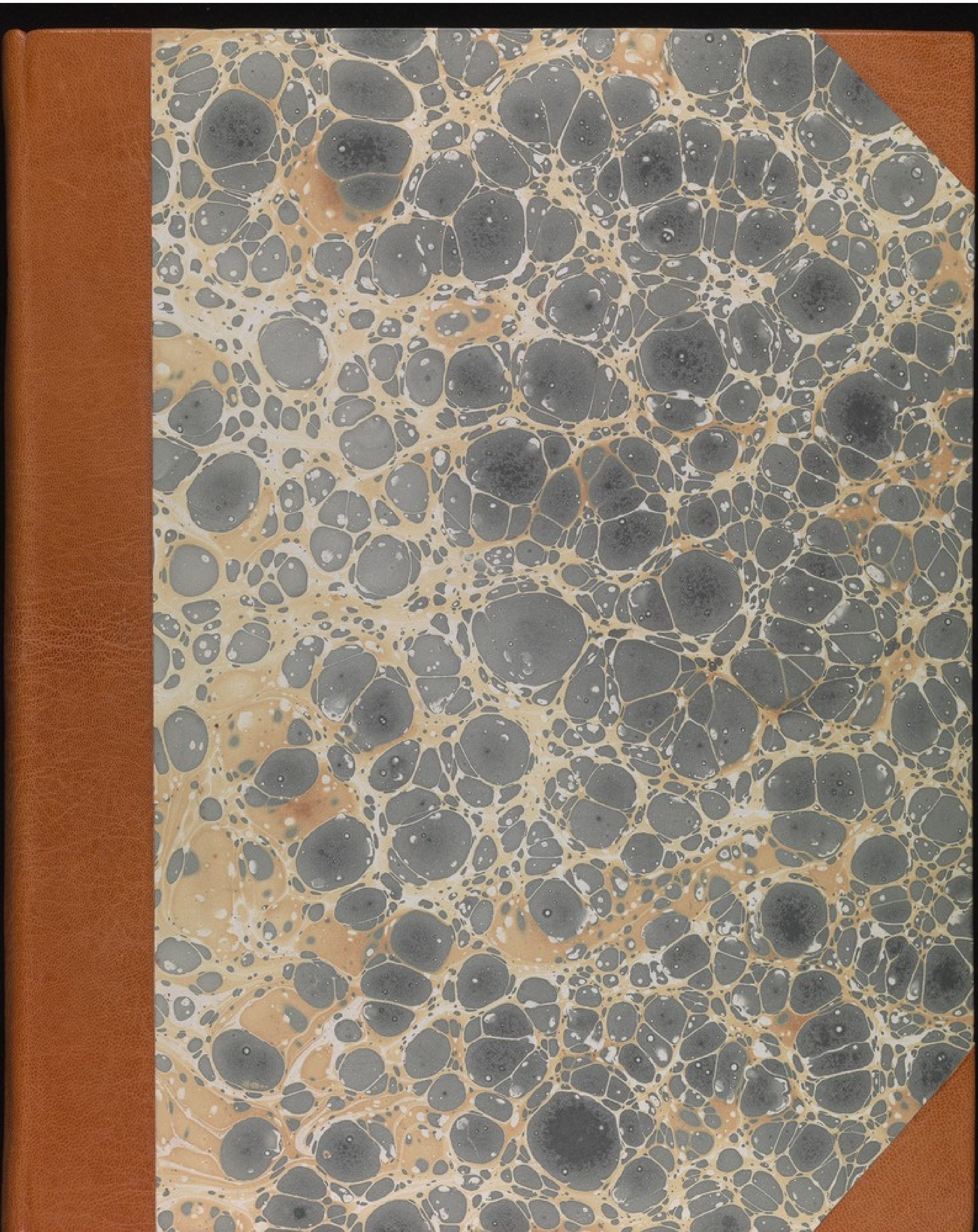
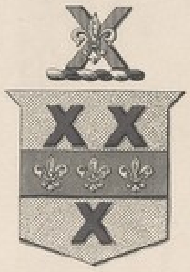
Bell, Sir Charles (1774-1842)





E. BARCLAY-SMITH, M.D.

THE

ANATOMY OF THE BRAIN

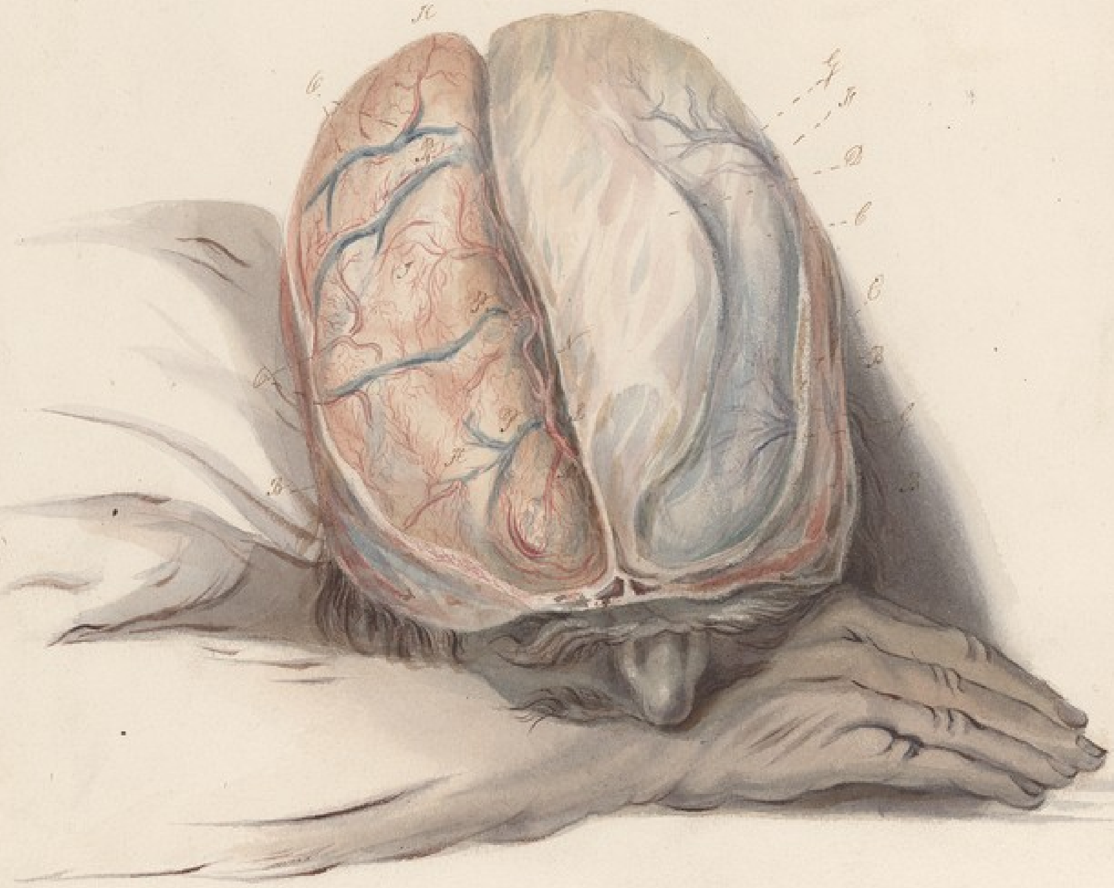
EXPLAINED IN A

Series of Plates.

BY CHARLES BELL,
Fellow of the Royal College of Surgeons, Edinburgh.

1823.

Plate 1st



Explanation
of
Plate 1st

From this Plate much of the general Anatomy and subdivisions of the Brain may be learnt. It represents the scull-cap taken off. On the left side, the Dura Mater investing the Brain; while the right hemisphere of the Cerebrum, is seen covered only by the vascular Pia Mater. The hemispheres, which are naturally divided by the Falx, are here separated a little, so as to enable us to look down upon the Corpus Callosum, and see the branches of the Anterior Artery of the Cerebrum, and the artery of the Corpus Callosum.

A. The cut edge of the bone and the Frontal Sinuses.

B The Integuments of the head hanging down.

C The outer surface of the Dura Mater, which adhered by membraneous filaments and communication of vessels to the bone, investing, supporting, and protecting the Brain and guarding against the ready communication of disease to the more delicate Pia Mater.

D The inner surface of the Dura Mater, which covered the right hemisphere of the Cerebrum, cut in the direction of the edge of the scull, and folded over upon the left side

E The anterior branch of the Meningeal Artery.*

---

* We see the trunk of this artery arising from the Internal Maxillary artery.— Engravings of the Arteries, Plate 4th fig 1st 16, and fig 2. 5 and in Plate 12th. It It is called the middle artery of the Dura Mater, or the spinous artery. It rises above the line of the usual section of the cranium in one, two, three or four considerable branches, but frequently with one greater anterior branch and a less considerable posterior one. Besides the spinous or great artery of the Dura Mater, other arteries are sent to this membrane, anteriorly from the Opthalmic or Lacrymal arteries, posteriorly from the Vertebral and Occipital arteries. Haller, Winslow, Dicy. d'Hyg, Ruysch, Thes. Anatom 5 Tab 2.—

F The Posterior Branch of the Meningeal Artery.

G.G The Meningeal veins,• These run on both sides of the branches of the Arteries and parallel with them in all their extent, and in general upon tearing up the Cranium, they mark sufficiently from their plenitude the state of the Brain frequently deluging the whole surface of the Dura Mater with their blood.

H.I.K. The Right Hemisphere of the Cerebrum, which is again subdivided into H, the Anterior Lobe of the Cerebrum, I the Middle Lobe, K The Posterior Lobe, which divisions seem arbitrary in this view of the Brain; but upon turning the base of the Encephalon up, as in Plate 11th we then see the meaning of these divisions. Haller, however, rather chooses to say, the frontal, the parietal, and occipital regions. We observe also here the convolutions of the Brain, into the interstices of which the Pia Mater dips to supply the deeper parts, as will be seen more particularly in the next plate

L The Corpus Callosum✱ which from its deep situation is seen here but indistinctly.

M The Anterior Artery of the Cerebrum⁘ It is seen to give off the Arteria Corporis Callosi while the continued trunk, lying on the flat surface of the hemisphere, and hanging over the Artery of the Corpus Callosum, sends its branches arching over the acute margin of the hemisphere and is beatifully distributed in the Pia Mater.

• Meningeal veins. These are the branches of the Meningea Media seu Spinosa, "qua per foramen spinosum ossis sphenoidalis migrat, et conjunguntur cum plexu pterigoideo venoso." Walter de Apoplex. These like the arteries of the Dura Mater, belong properly to the bone, the membrane having little vascularity, and though they ramify largely on the Dura Mater, the extremities perforate the bone. "Reliqui rami, quos "figura monstrat, sunt venæ Duræ Matris, quæ partim sanguinem "ex sinu falciformi hauriunt, partim sanguinem ex ossibus cranii revehunt; denique sunt venæ bibulæ seu resorbentes Duræ Matris. J. G. Walter.

✱ Corpus Callosum, or Commissura magna Cerebri. It will be understood, by turning to the next plate, where it is seen to be the internal medullar centre of communication betwixt the two hemispheres. It is called commissure, as those cords which are seen in the cavities of the Brain to extend across the centre. It is called Corpus Callosum by the older writers; but by Vieussens, Fornix vera.

⁘ See Anatomy of the Heart and Arteries, Vol. 2nd p. 309, and Engravings of the Arteries, Plate 8th, 9, and Plate 12th of the present Work.

N The Artery of the Corpus Callosum.*

O.O. Branches of the middle and posterior Arteries of the Cerebrum, which lie betwixt the convolutions of the Cerebrum; but which, when they emerge upon the surface, do not lie in the interstices of the convolutions. This we shall the less wonder at, when we recollect that these convolutions cannot, while retained within the skull, have that convexity which their elasticity enables them to assume when the cranium is opened.

P. Some of the larger veins, which, gathering the blood from the extremities of these arteries, go to empty themselves into the great longitudinal Sinus. The smooth internal surface of the Dura Mater lies in contact with the Tunica Arachnoides,• but without adhesion to it, except at the point where those veins enter the sinus. There the connection is strengthened by an adhesion of the Pia Mater to the Dura Mater. This adhesion is of a peculiar kind by means of little bodies like the cotilidons of the uterine system of animals.∴

The course of the Great longitudinal sinus will be well understood by turning to Plate 10th of this Fasciculus.

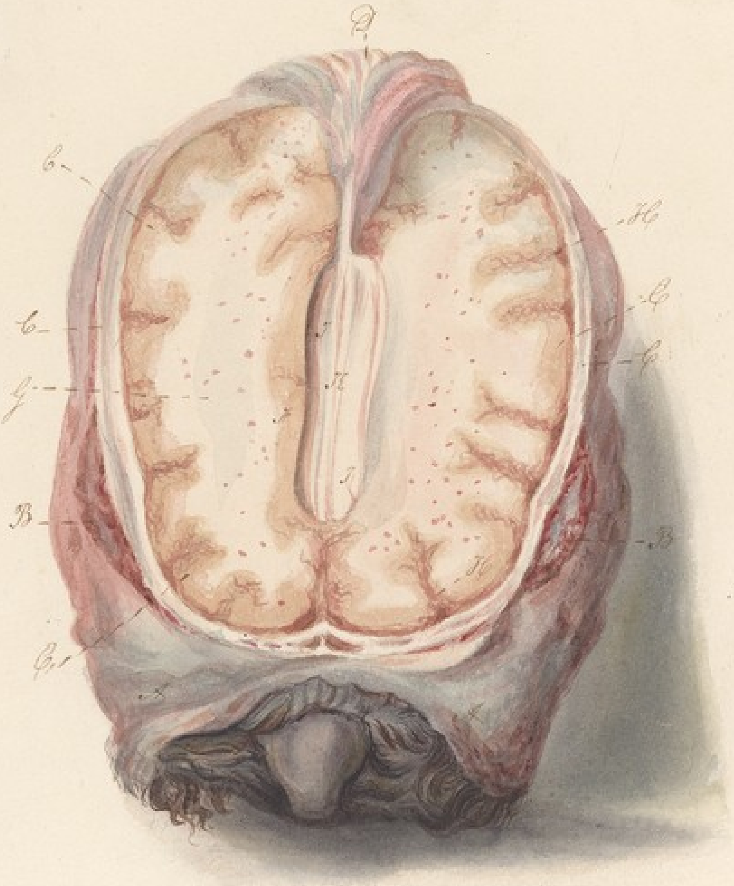
---

* There is considerable variety in the relative sizes of these branches of the anterior artery of the Cerebrum. Sometimes the artery of the Corpus Callosum is the larger, and when the Falx, in a regular demonstration of the Brain, is lifted, and the hemispheres are held separate, there cannot be a more beautiful view than this of the distribution of those Arteries of the Corpus Callosum of both sides lying parallel to each other, and upon the commissure and mingling their branches, while the continued trunk hangs over them.

• The Tunica Arachnoides, transparent, and having little vascularity, invests the Pia Mater, and does not pass down betwixt the convolutions of the Brain; but covers the general surface. It is more easily separated from the Pia Mater in the base of the Brain "quæ superiorem cerebri partem involvit rarissima si ulla disseminari vasa sanguinea". See Ruysch Epistola. Tab 10th.

∴ "Asperitas Falcis, per quam annecti solet lateribus tenuis membranæ". (Spigel. tab 3d Cerebri decimi).

Plate 2nd



Explanation
of
Plate 2nd

In this Plate the hemispheres of the Cerebrum are so cut as to shew the Corpus Callosum, the distinction of medullary and cineritious substances, the manner in which the Pia Mater descends betwixt the convolutions of the Brain, and the Centrum Ovale. To do this, we have endeavoured to divest the Brain entirely of the Dura Mater, first, by cutting the Dura Mater round the margin of the bone, and then by separating the hemispheres a little, and freeing the Falx from its adhesions to the Crista Gali of the æthmoid bone, and folding it backwards, it being still left attached to the Tentorium. Then the level of the Corpus Callosum being observed, the incision is to be made horizontally, and nearly on the same plane.

A The integuments of the head laid down over the ears and face.
B The Temporal Muscle
C The Circle of the Cranium.
D The Dura Mater, which invested the Cerebrum and formed the Falx, or partition betwixt the hemispheres thrown back.
EEF. The Cineritious Substance, which is seen like a stained part of the Brain, as if penetrating, a little way, and following the infractuosities of the surfac

G The Medullary Part of the Brain. Upon this right side the knife was not carried so deep, nor upon the level of the Corpus Callosum. The consequence of this is, that the central medullary part is completely surrounded with the cortical or cineritious substance, and therefore it forms a distinct centre of medullary substance, which makes Vicq. d'Azyr call it "Centre ovale latéral, ou petit centre ovale."

But it will be observed, that on the other side, there being a deeper section made, there remains no cineritious matter on the inner margin of the hemisphere; so that if the right hemisphere should be cut to the same level, the Corpus Callosum would be the centre of a uniform mass of white medullary matter, viz. The Centrum Ovale Vieussenii.

HH The Pia Mater passing into the interstices of the convolutions of the Brain, to support and nourish it's substance.

II The Corpus Callosum*, or Commissura Magna Cerebri. This is the white body which we see upon separating the hemispheres and looking down into the centre of the Brain. It forms a medullary arch, covering the two lateral ventricles nearly in the same way that the Fornix lies over the third ventricle, or rather, perhaps we should say, in the manner in which it is said to lie. It is firm, and we may observe the appearance of transverse lines passing from the one hemisphere to the other.

K The Longitudinal Medullary Lines• of the Corpus Callosum, and betwixt these is the Rapha or furrow⁘

---

* "A doctiss. Veslingio (Syntag. Anatom.) Corpus Callosum dicitur quod in sequentibus vero fornicis nomine donabimus." (Vieussens).

• "Petits Cordons." (Winslow) "Filets ou tractus medullaires longitudinaux du corps calleux." Vicq d'Azyr.—

⁘ Haller, Gunz &c.

We observe, in this and the succeeding Plate, little spots of extravasation in the medullary matter from the cut vessels. Haller says, "Anatomici credunt hoc esse "guttas sanguinis a finibus venarum et arteriarum transcissarum manantes, "Attamen me multa eaque feliciter instituta experimenta convicerunt hoc minime "esse arterias, sed tantum venas, ex quibus substantia medullari transcissa sanguis fluit." These vessels, in congestion of the Brain becoming more numerous and being filled with a dark-coloured blood, give a dark or brownish colour to the medullary substance.—

Plate 3^{d}

Explanation
of
Plate 3^d

We have in this Plate a very extensive view of the Ventricles, or cavities of the Brain, but to follow the appearances of the parts, as they present themselves to us during dissection, we must attend, in the first place, to the left side of the Brain. For here the Corpus Callosum is cut away, and a horizontal incision is made of the central medullary part of the Cerebrum so as to lay open the lateral Ventricles. While upon the right side it is considerably more cut away, to expose the whole extent of the lateral Ventricle.

Parts seen upon first laying open the Lateral Ventricle.

A. The Corpus Striatum[*] of the left side, which forms a convex floor to this part of the highest level of the lateral Ventricle. It has, like the surface of the Brain, cineritious matter without, while the section of it shows medullary striæ.

B. The Choroid Plexus,[•] leading anteriorly to the communication of the Ventricles under the Fornix, while it will be seen sinking backwards into the great inferior horn of the Ventricle.

[*] Corpus Striatum.—Processus Lentiformis.—Corpus Cannelé, Lieutaud.

[•] "Le Plexus Choroïde se retrecit, et se plonge sous ces veines, "dans la partie la plus elevée du troisieme ventricule." Mem. l'Acad. Roy. 1781. Vicq d'Azyr.—

C. The margin of the posterior Crura of the Fornix

D The Tenia Semicircularis[*] or Tenia Striata. It will be observed to be covered anteriorly by a layer of a transparent cineritious coloured substance, viz lame cornée.

E The Anterior Sinus[✱] of the lateral Ventricle, being formed by the termination forwards of the Corpus Striatum.

Upon completing the section backwards we find these parts.

F The Posterior Sinus[⁘] of the lateral Ventricle[+], which is a triangular cavity, stretching in a curved direction into the posterior lobe of the Cerebrum. This part of the Ventricle varies much in different bodies, and even sometimes the right and left sides of the same subject differ in figure and direction.

G The Cornu Ammonis, or Hippocampus major[†] in which

---

[*] Tenia semicircularis, limbus posterior, corporis striati Willisii.—Geminum centrum semicirculare Vieussenii.—Frenula nova of Tarin, and (in his Historia Cavitatum Cerebri) "Frenula nova membranæ corneæ oculi ad instar, pellucida, a parte anteriori thalamorum opticorum, juxta prædictum angulum, ad posteriora, infra thalamos opticos, usque ad partem anteriorem tum sinuum anteriorum Ventriculorum Cerebri sese extendentia." Tab. 1st fig. 1st. See also Haller, fascic 7th plate 2nd and note f and tab. 3. Again "Elle est evidemment fibreuse, les filets qui la composent sont surtout remarqués dans son origine et dans sa termination." Vicq d'Azyr p. 5. Therefore he is inclined to call it "bandelette fibreuse du corps strié, tænia fibrosa corporis striati sive tænia striata."—

[✱] The anterior horn "Prolongement anterieur".

[⁘] "Cavité Digitale" Vaunhorn and Bartholin.—"Posterior sinus," Tarin. Speaking of this Haller says "Quod ego incerta longitudine breve, et iterum ad duas uncias longum reperii, tubere repletum, quod ita videtur a pede hippocampi oriri, ut tamen fossa quadam ab eo pede separatur. Solet autem hoc tuber ovale esse, utcunque tamen unica fine introrsum flecti." Fascic 7th tab 2nd. "La division en forme d'ancre de la partie posterieure du ventricule" (Lieutaud) This the anchyroide of Morand, is not the posterior sinus: "Il occupe une petite espace entre l'enfoncement digital et le bord convexe de l'hippocampus." (M. Morand.)

[+] The lateral or superior Ventricle. "Ventriculi tricornes." "Ventriculi anteriores" The lateral or great Ventricle by Steno, because indeed the third and fourth are mere chinks compared with the extent of these.—

[†] "Inequali et flexuosa figura prædita est, quæ hippocampi, et marini cauli effigiem refert, at potius Bombicini Vermis formam indicat." (Arantius) "Corne de Belier" Winslow, Morand, Vicq d'Azyr; But unlike the horn, it is larger at the extremity. There may be an obscurity in this name from some of the older writers using the term to describe the deep anfractuosity of the Ventricle itself, in which the hippocampus lies, "Cornu in modum arietata," "Cornu modo anguis otata" (Vesalius, Bauhin, &c.)—

relief or convexity the posterior horn of the Ventricle is seen to terminate, while it is, at the same time, continuous with the next eminence.

H.H. The Colliculus, or l'Ergot, or Hippocampus minor,* which is a convexity or elevation in the floor of this prolonged part of the Ventricle, resembling that which descends into the great inferior, but which is sometimes called the posterior horn of the Ventricle. Its surface consists of white medullary matter; but when the knife penetrates this cortex it is seen to have cineritious matter within.–

I.K.G. The Fornix or Vault of Three Pillars.• It has this name, not from its relation to the lateral Ventricles, but from the manner in which it covers the third Ventricle. Posteriorly at G.K we see it joining with the back part of the Corpus Callosum and expanding in what are called its posterior crura, into a broad lamina of medullary matter, which connects them with the eminences G.H.–

L The sinus, or Cavity of the Septum Lucidum⁘ The remains of the Septum Lucidum are seen to form a ridge upon the middle part of the Fornix, for it is a partition which reaches down from the Corpus Callosum to the Fornix upon which it seems

---

* "On peut donc regarder, comme une petit hippocampe, et la designer sous "le nom d'Hippocampus minor, par opposition avec l'Hippocampus major "qui est la Corne d'Ammon. Cette nomenclature m'a paru plus convenable que celle d'unguis, de colliculus, &c." Vicq d'Azyr.

• "Corpus instar fornicis seu testudinis." Vesalius. "Fornix non tam triangulum quam decorum cornuum formam, aut (ut rectius comparaverit) Y litteram pythagoricam referens." Spigelius. "Triangle medullaire, Voûte "a trois piliers." Vicq d'Azyr. In old authors, "Psaloides, Coquille." "Corpus "camaratum." Tarin.

⁘ Septum Lucidum. Speculum lucidum. Tarin. Diaphragma (Galen has used this term in speaking of the Velum interpositum) – "Pro dextri et sinistri ventriculorum septum eadem cum cerebro constat substantia, "sed in medio quod ad superiora et inferiora attinet, adeo est tenue, ut quum "clara luce dissectionem administramus et in altero tantum latere "candelam admovemus splendor ipsius tanquam per vitrum aut "specularem lapidem pellucent." Vesalius. "On l'appelle ainsi quoiqu'elle soit presque entierement opaque." Vicq d'Azyr.–

to rest and thus divides the two lateral Cavities or Ventricles. It consists of a double medullary lamina•, and the space betwixt these is called the cavity of the septum lucidum in general containing a serous fluid. From the varying descriptions of authors it must have great diversity in size. Vieussens and Winslow describe it as communicating with the third Ventricle. Tarin says, that it sometimes opens into the lateral Ventricle.

M The Thalamus Nervi Optici of the right side.–

N The Choroid Plexus of the right side dissected up from its natural seat, and part of it cut away. Its further progress downwards into the great inferior horn of the Ventricles lies within the circle of the Cornu Ammonis, and where it receives the Lower and Anterior Choroid Arteries.–*

O The Inferior Horn⁘ of the Lateral Ventricle, which is to be seen only by cutting the middle lobe of the Cerebrum obliquely; for this part of the ventricle lies very deep, and almost under the anterior Sinus C.

P The termination of the Cornu Ammonis, which is the relief continued down upon the bottom of the great inferior horn as we see the eminence H. continued into the processus Digitalis, or posterior Sinus.†

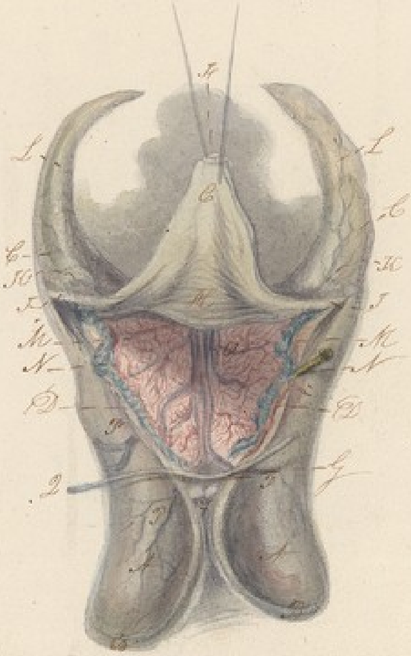
• Dont chacune est formée de deux membranes tres minces, l'une d'une extreme tenuité medullaire et interne l'autre cendrée et externe. Vicq d'Azyr
The cavity of the septum was first observed by Sylvius de le Boë.

* The arteries sent to this inferior part of the Choroid Plexus are derived sometimes from the trunk of the Carotid artery, after having given off the branch of communication with the Basilar Artery or from the middle artery of the Cerebrum that which Vicq d'Azyr calls Artere Sylvienne, because it lies in the Fossa Silvii.—

⁘ Ventriculi Hippocampi, or Bombicini, by Arantius. This part of the lateral Ventricle being described by several authors as a separate Ventricle.–

† The divisions and anfractuosities of the great or lateral Ventricles being discovered and described in succession by different authors, the names which at one time had a reference to the supposed shape or situation are apt now to mislead us. The inferior horn is in some books called the posterior horn.–

Plate 4th



Explanation of Plate 4th

In this Plate the parts are nearly of their natural size. It is an enlarged view of what is seen in the third Plate within the lateral Ventricles, while the Fornix is here lifted up, showing the attachment of the Choroid Plexus, and the Velum Interpositum of Haller.–
When we have the parts in the situation represented in the last Plate, we shall, by following the Choroid Plexus, B forward to where it leads under the anterior pillar of the Fornix, find the communication of the Ventricles. If we direct our probe horizontally, and under the anterior pillar of the Fornix, we find it has an easy passage into the lateral Ventricle of the other side; if downwards we find it descending into the third Ventricle. When we have passed the probe betwixt the two lateral Ventricles, if we lift up the anterior pillars of the Fornix, as in this Plate, we find the probe lying in the anterior part of the third Ventricle, as described by some authors, but more properly in the Foramen Commune Anterius.*

A The Corpora Striata.
B B The Anterior Sinus, or horn of the lateral Ventricle.
C C The Posterior Horn, or Processus Digitalis.
D D The Tenia Striata or Centrum Semicirculare Geminum
of Vieussens.–
E The Fornix, cut from the anterior Crura, separated from the Velum
Interpositum, and held up.
F F The Anterior Crura of the Fornix connected with,
G The Commissura Cerebri Anterior.*

* See after Plate 10th Observations on the Communications of the Ventricles.

* The Commissura nova omnia Vieussens tab 8th 6th "Corda" Willisii, Santorini. The Commissures of the Brain are four, chiefly. The Corpus Callosum or Commissura magna: this the Commissura Anterior, situated under the Anterior Crura of the Fornix; the Commissura Posterior towards the back part of the third Ventricle, and above the iter ad quartum ventriculum; and lastly, the Commissura mollis, or union between the Thalami Nervorum Opticorum.–

HH The Lyra*, that is simply the inferior surface of the Fornix, which in the natural situation of the parts lies upon the Velum Interpositum.

II The Corpora Fimbriata, which is the edge of the Medullary Lamina, and which is extended from the Posterior pillars, or crura of the Fornix, and continued along the circle of the Cornua Ammonis on each side. This is called also the Tænia Hippocampi.

KK The beginning of the Cornua Ammonis, or Hippocampi✱

LL The Colliculus or Hippocampus minor.

M.M. The Velum Interpositum, or Toile Choroidienne⁘ which is a process of the Pia Mater, expanded betwixt the Fornix and third Ventricle, and which lies upon, and is attached to the Thalami Nervorum Opticorum.

* Lyra Corpus Psalloides." There may be confusion from this appellation says Vicq d'Azyr, because the older writers used the term Psalloides for the whole Fornix. These lines on the inferior surface of the Fornix are not as Winslow imagines, the impression of the vessels of the Velum Interpositum, they do not answer to the form of the vessels – they are regular, and resemble the transverse lines of the Corpus Callosum. There is considerable variety in their course.

✱ The posterior Crura of the Fornix, as they go backwards, are called Hippocampi and Bombyces, by Arantius, from whence I know, say Ridley he had "chiefly observed this part in brutes." Hippocampos appell- intervetorum Cornu Ammonis, Auctis, Haasius, p. 18. One might say with Ridley, "the part of "the Crura Fornicis which growing somewhat thicker as it turns off towards the Lateral "Ventricles, runs over the Crura Medullæ Oblongatæ, which being very prominent in "sheep and calves, helps to thrust it up into such protuberances as the ancients "called Bombyces, or Hippocampi." Monro, however, says rightly, "that the Hip-"pocampi are continued from the posterior part of the Corpus Callosum and the "Tænia Hippocampi are properly the extremities of the Posterior Crura Fornicis."

⁘ Toile Musculaire Reseau Choroidien." Tela Choroidea, and this, as well as the Septum Lucidum, has been called Diaphragma – improperly Rete Mirabile by Riolanus and some others – the Rete Mirabile being the minute divisions of the Carotid Artery in some animals as it enters the Brain.

N.N. The Choroid Plexus,‡ the connection of which with the Velum is now understood. The Choroid Plexus seems, upon the first view, before the fornix is lifted, to be a congeries of vessels unconnected with the floor of the ventricle, but upon unravelling and spreading‡ with a probe, it is found to be a membrane, and to be continuous with the Pia Mater, lining the floor of the ventricle, and is, in fact, merely the Vascular Pia Mater gathered together into folds. And, upon raising the Fornix, we find it connected with the Velum Interpositum as with a mesentery.

O.P.P. Branches of the Vena Magna Galeni,* which being distributed to the Corpora Striata, and paries of the ventricle, pass under the Tenia Striata, and run into the Velum Interpositum, under the Fornix.

2. A piece of cord waxed, so as to give something of the stiffness of a probe. It is introduced into the communication betwixt the Ventricles, and upon lifting the Fornix is seen lying in the upper and fore part of the third ventricle or rather the Foramen Commune Anterius⁘

‡ "Ces deux plexus sont minces et formés d'une grand nombre de petits "nœuds vasculaires ils aboutissent aux vaisseaux placés dans le sinus "quatrième." Vicq d'Azyr Acad Roy 1782. "The Plexus Choroides is an aggregate body "made up of arteries, veins, membrane, glands." Ridley. On the other hand "Portio "Plexus Choroidei qui nil nisi Arteriolis Succosa, mirum in modum contortis ser"pentinoque modo reptantes, glandulasque (quibus destituitur dictus plexus) "representantes. Ruysch.

* 'Tis placed upon the trunk of those veins, yet Haller says well, "Recte non "venam solam sed ejus divisionem vidit vir cel: magnamque venam "dixit" Hal. fasc. 7th Tab 2nd. They are distinguished into right and left trunks and do not unite until they are about to enter the fourth sinus.

⁘ See the observations on the Communication of the ventricles after Plate 10th ..

Plate 5th

Explanation
of
Plate 5th

In this Plate the Brain alone is represented. It shows the Choroid Plexus and Velum interpositum of Haller raised, the Fornix being taken away, and the Corpora Striata, the Centrum Semicirculare Geminum, the Thalami Nervorum Opticorum, and the Pineal Gland.

A. The Corpus Striatum.* The Brain being now cut so far down as to show the the intermingling of the cineritious and medullary matter.-

B B The Thalami Nervorum Opticorum,* which were almost entirely covered by the Fornix and Choroid Plexus.-

C. The Tenia Semicircularis or Tenia Striata See Note 13th.-

* In making a superficial horizontal section of these eminences, we find the cineritious matter mixed with spots or points of medullary substance, because we cut directly across the direction of the strie of medullary matter, we must incline the knife downwards, and outwards, to show the intermixture of the strie of medullary matter, and understand the meaning of the term. See a labored description of these several sections in a paper Mem. de l'Acad. Roy. by Vicq d'Azyr.*

* Thalami Juga Cerebri Medullæ Oblongatæ. The description of the situation of the Thalami, their union, and their relation to the third Ventricle is left very intricate by authors. We see that though the Fornix be lifted we are not in the third Ventricle, for the Velum is interposed. Upon lifting the Velum we are not in the third Ventricle because the Commissura Mollis intervenes but we only see those foramina called Vulva (Columns) and Anus the meaning of which terms we shall understand by looking upon the drawing. Some however have described the third Ventricle as consisting of the Anus and Vulva and the Rima betwixt them, the last being the space under the commissura mollis, see Ridley p 124. And again some authors speak promiscuously of the Anus, Aqueduct of Silvius, foramen posterius, et iter ad quartum Ventriculum.-

D The Commissura Mollis or union betwixt the Thalami Nervorum Opticorum, which leaves upon the fore and back part an opening into the third ventricle

E The Posterior sinus of the lateral ventricle.

F. The Hippocampus minor

G. The Cornu Ammonis or Hippocampus

H The Velum Interpositum, or Toile Choroidienne, held up by a ligature at the point of union betwixt the two plexus of the lateral ventricle, and shewing the manner in which they are continued into a delicate plexus, which runs backwards upon the lower surface of the velum, and which may be observed to split again, and involve the Pinial Gland.

I The Pinial Gland* Connected with the velum, surrounded by the branches of the veins and pulled from its seat by the lifting of the Velum. The Velum must be completely raised, and held back before the Pinial Gland can be seen in this view of the parts.

K The Foramen Commune Anterius or Vulva.✱

L The Anus.⁙

M. The Anterior Comissure of the Cerebrum. Upon separating gently the Thalami Nervorum Opticorum, we see in a fresh subject the cohesion formed by the Comissura Mollis. It is from not having observed this union that authors have described this as the third ventricle. In most of our difficulties let us return to Vieussens, and we shall find, in a few words, the simple truth. It is a rima, a gutter like cavity, under the Comissura Mollis, upon the anterior part of which, and under the Vulva, we see the beginning of the Infundibulum, and on the back part the Iter ad Quartum Ventriculum.

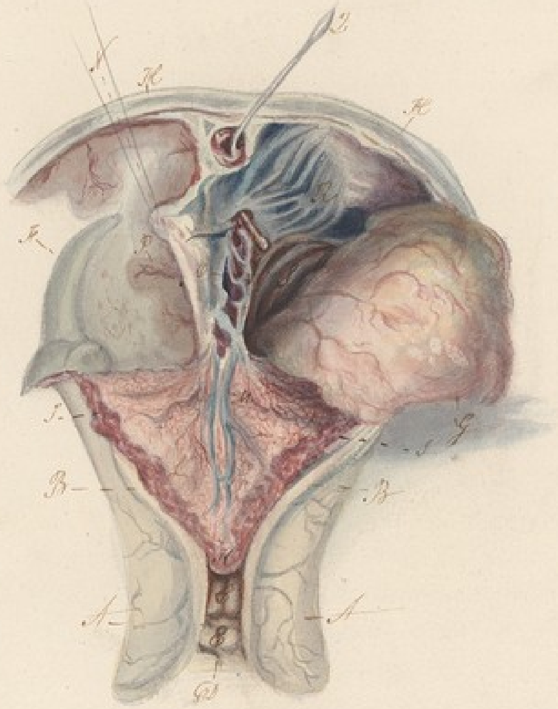
---

* "Corpus Turbinatum". "Conarium".—

✱ "Vulva seu foramen circa anticam ventriculorum anteriorum regionem juxta "a fornicis radices excavatum." Vieussens. He adds p. 64. "Subtus fornicem recon"ditum et juxta radices illius excavatum cujus interventu praedicti Anteriores "Ventriculi cum tertio communicant." "Rima ad infundibulum" Ridley.

⁙ "Anus seu foramen alterum circa posticam praedictorum ventriculorum regionem juxta nates excavatum Vieussens. But this foramen forms no communication betwixt the Ventricles, because the Velum is connected with the Thalami and spreads over it like a curtain. The Anterior one forms the communication betwixt the lateral ventricles, because the Velum and plexus do not extend so far forwards, and there the Fornix is narrow, and extends over it like an arch. Consequently when you put your probe under the anterior part of the Fornix, it passes through the Foramen Commune Anterius.—

Plate 6th



Explanation
of
Plate 6th

This Plate explains the connection of the Velum with the Pia Mater of the surface, and the manner in which the Venæ Galeni enter the fourth Sinus.*

AA The Corpora Striata.

BB Tenia Striata, or Centrum Semiculare Geminum.

C The Thalami Nervorum Opticorum being somewhat separated

D The Anterior Crura of the Fornix.

E The Comiſsura Cerebri Anterior.

F The Posterior Lobe of the Cerebrum, and Posterior Horn of the Lateral Ventricle laid open.

G The Posterior Lobe of the Cerebrum (which by the Sections demonstrating the back part of the Ventricle, is made very thin) raised from its incumbent situation upon the Tentorium, and folded forwards.—

HH The cut edge of the scull-cup.

II The Choroid Plexus of the lateral Ventricles.

K Their union under the Fornix.

---

* See those Plates, Vieuſsens, tab. 7th — Ridley, fig 5th — Haller, fasic 7th t 2nd — Duverney, tom 1st planche 5th fig 1st — Tarin, tab 1st fig 1st. Vesalius septima 7th libri figura. Spigelius, lib Xth tab 8th fig 2nd — Vicq. d'Azyr.

L The Velum Interpositum, or Vasculosum spread under the Fornix, a delicate web of membrane connecting the two plexus.—

M The Vena Galeni• entering the fourth Sinus

N That part of the Falx held up which is connected with, or rather continued into the Tentorium

O The fourth sinus,* formed in the angle between the Falx and Tentorium**

P The Fifth Sinus, or Inferior Longitudinal Sinus, running in the edge of the Falx, and uniting with the fourth Sinus.

Q The probe bent, and introduced into the termination of the great Longitudinal Sinus, where it is about to form the bifurcation into the great Lateral Sinuses, and is at the same time joined to the fourth, i.e. the union of all those, or Torcular Hierophili.

R The Great Lateral Sinus. We observe it to be bound down and strengthened by the transverse lacertí of the Dura Mater.

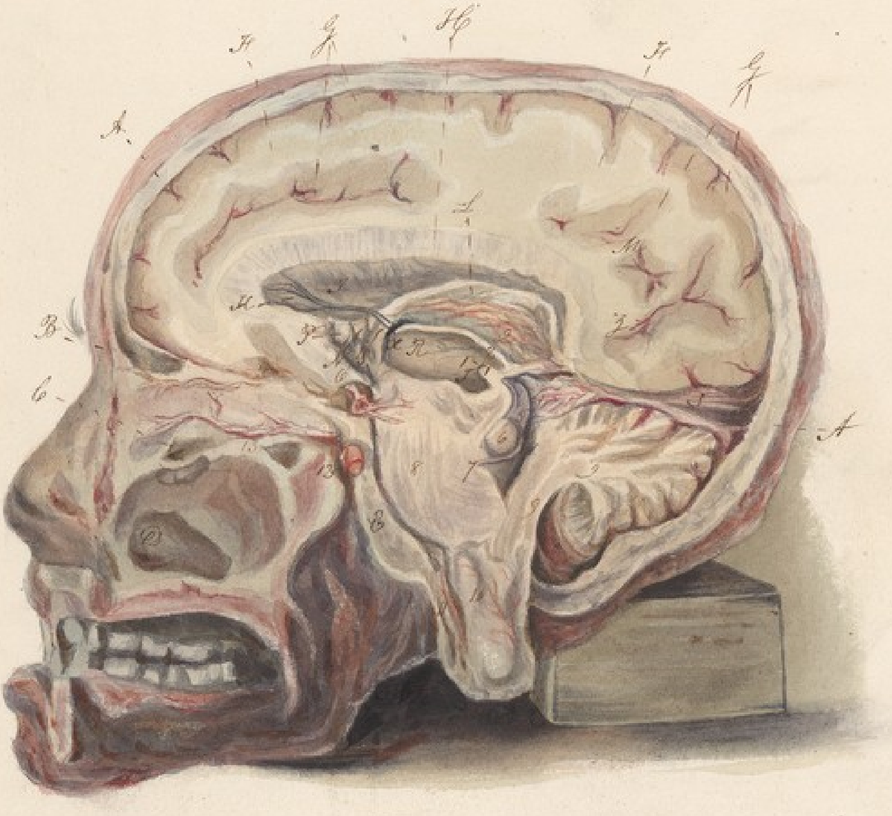
S. The Tentorium Cerebello Superextensum.—

• As was observed in a preceding note. This consists of two branches lying contiguous. Towards the furthest extremity of the Velum where it terminates under the Fornix, it sends out, or rather is joined by two veins, one running in the Plexus Choroides, and seen, at intervals, tortuous in its duplicatures, viz. Vena Choroidea, the other takes a course backwards upon the Corpora Striata, and is the Vena Corporq Striatq dext. et sinist. Besides these reflected veins, branches of the Vena Galeni stretch out from under the Tenia Striata, and are distributed as is represented in this Plate, upon the Corpora Striata, while others come from the roots of the Fornix and Hippocampus. The state of those veins is very neceſsary to be observed in morbid diſsection. In the course of those veins, Vicq d'Azyr has observed distinct and insulated little Plexus. "Sur le coté des Ventricles lateraux j'ai quelquefois observé de petit plexus Choroides isolés qui accompagnoient quelques uns de ces rameaux de veines de Galeni.

* Sinus quartus, or rectus, or internal sinus, by Ridley, from its situation as it were in the centre of the Brain. Its cavity is so traversed by Lacertæ, that it almost resembles the gall ducts.

** It opens more generally into the left Lateral Sinus.—

Plate 7th



Explanation
of
Plate 7th

This Plate represents the simple section of the Brain, and Bones of the Face, and from it much of the relation of the parts and their general connections may be understood. The Scull is cut a little to the left of the course of the longitudinal Sinus, and the incision of the Brain is continued so as to lay open the lateral Ventricles without injuring the Septum Lucidum, or Fornix; to expose the third Ventricle also, and to give a section of the Pons Varolii, and Arbor Vitæ, in short, to make a full section of the Cerebrum and Cerebellum.

A, A The Cut edge of the Cranium.
B The Frontal Sinus
C The Ethmoid Cells.
D The Antrum Highmorianum.
E The cuneiform process of the Occipital bone where it goes forward to form the Sphenoid bone.
F The internal medullary part of the Cerebrum, or, as seen in the former sections, the Centrum Ovale of Vieussens.*
G The Cineritious or Cortical Substance of the Cerebrum into which the Pia Mater, and some of the twigs of the injected arteries are seen to penetrate.
H The Corpus Callosum, sometimes called the Commissura Magna

* We again see the manner in which the cortical or cineritious matter of the Brain surrounds the internal medullary part, while in some of the internal eminences the order is reversed, or they are more blended. Upon turning to the second Plate we shall see the meaning of the terms Ovale centrum gutti sanguis interpunctum. Vieussens tab 6th. This central medullary part, when the cineritious matter alone is carefully dissected off, appears as a convex nucleus, and which at the same time covers the cavities of the Brain and in this way I have sometimes prepared the Brain for the public demonstration of the Ventricles.-

we have to observe its striated or rather fibrous appearance, and we understand the manner in which it covers the lateral ventricles, while there descends from the middle part of it the Septum Lucidum dividing those ventricles.

I That part of the lateral ventricle which lies above the Fornix, being the shaded part, while the letter I stands directly upon the partition betwixt the left and right lateral ventricles, viz, the Septum Lucidum.*

K A vein stretching from the most anterior part of the Velum Interpositum, and from under the anterior Crus of the Fornix, to the fore part of the lateral ventricle•

L The fornix, and in this view we shall understand how this medullary body forms a floor to this upper part of the lateral ventricle, while it stretches over the third ventricle⁖

M. The Posterior Crus of the Fornix† of the left side cut off where it is about to turn down into the Inferior part of the lateral ventricle. (Plate 3d. K and C.)

* The Septum Lucidum thus passes down from the Corpus Callosum to the Fornix; yet nothing can be more puzzling to the young student than the description of Winslow, copied into the common system – "the Fornix is really nothing but the Corpus Callosum," they are continued into each other upon the back part.

• Upon looking down upon the ventricles as seen in Plate 3d. the Plexus Choroides gradually diminishing as it proceeds forward, appears as sinking under and turning round the root of this vein. It is scarcely but truly represented by Dr Monro 4to Tab 1st. Folio Tab 4th.

⁖ See note to Plate 5th. and Duverney tom 1st. plan 1re la Voute a trois piliers. We see in those sections how much more naturally some old writers have called the Corpus Callosum the Fornix, than this triangular lamina, for this although with our best authors we must still give it the name of Fornix, has no empty space under it, and in no respect answers to the idea of a vault, except in the little space under which the Foramen Commune Anterius is, which allows the communication betwixt the ventricles, and therefore Vieussens says "Unde nobis nascitur miran-"di locus quod anatomici omnes, hunc cerebri partem fornicis nomine "designate fuerint, cum nullum ipsi et tertio ventriculo lacunari inane "spatium interpositum sit, et fornicis nec situm nec figuram retineat, nec usum prestare possit.–

† Though we say the Fornix is a triangular medullary body and use the expressions of ·

N The Left Anterior Crus of the Fornix. †

O The Right Anterior Crus of the Fornix.

P The Anterior Commissure of the Brain.* It seems high compared with the Crus of the Fornix, from the latter falling down.

Q The Velum Interpositum stretching under the Fornix, and covering the Thalami Nervorum Opticorum.

R The Third Ventricle, it being observed that the letter is opposed to the convex surface of the Thalami Nervi Optici of the right side, and it cannot be misunderstood that it is the cavity betwixt the surface of this and the left Thalamus (which is taken away) which forms the third Ventricle; while upon the upper part of this body, as it now appears to us, the two surfaces are united by the Commissura Mollis leaving an opening on each extremity of this adhesion, viz Vulva and Anus, under the anterior of which is the beginning of the Infundibulum, and under the posterior the Iter ad quartum Ventriculum.

S The beginning of the Infundibulum.

T Iter ad Quartum Ventriculum.*

X The Communication betwixt the lateral Ventricle of the right side and the third Ventricle.

Y The Pineal Gland⁘ lying enveloped in the Velum, and inclining backwards.–

1 The Commissura Cerebri Posterior, which to me appears as the reflected medullary substance of the Nates, and not in any degree

the posterior crura, and the anterior crus, still on the fore part it forms two crura. The manner of their union with the Ventricle is truly represented in this Plate, while in the Plates by Vicq d'Azyr, in the Mem. de l'Acad. Roy. 1781, in Dr Monro's Nervous System, Plate 1st, in Duverney and Tarin there is a want of intention in the shading, which makes those engravings intricate, and in several of those Plates a competent knowledge of the subject is required to understand what is meant.

* "Transversus medullaris" of Willis. "Funis transversus ejusdem substantiæ et mollis cum nervo optico." Riolanus. He was the first who observed it.

* We do not see the fourth Ventricle in this plate, because the section is too much to the left side of the Brain. For this Ventricle, see Plate Xth.

⁘ "A turbinati fructus pini similitudine." Hoff. "Corpus turbinatum." It consists of a cineritious coloured matter, while towards its base it has medullary striæ. It is invested with the delicate Pia Mater and from its place and connection it still seems to possess some important function.–

resembling in the section, the anterior one, nor a nervous cord.[*] The little peduncle connecting the Pineal Gland will be observed, and the little transverse medullary cords upon its base

2 The proper Pedunculi of the Pineal Gland, which paſs round upon the convex surface of the Thalami Nervorum Opticorum, and join the anterior pillar of the Fornix. These two Pedunculi are best seen after separating the Velum, and looking down upon the Optic Thalami.

3 The Tentorium, which is seen to stretch over the Cerebellum, and to support the posterior lobes of the Brain.

4 The Pia Mater continued in betwixt the Cerebrum and Cerebellum, and which connects the Nates and Testes to the Cerebellum

5 The Nates } viz, the Tubercula Quadrigemina.
6 The Testes }

We have to observe, that these eminences are not within the cavities of the Brain, but that they may be seen by separating the Brain and Cerebellum from behind.

7 The Origin of the Fourth Nerve of the Brain, or Trochlearis

8 Section of the Tuber Annulare or Pons Varolii, where the appearance of the striæ, or filaments, is accurately represented.[✱]

9 The Crura Cerebelli, and Arbor Vitæ, the Crura Cerebelli being formed by the union of the branches of the internal medullary part of the Cerebellum, which branching is called the Arbor Vitæ.

10 The Medulla Oblongata, being the upper part of the spinal marrow, as formed by the union of the Cerebrum and Cerebellum, and enumerated commonly as one of the three great divisions of the Brain.

\+ The Inferior Lobulus of the Cerebellum.

11 The Basilar Artery which is formed by the union of the Vertebral Arteries.[⁘]

[*] The Commiſsura posterior, says Vicq d'Azyr, is not continued transverse into the substance of the Cerebrum by any medullary tract, as Haller has represented in pl. 5th of fascic 7th "Proceſsus natibus antepositus transiens."

[✱] "Diversis filamentis intersecta" Tarin. "Coupe de protuberance annulaire, "où est une mélange de substance de diverse nature." Vicq d'Azyr

[⁘] See engravings of the arteries. Pl. V. 5. P. 4. 6, 7.

12. The Internal Carotid Artery, where it is passing through its foramen in the Sphenoid bone.

13. The Opthalmic Artery derived from the Internal Carotid Artery within the Scull.

Plate 8th

Figure 1st

Figure 2nd

Explanation
of
Plate 8th

The two figures of this Plate show more particularly the relation of the Fornix, the Communication of the Ventricles, the Plexus Choroides, and Velum Interpositum, or Toile Choroidiene, by a perpendicular section.

F. H. G. G. M. 12 Have here the same references as in the last Plate*.

Figure 1st

I The under surface of the Corpus Callosum, where it appears like a Vault over the Lateral Ventricles.

K The Septum Lucidum, or partition betwixt the upper part of the Lateral Ventricles.

L The under surface of the Fornix, which is called Psalterium, or Lyra. The Fornix lies over the third Ventricle like a Vault, say the older writers, they representing it as defending this cavity from the incumbent weight of the Brain; but it rests upon the Thalami Nervorum Opticorum, while there intervenes the Vascular Velum, and it does not lie loose, but adheres to this Velum, while the Velum again adheres to the Thalami Nervorum Opticorum; therefore there can be no communication in all this space betwixt the lateral and third Ventri-

---

*These two figures being enlarged views of the parts of the more general figure.

-cles or betwixt the right and left lateral Ventricles. The only communication is at the most anterior point, where there is a free space under the anterior Crura of the Fornix.–

M The Posterior Crus of the Fornix of the left side cut in making the section*

N The fore part of the Fornix

O The free space before the union of the Plexus Choroides or termination of the Velum, and under the anterior part of the Fornix.

P. A thread holding out the Plexus Choroides of the left Ventricle.

QQ The Section of the Corpus Striatum of the left side, over which the plexus is represented hanging.

R The Velum Interpositum adhering above to the Fornix, and below to the Thalamus Nervi Optici; at the same time the manner of its terminating in the Choroid Plexus may be observed. The Plexus is separated for a considerable length, and left only in its natural attachment on the fore part.

S The Vein stretching from under the anterior Crus of the Fornix, and under which is the Communication betwixt the Ventricles.

Figure 2nd–

In this figure the letters H. I. K. L. M. S. have the same reference as in Fig 1st. This figure is given to illustrate the manner in which the communication betwixt the Ventricles is formed, by the abrupt termination of the Velum under the Fornix.

N The Velum of Haller, stretching forwards under the Fornix.

O A little portion of the Choroid Plexus of the left Ventricle left hanging.

P The termination of the Velum forwards, while we see, below the last tack of its adhesions to the Corpus Striatum, and the Plexus as if terminating in it, but really uniting with that of the other side to form a small Plexus, which runs upon the lower surface of the Velum.*

---

* The portion which we see here, forms a thin lamina of medullary matter, which is called the "Corpus Fimbriatum" – Tenia hippocampi"

* See Plate 5th–

Q The Cavity of the Third Ventricle, formed on the two sides by the Thalami Nervorum Opticorum.

R A Pin introduced from the opening under the anterior Crus of the Fornix, from the lateral Ventricle of the left side into the third Ventricle. It is to be observed, that if the Pin had been directed more transversely, it would have gone into the lateral Ventricle of the right side, from the circumstance of this being a communication common to all the three Ventricles, by the manner in which the Fornix lies over this free space.

T The Infundibulum.

X The Optic Nerve of the left side remaining, that part of the Brain to which it belongs having been necessarily taken away in making the section.

Y The Pituitary Gland

Z The Internal Carotid Artery.-

Plate 9th

Explanation
of
Plate 9th

This, like the last Plate, is a partial view enlarged to the natural size, so as to enable us to represent the Nates and Testes, the Pineal Gland, the Iter ad Quartum Ventriculum, the Fourth Ventricle, the Valvula Vieussenii, and the Arbor Vitæ, more minutely by a perpendicular section.

A The Sphenoid Bone, where it lies before the Pons Varolii.
B The Third Ventricle*
C A Probe introduced into the Iter ad Quartum Ventriculum*, which we see passes down before the Nates and Testes, Posterior Commisure, and Pineal Gland.
D The Pineal Gland
E The Peduncoli of the Pineal Gland, which stretch forwards on the Thalamus Opticus.
F The Commissura Cerebri Posterior, which we see to be formed by the medullary substance of the Nates, reflected so as to give, when we look from the cavity of the third Ventricle, the appearance of a medullary cord running across. We observe also the manner in which the Pineal Gland is attached to it.
G The Fornix.

* Ventricle of the Thalami Nervorum Opticorum — Rima longa — Ventriculus Communis. "Ventriculus tertius infra psalterium excavatus ab eoque plexu choroideo separatus, infra thalamos opticos situs, nullum fere occupat spatium." Massa; Tarin.

* "Hiatus ad canalem natibus et testibus substratum ducens." Vieussens. Aquæ emissaria aquæductus Silvii — Hasius.

H. The Velum Interpositum, to which we see the Pineal Gland attached

I The Vena Galeni, which caries the blood from those internal parts of the Brain to the fourth Sinus.

K The Nates.

L The Testes, or these K. L. are called the Tuberculi Quadrigemini, and we see that those surfaces are without the proper cavities of the Brain, and are involved in the delicate Pia Mater, which descends betwixt them and the Cerebellum.-

M The Vascular Pia Mater, which insinuating betwixt the posterior lobes of the Cerebrum and Cerebellum, passes down betwixt the Tuberculi Quadrigemini, and also insinuating under the Fornix, is conveyed in form of the Velum Interpositum and Plexus Choroides, into the innermost recesses of the Brain, demonstrating to us, were it not self evident, that the external Pia Mater and the lining membrane of the Ventricles, are the same continued membrane.*

N The Pons Varolii, or Tuber Annulare. We have also to observe the mixture of the cineritious matter seen in this section.-

O The Section of the Medulla Oblongata, where the same striæ are observed to be continued.

P The Cerebellum.

Q The Arbor Vitæ, or medullary part of the Cerebellum ramifying through its substance

R The Valvula Vieussenii* It is distinctly seen here to be a

---

* In the same manner we see the membrane entering to the inferior part of the lateral Ventricle by the side of the Pons Varolii. The membrane lining the Ventricles was described by Herophilus, and other Greek physicians, but was brought into question by the influence of Vesalius who takes every opportunity of contradicting Galen

* Valvula Vieussenii. Valvula Major Willis. Highmore, and Drilincourt laid claim to the discovery. We see it in this Plate to be simply a medullary lamina stretching up from the root of the Arbor Vitæ, or what is properly the Peduncule Cerebelli, and making the upper and back part of the fourth Ventricle.

medullary lamina, continued from the Testes obliquely backwards and downwards into the Crura Cerebelli, or termination of the Arbor Vitæ, which forms thus the back and upper part of the fourth Ventricle.

S The Fourth Ventricle,* which is now seen to be a cavity betwixt the Cerebellum, the Pons Varolii, and Crura Cerebelli, and which is seen to terminate upon the lower part by the adhesion of the Pia Mater.

T Medullary Strig, which run up from the Calamus Scriptorius obliquely outwards*

X The Calamus Scriptorius, which is a sulcus formed by the posterior division of the Medulla Oblongata.

Upon making the dissection of the Brain in the common way by horizontal sections, and by raising the Tentorium, and cutting the Cerebellum, we see two stronger medullary tracts, and in the middle of these a delicate lamina, partly medullary, partly cineritious. These lateral portions are called the Processus ad Testes, or the ascending portion of the Crura or Pedunculi Cerebelli. The misconception of Vieussens, as to its use of a valve, is not understood by many authors, because they have not attended to the manner in which he has dissected the Brain. He has cut the Brain perpendicularly, and split it up from before backwards, the consequence of which has been that the Medullary Lamina has projected from the Pedunculi Cerebelli, and its anterior edge, which must be torn from the Testes, has fallen down like a valve upon the upper part of the fourth Ventricle. They were assiduous in their attention to this Ventricle, from the idea that if it was distended, it would compress the origin of the Nerves, or that if the fluids should escape, they would deluge and compress the Nerves. Hoffman Ridley Duverney.—

* The Ventricle of the Cerebellum, Cisterna Spirituum Aurantii. Ab Herophilo principalissimus, a Bartholini nobilis nuncupatus.—

* They are seen both in this and the succeeding State, they have a great variety in their Place and number, sometimes there are even three on one side of the Calamus Scriptorius, and two on the other. See Vicq d'Azyr, and Malacarne. They are supposed to contribute to the root of the seventh pair of Nerves.—

Plate 10th.


8
A
C
B
8
16
9
13
18
A
15
6
7
G
H
14
L
M
N
S
1
R
b
4
17
12
F
C
K
11
B
9
8
A
8
D
10
W
Z
c
d
a

Explanation
of
Plate 10th

In this Plate we have a full section of the Brain. Showing chiefly the great relations of the Parts, the relative places of the Ventricles and their communication, the Arteries of the Corpus Callosum, and the Falx and Sinuses. To make those parts sufficiently minute it has been necessary to draw them of the full size.

AA The Cranium, cut perpendicularly a little to the left of the great longitudinal Sinus.

BB The Falx formed by the Dura Mater, and descending betwixt the hemispheres of the Cerebrum, reaching anteriorly from the Crista Gali of the Ethmoid Bone backwards, and deepening as it runs back, until it is infixed or continued into the Tentorium, by which both these partitions are kept true, and mutually depending on each other.

C A Thread holding out the cut edge of the Tentorium Cerebelli Superextensum.

D The Cut edge of the Tentorium which stretches nearly horizontally over the Cerebellum, and supports the posterior lobe of the Cerebrum.

E The Surface of the right hemisphere of the Cerebrum as it appears under the Falx, that partition not descending quite to the Corpus Callosum.

F The Section of the Corpus Callosum

G.G The Lower Surface of the Corpus Callosum

H The Septum, dividing the left lateral Ventricle (which is here laid open, and is of course under shadow) from the right lateral Ventricle.

I The upper surface of the Fornix, where it is forming the posterior Crus.

K The inferior Surface of the Fornix, that which is called Lyra.

L The Anterior left Crus of the Fornix under which is the opening of the right lateral Ventricle, which of course forms a communication with the left lateral, and the third Ventricle, at the same time.

M The Anterior Comiſsure of the Brain, which is truly a medullary body, running transversly and connecting the Hemispheres.

N The Prominence made by the termination of the right anterior Crus of the Fornix.

O. The Opening of the right lateral Ventricle into what is described by many authors, as the most anterior part of the third Ventricle; by others, as the Foramen Commune Anterius, which indeed conveys the most accurate idea of this part, for it is a space under the anterior Crura of the Fornix, into which both the lateral Ventricles open, and which therefore makes a communication betwixt them. By others, it is called Vulva, from its appearance upon raising the Fornix in the usual manner of diſsecting the Brain

P The third Ventricle. The remains of the Comissura Mollis are scarcely to be observed after the separation of the Thalami Nervorum Opticorum – therefore it is not represented in the drawing, but we can understand that it is the union of the Thalami above the letter P. and that the space under it is the third Ventricle. This is a gutter-like cavity communicating or continued into that common space under the anterior Crura of the Fornix, and at the same time opening downwards into the Infundibulum, and backwards by the Iter ad quartum Ventriculum.

Q A Probe, introduced from the bottom and fore part of the third Ventricle into the Infundibulum, and which is here represented as reaching nearly to the surface of the Glandula Pituitaria.-

R The Glandula Pituitaria, seated in the Sella Turcica.

S The Iter ad Quartum Ventriculum.

T The Comissura Posterior, the connection of which with the Pineal Gland is accurately represented.

V The Peduncule of the Pineal Gland prolonged upon the Thalamus Nervi Optici.

U The Tubercula Quadrigemina, or Nates and Testes.

W Valvula Vieussenii

X The Pineal Gland.

Y The Cavity of the Fourth Ventricle.*

Z The Calamus Scriptorius

aa The Cerebellum in outline, lying deep in the Scull-cap and under the Tentorium.

b The Tuber Annulare, or Pons Varolii.

c The Medulla Oblongata, both of these in outline.

d The Pia Mater closing up the lower part of the fourth Ventricle.

---

* In the back part of the fourth ventricle, on each side, we find the little Plexus Choroides of this Ventricle, which are formed by a small branch from the Vertebral Arteries.-

Arteries Veins* and Sinuses.

1 The Internal Carotid Artery, passing into the Cranium through the Sphenoid Bone.

2 The Internal Carotid within the scull

3 The Anterior Cerebral Artery of the right side.

4 The Left Anterior Artery of the Cerebrum.

5 The Continuation of the Right Cerebral Artery on the other side of the Falx chiefly

6 The Continued Trunk of the Left Cerebral Artery.

7 The Artery of the Corpus Callosum, sent off from the last mentioned Artery which running along the arch of the Corpus Callosum, is distributed to the loose texture of the Pia Mater.*

8.8.8.8 The Longitudinal sinus seen in its whole length.∴

9.9.9 The superficial veins of the Cerebrum entering the longitudinal Sinus.-

10 The Lateral Sinus of the left side, where it is opened by the general section.- Here then is a union of the great Sinuses of the Brain.†

11 The Fourth Sinus, which lies betwixt the angle of the union of the Falx and Tentorium.-

---

* Walter makes this division of the veins of the Brain. Those distributed in the substance of the Brain which become superficial, and empty themselves into the Sinuses. And those which coming from the internal parts and ventricles form the intricate convolutions of the Plexus, and then unite into veins before entering the Sinuses. De Apoplexia, sect 54.-

* The Pia Mater is here extremely delicate, and the vessels in consequence very beautiful. Vesalius thought the Corpus Callosum was not invested with the Pia Mater like other parts of the Brain.-

∴ Superior, or Sagittal Sinus or third Sinus. Ridley the lateral Sinuses being the first and second, the ancients counting according to what they thought to be the course of the blood viz from below upwards.

† "Herophilus Ληνὸν appellavit, quod ab eo tanquam torculari et cisterna, sanguis "e jugularibus vasis corrivatus, in universum cerebri corpus exprimatur: sunt "qui maluerint sinuum quatuor concursum torcular appellare." And Laurentius lib x cap vii.-

Ληνος. Torcular. Nomen est profectum primum ab Herophilo, deinde usurpa=

12 12 The Fifth Sinus, or Inferior Longitudinal Sinus, running upon the edge of the Falx, or (taking the similitude from which the word falx is borrowed) upon the cutting edge of the sickle.—

13 The Commencement of this Inferior Longitudinal Sinus, by small veins arising from the Corpus Callosum, where it forms some beautiful inosculations.

14. At this place the Inferior Longitudinal sinus, which can be scarcely considered in any other light than as a vein anterior to this, enters the firm investure of the Dura Mater, forming the falx.

15.16.17. Veins running beautifully tortuous in the Falx, and forming frequent communications with the superior and inferior Longitudinal Sinuses.—

tum ab anatomicis, quod designat locum quendam in capitis vertice vacuum, instar torcularis aut lacunæ, in quem caules in vertice meningis duplicatione, sanguinem quasi in cisternam deducunt, atque inde velut ab arce quadam, omnibus subjectis partibus rivos mittunt, alios quidem in totum Cerebellum, alios vero in partem anteriorem, sanguinem venam e torculari provenientes. Joan. Gorræi Def. Med. p. 366. Some say, "The Fourth Sinus, or Torcular," others speak of the Longitudinal Sinus as the Torcular. The fourth sinus is too insignificant for us to believe that the ancients could suppose the compression of it to send the blood through the head. It is more natural to suppose that the large irregular cavity formed by the union of the Sinuses, according to our best authors, should be called the Torcular Herophili. The idea was, that the blood ascended by the Jugular Veins, entered this cavity, and was so compressed by the action of the Dura Mater, that as from a Ventricle it was sent through the other sinuses of the Brain. It was conceived also that the Torcular prepared the blood for the Brain as the right Auricle was supposed to prepare the blood for passing down into the Liver. How can any author be precise upon this point, when these are the words of Vesalius, the best commentator of Galen, "Videtur "namque Galenus modo huic, modo illi parti Torcularis nomen accommo-"dare: ut et sane utrumque Torcular dici, nihil obstat.—

Plate 11th

Explanation
of
Plate 11th

This Plate explains the Base of the Brain, and is taken from Vicq d'Azyr.

General Division of the Brain seen in the Base

AA The Anterior Lobes of the Cerebrum
BB The Middle Lobes of the Cerebrum.
CC The Posterior Lobes of the Cerebrum.
D The Cerebellum.
E The Medulla Oblongata, formed by prolongations of the Cerebrum and Cerebellum.
F The Pons Varolii, or Tuber Annulare.
GG The Crura Cerebri[*] white and fibrous, and formed by the Internal Medullary part of the Cerebrum, continued into the Medulla Oblongata
H The Crura Cerebelli prolonged in the same way from the Cerebellum into the Pons Varolii and Medulla Oblongata
I An Eminence which Vicq d'Azyr calls Lobulus Medullæ Oblongatæ.
K External and Superior Lobes of the Cerebellum.
L A Sulcus betwixt the Lobes of the Cerebellum, in which a little

---

[*] Crura, or Pedunculi Cerebri, processus Cerebri ad pontem Varolii seu ad Medullam Oblongatam. The Pons Varolii is the medullary matter lying in this Sulcus, which unites the Crura Cerebri.

Falx, resembling the Falx Cerebri lies.

M Foramen Ovum Posterius

N The Fossa Silvii dividing the anterior and middle Lobes of the Cerebrum*

O The Monticulus Vesalii.

P The Fossa of the Nervi Motores Oculorum, according to Vicq d'Azyr.

Q The Infundibulum

R The Eminentiæ Candicantes*

S What Vicq d'Azyr calls the "Substance perforée", which is a medullary part, perforated with many Arteries.

T The Corpora Pyramidalia

O O The Corpora Olivaria

1 1 The First Pair of Nerves, or Olfactory Nerves.

2 2 The Second Pair of Nerves, or Optic Nerves.

3 3 The Third Pair of Nerves, or Motores Oculorum.

4 4 The Fourth Pair of Nerves, or Trochleares.

5 5 The Fifth Pair of Nerves, or Trigemini.

6 6 The Sixth Pair of Nerves, the Abducentes.

7 7 The Seventh Pair of Nerves, consisting of two portions. The Portio Mollis, Acoustic or auditory Nerve and the Portio Dura or Nervus Communicans Faciei

8.9.8.9. The Eighth Pair of Nerves. 8.8 being the Fasciculi from which is derived the Par Vagum, and Glosso-pharyngeal Nerve 9.9. The Accessory Nerve of Willis..

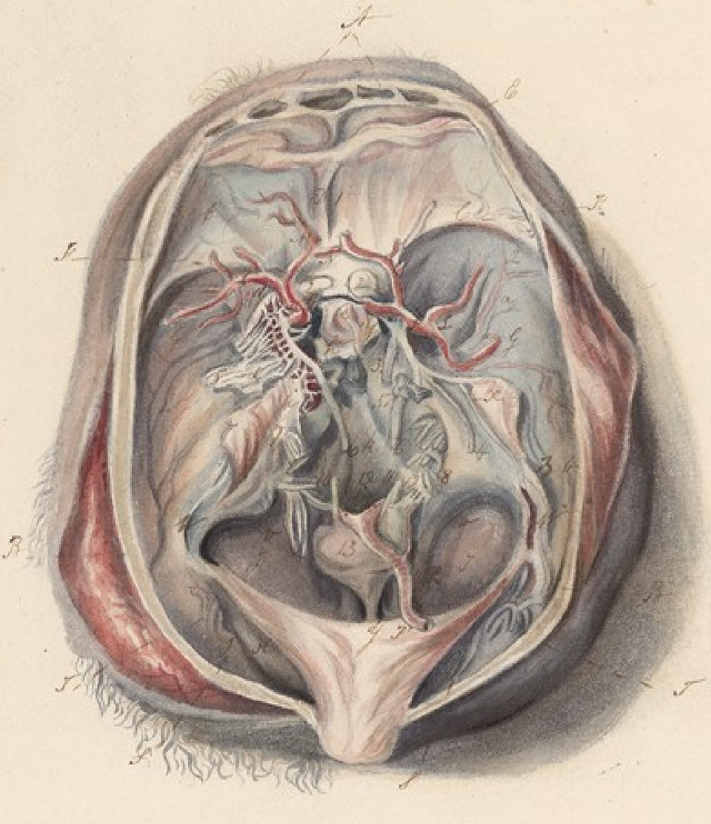
10 10 The Ninth Pair, or Laryngeal Nerve.

---

* Fossa Silvii Lobum Anteriorem a Posteriore dividit. Hasius. In this case it is supposed that there are only two great Lobes, while the Posterior Lobe is considered as an appendix.-

* Corpora Albicantia. Corpora Mammalaria Willisii. Tubercules Arrondis-Priorum Crurum Fornicis bulbi Santorini.

Plate 12th



Explanation
of
Plate 12th

This Plate shews the Base of the Cranium the places of the great Arteries and Sinusses, and the exit of the Nerves from the Scull. By comparing it with the last we shall learn the relation of the base of the Encephalon to the base of the Scull.—

A The Frontal Sinusses.
B B The Cranium.
C C The most elevated part of the base of the Scull, formed by the Orbital Plate of the Frontal Bones, upon which the Anterior Lobes of the Brain, Plate 11 a. a. rest.
D The Crista Galli of the Æthmoid Bone, upon which the anterior part of the Falx, Plate 11. B. B. takes firm origin.
E The Dura Mater turned back a little from its adhesion to the Frontal Bone
F F The Acute Edge of that part of the Sphenoid bone called the Wing of Ingrassias which enters the Fossa Silvii (Plate 11 N. N)*
G G The Fossa formed by the Temporal and Sphenoid Bones for lodging the Middle Lobe of the Cerebrum. Plate 11th B
H The Tentorium upon which the Posterior Lobe of the Cerebrum Plate 11 c rests.

* And the little process of the Dura Mater at this place is the Processus Sphenoidalis.

I I. The deep hollow formed by the Occipital Bone for the lodgment of the Cerebellum. Plate 11th. I D K.

Arteries

K K The Internal Carotid Artery rising by the side of the Sella Turcica. Upon the left side the Artery is seen surrounded by the Cavernous Sinus, which is laid open

L L The Middle Artery of the Cerebrum.

M M The Anterior Artery of the Cerebrum

N The Branch of Communication betwixt the Anterior Arteries of the Cerebrum, which completes the circle of Willis upon the fore part.

O The two Vertebral Arteries when about to unite to form the Basilar Artery.

P The Basilar Artery laid back over the remains of the Medulla Oblongata.

Q The Meningeal Artery*

R Arteries to the Dura Mater drived from the Vertebral Arteries.

Sinuses.

S S The Great Lateral Sinuses these are formed by the division of the Great Longitudinal Sinus. They are contained within the root of the Tentorium, as the longitudinal sinus was in that of the Falx.

T T. Veins from the surface of the Posterior Lobe of the Cerebrum emptying themselves into the lateral Sinuses.-

* We may observe also some twigs coming out from the Ethmoid and Opthalmic Arteries up to the Dura Mater upon the anterior Fossa, which supports the anterior Lobe of the Brain.-

v The termination of the Lateral Sinus in the Foramen Lacerum, common to the temporal and occipital Bones.—

W.W.X The Superior Petrous Sinus. On the right side its termination in the Lateral Sinus is laid open.

Y The Posterior Occipital Sinus. Vicq d'Azyr says he has not seen them double, they appear to me frequently double, one running on each side of the little Falx of the Cerebellum.* I have found them so enlarged as to take the office of the Lateral Sinus in emptying the Great Longitudinal Sinus, while of course the Lateral Sinuses were proportionably diminished.—

Z A large Sinus, which in this subject runs upon the anterior surface of the Petrous Bone..

a Venæ Meningeæ Mediæ which empty themselves into the Opthalmic or into the Petrous Sinus.*

b Veins which inosculating with these last run backwards into the great Lateral Sinuses.

c The Opthalmic Sinus.—

---

* It is called the Processus Falciformis Cerebelli. It is like a miniature of the great Falx Cerebri inverted.

* Accompanying the Arteries we see the roots of those Veins (the Meningeal veins seen in the First Plate G. These are the divisions of Walter. "Tres Species venarum Duræ Matris, illæ quæ frequentissimæ sunt, ex interna substantia ossium cranii propullulant et in majores venas colliguntur, et in externa superficie Duræ Matris se procedunt, et tandem in sinu Duræ Matris apperiuntur. Secunda species venarum componit singularem truncum, scilicet, venam meningeam mediam. Tertia species Duræ Matri propria est: quæ vel sanguinem ab arteria meningea, ad nutriendam Duram Matrem, vel superfluum, vel ad nutriendum ineptum recipiunt, vel denique sunt venæ resorbentes quæ ex interna superficie Duræ Matris originem ducunt". Walter de Apoplexia, 59.

d d The Cavernous Sinus* by the side of which the Carotid Artery rises, and through which the sixth pair of Nerves passes. Some Minute Arteries will be observed ramifying on the Cells ✱

e The Glandula Pituitaria seated in the Sella Turcica.

f The Infundibulum.

g g The Circular Sinus, which surrounds the gland opened.

h The Posterior Clinoid Sinus laid open

i The Inferior Petrous Sinus of the left side laid open. ✤

k The Anterior Occipital Sinuses †

Nerves

The same figures refer to the same parts in these two last Plates.

* Sinus multiformes, polymorphes. Receptacula Sellæ Equinæ lateribus adjacentia. Vieussens. Into these he conceived the fluids of the Pituitary Gland to flow.

✱ Arteriæ Sinus Cavernosi anter. et poster. from the Opthalmic and its branches the Lachrymal and Ethmoidal Arteries. Haller Element. Physiol. Vol. 4 p 107. Icones An. Fascic. 7 de Ramis Arteriæ Vertebr.

✤ Part of the Circular Sinus, being by some authors called the Anterior Clinoid Sinus.

Posticam in venas jugulares internas desinunt. Vieussens. They are often separated from the lateral sinus by a process of the bone see Vicq d'Azyr. The oblique sinus of Malacarne, the Emissaria of Tabarini, they sometimes opening into the Pterigoidean Plexus of Veins.-

† Sinus occipitales anteriores in superiore parte apophyseos cuneiformi ossis occipitis a sinu petroso inferiore dextra lateris ad alterum sinum petrosum inferiorem Hasius. But these should be considered as the little venous cells in the Dura Mater upon the Foramen Magnum, and are by some called circular.

The Venæ Emissariæ Santorini are those communications of the sinuses with the external veins which are independent of the regular continuations of the sinuses into the great Veins; for example, the opthalmic and mastoidean veins, 1 The Cribriform Plate of the Ethmoid Bone covered with the Dura Mater, and through which the first pair of Nerves passes to the Nose.

2 2 The Second Pair or Optic Nerves.

3 3 The Third Pair or Motores Oculorum of the right side, about to pass by the side of the cavernous sinus to the muscles of the eye in general.

4 The Fourth Nerve, or Trochlearis, taking a circuitous route from the region of the Nates and Testes. See Pl. 7th. 7. It is seen running into its sheath in the Dura Mater.

5 The Fifth Pair of Nerves, or Trigemini. Upon the right side the Nerve is seen passing into the Dura Mater. Upon the left it is laid back, and here we shall with difficulty distinguish the transverse little web of fibres of the cavernous sinus, from the connection of the fifth pair with the sixth, or the twig given off from the sixth to descend by the side of the Carotid Artery, and from the great Sympathetic.

We now see, however, on this left side, what is called the ganglion of the fifth pair before it divides into the three great Nerves to the Eye, the Upper, and Lower Jaw.

6 The Sixth Pair of Nerves. On the right side it is in its natural situation. On the left we follow it in its course through the Cavernous Sinus, where, by the side of the Carotid Artery, it

or those little veins going out through the base of the scull, as the vena sodales by the Foramen Caroticum are considered as Emissaria, forming an immediate communication betwixt the internal and external veins. So also that vein which perforates the os Bregmatis, and those lesser veins passing out with the nerves, or through the fissures or foramina.

gives off the twig which forms the beginning of the Sympathetic.

7 The Seventh Pair of Nerves. And we observe the division of the Portio Mollis and Dura (the latter being most anterior) and a middle portion.

8.8.9.10 The Eighth Pair of Nerves which on the left side we see subdivided into 8 the Par Vagum. 10 the Glosso-Pharingeal and 9 the Spinal Accessary of Willis, which is seen to come from the tube of the Spinal Marrow to join the others.

11.11 The Ninth Pair or Lingual Nerves.

12 The Tenth Nerve of the Encephalon or Suboccipital Nerves.

13 Part of the Medulla Oblongata.

Of the Communication, of the Ventricles of the Brain.–

I have in the Plates endeavoured to present a clear idea of the Anatomy of the Ventricles of the Brain, and of the communication between them. The existence of this communication of the Ventricles with each other, has been known ever since the Anatomy of the Brain became an object of attention; yet it has unaccountably happened that pretentions have been made in the present day to the merit of having discovered this communication, as if a total ignorance had spread over the anatomical world of all that our predeceſsors had observed or written on this subject. The Anatomists both of ancient and modern times have equally been represented as ignorant of the communication of the Ventricles, as if their writings were not in existence to prove the extent of their knowledge.–

In a work of this kind it is incumbent upon me to take some notice of a question which has thus been made to appear of importance. It was natural for me to study this point, and I shall state fairly the authorities upon which the controversy is to be determined.

Dr Monro has aſsumed the merit of discovering the communications betwixt the Ventricles of the Brain. What the Profeſsors of the Medical School of Edinburgh have taken so much pains to authenticate is this:- "So far back as the year 1753, soon after I (Dr Monro) began to study Anatomy, I discovered that the Lateral Ventricles of the human Brain communicated with each other, and at the same place with the third Ventricle of the Brain: and as a paſsage from the third Ventricle to the fourth is universally known, it followed that what are called the four Ventricles of the Brain are in reality different parts of the same cavity."

It is to be regretted, however, that Dr Monro has been more anxious to bring together the authorities of writers whose accounts are imperfect, and from whose descriptions the ignorance of the older Anatomists respecting these communications might be inferred, than solicitous to support his opinion and observations by respectable authorities. With regard to the opinions of cotemporary teachers, Dr Monro has chosen to take the vague and uncertain reports of students, while on the other hand many have found a difficulty of comprehending the matter in dispute, and by endeavouring to discover something curious and new, instead of that merely which Anatomists had known so long, the subject has to them seemed to be involved in unusual obscurity.

In following out this subject I shall first compare the few paſsages which Dr Monro has quoted, correcting what I conceive to be omiſsions, and afterwards I shall bring forward a few authorities to shew how precise and clear the knowledge of the old Anatomists was on this subject.

A few, says Dr Monro, have mentioned a place under the Fornix, to which they have given the name of Anus, where they suppose the lateral Ventricles to communicate with each other, and at the same time with the third; and he quotes on his margin Vieuſsens and Winslow. This is by no means accurate, Vieuſsens says under the marginal title, "quid Vulva? Vulva nihil aliud est, quam foramen circa anticam ventriculorum anteriorum cerebri regionem, subtus fornicem reconditum, et juxta radices illius excavatum, cujus interventu predicti anteriores ventriculi cum tertio communicant." The Anus and the Vulva it must be recollected are very distinct parts, and it does not take away from the accuracy of this description, that Vieuſsens conceived the Anus likewise to form a communication betwixt the Ventricles. It is only the latter of those paſsages which Dr Monro has taken notice of, though the quotation I have given immediately preceeds.

Winslow and Vieuſsens are by Dr Monro claſsed together in the same note, although Winslow distinctly says, "The Infundibulum opens above immediately before the Optic Thalami, by the oval hole named *Foramen Commune Anterius, and consequently communicates with the lateral Ventricles*." — In another place, "This Canal opens forward into the Infundibulum under the Foramen Commune *Anterius, by which it likewise communicates with the lateral Ventricles*". This is as decided and as true a description of the communication as that of Dr Monro himself: the only difference is, that Winslow says it is a paſsage betwixt the third and the two lateral Ventricles, while Dr Monro says it is a paſsage betwixt the two lateral Ventricles and the third.

Neither has Dr Monro, in the note of page 110 of his System conveyed the sense of another very celebrated Author. In quoting Haller he has these words, "Leniter tamen impulso flatu non reperi aerem a dextra cavea in sinistram transiiſse, aut aquam in alterius lateris ventriculum miſsam agitaſse." We might suppose from this quotation that Haller had not observed the communication. — "In dextrum ventriculum dicitur sinister aperire, qua parte duo plexus choroidei conveniunt, inter thalamos opticos, fornicem et plexum choroideum, ut unicum ventriculum eſse dudum dictum sit. *Sæpius flatu eam viam relegi*." (Gunz, Winslow, Tarin, Marchet, Bartholin,) Then follows the quo-

-tation, "*leniter* tamen impulsu flatu," &c. Haller is here shewing us, in the first place, how many celebrated Anatomists have mentioned this communication, and at the same time his own description is particularly accurate and distinct; then he adds, that at the same time from his own experience, since it took some force of blowing to demonstrate the communication, he was inclined to believe that something is ruptured when we blow so hard as to make the air rise in the opposite Ventricle.

Thus we see that the present day is the second era of this dispute; that it was freely canvassed formerly; and if Dr. Monro had been as anxious to prove the point of Anatomy, as to establish his own merit as a discoverer, he had only to say, that he adhered to the opinion of the best ancient and modern authors, as Vicq d'Azyr, Winslow, Gunz, Marchett, Couper, Ridley, Bartholin, Vieussens, Vesalius &c.

The truth is that, as I have already observed, the communication betwixt the Ventricles was among the first truths established by the studies of the older Physicians. It was upon this that their doctrines of the formation of the spirits in the Ventricles, and their vacillating freely through them and round the Pineal Gland, were founded: while in the same degree it gave support to the opinions of those who supposed that the fluids of the cavities of the Brain were drained off into the Infundibulum, for some alledged that the Infundibulum conveyed the excrementitious fluids into the nose, by the Pituitary Gland; others alledged that it was conveyed to the Palate; others by the circular sinus, into the great veins.

Accordingly there is scarcely a book which we can consult without finding the circumstance of the universal communication betwixt the Ventricles particularly mentioned.

That the absurdities of the old doctrines were intimately connected with this piece of Anatomy the following quotation may be taken as a proof. It will be recollected that surgical authors, as Guidonis de Gauliaco, borrowed their description from the received opinions of the physicians of the day. "Cerebrum secundum longitudinem habet tres ventriculos, et unusquisque venter habet duas partes; et in qualibet parte organicatur una virtus. In prima parte ventriculi anterioris assignatur sensus communis, in secunda imaginativa, in medio ventriculo situatur cogitiva et rationalis, in posteriori vero servativa et memorativa. Et quod inter istos ventriculos anterior est major, medius minor, posterior mediocris, et de uno ad alium sunt meatus per quos transeunt spiritus." Tract 1st Guidonis Doct 2nd de Anatom. p14. See also Vesalius, ad tit, Thomæ, Scoti, Alberti, et ejus Chartis Scriptorum de Cerebri Ventriculis Opinio, p 536.

The following quotations relate to the anatomical fact. "Sub camerato corpore (viz fornice) tertius apparet sinus, qui nihil aliud est quam duorum concursus et communis cavitas in quam superiorum ventrium uterque humiliore sui sede dehiscet." Laurentii Historia Anatom.

"In quibusvis animalibus, medio horum utriusque nervi optici thalamorum, crura medullæ oblongatæ paulatim dehiscentia rimam sive aperturam relinquunt, quâ serositates ab una–

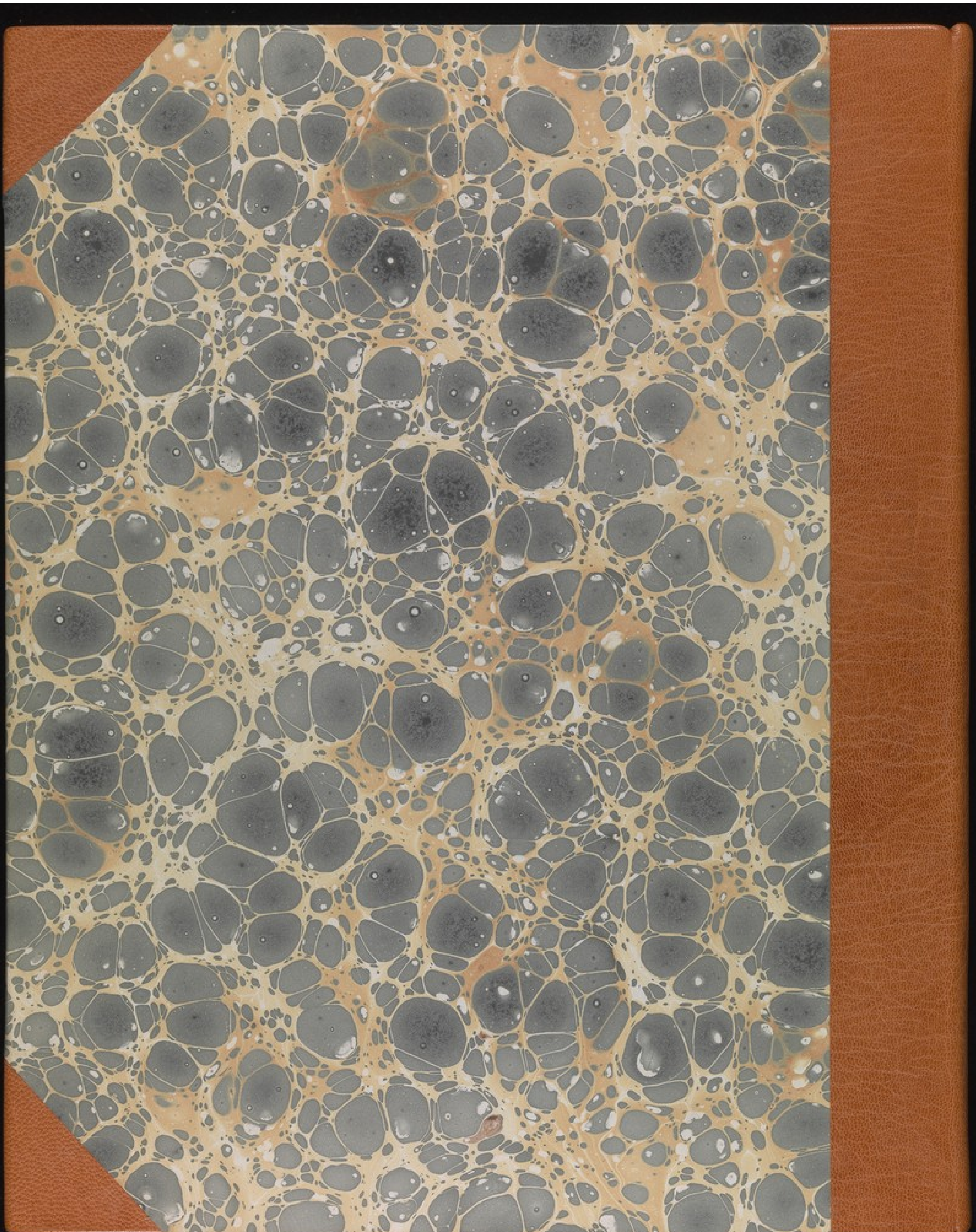
"-*quaque cerebri ejusque appendicis regione ad*
"*ventantes suscipiens*, eas per infundibulum in
"glandulam pituitariam dimittit." Willis Cerebri
Anatome, Cap 13. Rimo et Infundibulum usus.
See p 49. See his anonymous commentator, p 110.
"In quibusvis illorum omnes του εγκεφαλου Ventricu-
"li qualescunque fuerint aperturas versus infundibu-
"lum dehiscentes habent.
Again, Verheyn with many others use the term "in
"*Concursu ventriculorum*," p 322 in expressing the
union or communication of the Ventricles in the
fore part of the third Ventricle.
(*Ventriculus Tertius*) "*Tertius* vulgo dictus ventricu-
"lus, vel rima longa, *est priorum concursus*, qui in
"centro quasi medullæ cerebri formatur." Bartholin –
Anat p 493.
"Sunt hæc crassa viscidaque (mucum vulgus medi-
"corum appellat) quæ uti coacerventur alicubi sapi-
"ens natura *ventriculos duos* (revera enim duo tan-
"tum sunt) efformavit, a quibus postea per an-
"teriorem tertii ventriculi meatum tum per
"pelvim sensim ad glandulam pituitariam
"transmittit." *Spigelius*.
If we compare the figures of Vesalius with those
of Dr Monro, we shall find nearly the same explana-
-tion. Vesalius has, "L. Meatus ex communi ca-
"vitate dextri et sinistri ventriculorum." But it is
impossible for words to be more distinct than these,
"nunc interim ventriculorum sermone tantum
"instituto, quorum jam duos dextrum videlicet et
"sinistrum recensuimus et prope modum etiam
"tertium, *qui communis amborum est cavitas*
"*binos a se educens meatus*, *quorum* unus ex
humiliori ipsius sede, ubi acutum angulum

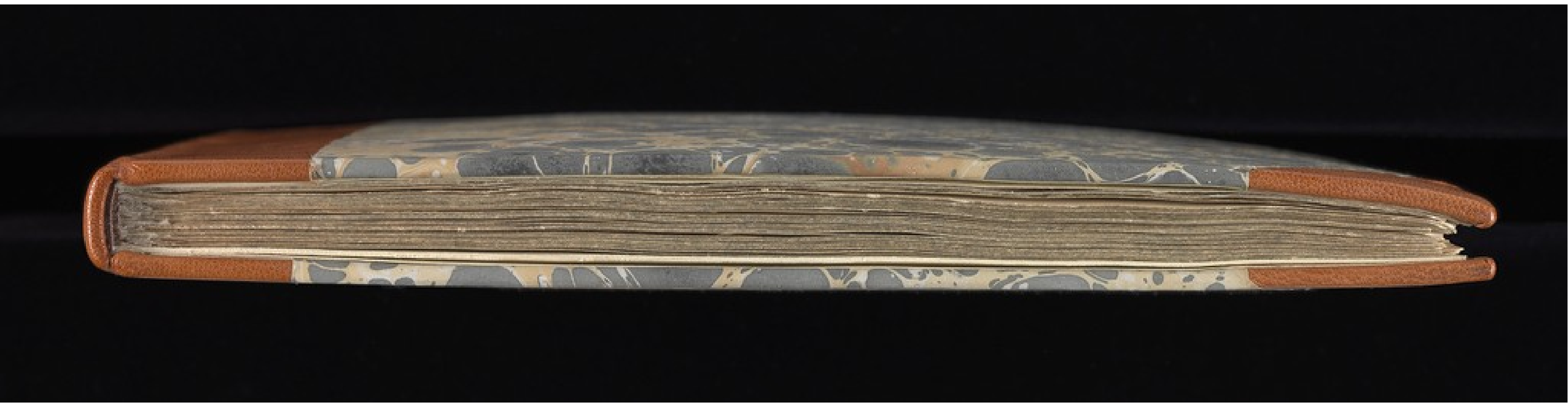
"per totam sui longitudinem vallis cujusdam "ritu exprimit, recta deorsum versus cyathum "cerebri pituitam excipientem porrigitur." Vesalius p546. The preceding paragraph is even more particular than this.

Directed by Haller's quotation of Cowper we find that he speaks currently of the continued cavity of the Ventricles, and of blowing them up from each other. See Cowper, Appendix to the 6th tab.

The equal distention of the Ventricles of the Brain in Hydrocephalus has been taken as a proof of the universal communication between the Ventricles. This has also been long understood and we find Authors puzzling themselves to discover the reason why in some rare instances, seeing there was so free a communication, the fluids were confined to one Ventricle. See Ridley p59.

Finis.





F The Posterior Branch of the Meningeal Artery
G The Meningeal Veins,* These run on both sides of
the branches of the Arteries and parallel with
them in all their extent, and in general upon
tearing up the Cranium, they mark sufficiently
from their plenitude the state of the Brain frequent-
ly deluging the whole surface of the Dura Mater
with their blood.
H The Right Hemisphere of the Cerebrum, which
is again subdivided into H, the Anterior Lobe of
the Cerebrum, I the Middle Lobe, K The Posterior
Lobe, which divisions seem arbitrary in this view
of the Brain, but upon turning the base of the En-
cephalon up, as in Plate 11th we then see the mean-
ing of these divisions. Haller, however, rather chooses
the parietal, and occipital regions.
e convolutions of the Brain, into
ich the Pia Mater dips to supply
will be seen more particularly

m,* which from its deep situa-
t indistinctly.
of the Cerebrum,∴ It is seen to
Corpus Callosi while the continued
flat surface of the hemisphere, and
rtery of the Corpus Callosum, sends
g over the acute margin of the hemi
lly distributed in the Pia Mater.

re the branches of the Meningea Media spu
osa, qua per foramen spinosum ossis sphenoidalis migrat, et conjung
r cum plexu pterigoideo venoso." Walter de Apoplex. These like
rteries of the Dura Mater, belong properly to the bone, the membrane
ing little vascularity, and though they ramify largely on the
a Mater, their extremities perforate the bone. Reliqui rami, quos
ra monstrat, sunt venæ Duræ Matris, quæ partim sanguinem
um falciformi hauriunt, partim sanguinem ex ossibus cranii reve,
tel denique sunt venæ bibulæ seu Resorbentes Duræ Matris. J.G. Walter.
us Callosum, or Commissura magna Cerebri. It will be under-
, by turning to the next plate, where it is seen to be the internal
ullar centre of communication betwixt the two hemispheres. It is
commissure, as those cords which are seen in the cavities of the Brain
nd across the centre. It is called Corpus Callosum by the older writers;
y Vieussens, Fornix vera.
natomy of the Heart and Arteries, Vol. 2nd p 309, and Engravings of the
ies, Plate 8th 9, and Plate 12th of the present Work.