibula, supplying the muscles which arise from it: it is deep-seated, and near its lower third divides into two branches, which anastomose with those of the Ankle. The Posterior Tibial now divides into the following:

Internal Plantar. — This is smaller than the External, passes along the sole of the foot on the inner side, and terminates in the Digital Artery of the great toe. (Plate VI., Fig. 3.)

External Plantar is the continuation of the Posterior Tibial, and emerges at the outer margin of the sole of the foot, then makes a curvature across the Metatarsal Bones, called the *Plantar Arch*, from which arise *Four Digital Arteries*. These approach the bases of the toes, where they divide into *Internal* and *External Digital* Arteries, supplying each side of the toes.

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