

AN ATLAS OF ANATOMY

By
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BY REGIONS

Upper Limb, Abdomen, Perineum, Pelvis, Lower Limb,
Vertebrae, Vertebral Column, Thorax, Head and Neck,
Cranial Nerves and Dermatomes.

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AN ATLAS
OF
ANATOMY

**To
A. C. G.**

Preface to First Edition

This collection of illustrations depicts the structures of the human body, region by region, in much the same order as the student displays them by dissection.

In the execution of these illustrations the following preliminary steps were taken: each specimen was posed and photographed; from the negative film so obtained an enlarged positive film was made; with the aid of a viewing box the outlines of the structures on the enlarged film were traced on tracing paper; and these outlines were scrutinized against the original specimen, in order to ensure that the shapes, positions and relative proportions of the various structures were correct. The outline tracing was then presented to the artist who transferred it to suitable paper and, having the original dissection beside her, proceeded to work up a plastic drawing in which the important features were brought out. Thus, little, if any, liberty has been taken with the anatomy; that is to say, the illustrations profess a considerable accuracy of detail.

In order that the student may be able to turn the pages and study figure after figure without requiring to re-orient himself, all illustrations of bilaterally symmetrical structures are from the right half of the body, unless it is stated otherwise.

Most of the specimens here depicted are in the Anatomy Museum of the University of Toronto; the others were specially prepared for this Atlas.

The observations and comments that accompany the illustrations are designed to attract attention to salient points and to points of significance that might otherwise escape notice. Their purpose is to interpret the illustrations. They are not, nor are they intended to be, exhaustive descriptions.

As to nomenclature, the Birmingham Revision (B.R.) of the Basle Nomina Anatomica (B.N.A.) is employed, but where the revised and unrevised terms are substantially different—and this is in a small minority of instances—both terms are given, the B.N.A. terms being within brackets. In the index also both terms are to be found.

The often recurring noun, *musculus* or *muscle*, is omitted from the names of the muscles, but by way of compensation the initial letters of the qualifying adjectives are printed in capitals, e.g., *musculus trapezius* and *musculus rectus abdominis* are printed thus: *Trapezius* and *Rectus Abdominis*.

Preface to the Third Edition

In this edition more than seventy of the illustrations are new, and twenty-eight of the old illustrations have been either improved or replaced, and to some colour has been added.

The new illustrations portray in serial dissection the female perineum and pelvis, the back of the neck, the palate, the pharyngo-tympanic tube, and the middle ear. They include the arterial supply to the head of the femur, to the knee and to the walls of the nose, the veins of the axilla and of the front of the thigh, the bronchial tree, the pulmonary artery and vein, the broncho-pulmonary segments, variations in the pancreatic ducts, certain other important variations, and the dermatomes according to Keegan.

In preparing the new illustrations the same technical procedure was followed as for the previous editions.

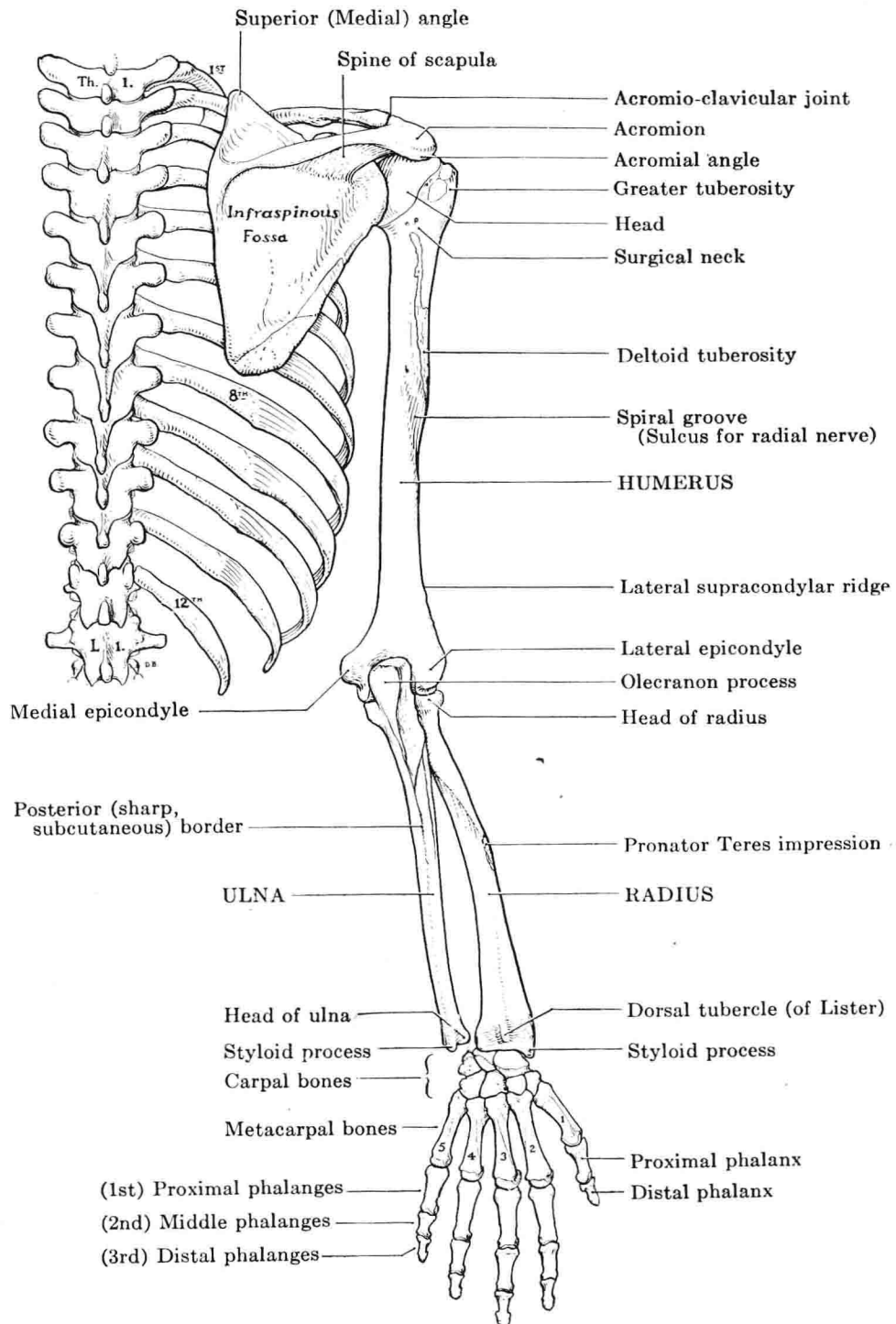
It is with pleasure that I record my grateful appreciation of the work so cheerfully and carefully done by Miss Nancy Joy whose artistic skill is revealed in the new illustrations, by Mrs. D. I. Chubb who sharpened certain of the old illustrations for enlargement, and by Miss E. Blackstock who converted figures 466 and 555 from line-drawings into half-tones.

I express my gratitude and thanks to Dr. A. I. Scott who spent long hours making many of the most difficult dissections, to Mr. Charles Storton for his general expert assistance including the preliminary photographic work, to Miss Mary McConnell for her careful secretarial assistance including the making of the Index, to my demonstrators for their helpful criticism, and to my students, particularly F. B. Fallis and D. A. Barr, for some valuable suggestions. To Messrs. Williams and Wilkins, the publishers, I am deeply obliged for their most helpful co-operation and kind consideration.

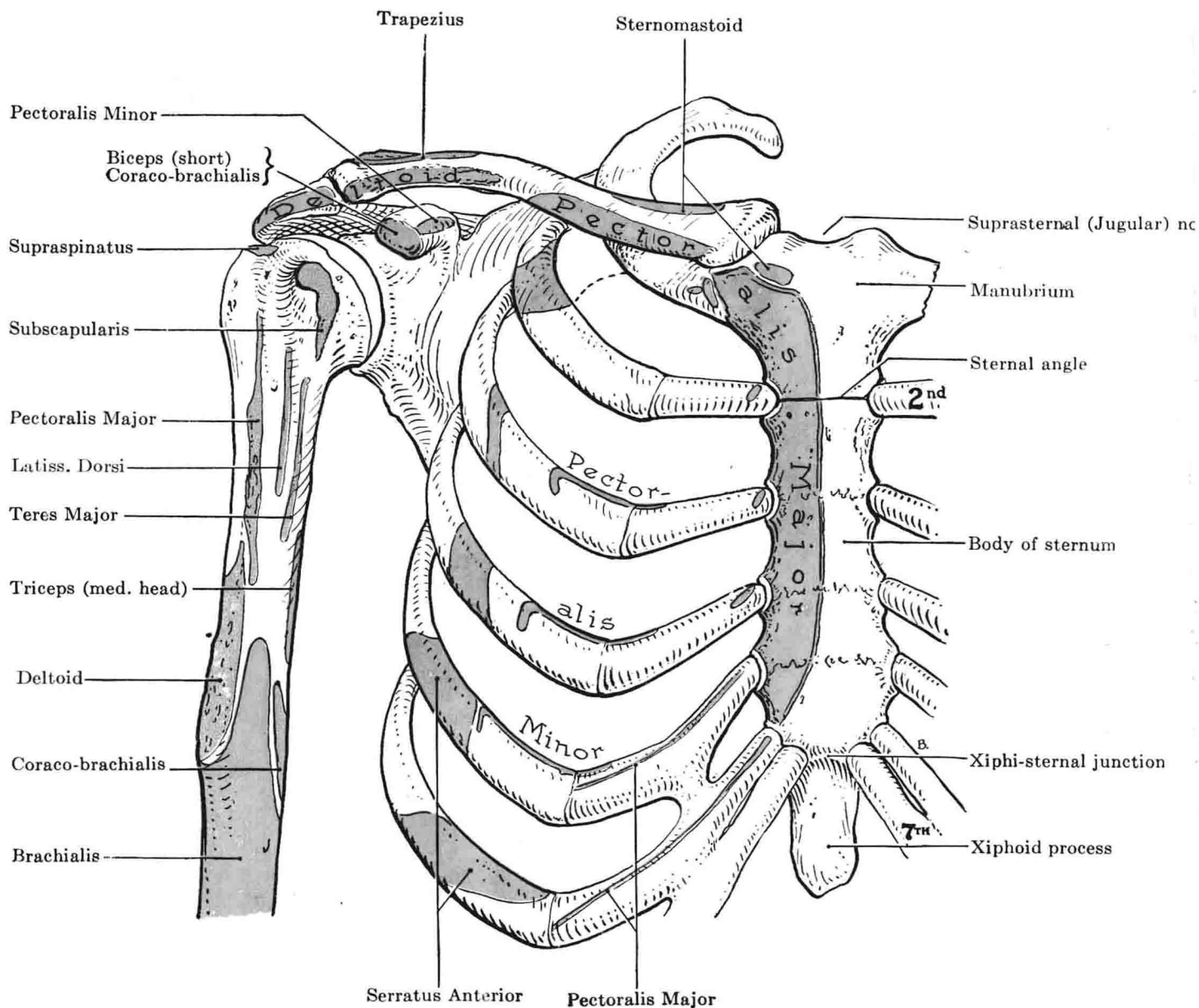
THE UPPER LIMB

Illustrations

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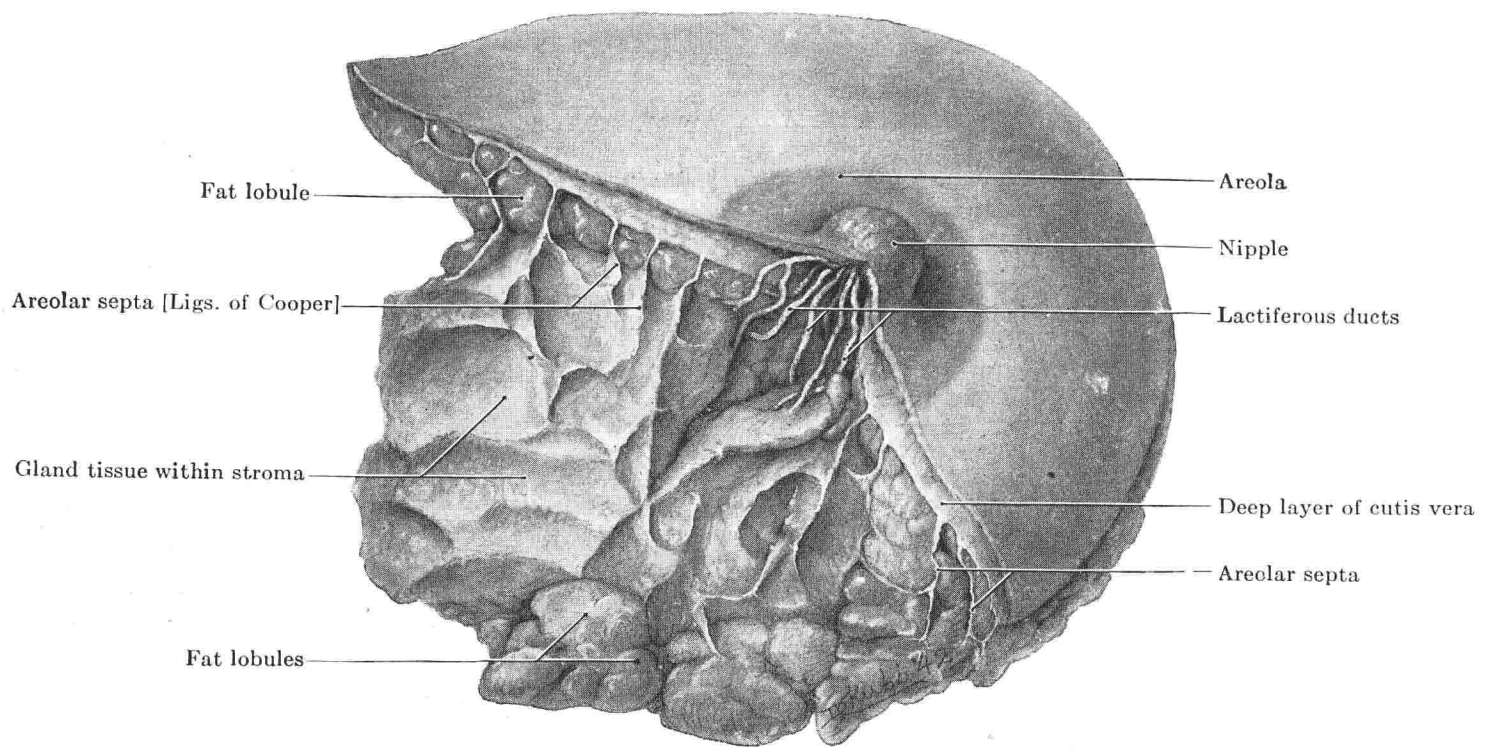
2. Bones of the Upper Limb, from behind.



3. Bones of the Pectoral Region and Axilla, with muscle attachments shown.

Observe:

1. The following muscles attached in line with each other, (a) Trapezius and Sternomastoid; (b) Deltoid and clavicular head of Pectoralis Major; (c) Supraspinatus, Pectoralis Major and anterior part of Deltoid; and (d) Subscapularis and Latissimus Dorsi and Teres Major.
2. Pectoralis Major having a crescentic origin from the clavicle, sternum and 5th and (or) 6th costal cartilages.
3. Pectoralis Minor here arising from the 3rd, 4th and 5th ribs. It commonly arises also from either the 2nd or the 6th rib.



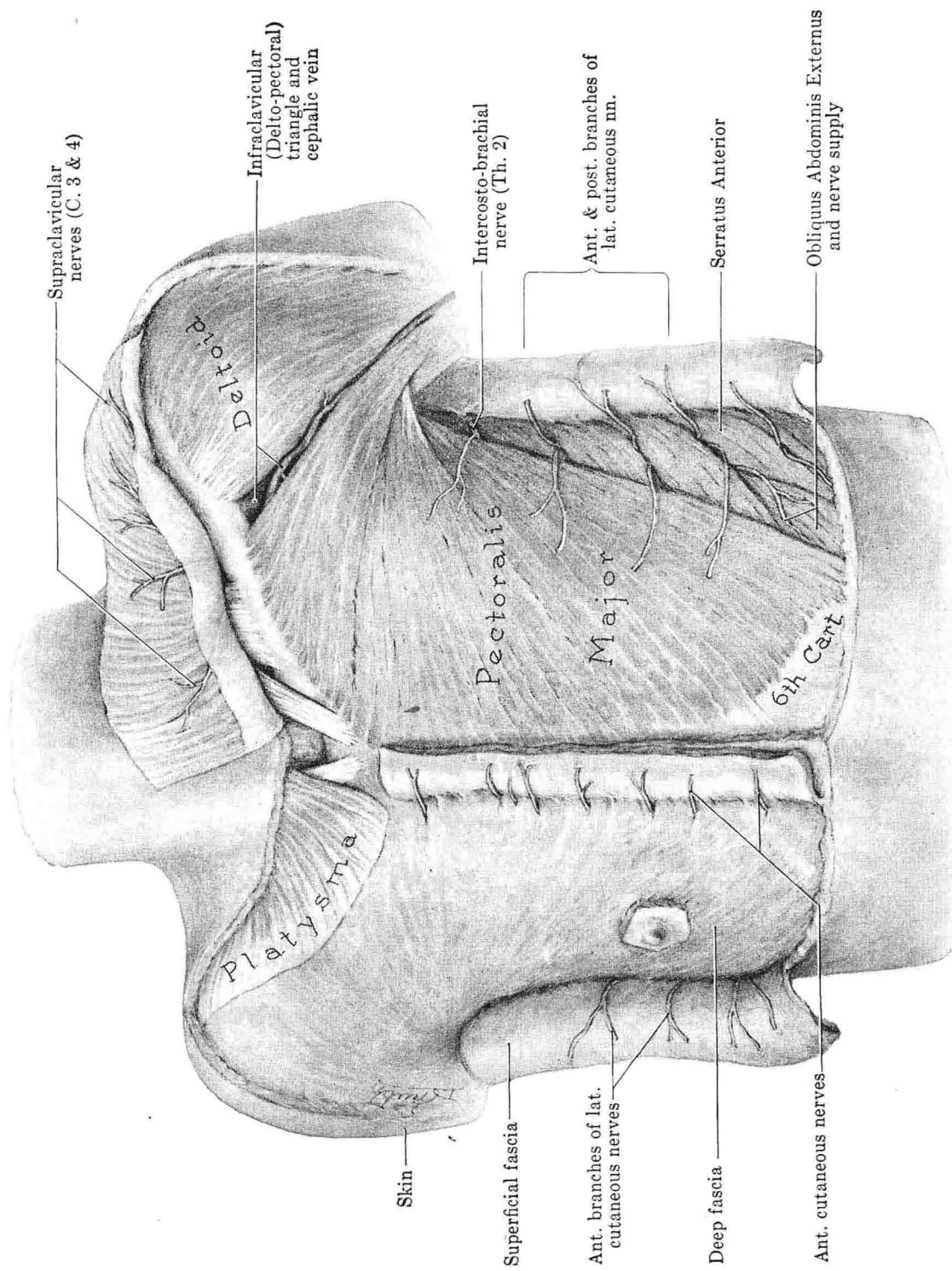
4. The Mammary Gland of the Female.

(Dissection by Dr. Ross G. MacKenzie)

With the rounded handle of the scalpel collections of superficial fat were scooped out of their compartments on the surface of the glandular tissue. The glandular tissue was incised in order to allow the ducts to be traced. A fringe of the deeper layer of the skin projects.

Observe:

1. The nipple rising from the centre of the pigmented areola.
2. 7 of the 15 to 20 lactiferous ducts running at first dorsally in the long axis of the nipple, enveloped in an areolar cuff, and then spreading radially and branching to the glandular tissue.
3. The glandular tissue within a dense (fibro-) areolar stroma from which septa (ligs. of Cooper) that imprison lobules of superficial fat extend to the deeper layers of the skin.



5. Superficial Dissection of the Pectoral Region.

Platysma, which descends to the 2nd or 3rd rib, is cut short on the right side; it, together with the supraclavicular nerves (C. 3, 4), is reflected on the left side.

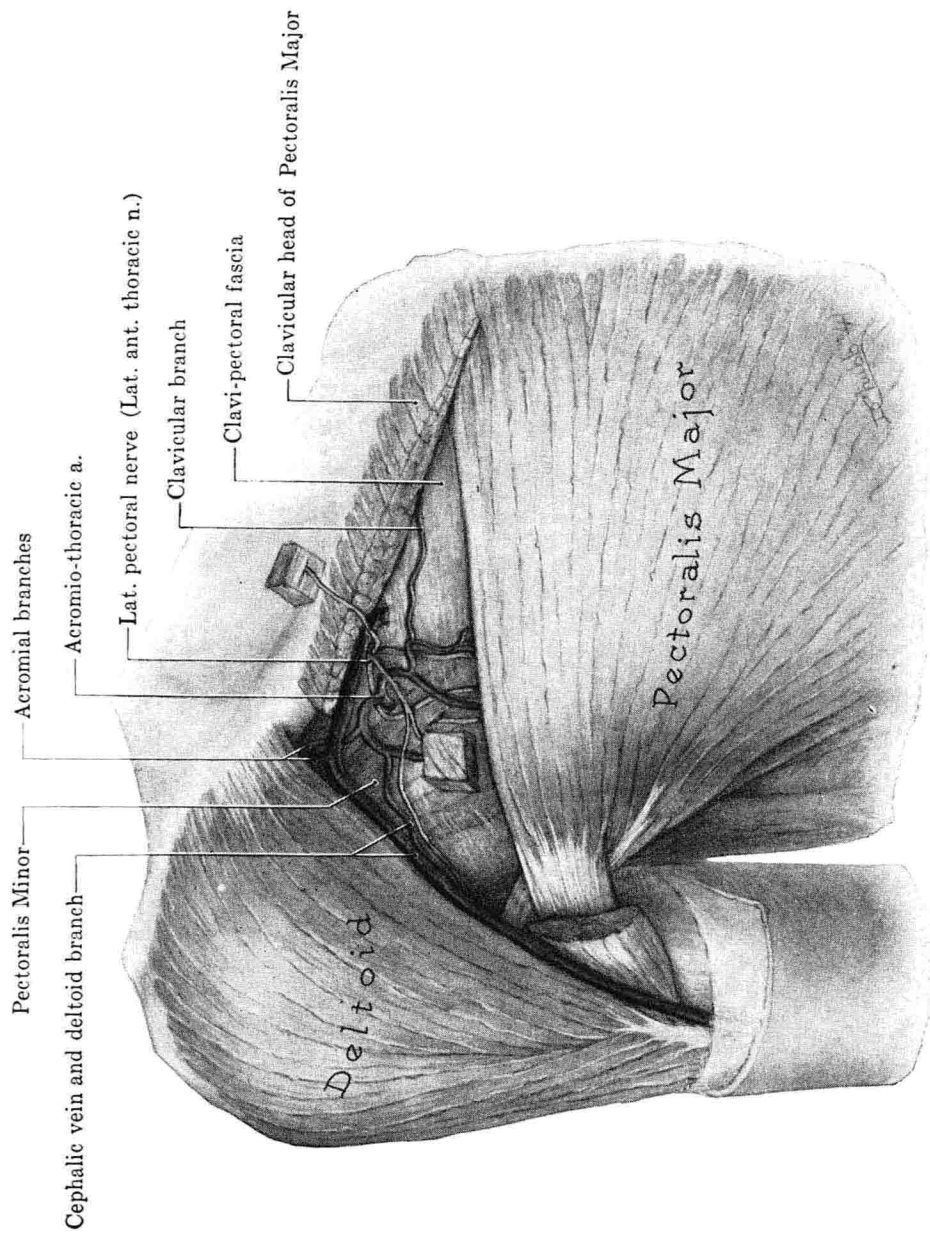
Observe:

1. The deep fascia covering Pectoralis Major is filmy.
2. The intercostal bony strip running along the clavicle is both subcutaneous and cutaneous.

3. The meeting of the two heads of Pectoralis Major at the sterno-clavicular joint.

4. The cephalic vein traversing the infraclavicular fossa (delto-pectoral triangle).

Note:—The nerves that form the brachial plexus (C. 5, 6, 7, 8 and T.1) do not provide cutaneous nerves here, hence the break in sequence.



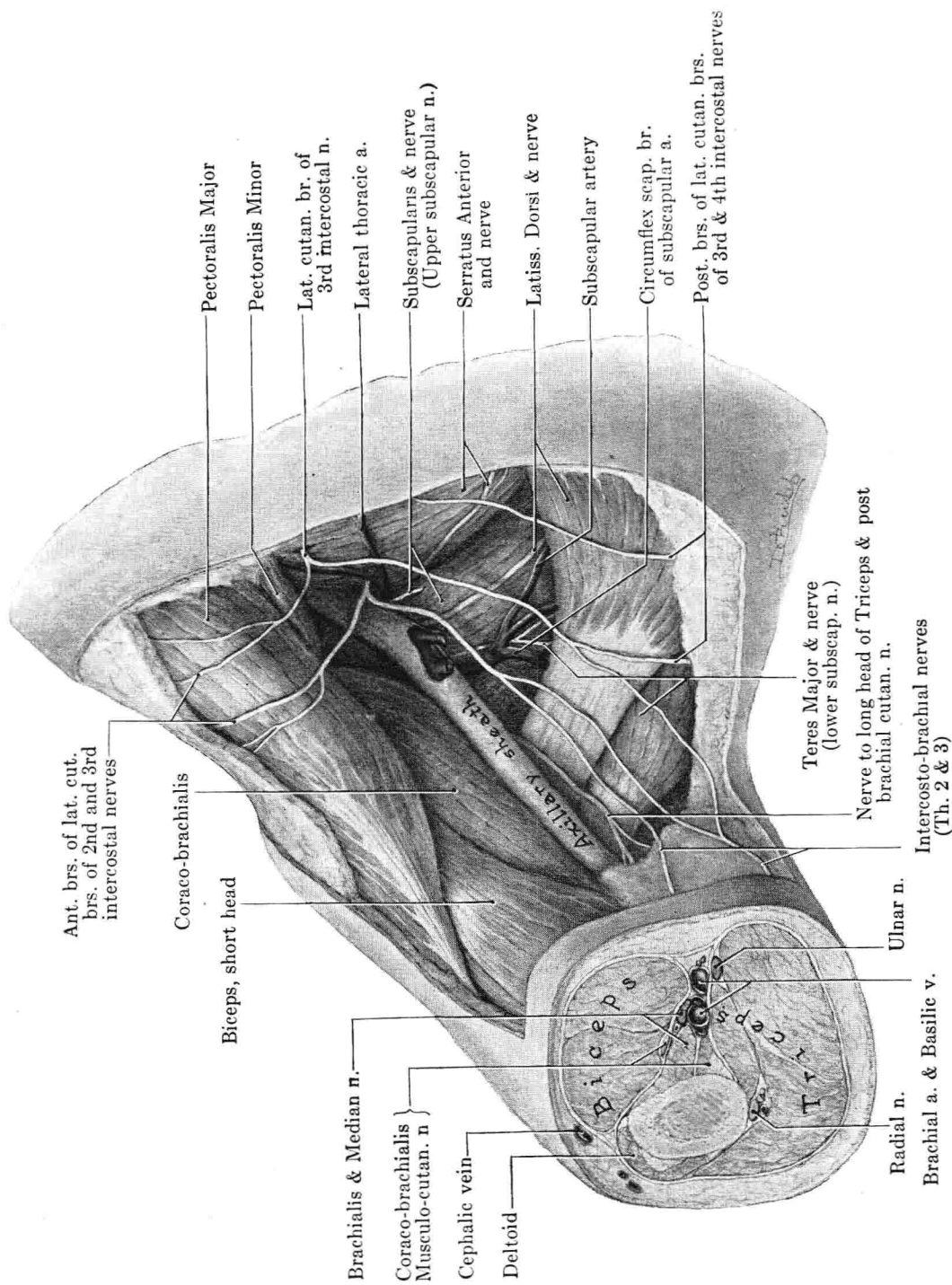
6. The Clavi-pectoral (Coraco-clavicular) Fascia.

Clavicular head of Pectoralis Major is excised, but cubes of muscle identify its nerves. The acromio-thoracic (thoraco-acromial) veins are removed.

Observe:

1. The part of the clavi-pectoral fascia—the costo-coracoid membrane—pierced by the lateral pectoral nerve (lat. ant. thoracic n.) and companion vessels.

2. The part of the fascia embracing Pectoralis Minor. Here muscle and fascia are pierced by the medial pectoral nerve (med. ant. thoracic n.) not labelled.
3. The trilinear insertion of Pectoralis Major.
4. The course of the cephalic vein.
5. The two blocks of muscle attached to the lateral pectoral nerve are cut from the clavicular head of Pectoralis Major.



7. The Axilla, from below: Cross Section of the Arm.

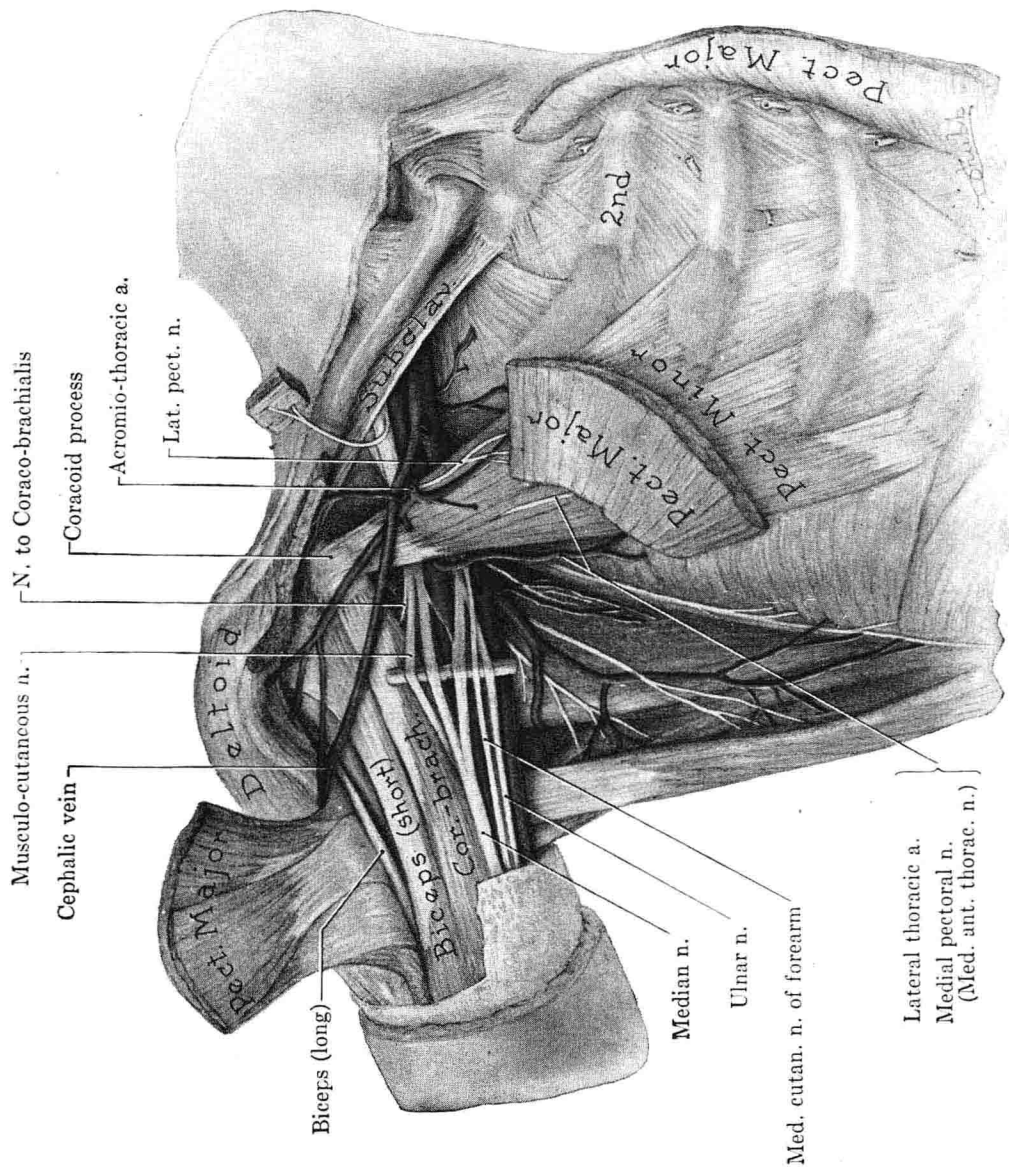
Observe:

1. The three muscular walls of the axilla:

- (a) Anterior wall—Pectoralis Major, Pectoralis Minor and Subclavius, but only the lower borders of Pectorales are in view.
- (b) Posterior wall—Subscapularis, Latissimus Dorsi and Teres Major.
- (c) Medial wall—Serratus Anterior.

The lateral or bony wall—bicipital groove of the humerus—is concealed by Biceps and Coraco-brachialis.

2. The axillary sheath and the cutaneous nerves crossing Latissimus Dorsi. The most lateral of these nerves also, and alone, supplies long head of Triceps.



8. Anterior Structures of the Axilla.

Pectoralis Major is reflected and the clavi-pectoral fascia removed.

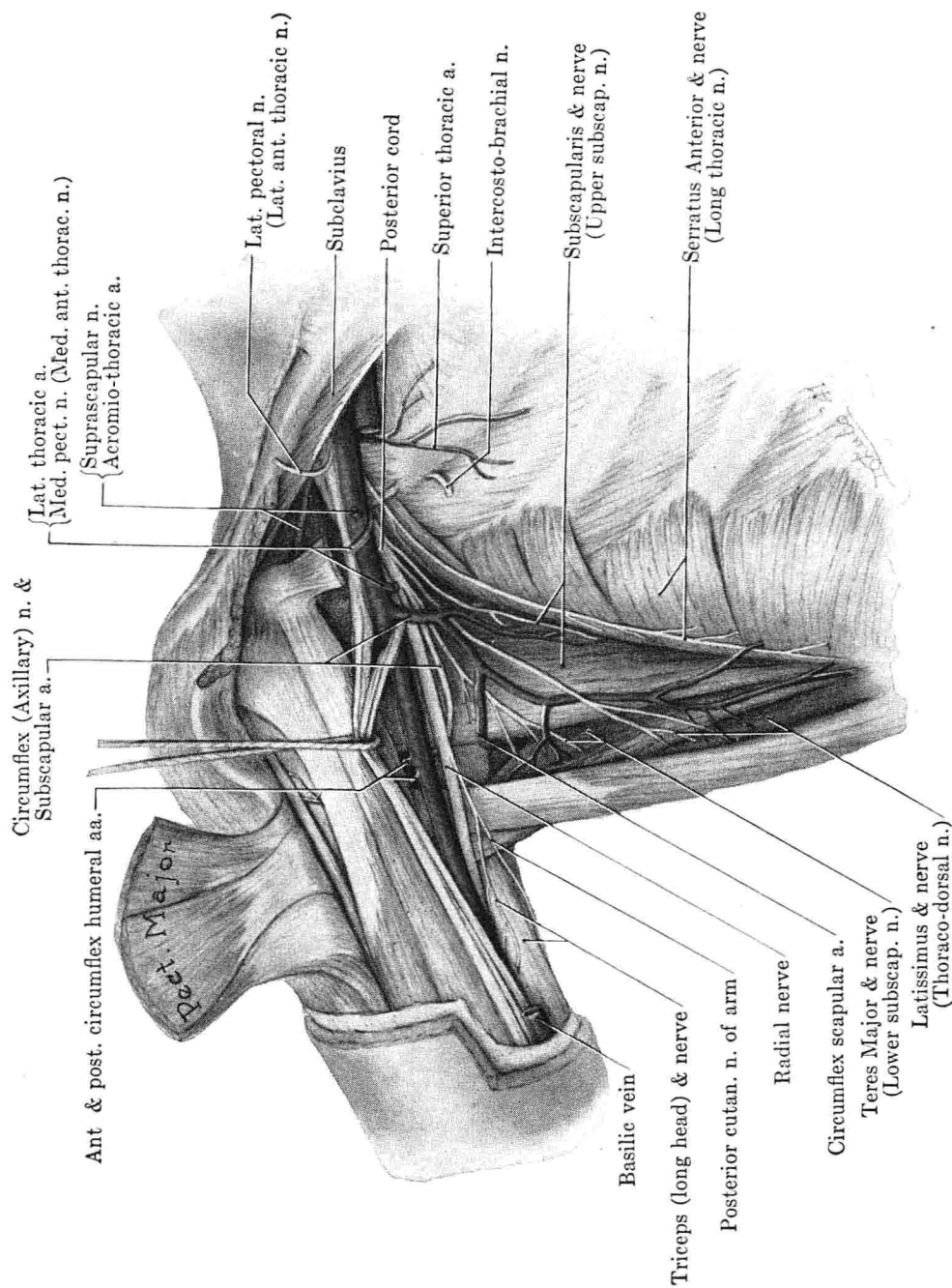
Observe:

1. Subclavius and Pectoralis Minor, the two deep muscles of the anterior wall.
2. The axillary artery lying behind Pectoralis Minor a finger's breadth from the tip of the coracoid process and having the lateral cord lateral to it and the medial cord medial.
3. The axillary vein lying medial to the axillary artery.
4. The median nerve, followed proximally, leading by its lateral head to the lateral cord and the musculo-cutaneous nerve, and by its medial head to the medial cord and the ulnar nerve.

[These and the medial cutaneous nerve of the forearm are raised on a stick.]

5. The nerve to Coraco-brachialis arising in the axilla.
6. The superior thoracic artery (not labelled) passing to the 1st and 2nd intercostal spaces.
7. The block of muscle above the clavicle is cut from the clavicular head of Pectoralis Major.

Note:—The lateral head of the median nerve may be in several strands. Here there is one small extra strand.



9. Posterior and Medial Walls of the Axilla.

Pectoralis Minor is excised; the lateral and medial cords are retracted; the axillary vein is removed.

Observe:

1. The posterior cord and its terminal branches viz. radial and circumflex (axillary) nerves, lying behind the axillary artery.
2. The nerves to the 3 posterior muscles. Of these:
 - (a) Nerve to Lat. Dorsi enters the deep surface of its muscle $\frac{1}{2}$ " from its free border at a point mid-way between the chest and the abducted arm.
 - (b) Nerve to Subscapularis lies parallel to (a) but above it.
 - (c) Nerve to Teres Major lies parallel to (a) but below it.
3. Nerve to Serratus Anterior clinging to its muscle throughout.
4. Suprascapular nerve passing towards the root of the coracoid process.
5. Subscapular artery, the largest branch of the axillary artery. Here it is somewhat high; usually it arises at the lower border of Subscapularis.
6. Posterior circumflex humeral artery accompanying the circumflex (axillary) nerve through the quadrangular space.