

II. *A Letter to Dr Edward Tyson.*

Giving an Account of the Anatomy of those parts of a Male Opossum that differ from the Female. By William Cowper, F. R. S.

S I R,

HAd your Account of the *Female Opossum* been less Accurate, I should not have been tempted to look farther than the Parts that distinguish the Sexes; for on comparing your Description of the Organs common to both, it was sufficiently evident how little can be added, tho you had but one Subject to examine.

The singular contrivances of that Animals Organs renders the Anatomy of them very desirable, I may say entertaining, to those who have Tastes for such enquiries.

Comparative Anatomy (as instructive as it is) does not escape the Censure of the Vulgar; tho you know the greatest Illustrations of the use of Parts are not only to be had from thence, but the very existence of divers Organs in Human Bodies have been made known to us by Discoveries first made in the Bodies of Quadrupeds. The Circulation of the Blood, and the Passages for the Chyle and *Lympha*, had been as little known to us as our Predecessors, were it not for Dissections made on the Bodies of several Animals. But I shall no more abuse your Patience with these kind of Apologies, than I would omit owning an obligation incumbent on me, (which is) to beg your pardon for making an attempt, where you have given such instances of your great Ability.

This

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This *Male Opossum*, as the *Female* you dissected, was brought from *Virginia* and presented to the *Royal Society*, by the same Benefactor, *William Bird Esq*; and was also kept alive in their Repository; but falling from its mear (like that you examin'd, I guess) it languished and dyed: The cause of its Death appeared to be from a Mortification of the *Duodenum* immediately below the *Pylorus*, which seemed to arise from a quantity of Hay, that had been collected in the Stomach, and matted together in the shape you have described, and figured the * hairy *Tophus*: you found in the Stomach of that you dissected, but I could not find any hair in this; this woad of Hay slipping out of the Stomach stuck in the *Duodenum*, which together with the viscid matter that involved it, compleatly obstructed the Passage in that Gut, as well as that of the Gall into the Gut, which appeared from the Distention of the Liver as well as fullness of the Gall Bladder. The *Omentum*, which in this Creature is only fastned to the bottom of the Stomach, had also suffered a *Gangrene*, as had almost the whole Canal of the Guts: but of this by the by, my design being only to give you an account (such as it is) of those Parts of the *Male*, which distinguish it from the *Female*.

* Phil.
Trans. N.
239. Tab.
2. Fig. 4.

Besides the Organs employ'd in Generation, the *Male Opossum* differs externally from the *Female*, there being no *Marsupium* or Pouch to receive the young ones, which you have given so exact a description of; nor are there any Muscles inserted to the Skin of the *Abdomen* springing from the *Ossa Marsupialia*, as you call the Bones, which may deserve the Name of *Hyoides*, from the figure they make with the *Ossa Pubis* of this Animal; which Bones do not seem to differ in the *Male*, from those of the *Female* you have described and figured in the Transactions above-mentioned.

There is no external appearance of Genitals in the *Male Opossum* but the *Scrotum*; which, is but just big enough

Fig. 1.

nough to contain the *Testes*; nor could I readily discover any other *Foramen* outwardly in these parts but the *Anus*, A. which leads to the *Rectum*; but on withdrawing its sides, I found another *Foramen*, B. which on Dissection appeared to be the *Preputium* or Out-let of the *Penis*. On compressing the parts on each side this *Cloaca*, A. B. I observed two Drops of yellowish colour'd Liquor (of the resemblance of *Pus*) start out on each side the *Anus*, c. c. which on further examination I found come from two glandulous Bodies or Bags placed on the *Sphincter Muscle* of this Part. This sort of Liquor (it seems) you found in the Pouch of the *Female*, which, like this, had more of the peculiar *Factor* of this Animal, than any other part besides; for on removing these Parts with the Skin about the *Cloaca*, I was freed from the ungrateful Smell of it. On separating the Skin from the Muscles of the *Abdomen*, the two above-mentioned Bones (peculiar. I believe, to this Animal) appeared, from whence some Muscles sprang, and were inserted to the *Ossa Femorum*, which performed the Office of the *Psoas* Muscles in other Animals, which last named Muscles were much smaller in this than in other Creatures.

The *Abdominal Muscles* were also fastned to the last mentioned Bones, particularly the *Recti*, which enabled this Creature to project or spring its Body, especially in pulling its hind Legs forward, with more advantage or force than other Animals, which are without these Bones.

Fig. 2, 3.

Immediately under the Skin about the *Cloaca*, I found a thin fleshy Muscle, inclosing the *Preputium*, and lower parts of the *Rectum* and *Odoriferous Bags*, together with the four *Mucous Glands*, MM N N. at the roof of the *Penis*, and body of the *Penis* it self A; all which parts were liable to be compress'd by the Action of this Muscle, especially when the *Penis* is erected, whereby its Erection is sustained, by compressing the two external Veins on the *Dorsum Penis*, of which more hereafter, when I come to speak

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Speak of the manner the *Penis* of this Animal is erected. On removing this thin broad *Sphincter Muscle*, I was obliged to clear away two Lumps of hard Fat before the Body of the *Penis* could be discovered; but we shall leave these Parts till we have cleared the *Testes*.

The *Scrotum* being remov'd, each Testicle appear'd as represented on the left side Q T V. the *Vasa preparantia* Fig. 2. and *Deferentia* Q Q being inclosed in the *Cremaster Muscles* P P. These Muscles were proportionably very large in this Animal, as I have always observ'd them in Creatures, that have no *Vesicula Seminales*, which is the Case of this Animal, and this Provision of Nature seems not only necessary to suspend the *Testes*, but these inclosing *Cremaster Muscles*, also compress the *Epididymides* and *Vasa Deferentia*, and oblige them to dispatch their Contents (the *Semen*) into the *Urethra* in the time of the *Coition*, which otherwise would have a slow progress; but this contrivance appears more peculiarly requisite in this Creature, because the defect of the *Vesicula Seminales* here, seem to be supplied by the largeness of the *Epididymides* of the *Testes* W W Fig. 2. 2. which you know are the excretory Ducts of the *Testes*, and appear in this Animal to have a larger Bore than ordinary: For this reason the *Tunicae Vaginales* are very streight in this Animal, as appears in the Figure T V R R. Fig. 2.

On discovering the Originations of the Spermatick Arteries, I was surpriz'd to meet with an appearance I never heard of nor observed before; and in this I should not have had any satisfaction, if I had not first injected Wax into the Trunks of the great *Artery* i i i, and *Vena Cava* h Fig. 2 below the *Diaphragm*. It seems the descending Trunk of the great Artery, below the emulgent Arteries in this Creature, is placed directly under the Trunk of the *Vena Cava*, nor does the *Iliack Branches* of the Arteries here, twine about those of the Veins, as in Human Bodies and some Quadrupeds, which is done perhaps to compress the Channels of the Veins, by means of the Pulsation of these

Ar-

Arteries to drive up the Blood in the Veins towards the Heart; but that contrivance seems no way necessary in this Animal, because the contrary position of its Body is more customary in hanging by its Tail with its Head downwards: It is not unlikely, if the Veins of this Animal were examined below the Heart (which indeed I did not think of till those Parts were thrown away) but we should meet with some Contrivance to prevent the Precipitate Flux of the Blood in that Pendulous Position, as I have observ'd in the Trunk of the *Cava* immediately above the Liver in Dogs. But to return to the Spermatick Vessels.

Fig. 2. The Arteries arise from the forepart of the Descending Trunk of the Great Artery, and pass through a very small Perforation made on purpose in the *Vena Cava*, and descend straight to the *Testes*, as in Human Bodies, and are not contorted in their progress, as we find them in most, if not all Quadrupeds. This Perforation of the *Cava* perhaps was not only made for transmitting the Spermatick Arteries, but may also frame an *Anulus*, that may check the velocity the Blood would otherwise have in those Arteries, which rapid Motion of the Blood we find Nature studiously avoids in the *Testes* of all Animals: For in Men we see these Spermatick Arteries (contrary to all other Trunks of Arteries) are less at their Originations from the Great Artery; and in Quadrupeds (except in this) the Spermatick Arteries are contorted before they reach the *Testes*, as I have (a) elsewhere taken notice. The Spermatick Veins, after leaving the *Testes* of this Animal (like those of Humane Bodies) have several Divisions and Inosculation, which are all reduced to one Trunk on each side, and empty themselves into the *Cava* immediately above the Perforation b b.

(c) PHIL.
Transf.
No 280.
Pag. 1180.

Fig. 2.

Had the known Structure of the *Testes*, in relation to their Excretory ducts been left undiscovered till now, the bare inspection of those parts in this Animal would instruct

Instruct us : for on dividing the *Tunica Vaginalis* (R R) Fig. 2, 3.
 I found the inclosed Testicle and its *Epididymis* lying loose, infomuch that they parted from each other as express'd W X Y Z, and with the assistance of a pretty large Convex Glass I could see the *Excretory Duct* Z arising from one end of the Testicle, where the Spermatick Artery and Vein Y may be seen : After that Duct has marcht a little way it may be seen folded up into the Body call'd *Epididymis* W W. and at length makes the *Vas Deferens* S S. You know in Men, and most, if not all Quadrupeds, the *Epididymides* and *Testicles* cleave so to each other, that without some Dexterity in Dissection the rise of them from the *Testes* is not to be discovered. This proves to Us the Use of *Comparative Anatomy* in detecting the Structure of parts which is very Obscure in other Subjects as well as in Humane Bodies ; but to return to the *Vasa Deferentia*, S S. after they leave the Fig. 4. *Præparantia* a b, as in Men and other Creatures, they grow somewhat larger, but on crossing the *Ureters* e e become less again at their Entrance into the *Urethra*, immediately below the Neck of the Bladder ; where their Orifices could be perceived on each side a *Caruncle* : Nor are there any *Vesiculæ Seminales* near the *Vasa Deferentia* of this Animal, as in Boars, Bulls, Horses, &c. which nevertheless cannot be allowed to communicate with each other as in Men ; for tho' the *Vasa Deferentia* and *Vesiculæ Seminales* of those last named Animals empty themselves into the *Urethra* at the same Orifices with the *Vesiculæ Seminales*, yet their Communicant Ducts are so very short, that whatever comes by the *Vasa Deferentia* will sooner escape into the *Urethra*, than be received by the *Vesiculæ*, as in Men.

The length of the *Urethra* between the Bladder and the *Penis* exceeded four Inches, more than three Inches and an half of which was inclosed with a Glandulous Body, Analogous to the *Prostates* in Men and other Crea-

tures ; the Orifices of the Secretary Ducts of this Glandulous Body are very numerous, and open into the *Urethra* on all sides, as appeared on opening the *Urethra*, and compressing this Glandulous Body or *Prostatae*, I saw its Secreted Juice start out.

Fig. 2, 3. This part of the *Urethra* I K K L thus inclosed with the *Prostatae*, being very much contorted or folded, in its Natural Situation between the Bladder and the *Penis*, when there is no Erection, must necessarily be drawn out, and becomes straight when the *Penis* is Extruded, (which I shall shew by and by happens upon an Erection) by which means this Glandulous Body is necessarily compressed, and the *Succus Prostatarum* forced into the *Urethra*. The *Prostatae* of divers Animals are compressed by Muscles fram'd on purpose that inclose them, as in Boars, Rams, &c. in Men they are compressed by the *Musculi Levatores Ani*.

At the root of the *Penis* of the *Opossum* we meet with four Glandulous *Vesiculæ* M M N N two on each side, which empty themselves into the *Urethra*, and contain a Mucous matter, like that I find in the Glands I lately discover'd in this part in Men. These *Vesiculæ* are not only compressed by the thin broad Sphincter Muscle above mentioned, but the Bulbs of the *Cavernous Bodies* of the *Penis* C C, and *Urethra* E E, when distended (in the Erection of the *Penis*) also compress these mucous Bags. This compression is effected in Men by the Intumescence of the Bulb of the *Cavernous Body* of the *Urethra* *. In Boars, Rams, Cats, &c. we find Nature so solicitous to discharge the contents of the Excretory Ducts of these Glands, that (like the Gizzard of Birds) each Mucous Gland is inclosed with a proper Muscle to compress it.

The *Penis* fell next under my Examination, the Fabrick of which appears not less surprizing, than that you met with in the *Uterus* of the *Female*; and in many circumstances differ'd from what I have found in all the Animals that

that I have hitherto dissected: Besides the Forked Glans of its Penis, B B. its Cavernous Bodies D D had Fig. 2, 3. no Connection with the *Ossa Pubis*, nor did the Muscles call'd *Erectores* or *Directores* C C cleave to any Bone as in Men and *Quadrupeds*, but all those parts lay loose under the *Ossa Pubis*. The other extremities of the two *Corpora Cavernosa Penis* are received into the Glans. Nor did the *Corpus Cavernosum Urethrae* e or its Muscles E E cleave to the *Sphincter Ani*, as in most other Creatures, but the whole body of the Penis lay Fig. 3. loose between the bones of the *Pubis* and the *Rectum*, so that on the Intumescence or Erection of the Penis, it is at liberty to be extruded from its *Præputium*, wherein it is secured from outward injuries when not erected. To favour this Extrusion of the Penis in this Animal, the *Urethra* I K L is not only very long between it and the Fig. 2. Bladder O O, but I found it much more contorted or folded in acuter Angles, than is express'd in the Figures, else the Penis could not be extruded, but the Bladder O O must follow it. Besides it appears, Nature design'd this extrusion of the Penis of this Animal in its Erection, because we meet with Instruments to withdraw it again into the *Præputium*. f f G shews a pair of Muscles elegantly framed for that purpose on the fore part of the Penis; they arise fleshy from the *Corpora Cavernosa Penis* D D, and becoming tendinous f f, as they pass through two Ligaments or Pulleys on the *Ossa Pubis*, and are afterwards united into one Tendon G, which is inserted to the upper part of *Dorsum Penis*. Besides this pair of Muscles (which is peculiar perhaps to this Animal) I found another pair of Muscles H H, that also withdraw the Penis arising from the Fig. 2, 3. *Rectum*, and are inserted to the extremities of the *Corpora Cavernosa Penis*: In Cats, Male Porpess, Bulls, Rams and Boars, we meet with two Ligaments springing from the *Os Sacrum* or *Ilium* on each side, and inserted to the *Corpora Cavernosa Penis* of those Animals,

which like these Muscles serve to withdraw the *Penis* of those Creatures into the *Præputium*.

Fig. 2, 3. The *Corpora Cavernosa Penis* of the *Opossum* differ in their figure from what we find in other Creatures; their upper parts are bulbous D D and covered with Muscles C C like the Bulb of the Cavernous Body of the *Urethra* in Men: In other Animals, those parts of the *Corpora Cavernosa Penis* are of a Conical figure. The Muscles of the Cavernous Bodies of the *Penis* of this Creature having no connection with the *Os Pubis*, cannot apply the *Dorsum Penis* to the last nam'd bone, and compress the Vein of the *Penis*, whereby to retard the Refluent Blood, and cause an Erection, as we have observed in other Creatures; but some large Veins of the *Penis* here, take a different Course and Pass through the middle parts of the Bulb K K C, and are only liable to the Compression made by the Intumescence of these Muscles C C, that inclose them.

Fig. 4. But the chief Agent in continuing the Erection of the *Penis* in this Animal, is the *Sphincter* Muscle of its *Anus*, or rather *Cloaca*, to which the broad *Sphincter* Muscle above-mentioned is continued, and does somewhat contribute. When the *Penis* is extruded from the *Cloaca* (which must happen when it is erected) the *Sphincter* of that part necessarily embraces it, the like must be done by the *Sphincter* Muscle of the *Cloaca* of the *Female* in Coition: On these accounts I am apt to think, these Creatures are not very quick in that Act. Besides the figure of the *Penis*, Fig. 4. shews an unsuitness for its retraction till there is a Detumescence of its *Glans* A B, which perhaps does not happen in these Creatures till both *Male* and *Female* are satiated, as in Dogs and other Animals that have Bones in their *Penis*, and have a bulbous Intumescence of the *Glans* in Coition, and no *Vesiculae Seminales* as in this Animal, and also impregnate the *Female* with more than 2 or 3 at a time, as this does.

As the *Bulb* of the *Cavernous Body* of the *Urethra* in Man, is fram'd for the use of the *Glans*, to keep it sufficiently distended when required, so it seems it is necessary to have two of those *Bulbs* inclosed with their particular Muscles *E E* in this Animal, to maintain the Turgescence of its doubled or forked *Glans* *A B* when the *Penis* is erected : In this distention of this *Glans Penis* of this Creature, the middle part of the Orifice of the *Urethra* (in which you see the Probe passing out of Fig 3.) is necessarily compressed, as represented Fig. 4. *D*; and two distinct Apertures *C C* are left, as appears by the last mentioned Fig. 4. *A B* on each side its forked *Glans*. Fig. 2.
Fig. 4.

They that fancy an *Aura Seminalis* of the Male, passes by the way of the Blood of the Female to their *Ovaria* to fecundate the *Ova*, will here meet with an Instance I must leave them to solve. For to what end has Nature been at the trouble of making double Emissaries for the *Semen* of the Male *Opossum*, tho she design'd the Impregnation of a double *Uterus* of the Female? Certainly one passage in the *Glans Penis* would have been sufficient to convey the *Semen Masculinum* to the Mass of Blood of the Female in the manner they conceive. Nature would never have been at the trouble of all this Clutter in this Animal, in making a double *Glans*, and contriving two distinct Apertures in the *Glans*, when its *Penis* is erected, if the Propagation of the Species had not depended on't : Doubtless 'twas for that end chiefly, that the *Penis* of this Animal differs so much from what we meet with in other Creatures. Nor could the *Penis* of this Animal in these Circumstances, be expos'd in a *Præpuce*, as in other Quadrupeds, by reason of the numerous Accidents that would certainly attend it in this Animals way of living : Nor could its *Penis* been thus withdrawn, when not erected and sufficiently extruded, when it is if (as in other Creatures that are retromingent also) the *Penis* here had been fastned to the *Ossa Pubis*.

Thus,

Thus, Sir, we see Nature in these Instances, as you must have frequently taken notice of in others, accomplish the same ends by different Methods. Although there are no *Vesicula Seminales* in this Animals, as in Dogs, Weasels, &c. yet we find its *Penis* without a Bone in it, as in those Creatures; but then we meet here with additional Contrivances to maintain its Erection: Not only the *Sphincter* Muscle of the *Cloaca* of the *Male Opossum*, but that of the *Female* also closely embraces its *Penis* in Coition, and effectually retard the refluxing Bloud from its *Corpora Caverosa*, by compressing the Veins of the *Penis*. Nor could the *Penis* of this Animals be fram'd like that in Boars, Rams, Bulls, &c. in whom the *Corpora Caverosa* are too large, when not erected, to be secured within the *Cloaca* of this Animal. If in this I have been tedious, it may be some excuse, I had not time to make it shorter. Who am,

Your Obliged Humble Servant,

William Cowper.

The Explanation of the Figures.

Fig. 1.

Shews the external appearance of the Genitals of the *Male Opossum*, somewhat less than the Life.
A B c c. The *Anus* or *Cloaca*. **A** its lower part which leads to the *Rectum*. **B** its upper part or Orifice of the *Preputium*, whence the Urine and *Penis* is extruded.
c c. Two small Apertures, whence the yellowish colour'd Liquor, that had the peculiar *Fætor* of the Animal, had its Exit. **D.** The

- D. The *Scrotum* just large enough to contain the *Testes*.
- E. That part of the *Abdomen*, where the *Marsupium* is seen in the *Female*, which here appears a little more deprest than in other Animals, but cannot retain the young ones, as does the Pouch of the *Female*.
- F F. The two Thumbs of the hind Feet, or Hands.

Fig. 2.

The fore parts of the Organs of Generation dissected from the *Male Opossum*; done as big as the Life.

- A A. The Body of the *Penis*.
- A B. The forked *Glans*.
- C C. The Muscles Analogous to the *Directores Penis* in Men and other Creatures, which here inclose the *Bulbi* of the *Cavernous Bodies* of the *Penis*.
- D D. The two *Corpora Cavernosa Penis* before they join and make the Body of the *Penis*.
- E E. Parts of the two Bulbs of the *Cavernous Body* of the *Urethra*.
- G f f. A pair of Muscles, whose two Tendons f f pass through two Ligaments or Pulleys on the *Ossa Pubis*, and are afterwards united into one Tendon G. inserted to the *Dorsum Penis*, and serve to draw the *Penis* within the *Cloaca* after an *Erection*.
- H H. Two other Muscles which serve for the same Use, and arise from the *Rectum*, but are fixt to the opposite part of the *Corpora Cavernosa Penis*.
- I. The *Urethra* where it has no *Glandulous Body* inclosing it.
- K K. The *Prostrata* or *Corpus Glandosum*, inclosing the *Urethra*, which lyes contorted between the *Penis* and *Bladder of Urin* in the *Pelvis* of the *Abdomen* of this Animal.
- M N. Two *Mucous bags* on each side, at the root of the *Penis*, which empty themselves into the *Urethra*.
- O O. The *Bladder of Urine*.
- P P. The *Musculi Cremasteres*.

Q Q. The

- Q Q. The left *Cremaster* Muscle inclosing the *Tunica Vaginalis*.
- R R. The *Tunica Vaginalis* of the right side, opened to shew the inclosed *Vasa Præparantia* and *Vas Deferens*.
- S S. The *Vas Deferens*.
- T V. The *Tunica Vaginalis* inclosing the left *Testicle*, with its *Epididymis* V.
- W X Y Z. The right *Testicle*, as it appear'd on opening the *Tunica Vaginalis*.
- W. Its *Epididymis*.
- X. The Body of the *Testicle*.
- Y. The *Spermatick Vein* and *Artery* as they pass to and from the *Testicle*.
- Z. The excretory *Duct* of the *Testicle*, which could be distinctly seen arising from the *Testes* and marching to the *Epididymis* W. where it is folded up and constitutes that Body, whence it is continu'd to the *Bladder of Urin*, and call'd *Vas Deferens* S S.
- a a. The *Spermatick Arteries* arising from the fore part of the descending *Trunk* of the *Artera Magna*, where they have a common *Ductus*, which is divided as it passes through an *Aperture* * made on purpose in the *Trunk* of *Vena Cava*.
- b b. The *Spermatick Veins* at their entrance into the *Cava*.
- d d. The *Kidneys*.
- e e. The *Ureters*.
- g g. The *Emulgent Veins*.
- ‡ Part of the left *Emulgent Artery*.
- h. The *Vena Cava* below the *Liver*.
- i i. The descending *Trunk* of the *Great Artery*.
- k k. The *Mesenterick Arteries*.
- l. The lower *Mesenterick Artery*, which in this *Animal* does not arise from the *Great Trunk*.
- m. The left *Glandula Renalis*, that of the right side being placed behind the *Trunk* of the *Vena Cava* n.

o. A common Trunk of an Artery, from whence springs the Galtrick, the Superior and Inferior Mesenterick, and the Emulgent Arteries of this Animal. The design of Nature in confining all those Arteries to one Trunk in this Animal, might be perhaps in favour of its usual posture in hanging by its Tail, with its head downwards. This Trunk of the Arteries of the *Viscera* of the lower Belly, having so many united forces, is the less liable to any Compression that might be made by the contain'd parts of the lower Belly in that Posture.

Fig. 3.

The back side of the Genitals of the *Male Opossum*.

A. The Body of the *Penis*.

B. Its *Glans*.

C C. The *Bulbi* of the *Corpora Caverosa Penis* covered with their Muscles.

D D. The *Corpora Caverosa Penis*.

E E . . . The two distinct *Bulbs* of the *Cavernous Body* of the *Urethra*, inclosed with their particular Muscles.

F F G. Parts of the Muscles express'd on the fore part of the *Penis* in the preceding figure.

H H. The other pair of Muscles springing from the *Rectum*, and inserted to the sides of the *Corpora Caverosa Penis*.

I K L. The *Urethra* covered with the *Prostata* K L K.

M N. The two Mucous Bags on each side.

O. The Bladder of Urine.

P. The *Musculus Cremaster*.

Q. The *Tunica Vaginalis* open'd.

R. *Vasa Præparantia* cut from the great Trunks.

SS. The *Vas Deferens* on each side.

W X Y Z. The left Testicle, as in the preceding figure, with the opposite side here towards you.

e e Parts of the Ureters.

* * A Probe inserted into part of the *Urethra*.

K k k k k k k k

Fig. 4.

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Fig. 4.

The fore part of the *Penis*, as it appears when its *Corpora Cavernosa* are fill'd with Mercury and dry'd; figur'd as big as the Life.

A B. Its forked *Glans*.

C C The two distinct apertures that appear in this Distention or Erection of its *Corpora Cavernosa*.

D The middle part of the Orifice of the *Urethra*, which is occluded on the Intumescence or Erection of the *Penis*.

E The two Veins of the *Glans*, which are compr'est by the two *Sphincter Muscles* of the *Male* and *Female* in Coition.

F. The Bulbs of one of the Cavernous Bodies of the *Penis* distended.

G. One of the Bulbs of the Cavernous Body of the *Urethra* also distended.

These *Bulbi* were open'd on the other side, Ψ to fill the Cavernous Bodies with Quick-silver, but are all express'd as they ought to appear on both sides in the following Figure.

H. The *Urethra*.

I. The Muscles dryed, express'd Fig. 2 and 3. F F f f G.

K k: The Veins tyed up to keep in the Mercury, as they pass the Muscles of the *Bulbi*.

Fig. 5.

The back part of the *Penis* express'd in the preceding Fig.

A B. Its forked *Glans*.

E E. Parts of the Veins arising from the *Glans*.

F F. The Bulbs of the Cavernous Bodies of the *Penis*.

G G. The two Bulbs the Cavernous Body of the *Urethra*.

H. The *Urethra*.

K K k k. The Veins tyed up, as they pass out of the *Bulbi* to keep in the Mercury.

IV. *Tracta-*

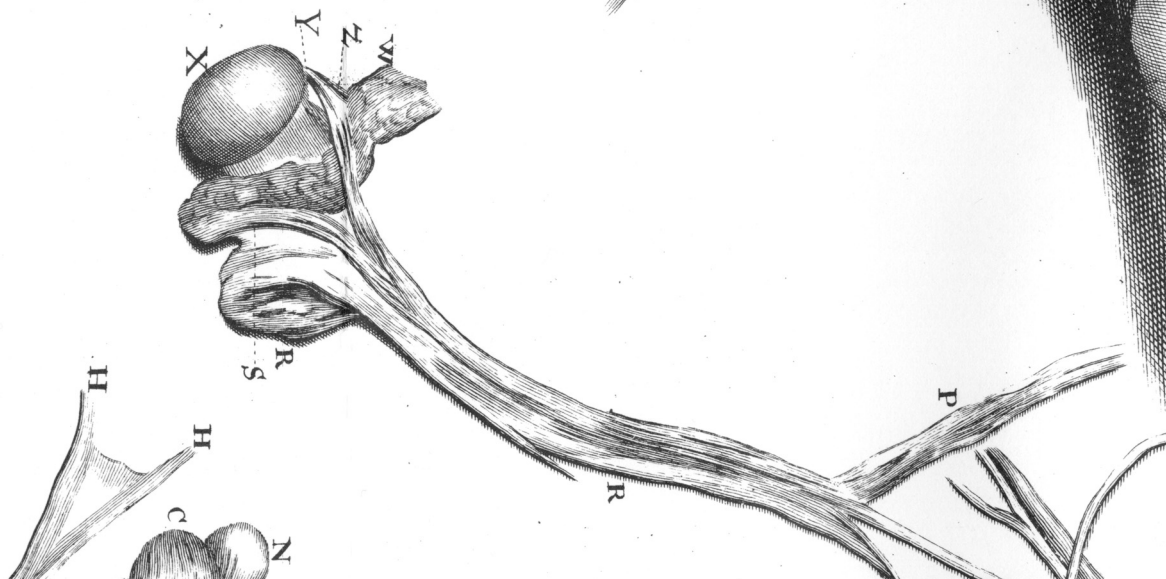


Fig. I.



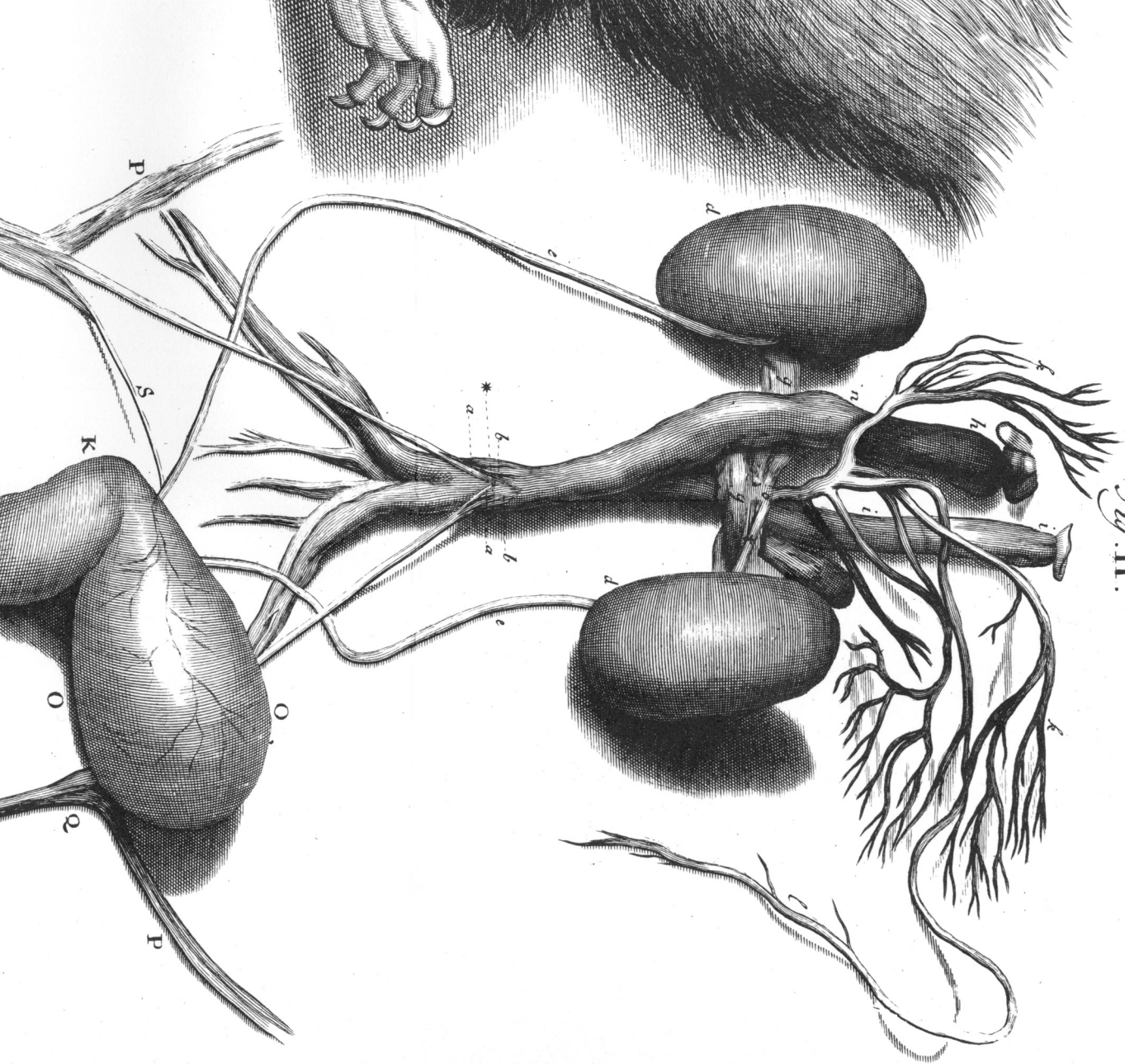
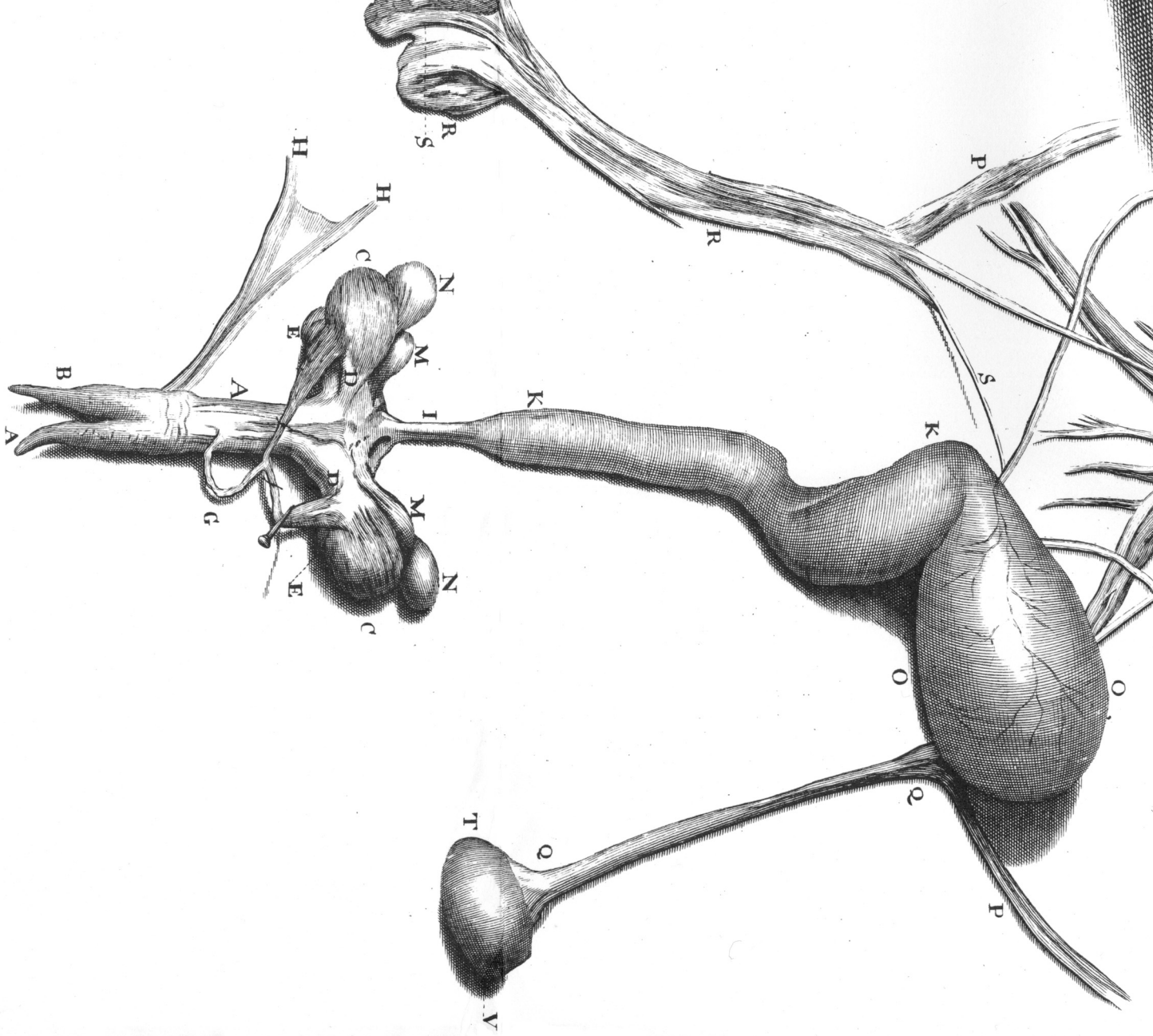
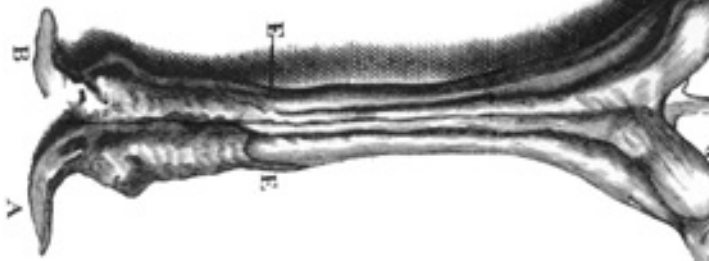
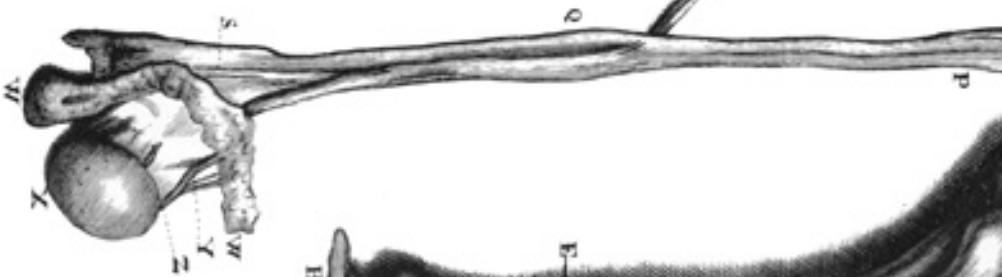
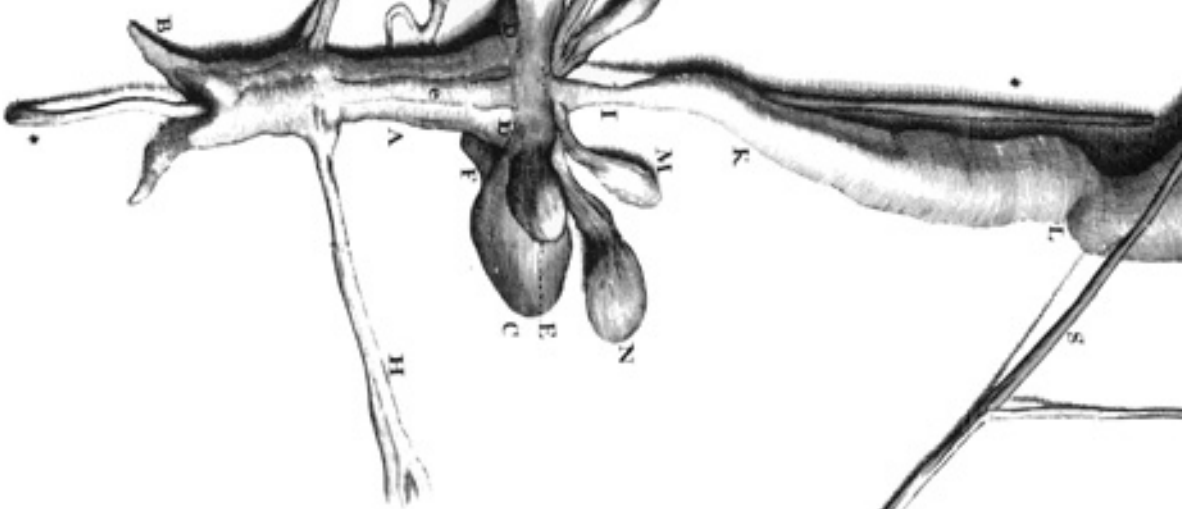


Fig. II.





III.

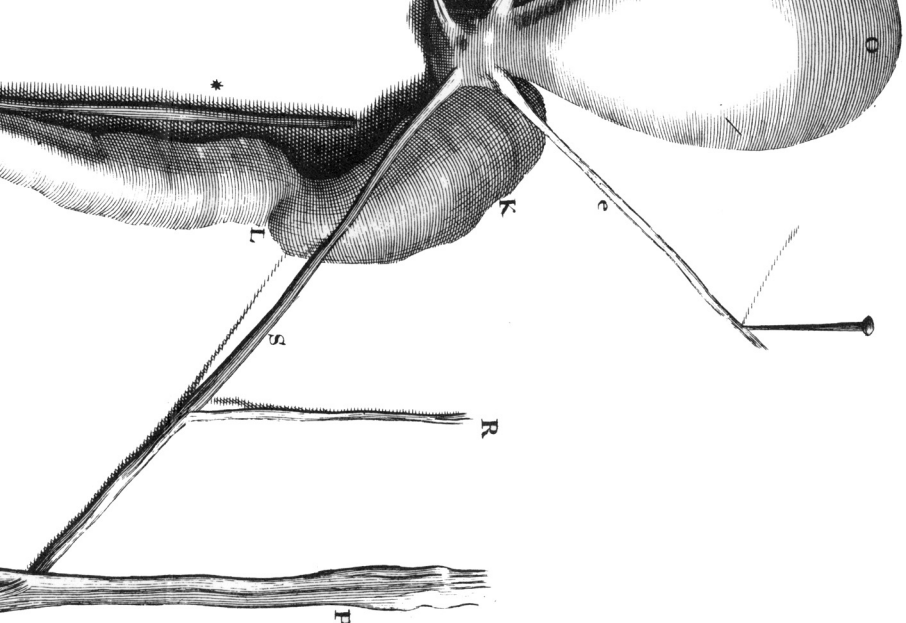
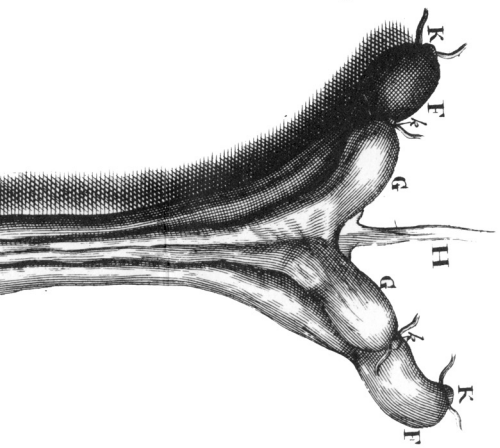
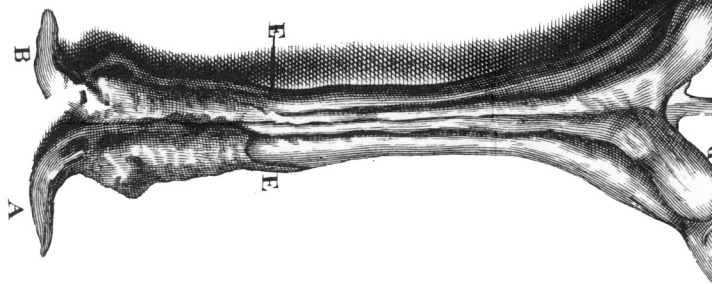
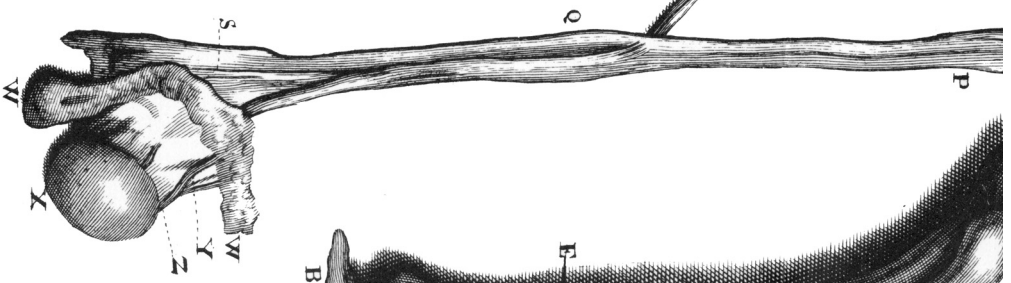
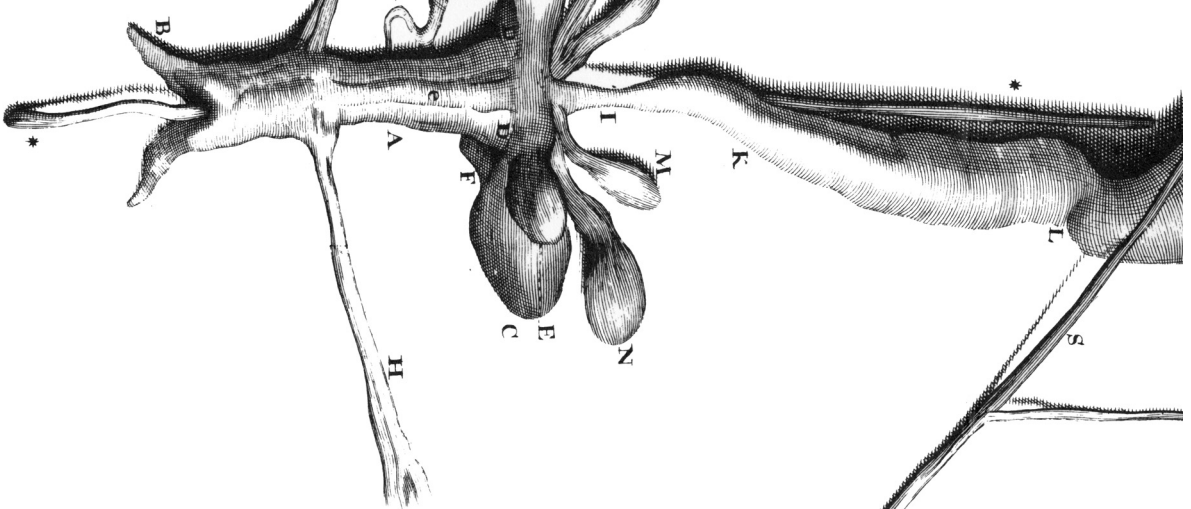


Fig. V.





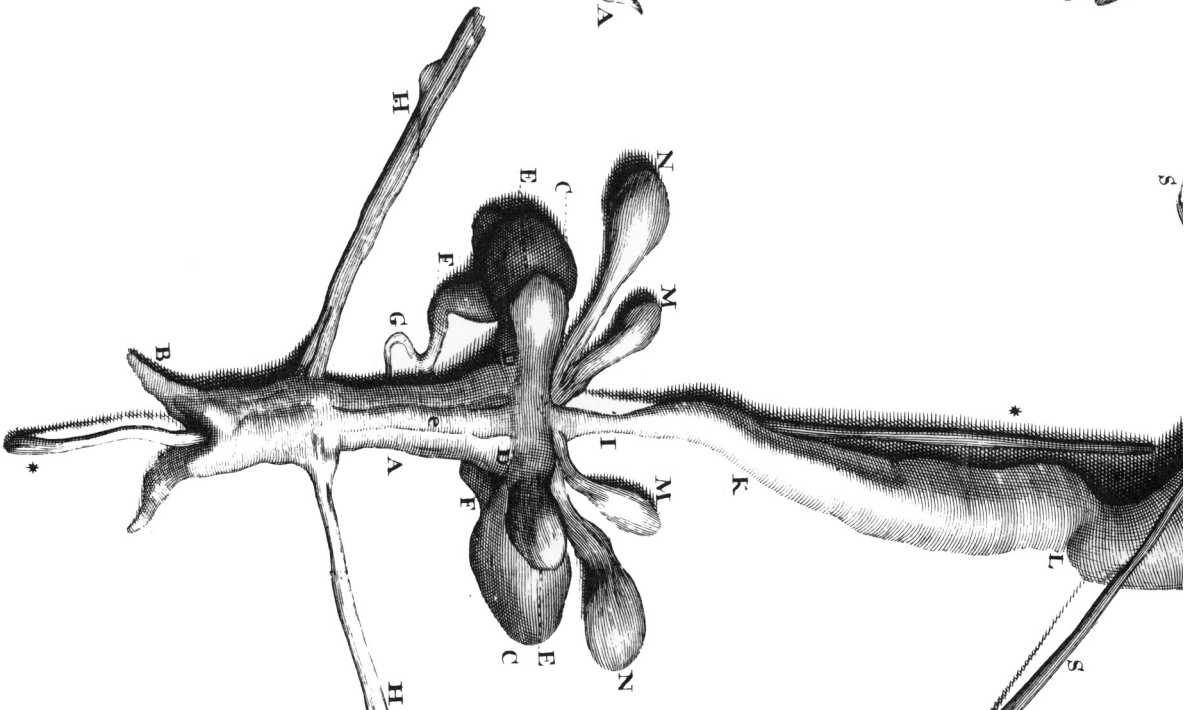
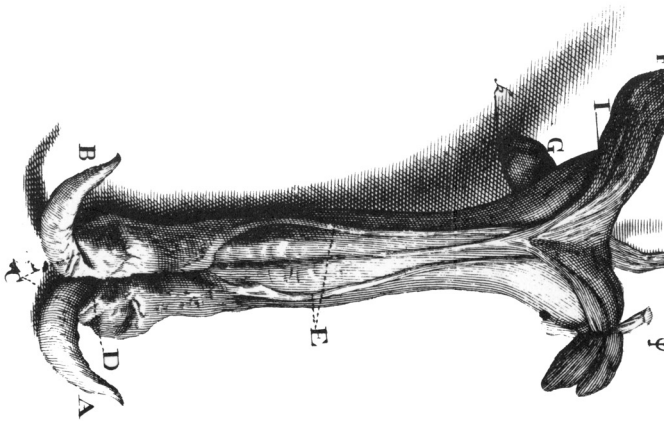


Fig. I.



Fig. II.

