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HUXLEY & HAWKINS'
ATLAS OF
COMPARATIVE OSTEOLOGY

iii/3



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AN
ELEMENTARY ATLAS
OF
COMPARATIVE OSTEOLOGY,
IN TWELVE PLATES,

THE OBJECTS SELECTED AND ARRANGED BY

Thomas Henry
PROFESSOR HUXLEY, F.R.S.

AND

DRAWN ON STONE BY

B. WATERHOUSE HAWKINS, ESQ.



WILLIAMS AND NORGATE,
14, HENRIETTA STREET, COVENT GARDEN, LONDON;
AND, 20, SOUTH FREDERICK STREET, EDINBURGH.

1864.

THE UNIVERSITY OF CHICAGO

COMPARATIVE ORIENTALISM

BY

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ADVERTISEMENT TO THE READER.

THE Figures in the present Atlas are intended simply to aid students in comprehending the general arrangement of the bony framework of the Vertebrata, and some of its most important modifications.

Mr. Waterhouse Hawkins is responsible for the accuracy and for the artistic execution of the drawings; while my share of the work consists of the selection, the arrangement, and the nomenclature of the parts of the objects figured, which, by the liberal permission of the Council, have been almost wholly selected from the great Osteological Collection in the Museum of the Royal College of Surgeons of England.

THOMAS H. HUXLEY, F.R.S.

LONDON, *August*, 1864.

THEORY OF THE EARTH

The theory of the earth is a branch of geology which deals with the origin and development of the earth and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features. The theory of the earth is based on the study of the earth's history and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features. The theory of the earth is based on the study of the earth's history and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features.

THEORY OF THE EARTH

Throughout this Series of Plates the letters retain the same signification, unless the contrary be expressly stated. Those which refer to the bones of the Skull are arranged alphabetically as follows:—

<i>An.</i>	The angular piece of the lower jaw or mandible.	<i>O. F.</i>	The occipital foramen.
<i>Ar.</i>	The articular piece of the mandible.	<i>Ol.</i>	The anterior nares.
<i>A. S.</i>	The alisphenoid.	<i>Ol'.</i>	The posterior nares.
<i>Au.</i>	The place of the auditory organ.	<i>Op.</i>	The operculum.
<i>B.</i>	The branchial apparatus.	<i>Op. O.</i>	The opisthotic.
<i>B. O.</i>	The basi-occipital.	<i>Or.</i>	The orbit.
<i>Br.</i>	The branchiostegal rays.	<i>O. S.</i>	The orbitosphenoid.
<i>B. S.</i>	The basisphenoid.	<i>Pa.</i>	The parietal.
<i>Cy.</i>	The coronary or complementary piece of the mandible.	<i>Pl.</i>	The palatine.
<i>Co.</i>	The columella.	<i>Pmx.</i>	The premaxilla.
<i>D.</i>	The dentary piece of the mandible.	<i>Pcf.</i>	The pre-frontal.
<i>En. pt.</i>	The entopterygoid of Fishes.	<i>Pr. O.</i>	The pro-otic.
<i>E. O.</i>	The exoccipital.	<i>P. S.</i>	The pre-sphenoid.
<i>Ep. O.</i>	The epiotic.	<i>Pt.</i>	The pterygoid.
<i>Ep. t.</i>	The ectopterygoid of Fishes.	<i>Ptf.</i>	The post-frontal.
<i>Eth.</i>	The ethmoid.	<i>Q. J.</i>	The quadratojugal.
<i>Eth. l.</i>	The lateral mass of the ethmoid, or pre-frontal of Mammals.	<i>Qu.</i>	The quadrate.
<i>Fr.</i>	The frontal.	<i>S.</i>	The suspensorium of the mandible in most cartilaginous fishes.
<i>H. M.</i>	The hyomandibular of Fishes (Temporal of Cuvier).	<i>S'.</i>	The subocular arch of Chimæroids, &c.
<i>Hy.</i>	The hyoidean apparatus.	<i>S. a.</i>	The supra-angular piece of the mandible.
<i>I. op.</i>	The interoperculum.	<i>S. b.</i>	The suborbitals.
<i>Ju.</i>	The jugal or malar bone.	<i>S. O.</i>	The supra-occipital.
<i>L.</i>	The lachrymal.	<i>S. op.</i>	The suboperculum.
<i>M.</i>	The mandible.	<i>S. or.</i>	The supraorbital.
<i>Mpt.</i>	The metapterygoid of Fishes (Tympanic of Cuvier.)	<i>Sp.</i>	The splenial piece of the mandible.
<i>Mx.</i>	The maxilla.	<i>Sq.</i>	The squamosal.
<i>Na.</i>	The nasal bone.	<i>Sy.</i>	The symplectic.
		<i>T.</i>	The posterior attachment of the tentorium.
		<i>Tr.</i>	The transverse.
		<i>Ty.</i>	The tympanic.
		<i>Vo.</i>	The vomer.
		<i>X.</i>	The parasphenoid of Fishes and <i>Amphibia</i> .
		<i>Z.</i>	The temporo-quadrate of <i>Amphibia</i> .



PLATE I.

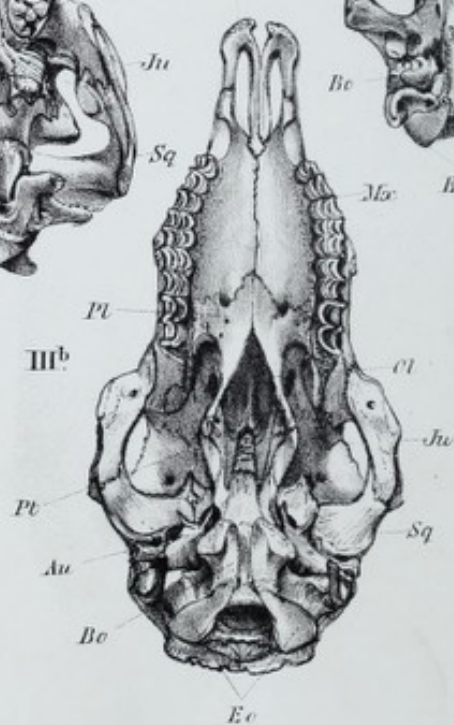
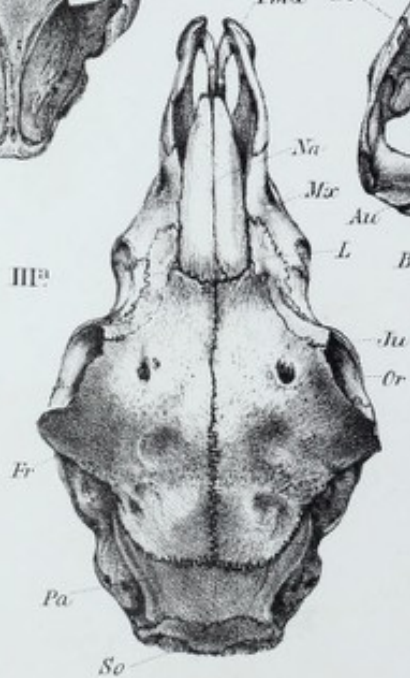
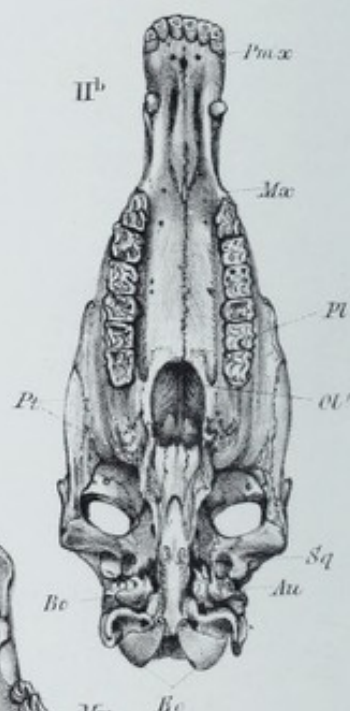
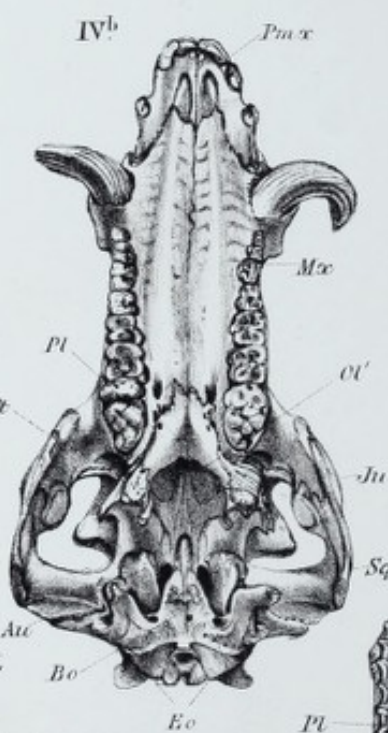
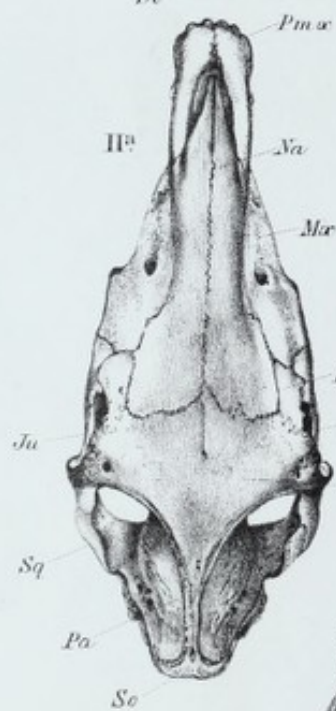
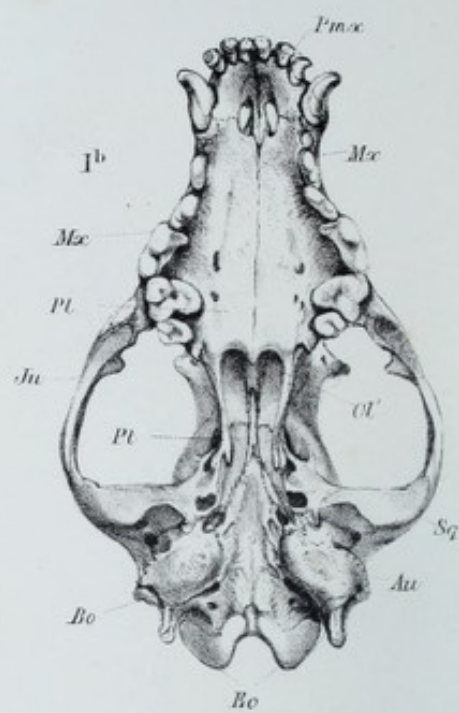
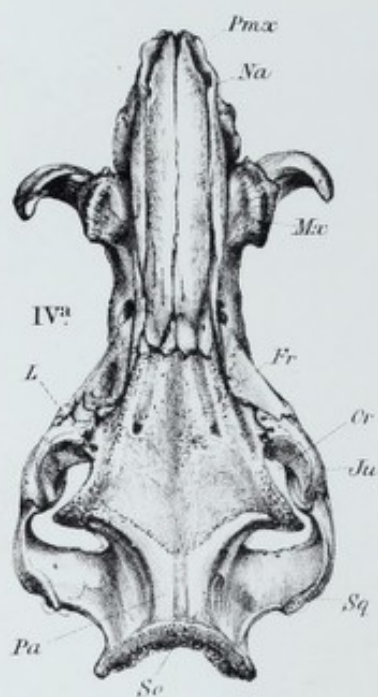
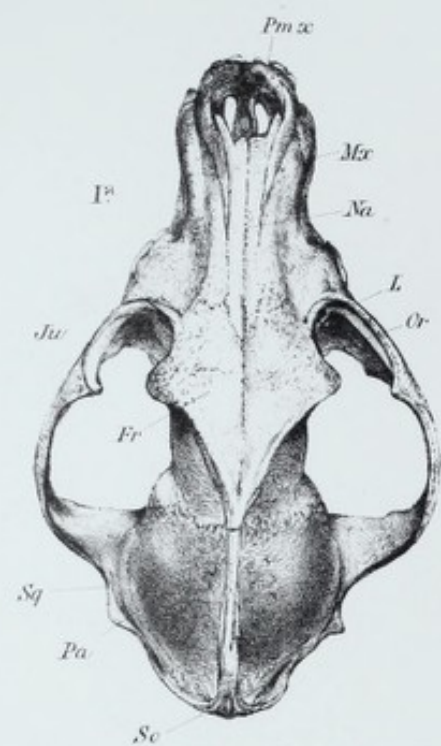
- I. The skull of a Dog. (*Canis familiaris*)
- II. The skull of a Horse. (*Equus caballus*)
- III. The skull of a Sheep. (*Ovis Aries*)
- IV. The skull of a Pig. (*Sus scrofa*)

(All the skulls are drawn of the same absolute length.)

This plate is intended to illustrate the structure of the skulls of our commonest domestic animals. Four views are given of each skull, *viz.* upper (Ia. IIa. IIIa. IVa.); under (Ib. IIb. IIIb. IVb.); side, with the mandible, (Ic. IIc. IIIc. IVc.); and in longitudinal vertical section (Id. IIId. IIIId. IVd.).

In IIId the plane of the section has passed to the left of the ethmoid and vomer, so that these bones are not shewn; and in IVd. the vomer is imperfect.





I.

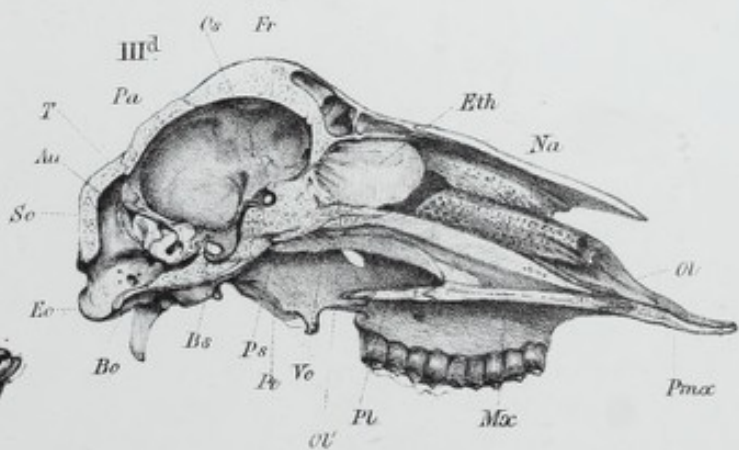
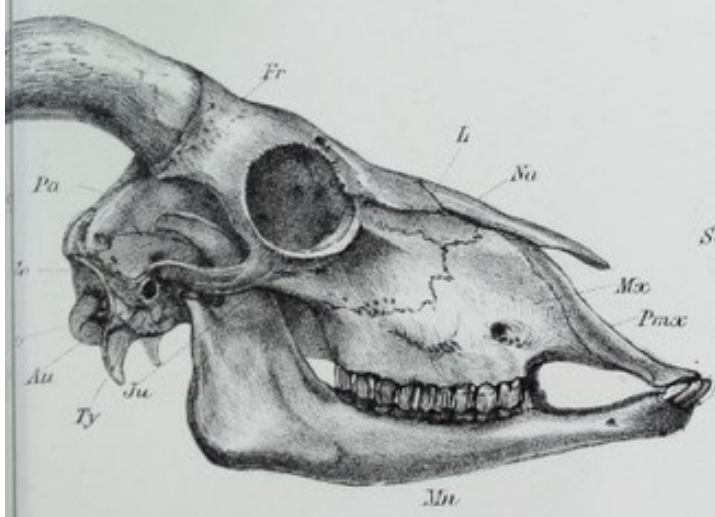
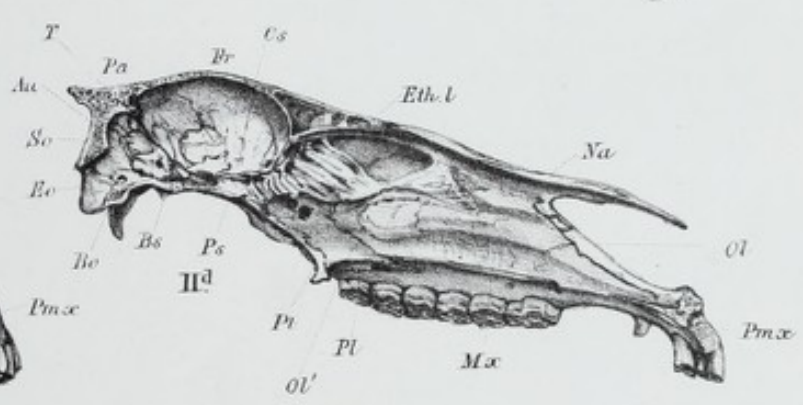
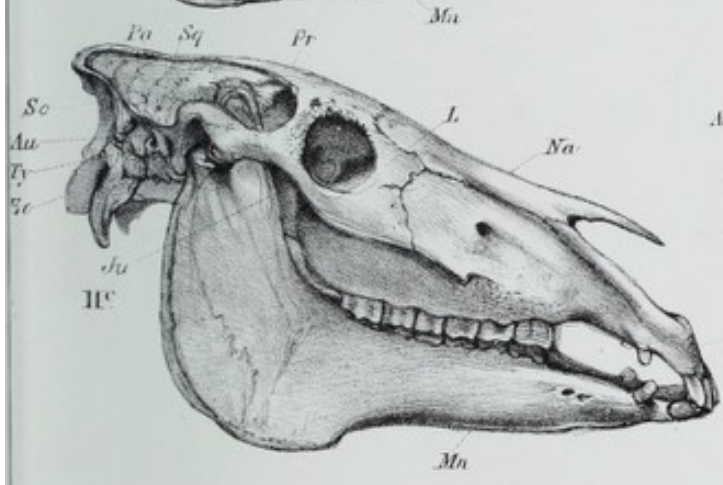
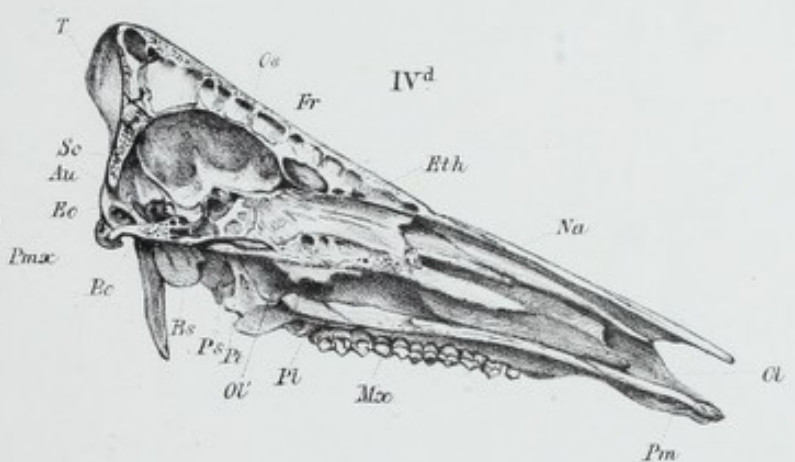
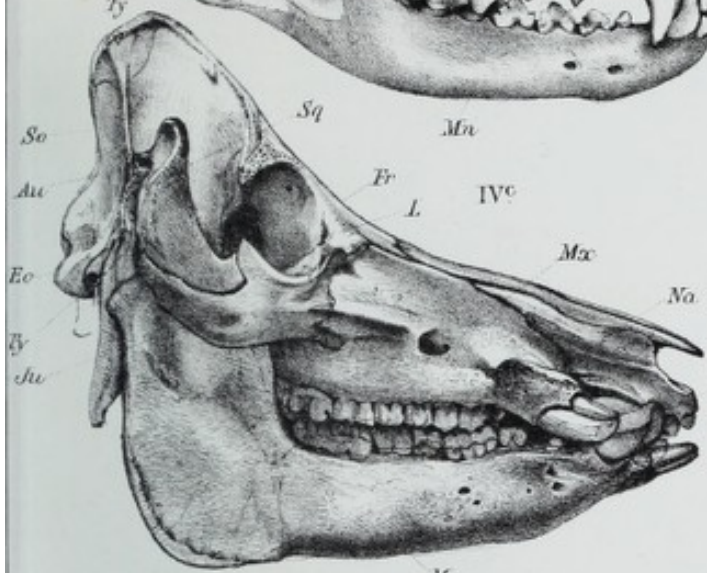
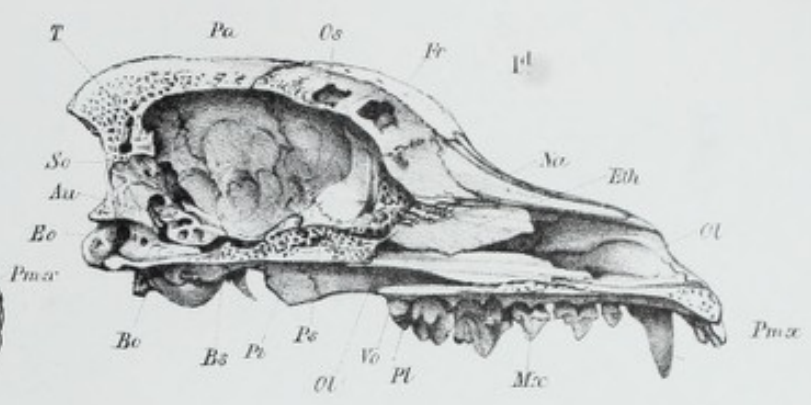
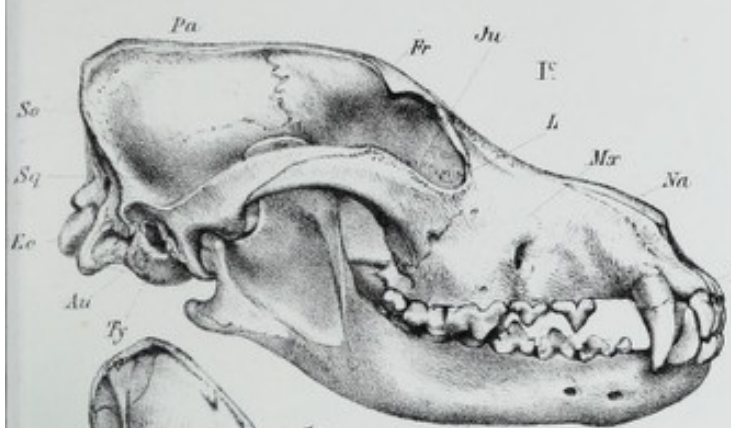




PLATE II.

I. Skull of a Man. (*Homo sapiens*. var. *Australiensis*.)

Ia. From above. Ib. From below. Ic. From the side. Id. Longitudinal and vertical section.

II. Skull of an Orang. (*Pithecus Satyrus*.)

a. b. c. d. As in the preceding Figures.

III. Skull of a Baboon. (*Papio porcarius*.)

a. b. c. d. As in the preceding Figures. IIIId. Is taken from a different and much younger specimen than the others.

IV. Skull of a Howler Monkey. (*Myctes seniculus*.)

a. Side view. b. Under view. c. Longitudinal and vertical section.

V. Skull of the Saimiri. (*Chrysothrix sciureus*.)

a. Side view b. Sectional view.

(All these skulls are drawn of the same absolute length.)

The comparison of I. with II. will give a notion of the differences between the skull of a Man of a low race and the skull of one of the man-like Apes: while that of III. IV. and V. with II. and with one another, will shew the extent to which the old and new world Apes differ among themselves.

APPENDIX

THE HISTORY OF THE

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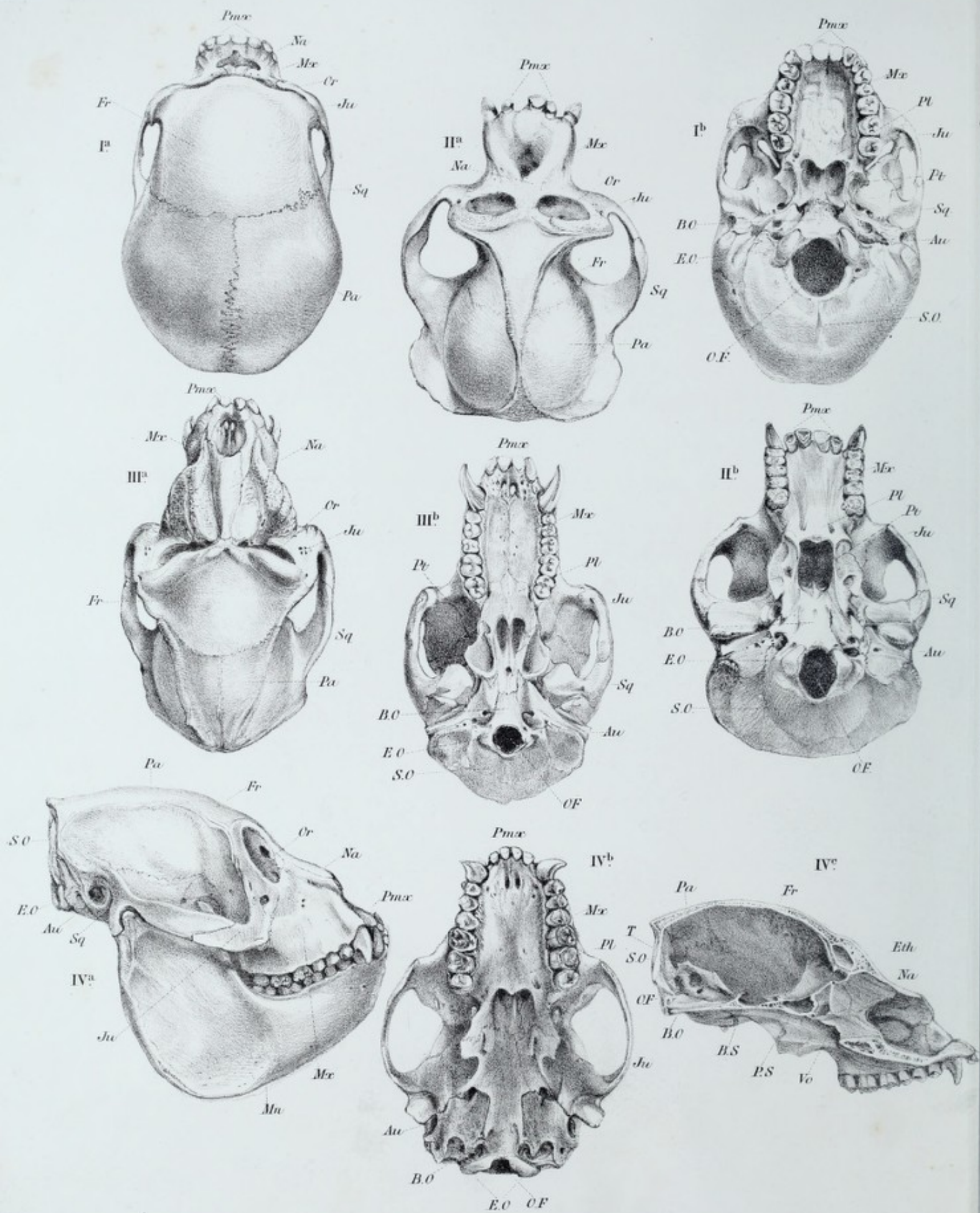
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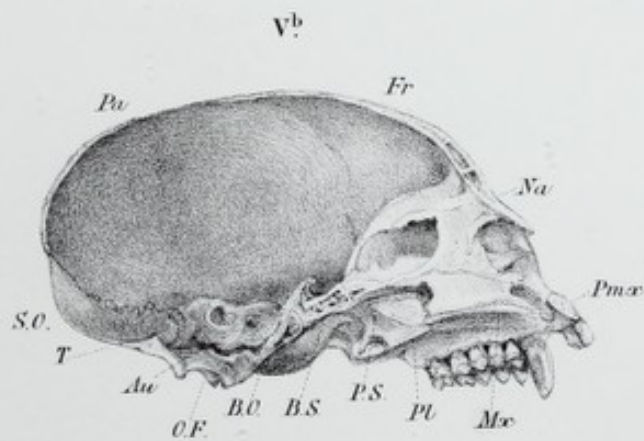
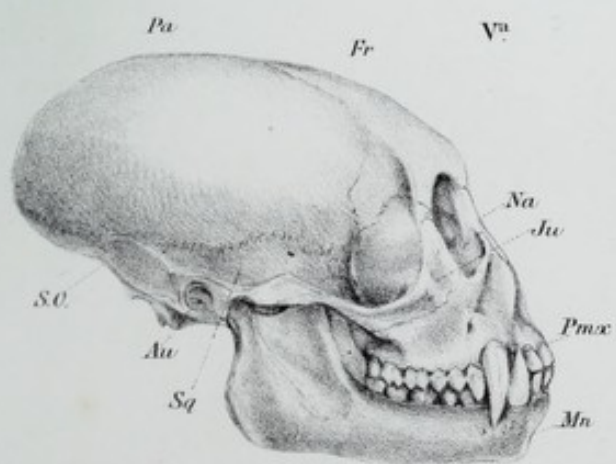
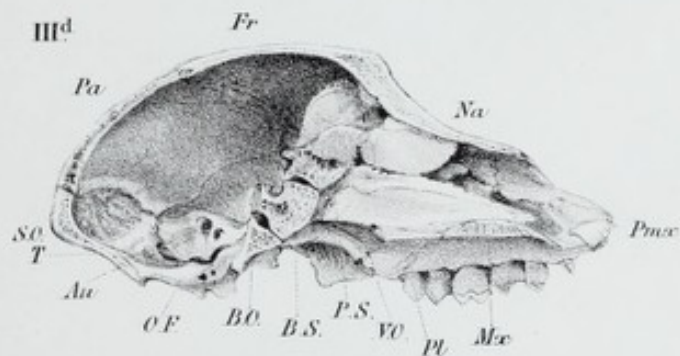
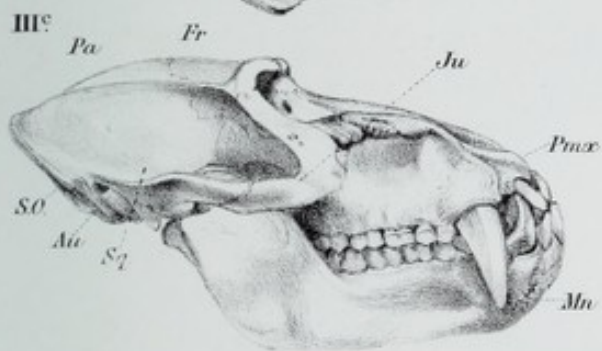
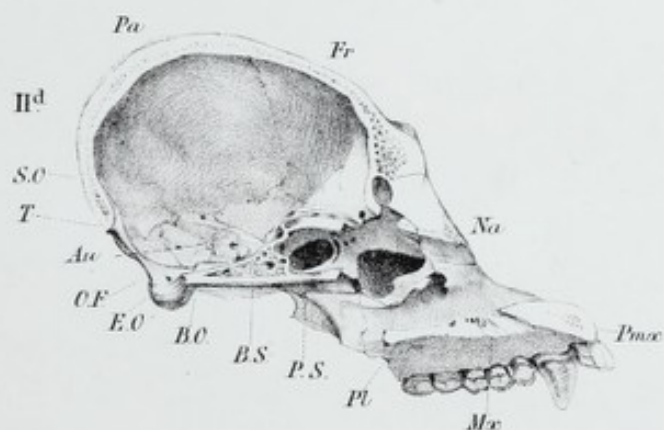
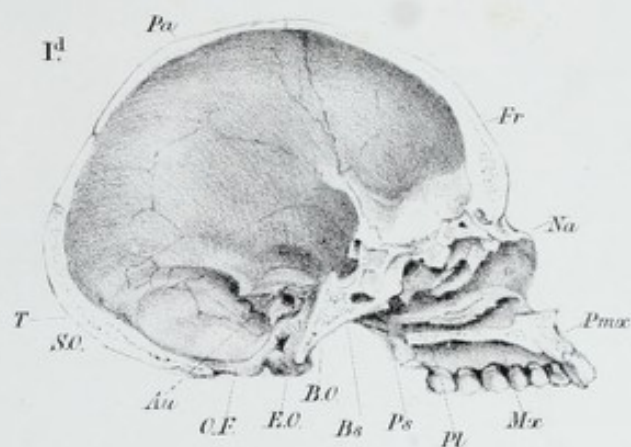
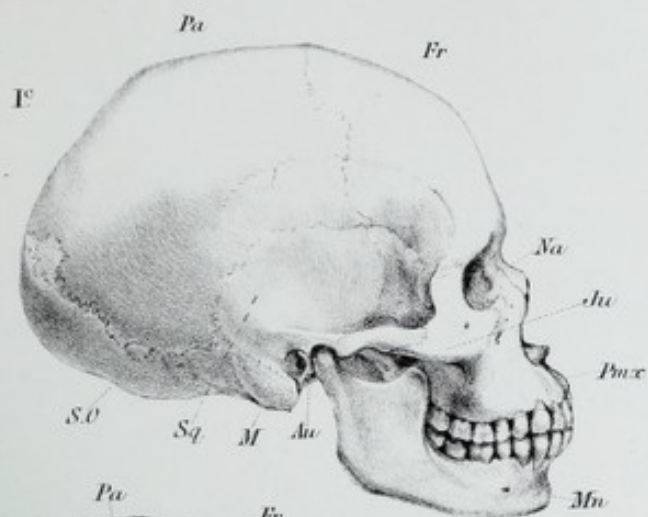


PLATE III.

I. The skull of a Hare. (*Lepus timidus*.)

a. Upper view. *b.* Under view. *c.* Side view. *d.* Longitudinal and vertical section.

I*e.* Section of the skull of a Guinea pig. (*Cavia cobaya*.)

II. The skull of an Ostrich. (*Struthio camelus*.)

a. Upper view. *b. c.* Under view. *d.* Side view. *e.* Longitudinal and vertical section.

II*f.* A longitudinal and vertical section of part of the skull of a foetal Chicken. (*Gallus domesticus*.)

III. The skull of a Tortoise. (*Testudo elephantopus*.)

a. Upper view. *b.* Under view. *c.* Side view. *d.* Longitudinal and vertical section.

III. *e.* and *f.* The Skull of a Turtle. (*Chelone midas*.)

e. Side view. *f.* Longitudinal and vertical section.

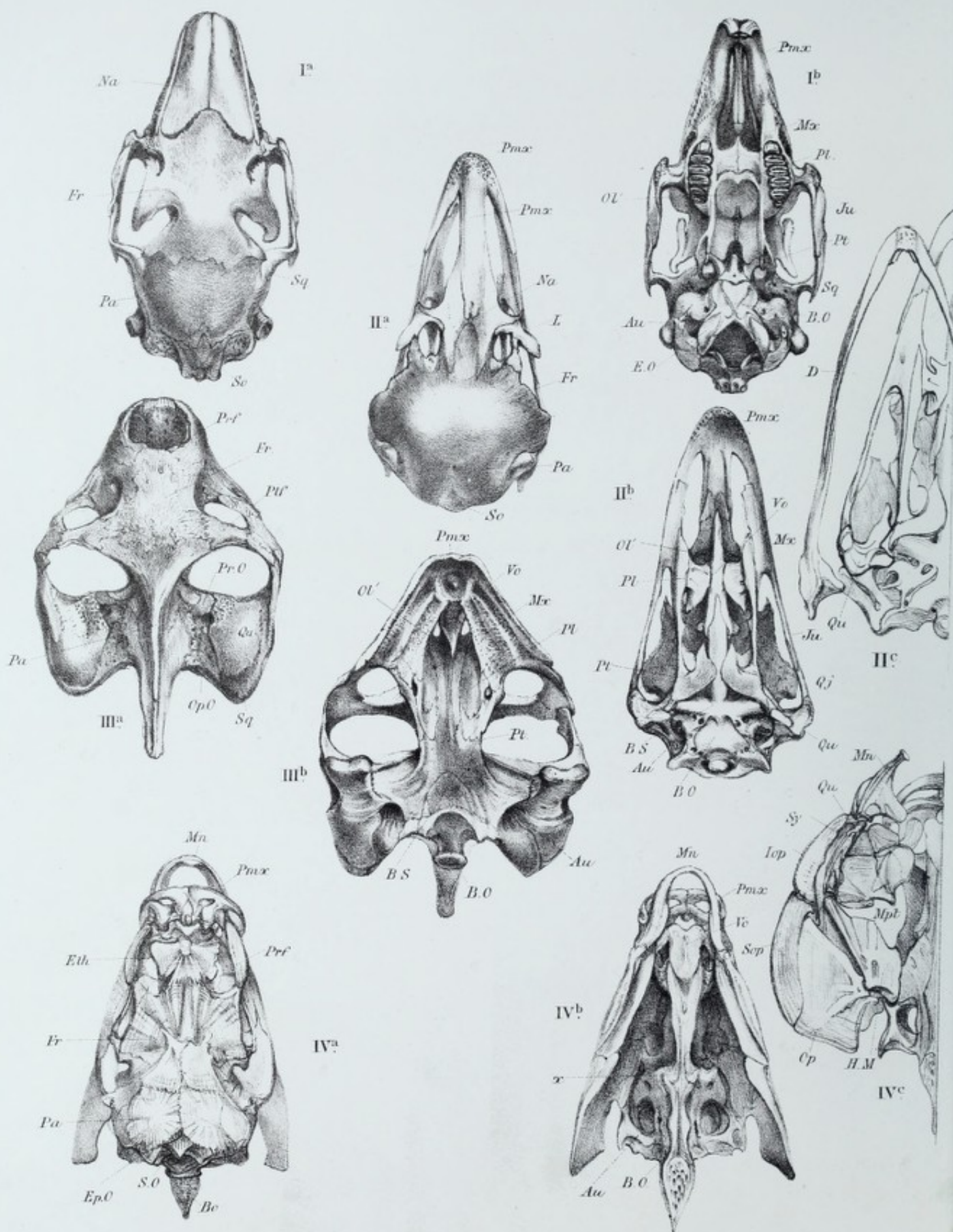
IV. Skull of a Tench. (*Tinca vulgaris*.)

a. upper, *b. c.* under, *d.* side view.

IV*e.* Longitudinal and vertical section of the skull of a Carp.

(All these skulls are drawn of the same absolute length.)

In this plate the skulls of Mammals (I.)—Birds (II.)—Reptiles (III.), and Fishes (IV.) are compared and contrasted.



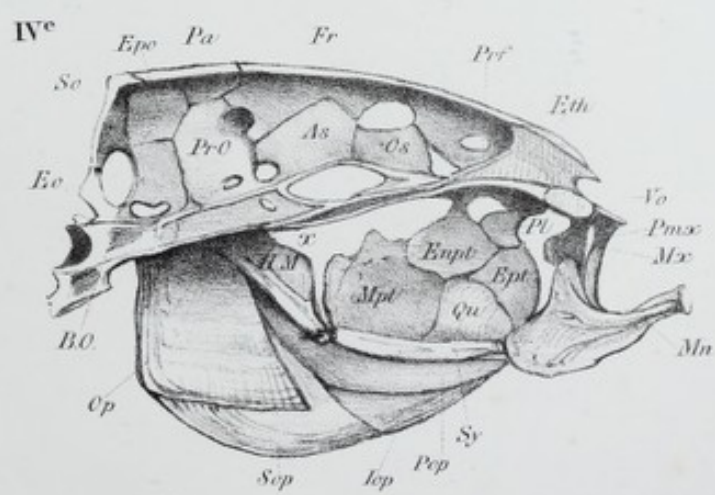
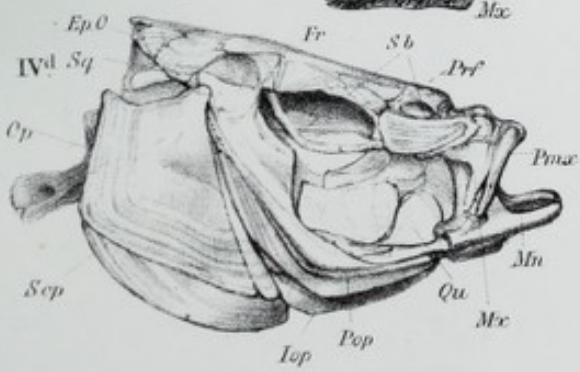
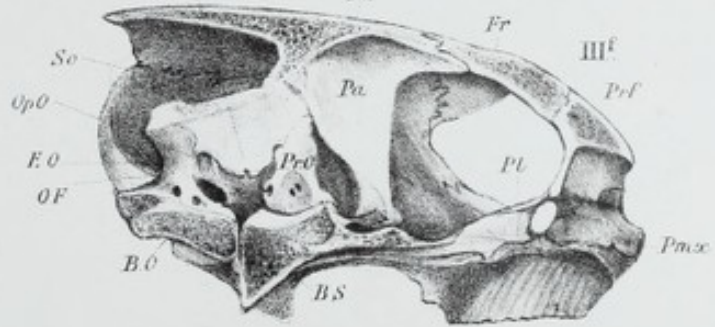
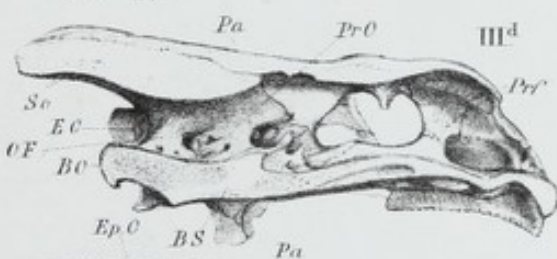
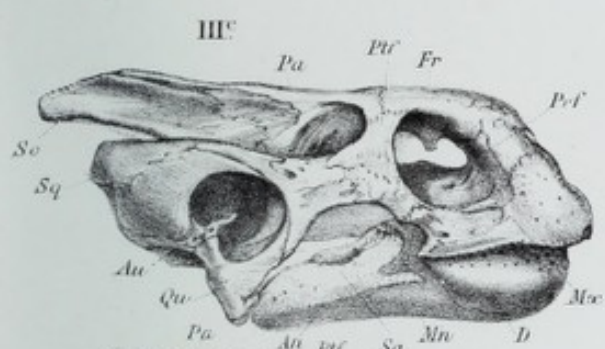
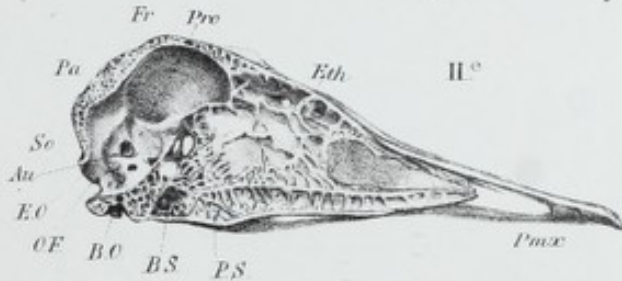
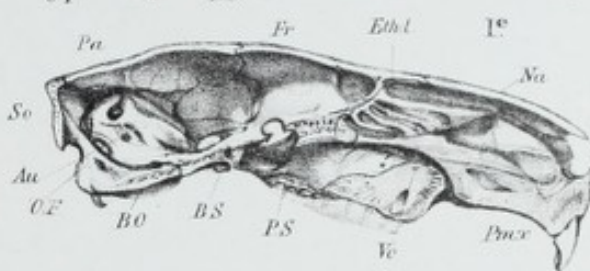
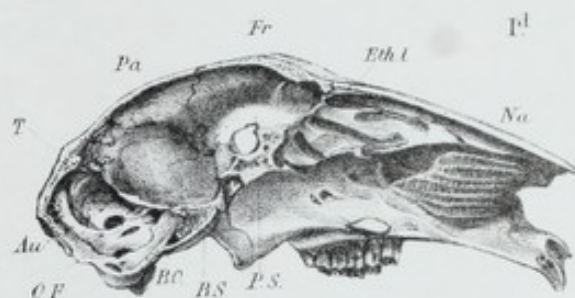
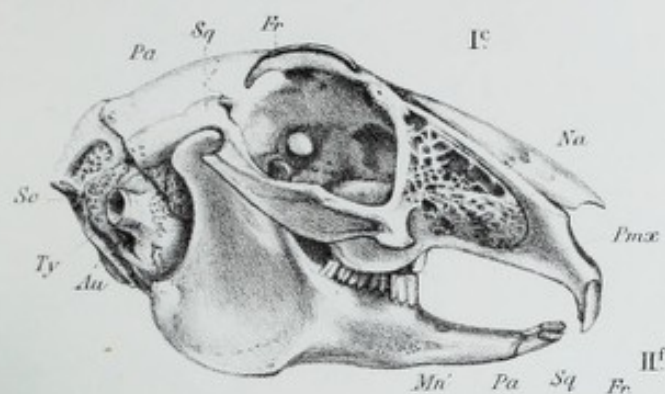


PLATE IV.

I. Skull of an Alligator. (*Alligator lucius*.)

a. Upper. *b.* Under. *c.* Side view. *d.* Longitudinal and vertical section.

II. Skull of a Lizard. (*Cyclodus niger*.)

a. Upper. *b.* Under. *c.* Side view. *d.* Longitudinal and vertical section
of the skull of another species of *Cyclodus*.

III. Skull of a Boa Constrictor. (*Python*.)

a. Upper. *b.* Under. *c.* Side view. *d.* Longitudinal and vertical section.

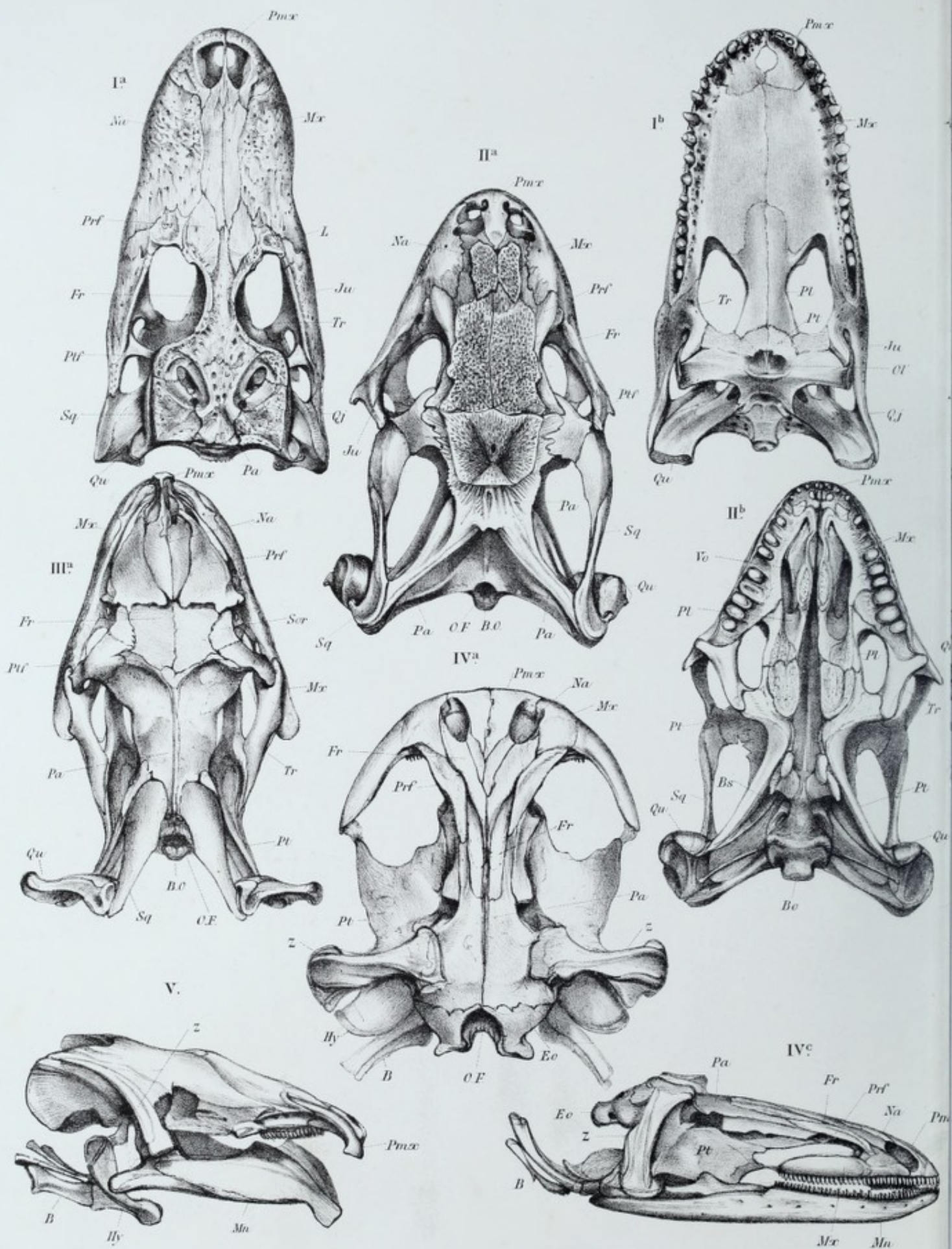
IV. Skull of a Menopoma. (*Menopoma Alleghaniense*.)

a. Upper. *b.* Under. *c.* Side view. *d.* Longitudinal and vertical section.
In *b.* the right half of the hyoidean and branchial apparatus is represented.

V. Skull of a Siren. (*Siren Lacertina*.) Side view.

(All the skulls are drawn of the same absolute length.)

The skulls of *Reptilia* and *Amphibia* are compared and contrasted in this Plate. The presence of the characteristic double occipital condyles, of the parasphenoid (*x*), and of the temporo-quadrates (*z*) with the absence of the supra-occipital and basi-occipital in the *Amphibia* (IV. and V.) will be noted.



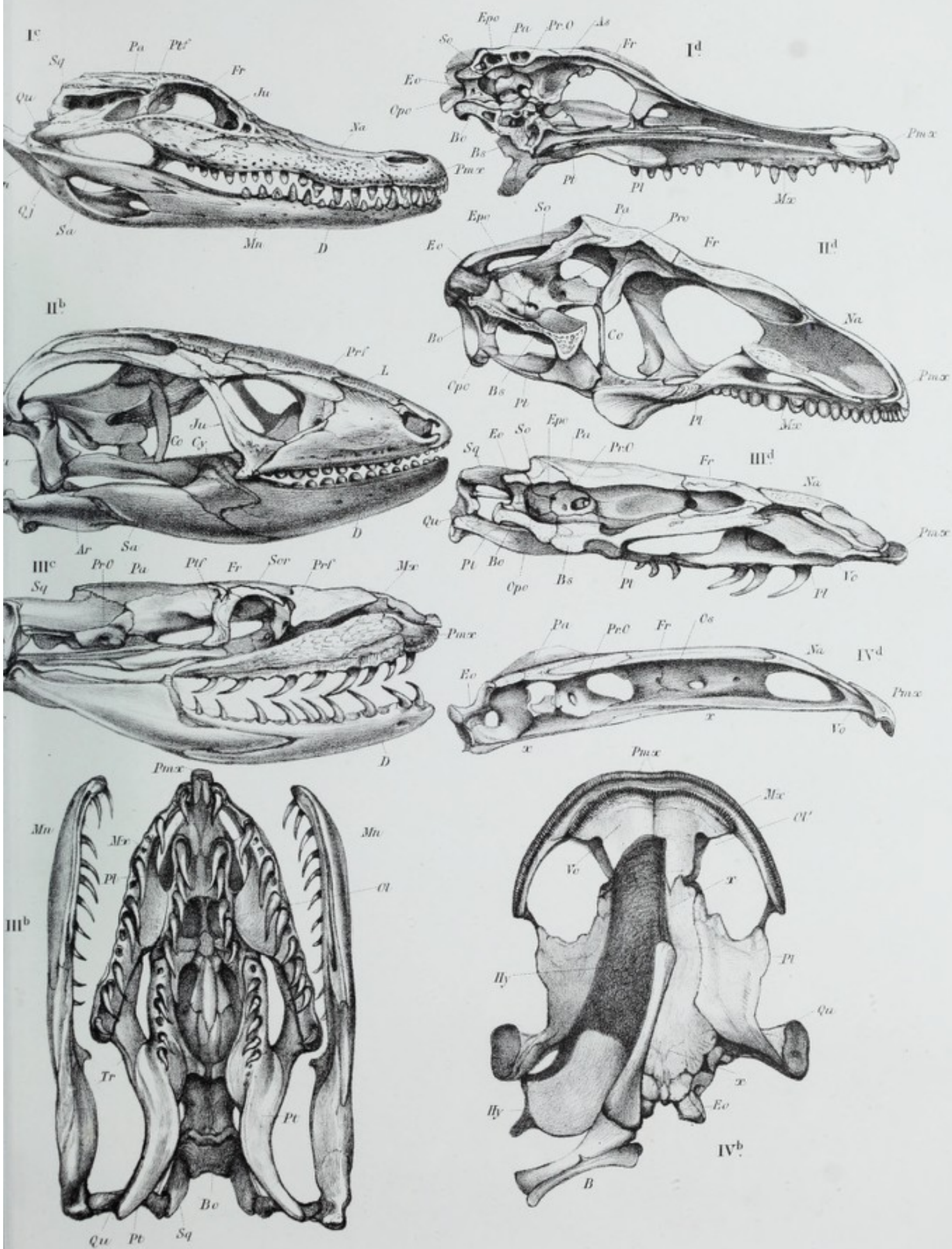


PLATE V.

Ia. Skull of a Pike. (*Esox lucius*.)

The suborbital bones are merely dotted.

Ib. and Ic. Side and under views of the cartilaginous cranium of the same fish.

a. a. Ossifications of the rostrum.

II. Skull of a bony Pike. (*Lepidosteus*.)

IIIa. Bones of the cranium and pectoral arch of a Sturgeon. (*Accipenser*.)

IIIb. The cartilaginous cranium of the same Fish, with the suspensorium and the skeleton of the jaws.

IV. Skull and vertebral column of a Shark. (*Carcharias glaucus*.) Side view.

IVa. The skull from above. sp. The spinal column.

V. Skull of a Chimæra. (*Chimæra monstrosa*.)

VI. Skull of a Mudfish. (*Lepidosiren annectens*.)

VII. Skull, anterior part of the spinal column and branchial framework of a Lamprey. (*Petromyzon marinus*.)

Ch. The notochord. 1. The ethmovomerine cartilage. 2. The circular oral cartilage. 3. The lingual cartilage. 4. The branchial cartilages.

In this plate the modifications of the skull observed in five of the six orders of fishes, viz. *Teleostei*, *Ganoidei*, *Elasmobranchii*, *Dipnoi*, and *Marsipobranchii* are illustrated.

APPENDIX

THE HISTORY OF THE
CITY OF BOSTON

FROM THE FIRST SETTLEMENT
TO THE PRESENT TIME

BY JOHN B. BOWEN

VOLUME I
THE FOUNDING OF THE CITY
AND THE EARLY PERIOD

THE HISTORY OF THE CITY OF BOSTON

FROM THE FIRST SETTLEMENT

TO THE PRESENT TIME

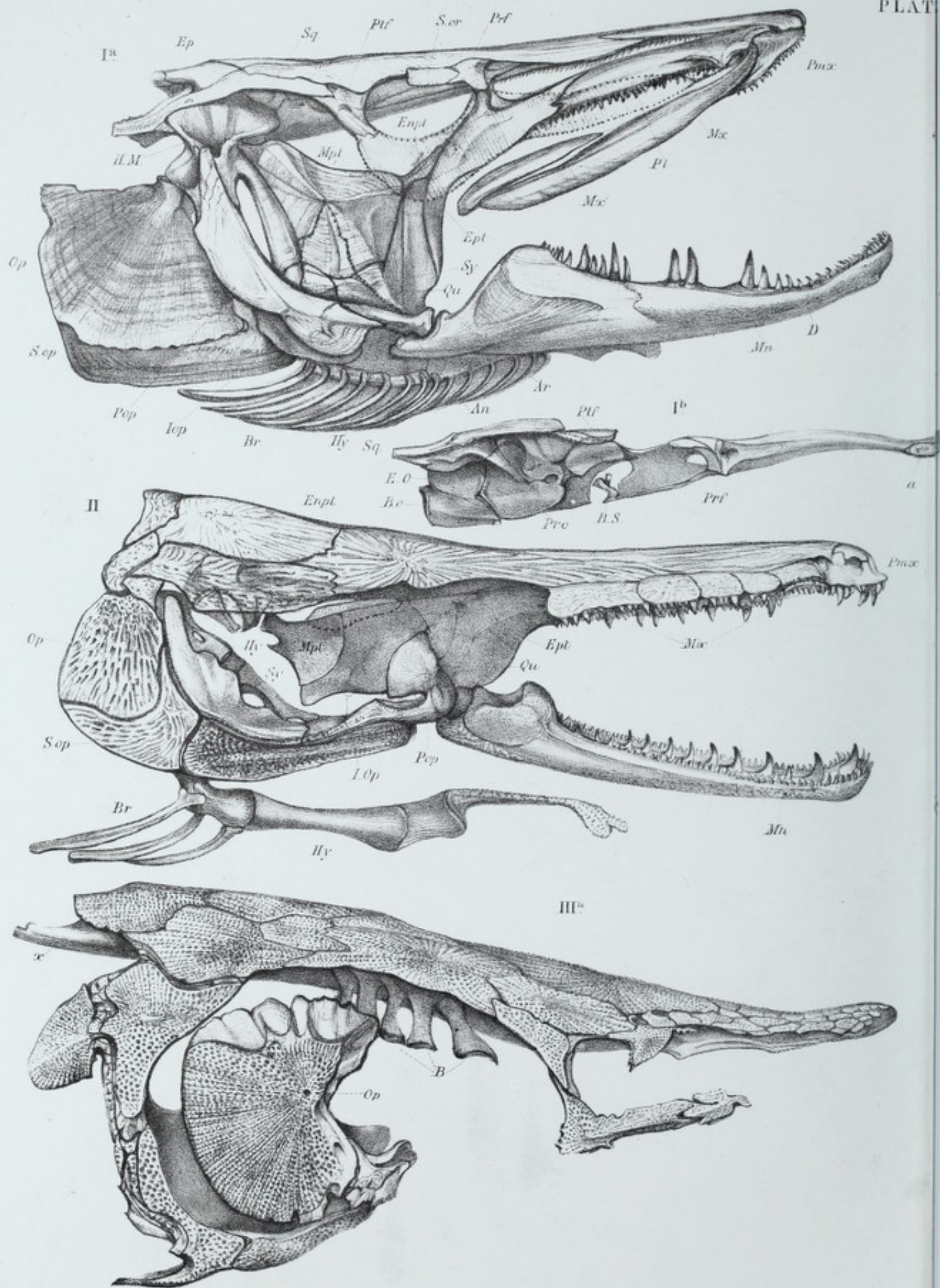
BY JOHN B. BOWEN

VOLUME II
THE GROWTH OF THE CITY
AND THE MIDDLE PERIOD

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TO THE PRESENT TIME

THE HISTORY OF THE CITY OF BOSTON

FROM THE FIRST SETTLEMENT

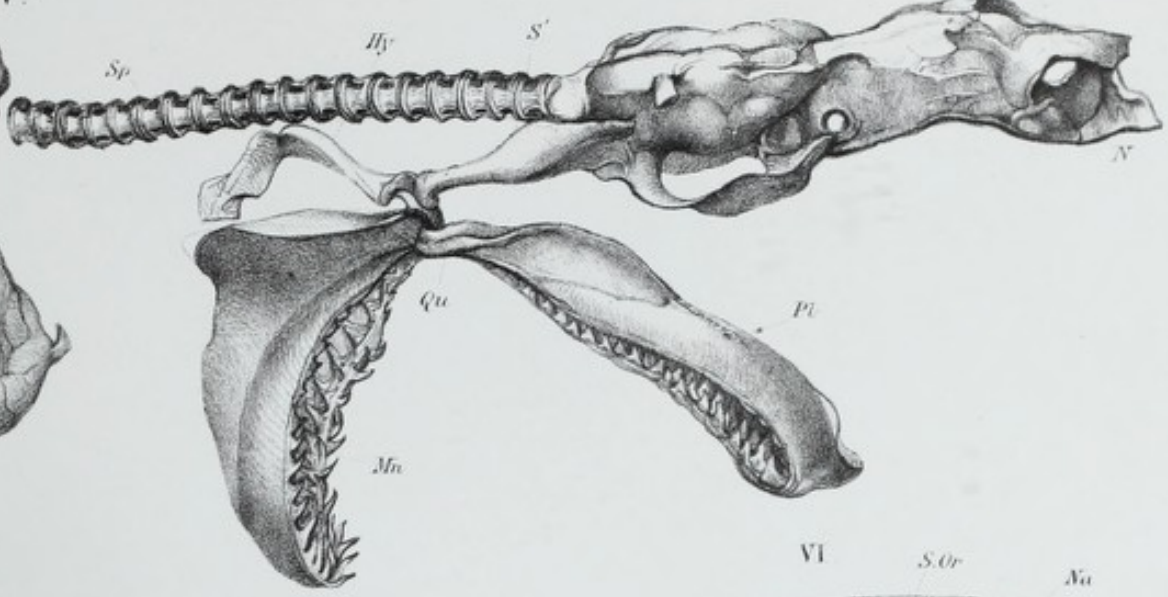


V.

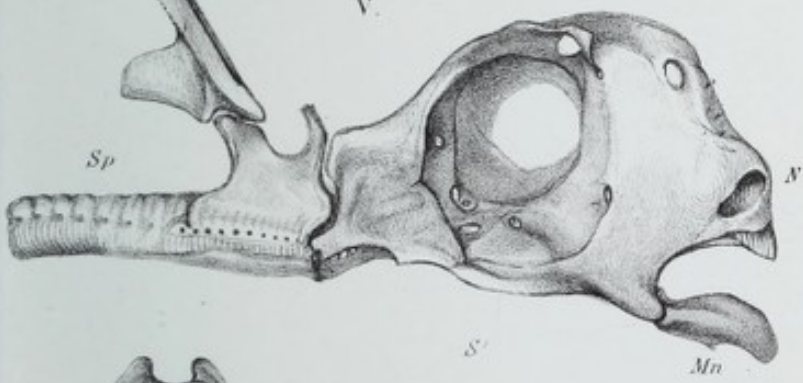


IV^a

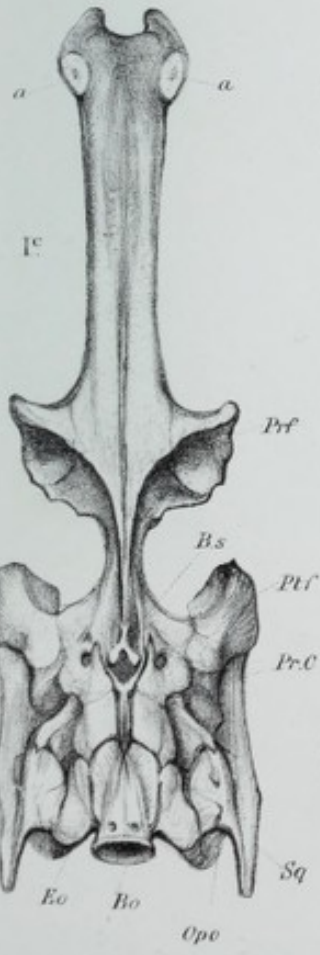
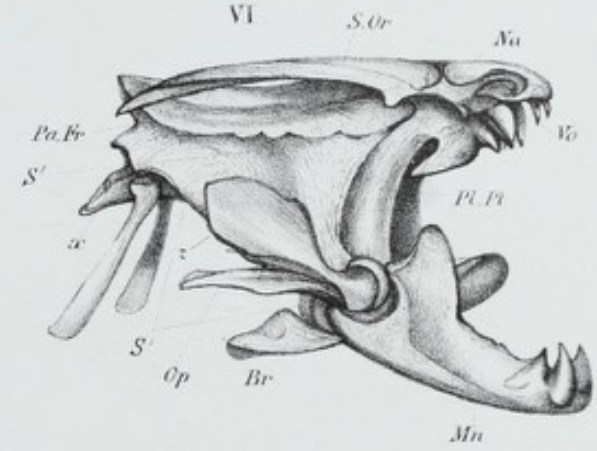
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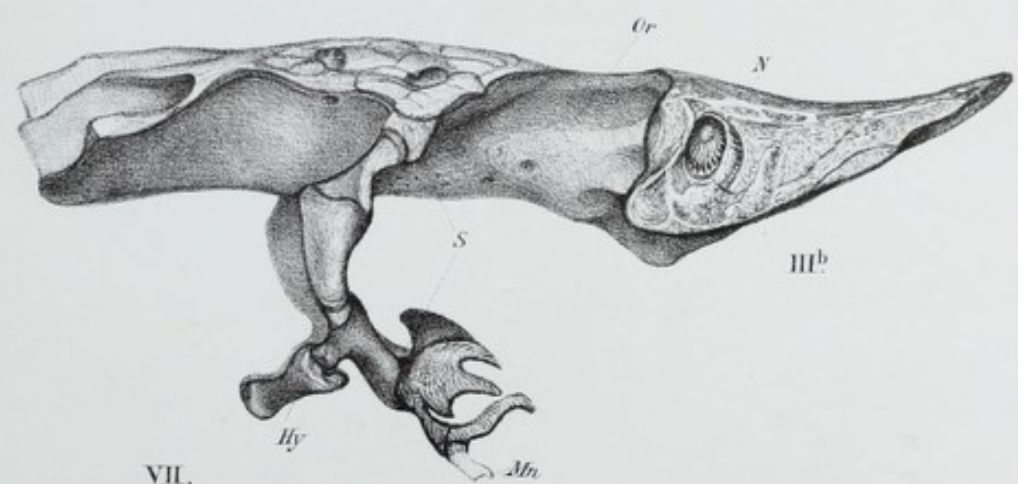
V.



VI



Ic



III^b

VII.

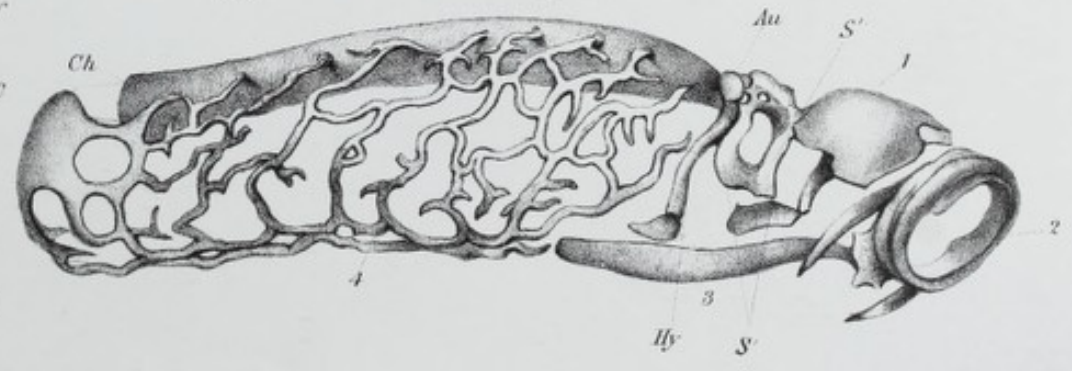


PLATE VI.

- I. Atlas of a Wolf. (*Canis lupus*.)
 - II. Axis or Odontoid vertebra ;
 - III. Cervical vertebra ;
 - IV. Dorsal vertebra ; and
 - V. Lumbar vertebra of the same animal.
 - VI. Atlas of an Ostrich. (*Struthio Camelus*.)
 - VII. Axis ;
 - VIII. Cervical vertebra ; and
 - IX. Dorsal vertebra.
 - X. Front view of the most anterior of the vertebræ which enters into the composition of the sacrum of the same animal. *Il.* The iliac bones.
 - XI. Atlas of a Crocodile. *Nr*¹. Separate upper median piece of the neural arch not represented in XI^c.
 - XII. Axis ;
 - XIII. Cervical vertebra ;
 - XIV. Dorsal vertebra ; and
 - XV. Lumbar vertebra of the same animal.
-

In this plate the vertebræ of a Mammal, a Bird, and a Reptile are compared and contrasted.

A front (*a*) back or under (*b*) and side (*c*) view of each vertebra is represented, and in the side views the anterior end of the vertebra is directed to the left. In all the figures the letters have the same signification. *Cm.* Centrum or body, or, in the Atlas, part of it. *Od.* Odontoid process of the Mammal and Bird, odontoid bone of the Reptile. *Nr.* Neural arch. *Sp.* Spinous process. *R.* Transverse process or rib. *Ob.* Anterior and posterior oblique or articular processes. *V.* Vertebral canal. *S. c.* Spinal canal. *Ac*¹ *Ac*². Accessory processes.

PLATE I

1. *Amphiprion* (1845-1850)

2. *Amphiprion* (1851-1855)

3. *Amphiprion* (1856-1860)

4. *Amphiprion* (1861-1865)

5. *Amphiprion* (1866-1870)

6. *Amphiprion* (1871-1875)

7. *Amphiprion* (1876-1880)

8. *Amphiprion* (1881-1885)

9. *Amphiprion* (1886-1890)

10. *Amphiprion* (1891-1895)

11. *Amphiprion* (1896-1900)

12. *Amphiprion* (1901-1905)

13. *Amphiprion* (1906-1910)

14. *Amphiprion* (1911-1915)

15. *Amphiprion* (1916-1920)

16. *Amphiprion* (1921-1925)

17. *Amphiprion* (1926-1930)

18. *Amphiprion* (1931-1935)

19. *Amphiprion* (1936-1940)

20. *Amphiprion* (1941-1945)

21. *Amphiprion* (1946-1950)

22. *Amphiprion* (1951-1955)

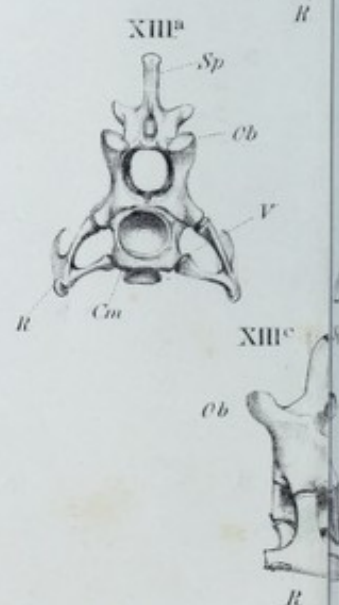
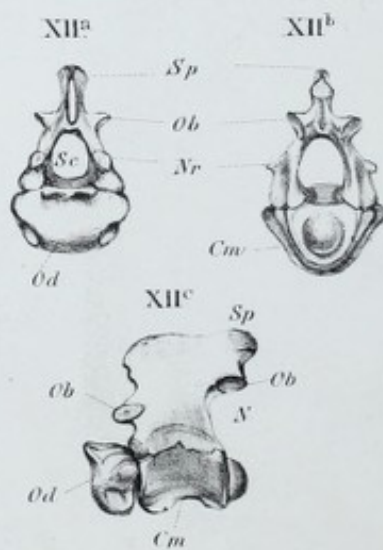
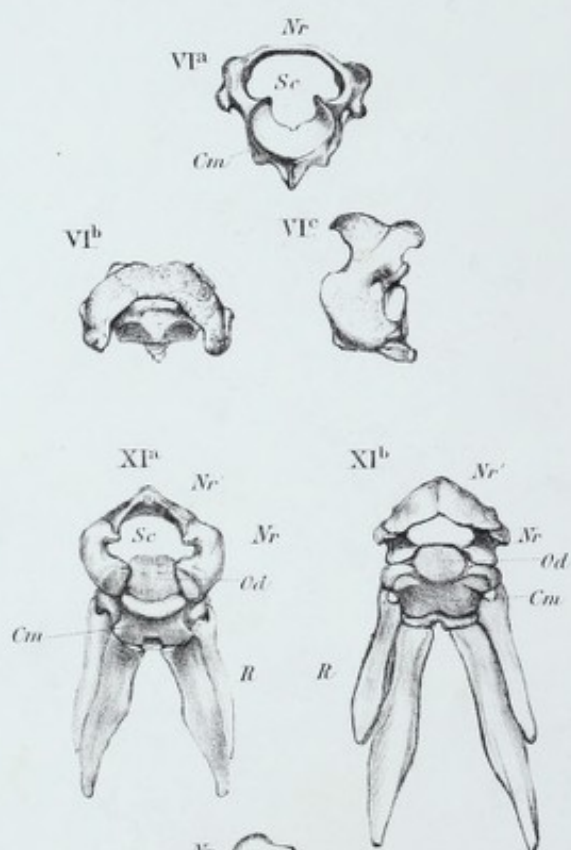
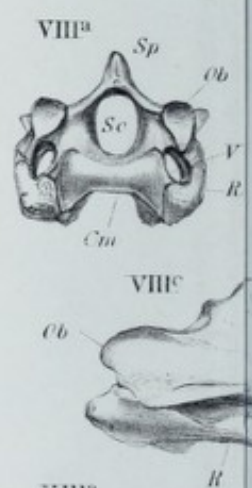
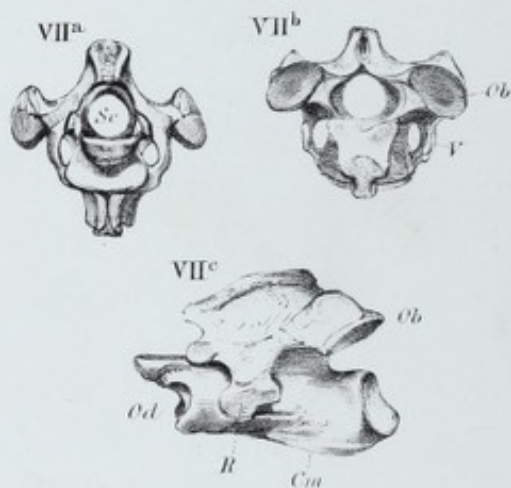
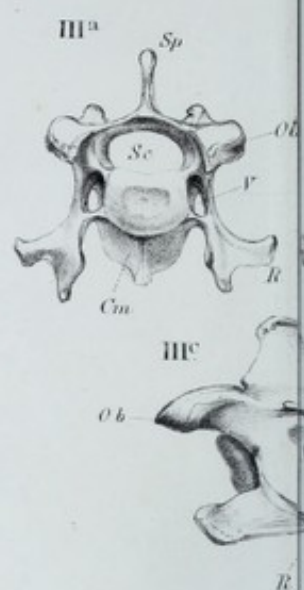
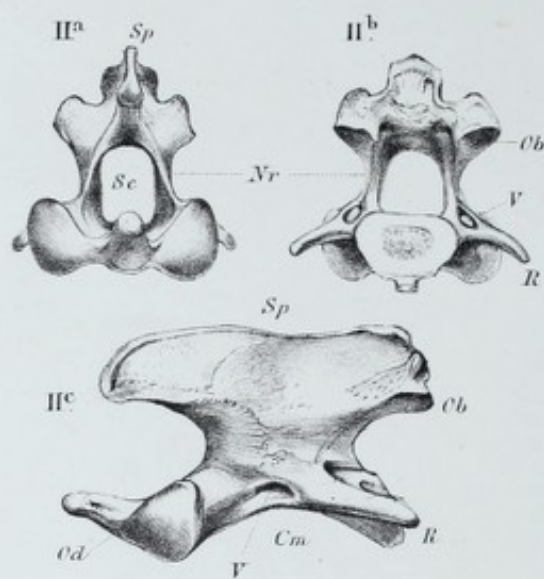
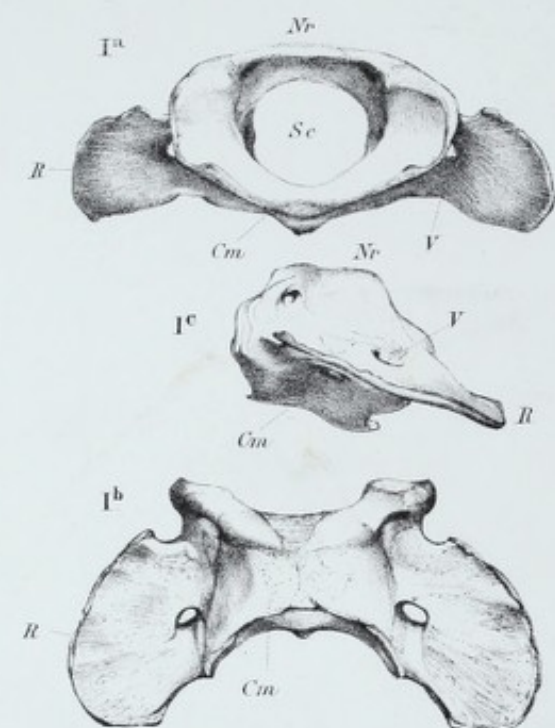
23. *Amphiprion* (1956-1960)

24. *Amphiprion* (1961-1965)

25. *Amphiprion* (1966-1970)

26. *Amphiprion* (1971-1975)

27. *Amphiprion* (1976-1980)



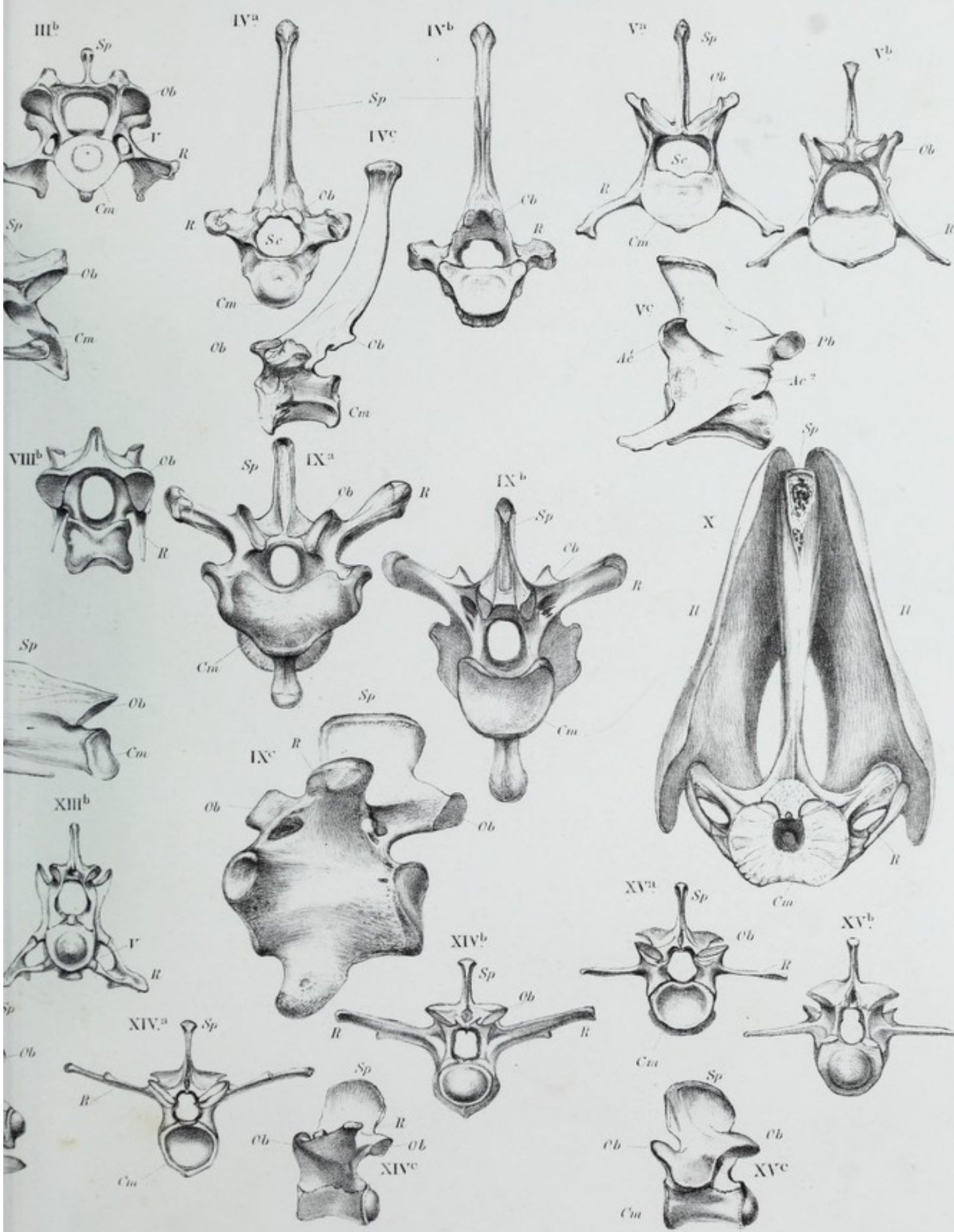


PLATE VII.

I. Sacrum of a Wolf. (*Canis lupus*.)

a. front. *b.* under. *c.* back. *d.* side views.

I*e.* to I*i.* side views of more and more posterior caudal vertebræ of the same animal.

II. III. IV. V. End and under views of these caudal vertebræ of the same animal.

VI*a.* Sacrum of a young Ostrich from below. VI*b.* From the side. VI*c.* From above.

VII. Longitudinal and vertical section of the sacrum of an adult Ostrich.

VIII*a.* Front view of the sacrum of a Crocodile. VIII*b.* Under view. VIII*c.* Posterior view. VIII*d.* Side view of the same.

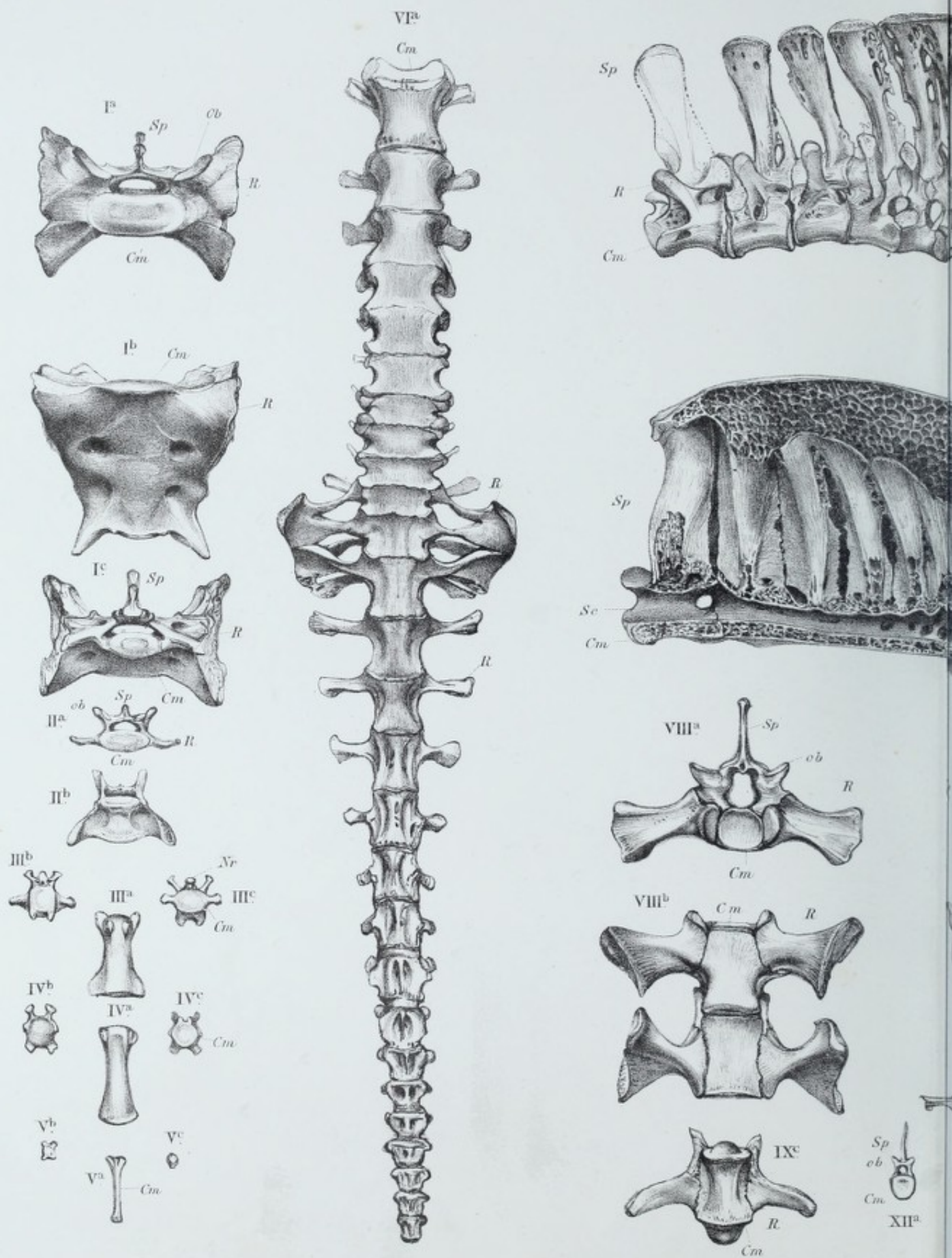
IX*a.* Front view. IX*b.* Back view. IX*c.* Under view. IX*d.* Side view of the first caudal vertebra.

X. Side view of the second caudal vertebra.

XI. Side view of a posterior caudal vertebra.

XII*a.* and *b.* End view of posterior caudal vertebræ.

Continuation of the comparison of the vertebræ of the Mammal, Bird and Reptile.
The letters as before. *Cc.* Subvertebral, or chevron, bones in the caudal region.



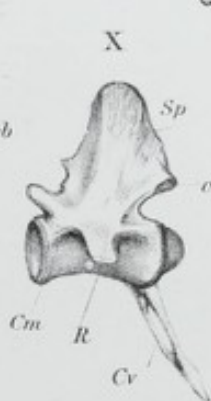
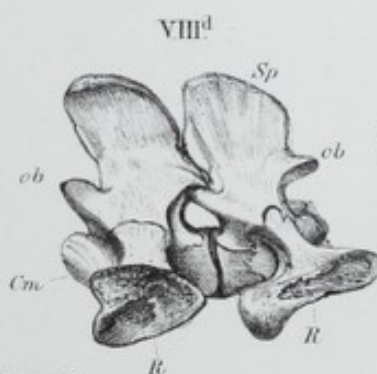
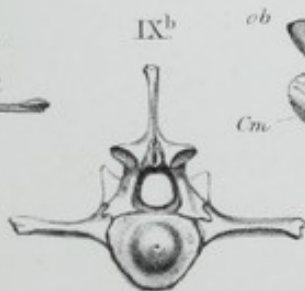
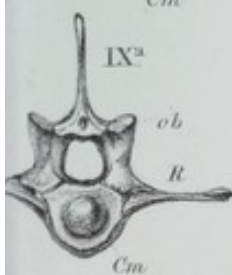
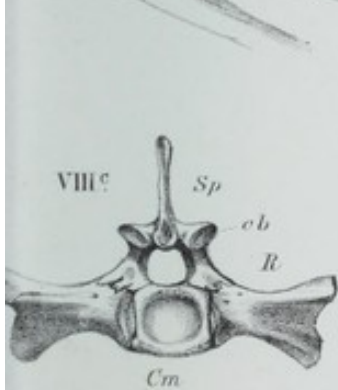
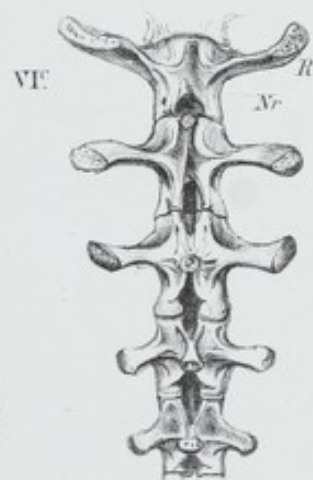
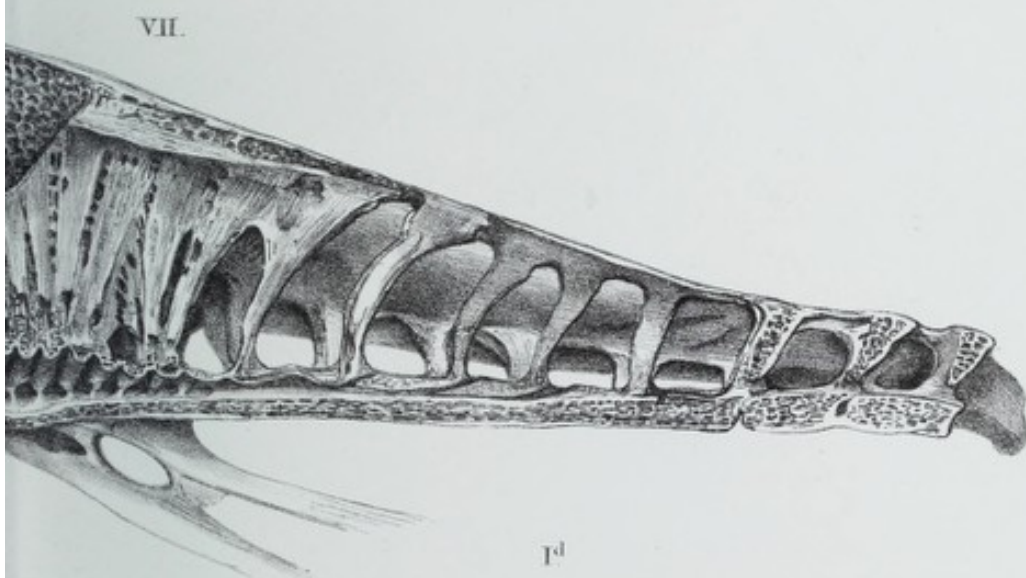
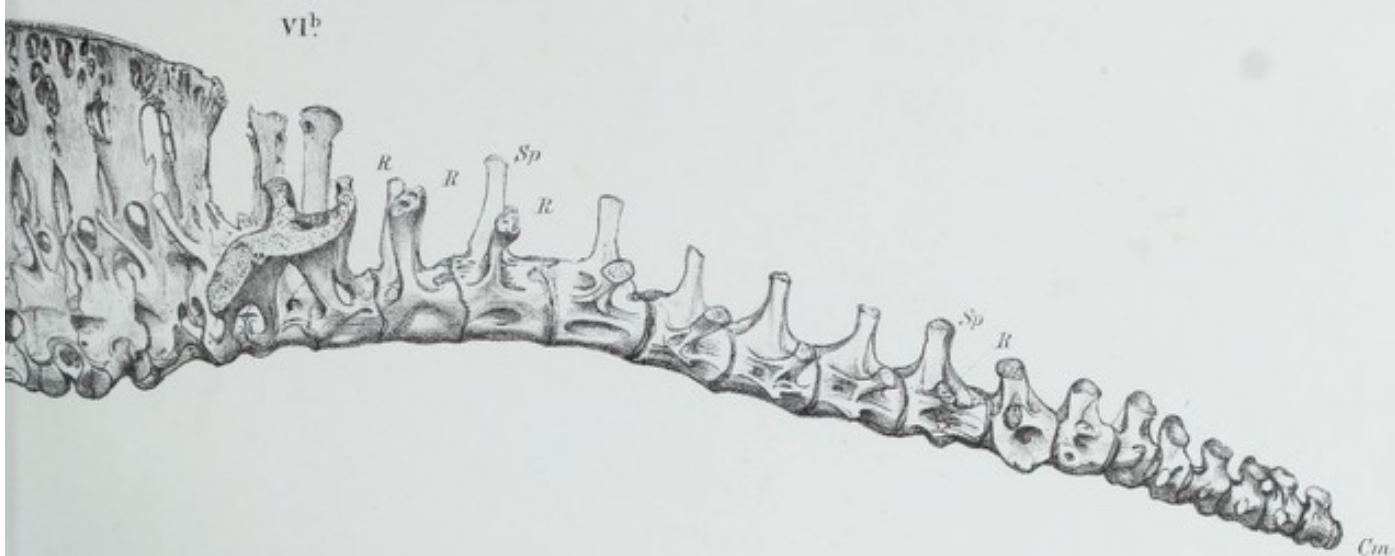
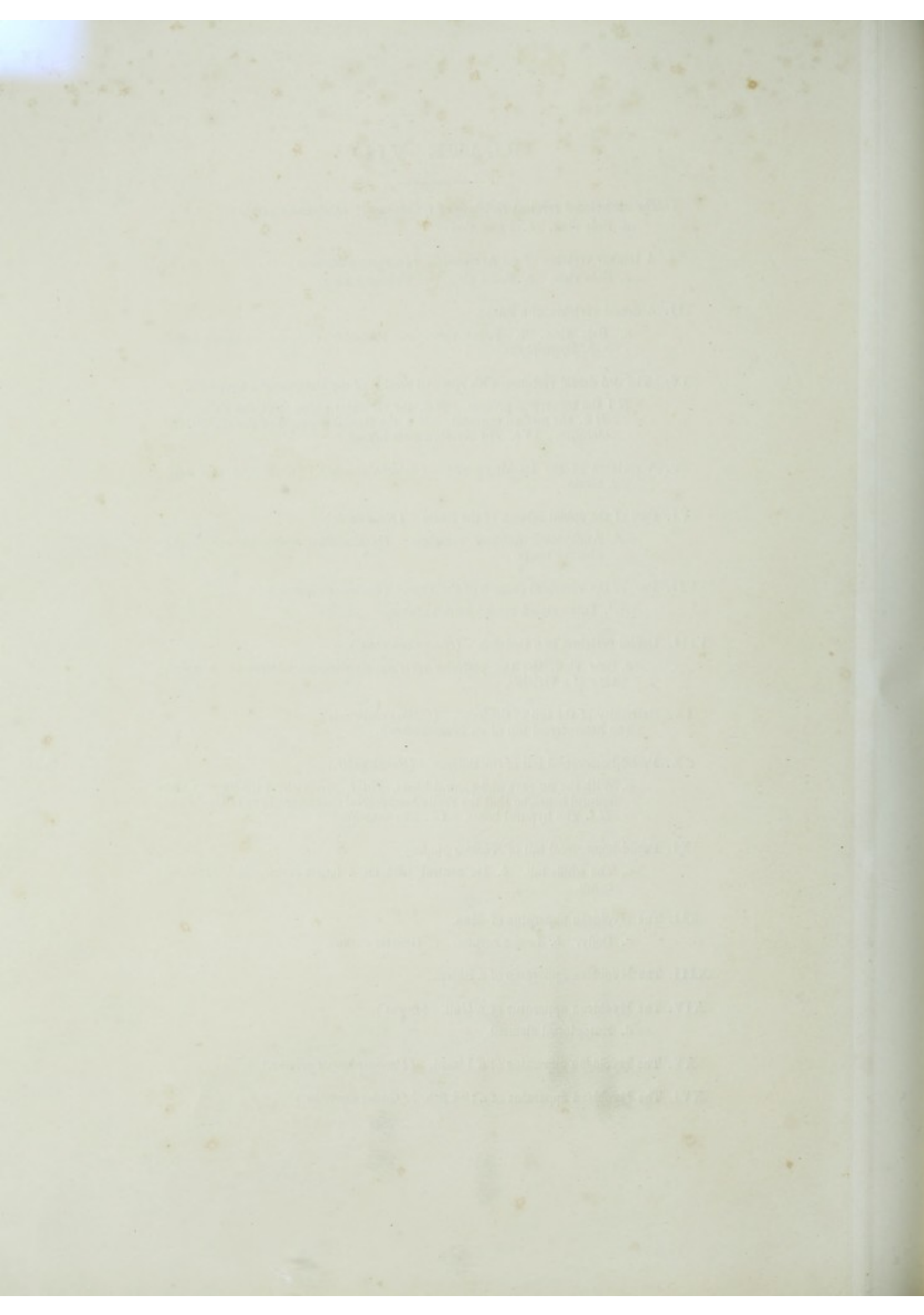
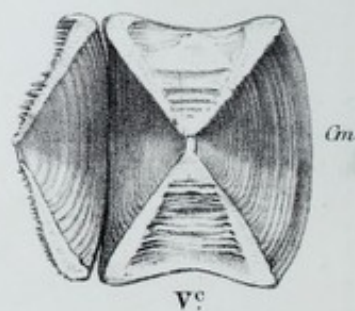
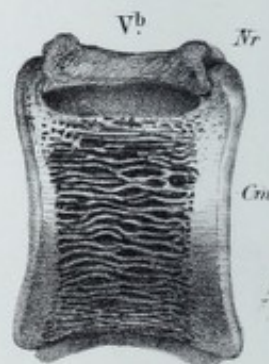
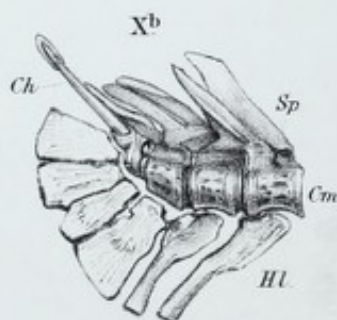
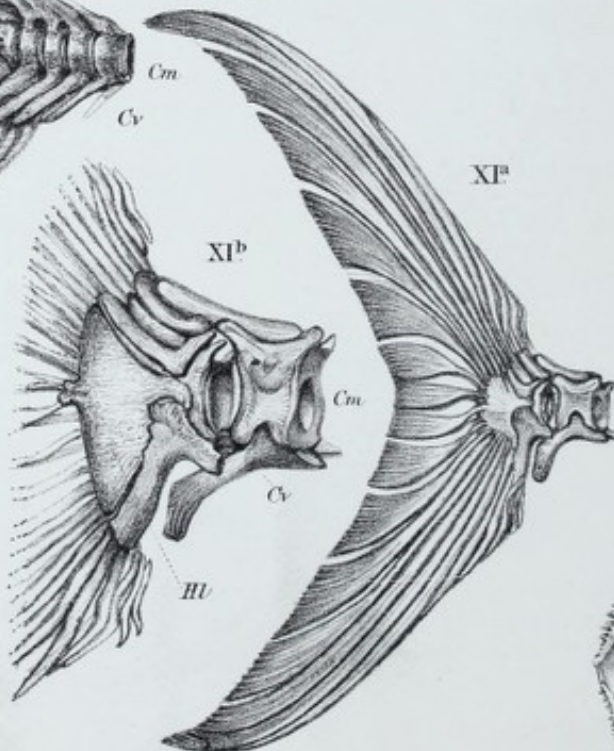
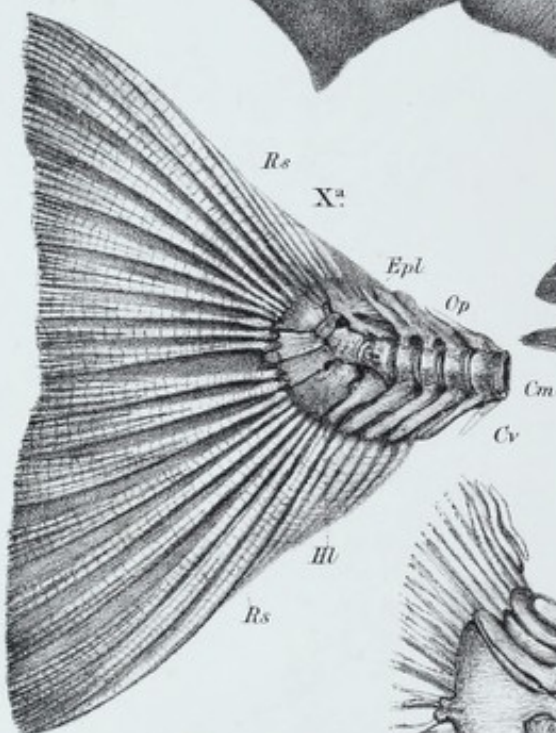
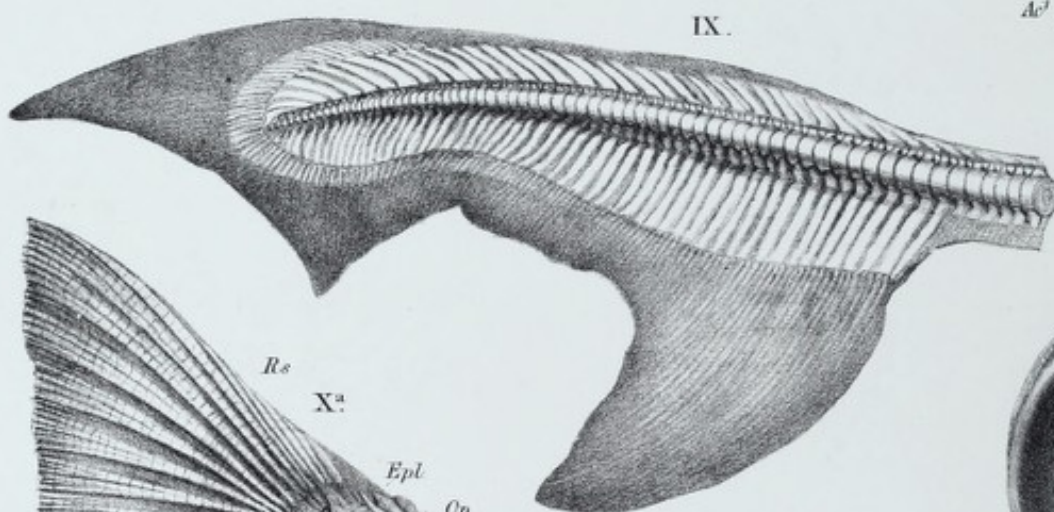
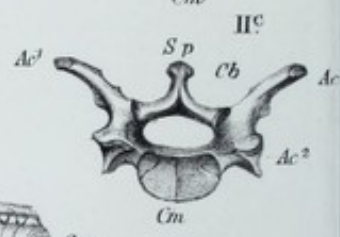
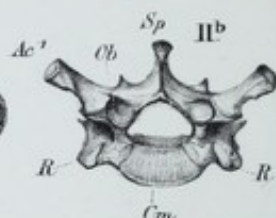
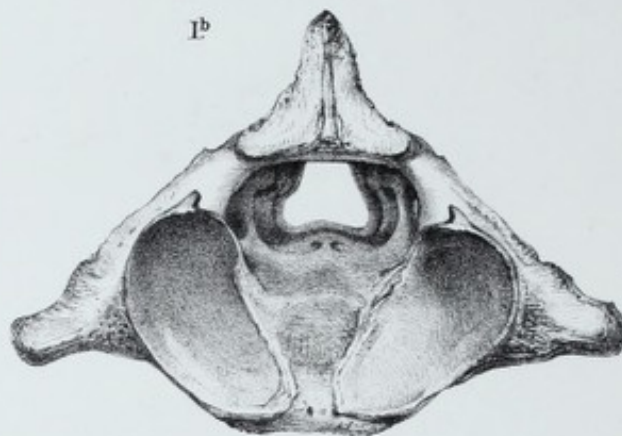


PLATE VIII.

- I. The anchylosed cervical vertebræ of a Cetacean. (*Delphinus tursio*)
a. Side view. *b.* Front view.
- II. A lumbar vertebra of an Armadillo. (*Dasypus tricinctus*)
a. Side view. *b.* Front view. *c.* Posterior view.
- III. A dorsal vertebra of a Snake.
a. Side view. *b.* Front view. *c.* Posterior view. *z. a.* Zygantrum.
z. b. Zygosphene.
- IV*a.* The 3rd dorsal vertebra, with ribs and section of the sternum of a Crocodile.
R 1 the transverse process. *R 2.* the vertebral segment of the rib.
R 3. the median segment. *R 4.* the sternal segment of the rib. *St.* the sternum. IV*b.* The vertebra from behind.
- V. A vertebra of the Basking Shark. (*Selache maxima*.) *a.* front, *b.* side view,
c. section.
- VI. Part of the spinal column of the Skate. (*Raia batis*)
A. Anchylosed anterior vertebræ. *Cv.* Elements which answer to the chevron bones.
- VII. Part of the vertebral column of the Tope. (*Galeus communis*)
Nr¹. Intercalated second neural arches.
- VIII. Dorsal vertebræ of a Cod-fish. (*Gadus morrhua*.)
a. Side view, the two posterior vertebræ longitudinally bisected. *b.* Front view of a vertebra.
- IX. Extremity of the tail of the Tope. (*Galeus communis*)
The heterocercal tail of an Elasmobranch.
- X. Pseud-homocercal tail of the Salmon. (*Salmo salar*.)
a. With the fin rays and epiural bones, *Ep. l.* *b.* Without the fin rays and epiural bones, so that the really heterocercal character of the tail is shewn.
H.l. The hypural bones. *Ch.* The notochord.
- XI. Pseud-homocercal tail of *Xiphias gladius*.
a. The whole tail. *b.* Its central part on a larger scale. *H.l.* Hypural bones.
- XII. The Hyoidean apparatus of Man.
a. Body. *b.* Lesser cornua. *c.* Greater cornua.
- XIII. The Hyoidean apparatus of a Sheep.
- XIV. The Hyoidean apparatus of a Gull. (*Larus*.)
d. Entoglossal element.
- XV. The Hyoidean apparatus of a Lizard. (*Psammosaurus griseus*.)
- XVI. The Hyoidean apparatus of a Cod fish. (*Gadus morrhua*.)





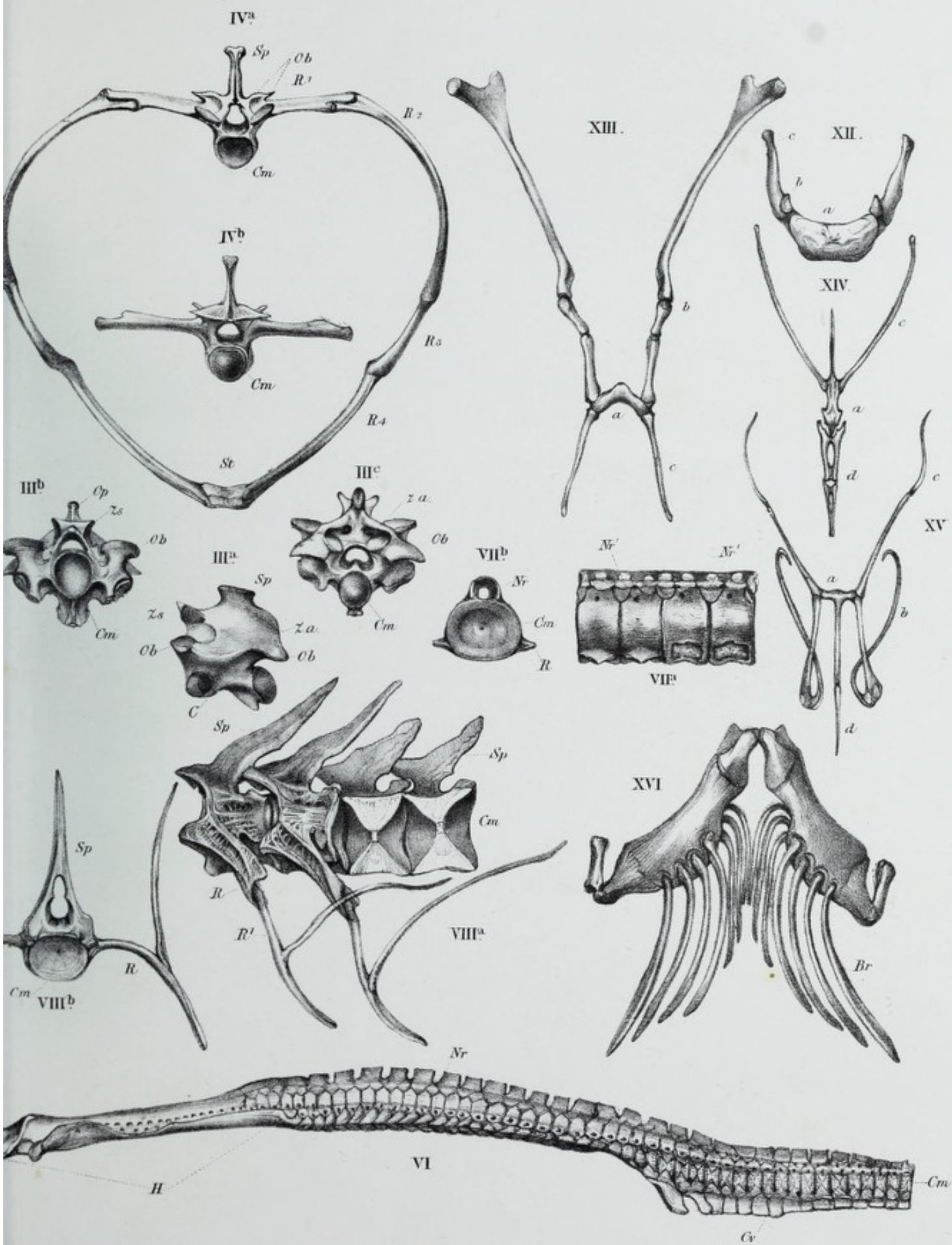


PLATE IX.

- I. Anterior extremity of a Flying Fox. (*Pteropus.*)
II. Anterior extremity of a Dolphin. (*Delphinus delphis.*)
III. Anterior extremity of an Ornithorhynchus. (*O. paradoxus.*)
IV. Anterior extremity of an Eagle. (*Haliastur.*)
V. Anterior extremity of a Penguin. (*Aptenodytes antarctica.*)
VI. Anterior extremity of an Apteryx. (*Apteryx australis.*)
VII. Anterior extremity of a Lizard. (*Iguana tuberculata.*)
VIII. Anterior extremity of a Turtle. (*Chelone caouana.*)
-

Throughout these figures the following letters have the same signification :—

<i>St.</i> Sternum.	<i>Rd.</i> Radius.
<i>Epst.</i> Episternum.	<i>Ul.</i> Ulna.
<i>Sc.</i> Scapula.	<i>Cp.</i> Carpus.
<i>S. Sc.</i> Suprascapula.	<i>Mc.</i> Metacarpus.
<i>Cr.</i> Coracoid.	<i>Ph.</i> Phalanges.
<i>Ep. Cr.</i> Epicoracoid.	<i>I. II. III. IV. V.</i> Digits counted
<i>Cl.</i> Clavicle.	from the radial side.
<i>H.</i> Humerus.	

THE REPORT

- (1) A report on the results of a survey of the
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- (3) A report on the results of a survey of the
- (4) A report on the results of a survey of the
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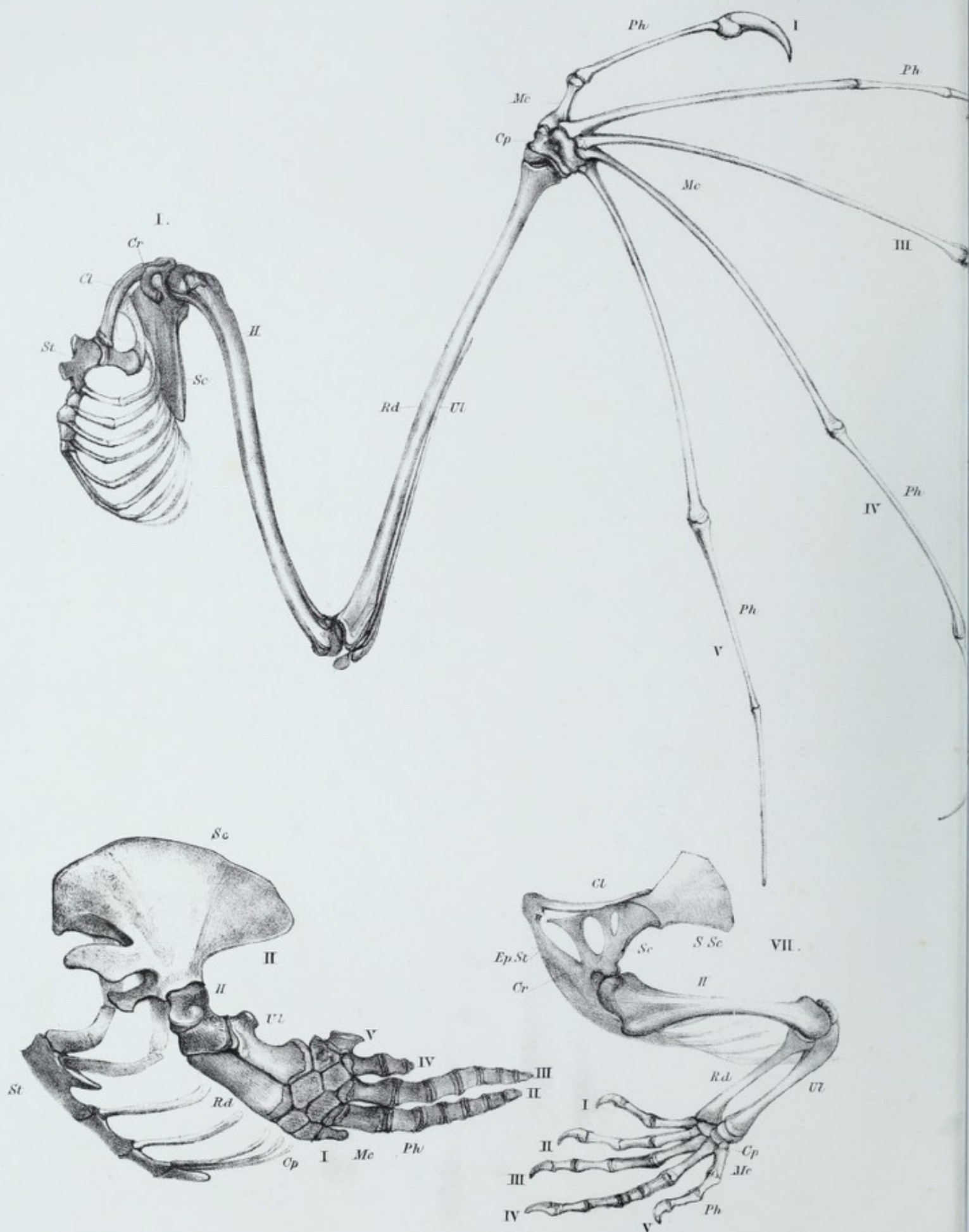
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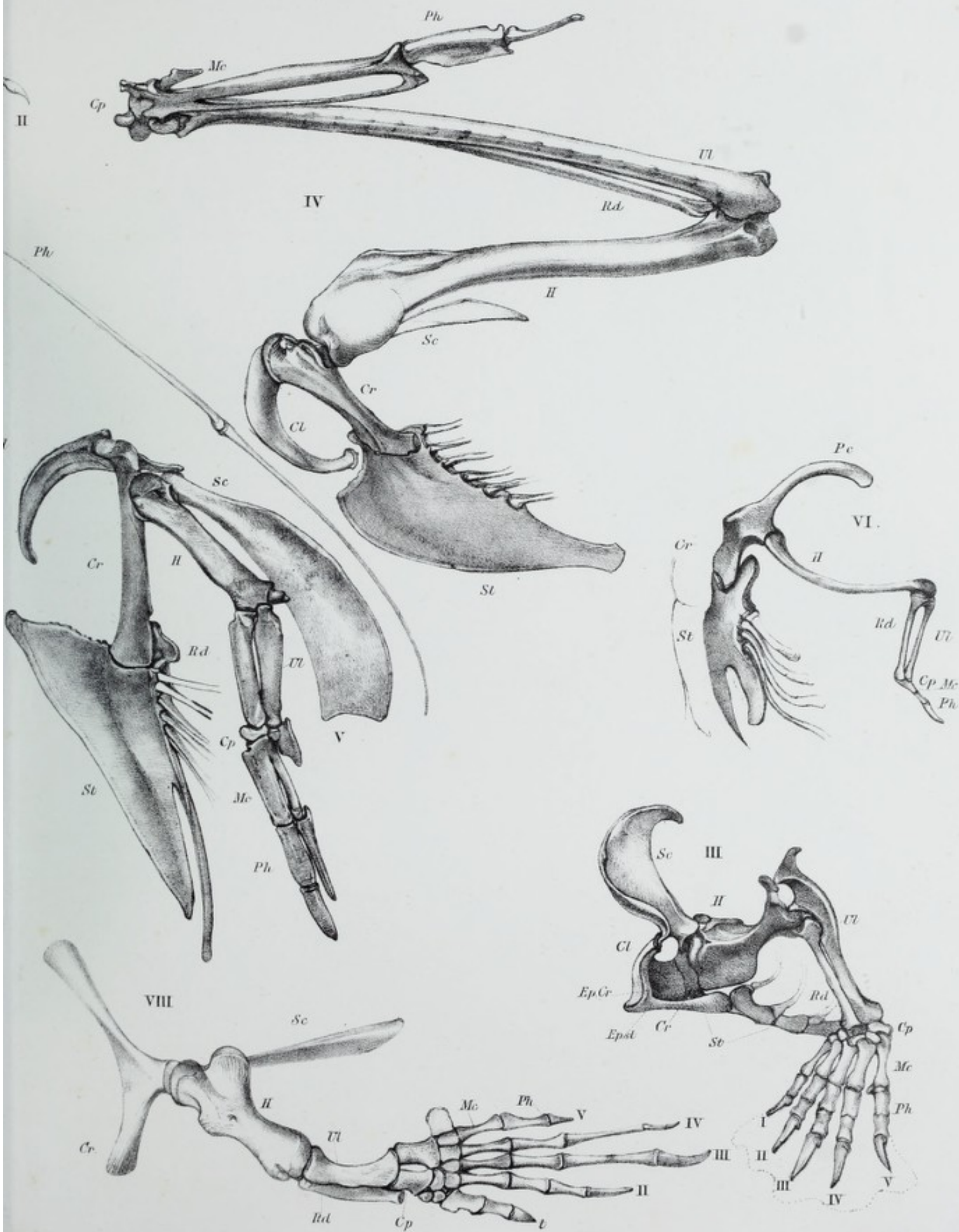


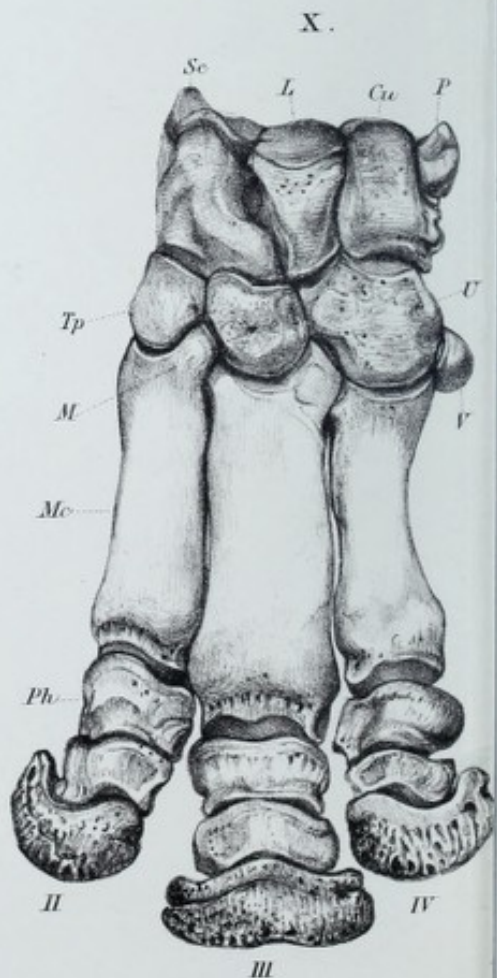
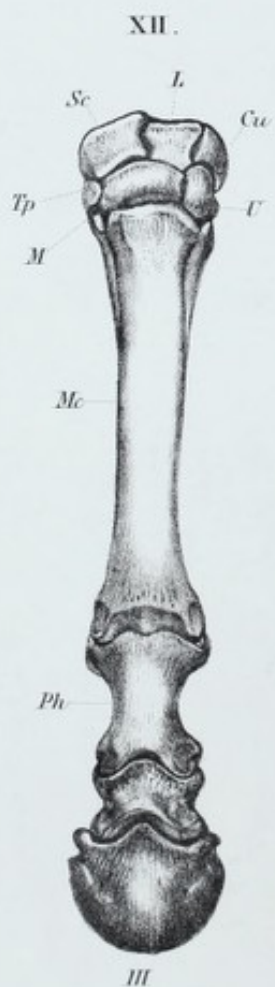
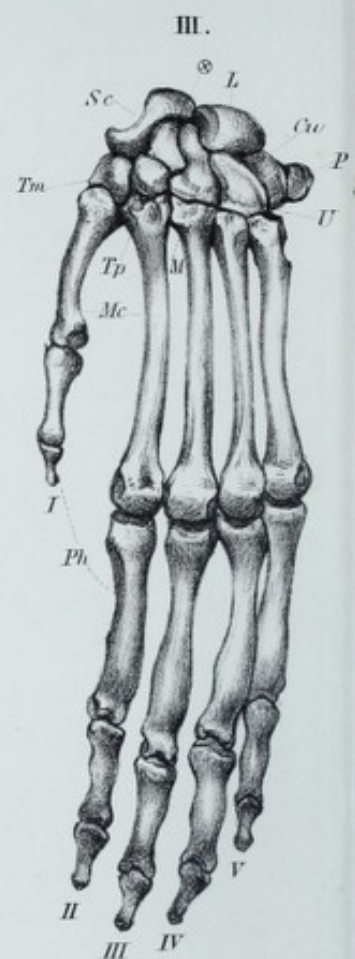
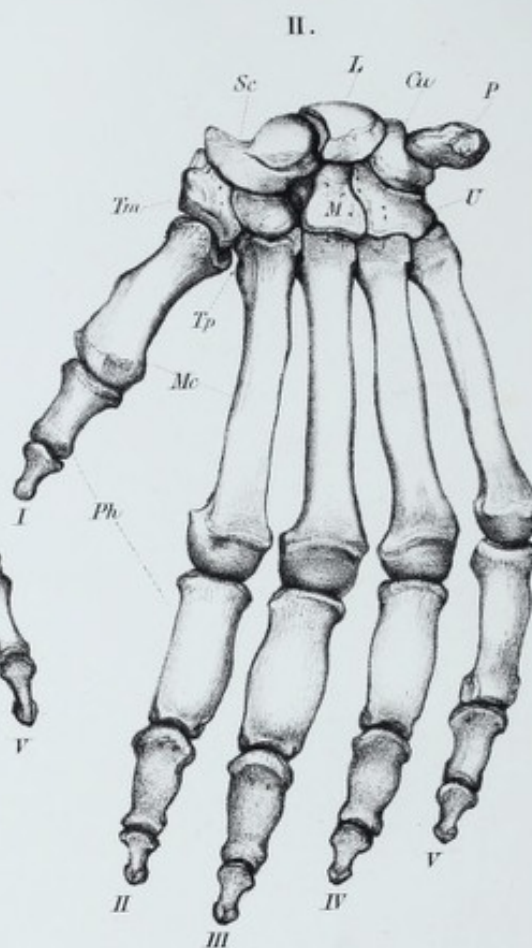
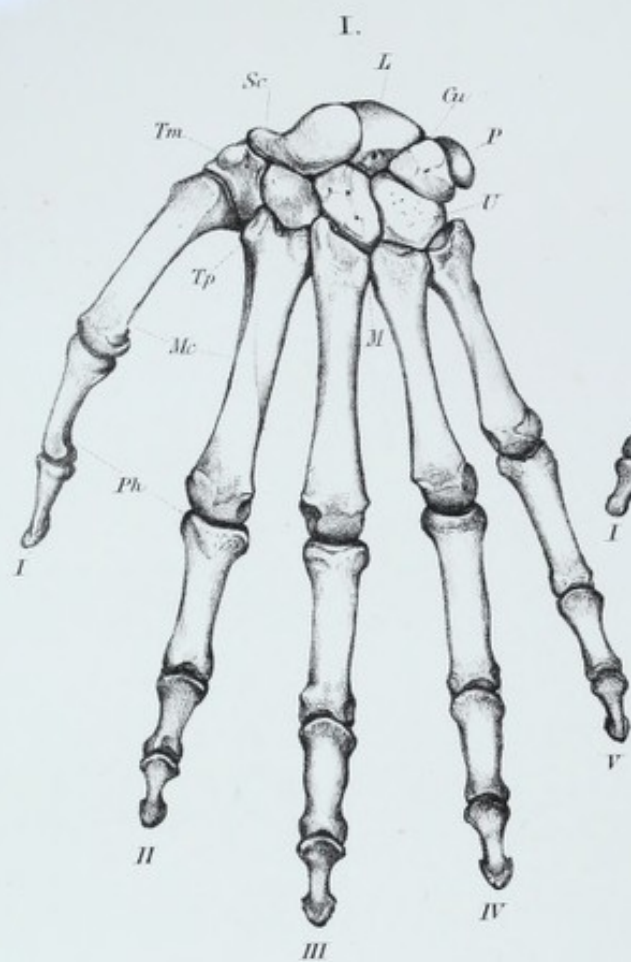
PLATE X.

- I. The terminal division (Hand) of the left fore limb of Man.
 - II. The terminal division of the left fore limb of the Gorilla. (*Troglodytes Gorilla*.)
 - III. The terminal division of the left fore limb of the Orang. (*Pithecus satyrus*.)
 - IV. The terminal division of the left fore limb of a Spider Monkey. (*Ateles Belzebuth*.)
 - V. The terminal division of the left fore limb of a Marmoset. (*Hapale Jacchus*.)
 - VI. The terminal division of the left fore limb of a Lemur. (*Lichanotus Indri*.)
 - VII. The terminal division of the left fore limb of a Bear. (*Ursus labiatus*.)
 - VIII. The terminal division of the left fore limb of a Lion. (*Felis Leo*.)
 - IX. The terminal division of the left fore limb of a Pig. (*Sus scrofa*.)
 - X. The terminal division of the left fore limb of a Rhinoceros. (*Rhinoceros indicus*.)
 - XI. The terminal division of the left fore limb of an Ox. (*Bos Taurus*.)
 - XII. The terminal division of the left fore limb of a Horse. (*Equus caballus*.)
-

Throughout these figures the following letters have the same signification :—

Sc. Scaphoides. L. Lunare. Sc.L. Scapho-lunare. Cu. Cuneiforme. P. Pisiforme. Tm. Trapezium. Tp. Trapezoides. M. Magnum. U. Unciforme. *Supernumerary bone in the carpus of the Orang, Ateles, and Marmoset. Mc. Metacarpus. Ph. Phalanges. I. II. III. IV. V. Digits counted from the radial side.

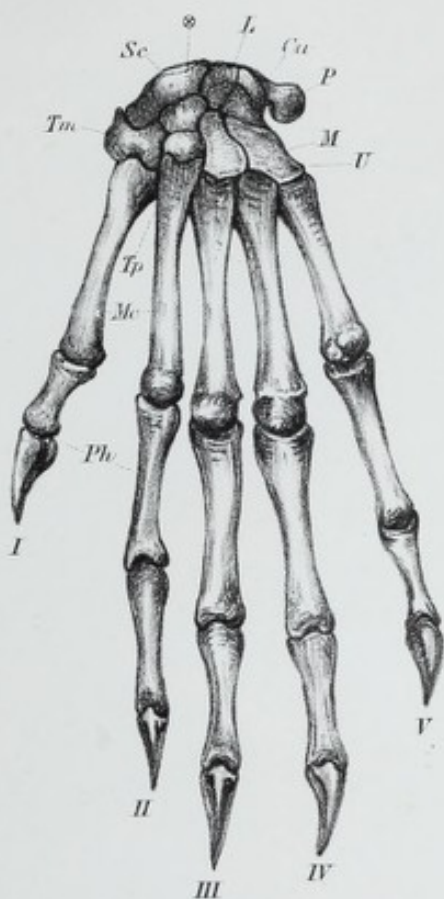
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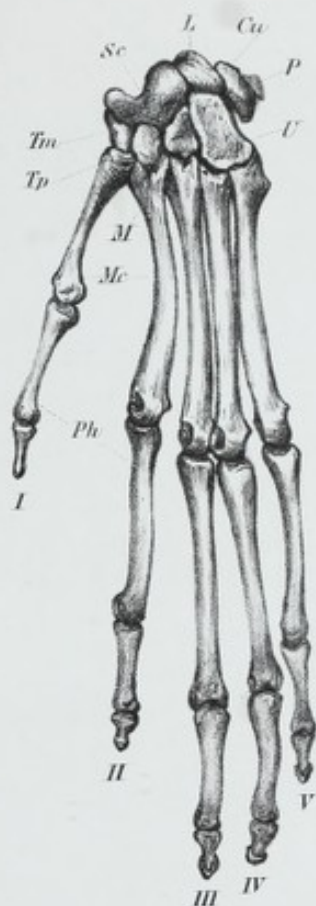
IV.



V.



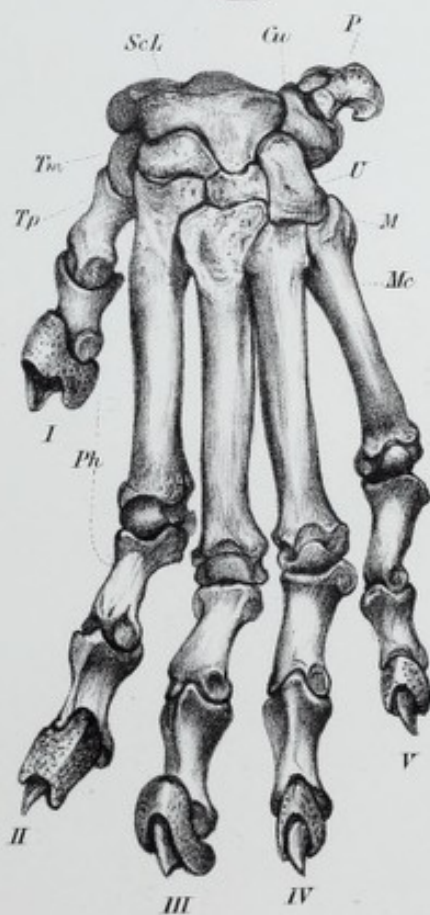
VI.



IX.



VIII.



VII.

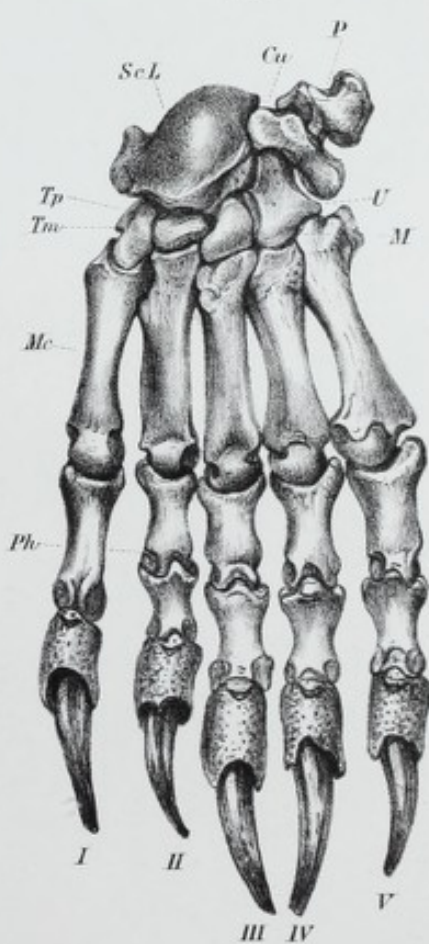


PLATE XI.

- I. The pelvis and sacrum of a Man. *a.* front. *b.* side view.
- II. The pelvis and sacrum of a Gorilla. (*Troglodytes Gorilla.*) *a.* front. *b.* side view.
- III. The pelvis and sacrum of a Gibbon. (*Hylobates leuciscus.*) *a.* front. *b.* side view.
- IV. The pelvis and sacrum of a Kangaroo. (*Macropus major.*) *a.* front. *b.* side view.
- V. The hind foot of a Jerboa. (*Dipus sagitta.*) *a.* side. *b.* front view.
- VI. The hind foot of a Kangaroo. (*Macropus major.*) *a.* front. *b.* side view.
- VII. The hind foot of a two-toed Sloth. (*Cholæpus didactylus.*) *a.* front. *b.* side view.
- VIII. The hind foot of an Eagle. (*Haliastur ponticerianus.*)
T. mt. Tarso-metatarsæ. *Mt. II.* Metatarsal of the Hallux. *II.* Hallux.
Ph. Phalanges. 1, 2, 3. The three anterior toes.
- IX. The pectoral arch and member of a Skate. (*Raia batis.*)
- X. The pectoral arch and member of a Tope. (*Galeus communis.*)
- XI. The pectoral arch and member of a Siluroid fish. (*Clarias.*) *a.* side, *b.* under view.
- XII. The pectoral arch and member of a Cod-fish. (*Gadus morrhua.*) *a.* side, *b.* under view.

Throughout these figures the following letters have the same signification :

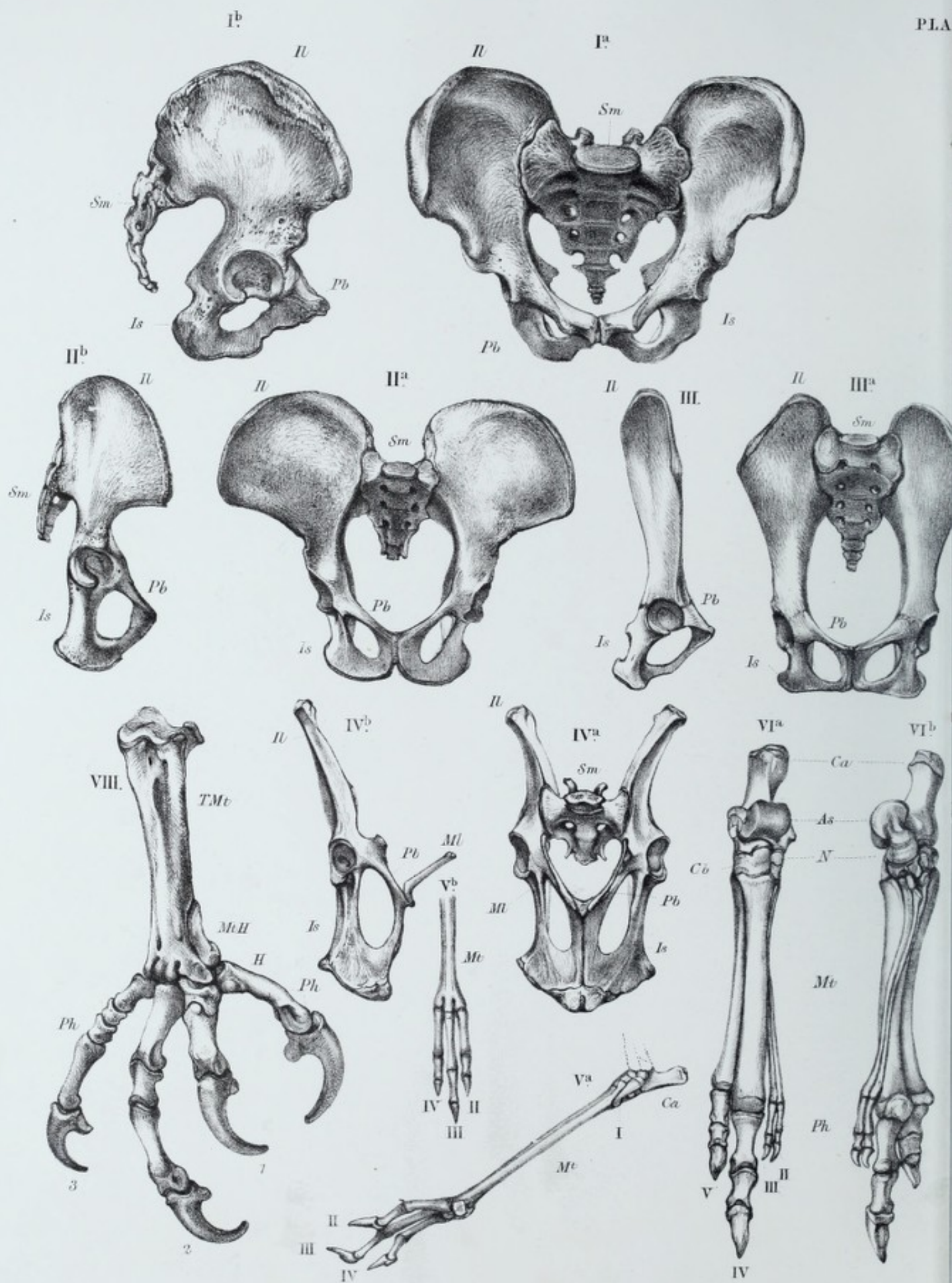
In the Pelves, which are represented of the same absolute length.

Il. Ilium.
Is. Ischium.
Pb. Pubis.
Ml. Marsupial bone.
Sm. Sacrum.

In the Pectoral arch and member of Fishes.

a. The pectoral arch, or the principal bone of that arch.
b. The so-called radius.
c. The so-called ulna.
d. The so-called carpus or metacarpus.
e. The fin rays.

The bones of the hind feet are lettered as in the succeeding plate.



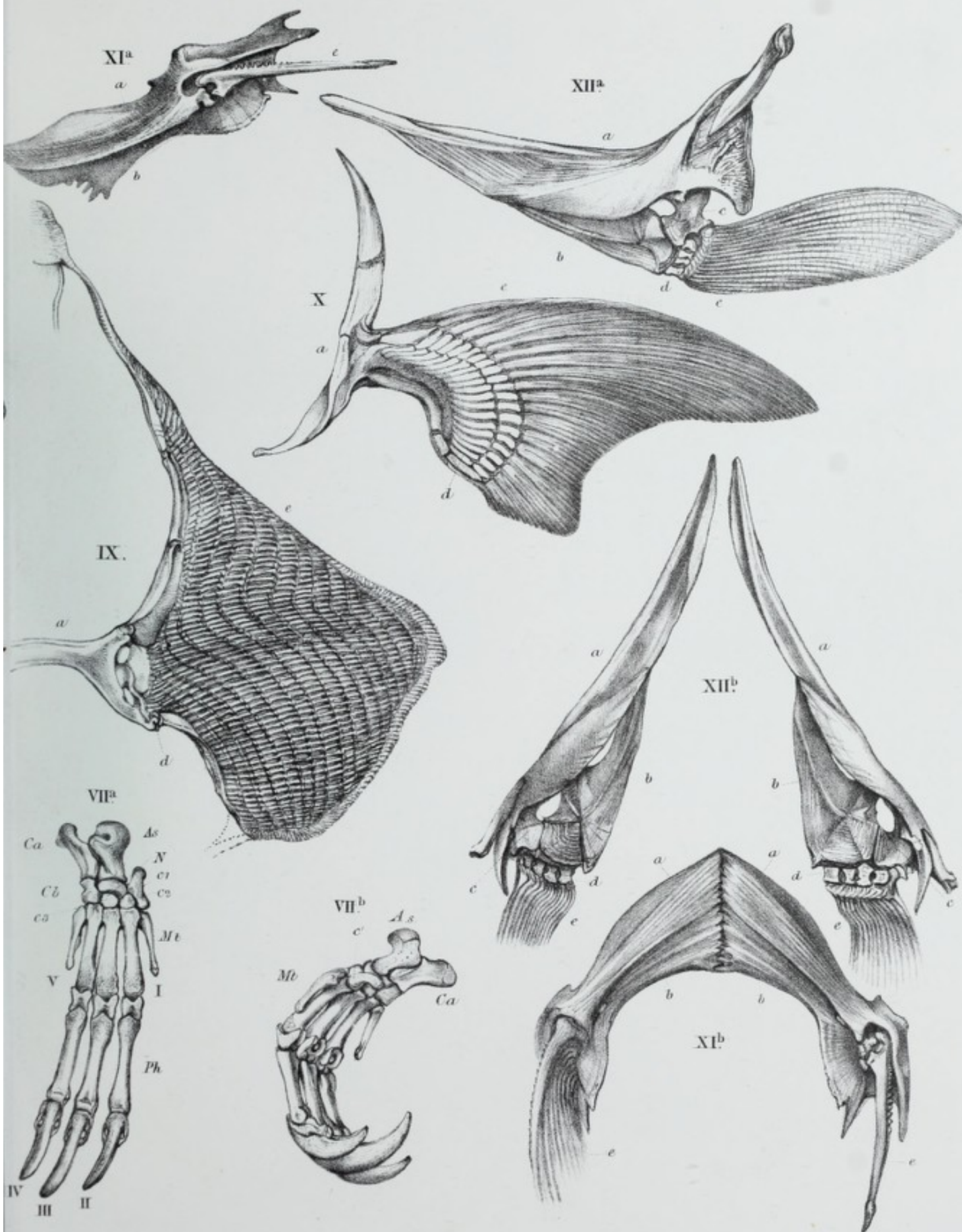


PLATE XII.

- I. The terminal division (Foot) of the left hind limb of Man.
 - II. The terminal division of the left hind limb of a Gorilla. (*Troglodytes Gorilla*.)
 - III. The terminal division of the left hind limb of a Chimpanzee. (*Troglodytes niger*.)
 - IV. The terminal division of the left hind limb of an Orang. (*Pithecus satyrus*.)
 - V. The terminal division of the left hind limb of a Spider Monkey. (*Ateles Belzebuth*.)
 - VI. The terminal division of the left hind limb of a Marmoset. (*Hapale Jacchus*.)
 - VII. The terminal division of the left hind limb of a Lemur. (*Lichanotus Indri*.)
 - VIII. The terminal division of the left hind limb of a Bear. (*Ursus labiatus*.)
 - IX. The terminal division of the left hind limb of a Lion. (*Felis Leo*.)
 - X. The terminal division of the left hind limb of a Pig. (*Sus scrofa*.)
 - XI. The terminal division of the left hind limb of a Rhinoceros. (*Rhinoceros indicus*.)
 - XII. The terminal division of the right hind limb of an Ox. (*Bos Taurus*.)
 - XIII. The terminal division of the left hind limb of a Horse. (*Equus caballus*.)
-

Throughout these figures the following letters have the same signification :

<i>Ca.</i> Calcaneum.	<i>C^s.</i> Mesocuneiforme.
<i>As.</i> Astragalus.	<i>C^e.</i> Ectocuneiforme.
<i>N.</i> Naviculare or Scaphoides.	<i>Mt.</i> Metatarsus.
<i>Cb.</i> Cuboides.	<i>Ph.</i> Phalanges.
<i>Ncb.</i> United scaphoid and cuboid.	<i>I. II. III. IV. V.</i> Digits counted
<i>C^e.</i> Entocuneiforme.	from the tibial side.

The objects are all represented of the same absolute length.

