

V. *A Letter from M. le Cat, M. D. F. R. S. Surgeon to the Hotel Dieu at Rouen, and Royal Demonstrator in Anatomy and Surgery, to C. Mortimer, M. D. Secr. R. S. concerning the Foramen ovale being found open in the Hearts of Adults, and of the Figure of the Canal of the Urethra. Translated from the French by T. S. M. D. F. R. S.*

S I R,

I Have seen in the *Philosophical Transactions* of the ROYAL SOCIETY, N^o 439. that you are not displeas'd with Observations on the *Foramen ovale* in Adults. The *Anatomical Amphitheatre*, which I have established at *Rouen*, furnishes me with frequent Opportunities of observing. Last Winter, I applied particularly to the Circulation of the Blood in the *Fœtus*.—The Advantages that may be drawn from the Parallel, put me upon making the like Experiments on Adults. I have a number of times measured the Cavities of the Heart, and Vessels that depart from it, in both these Subjects; and I therein examined the State of the *Foramen ovale*, *Canalis arteriosus*, &c. I now send you my Remarks on the *Foramen ovale* open in the Adult, and some few others on the Figure of the *Urethra*.

I have the Honour to be, S I R,

Your most humble
and most obedient Servant,

Claud. Nic. Le Cat.

l. Of

1. *Of the Foramen ovale open in the Adult, and of its different Sorts.*

THIS last Winter I opened a great Number of dead Bodies of Men grown, and did not find the *Foramen ovale* open in any of them.

The oldest of the Male Subjects, in which I found it open, was a Lad of 15 Years of Age.

Of 20 Bodies of Women, which I examined, in Seven I found the *Foramen ovale* open.

Among the Number of Openings that remain of this *Foramen*, there is a great Variety in their Shape, and in that of the *Cicatrices* or Adherences of the *Valve*: However, they may conveniently be reduced to Three Sorts, expressed in the Figures hereto annexed, see TAB. II.

The First and Second Figure represent the First Sort of *Foramen ovale*, that remains open in the Adult.

The Third and Fourth Figures represent the Second Sort; and Fig. 5 and 6. the Third.

EXPLANATION *of the* FIGURES.

FIG. 1. The *Foramen ovale* viewed on the Side of the Right *Auricle*.

A. *A Valve that throws itself on the Side of the Left Auricle, and appears closed up chiefly by a Continuation of the Membrane that lines this Auricle.*

B. *The Place where this Valve leaves a Hole, which opens into the Left Auricle.*

C. *The*

C. *The Part contiguous to the Right Ventricle.*

Fig. 2. The same *Foramen ovale* viewed on the Side of the *Left Auricle*.

A. *The Valve drawn a little back, that the Hole may be seen.*

B. *The Point to which the Valve ascended, when left at Liberty.*

C. *The Part which leads to the Left Ventricle.*

Fig. 3. The Second Sort of *Foramen ovale* open in the Adult, and seen on the Side of the *Right Auricle*.

It differs from the First Sort, in being more sunk in, or more approaching the Shape of a Funnel.

Fig. 4. The same *Foramen ovale* of the Second Sort, seen on the Side of the *Left Auricle*.

*It differs from the same Side of that of the First Sort, by the Valve beginning to make the Goose-foot by its different Attaches, which much resemble the Columns of the mitral Valves of the Heart. In the Figure I have added a Probe passed into the *Foramen ovale* from the *Right Auricle* to the *Left*.*

Fig. 5. The *Foramen ovale* of the Third Sort open in the Adult, viewed on the Side of the *Right Auricle*.

*This Sort differs from the preceding Two, by the *Foramen ovale*, nearly forming a Funnel.*

Fig. 6. The same *Foramen ovale* viewed on the Side of the *Left Auricle*, and Two Probes passed into its Aperture.

This Sort differs from the preceding ones, by the Goose-foot formed by the Valve being much more compounded.

The Circle of Points A. marks the Place which answers the oval Cavity that is in the Right Auricle, and is the Cicatrix of the Foramen ovale at the Birth.

The Women in whom I have found the Foramen ovale of the Second and Third Sort, were about 60 Years of Age.

2. *The Figure of the Canal of the Urethra determined by solid Injections.*

THE Necessity I am under of sounding frequently, and the Difficulties that I have sometimes met with in this nice Operation, have made me resolve scrupulously to examine the Figure of the Canal of the *Urethra*.

I have made thereon a number of Experiments, Two of which I shall now describe.

I.

I melted Resin with Wax, and injected this Liquid through the *Urethra*. I filled the Bladder but half way with it, in order to preserve all the Wrinkles of the Canal. When the Injection was cold and solid, I cut through the *Ossa innominata*. I dissected the Left Side of the Canal and Bladder, and the Section of these Parts gave me Fig. the 1st, TAB. III. of which this is the Explanation.

Figure 1.

A. *The Glans.*

B. *An Elbow, which the Ligamentum suspensorium causes the Penis to make.*

C.

C. *Folds, or Wrinkles, of the Bulb or of the Gulf of the Urethra.* D. *The Entry or Streights of the Prostate.* E. *The Gulf of the Prostate, or the Verumontanum.* F. *Elbow, or Streights of the Entry into the Bladder.* G. *A Section of a Portion of the Bladder.* H. *A Section of the Pubis.* I. *The Root of the Left Corpus cavernosum cut through.*

II.

I injected another Subject with very thick Glue. I intirely filled the Bladder therewith through the Canal of the *Urethra*, until it was somewhat stretched. I let this Injection remain to the next Day, and then found it solid and elastic. I cut the Parts round it, as I had done in the preceding Subject; and afterwards I made an exact Division of the Injection: I put one half of it on Paper, in order to have its Shape exactly; and thereby I obtained the 2d Figure. To it I have added, in pricked Lines, a pretty exact Section of the adjacent Parts.

Figure 2.

A. *A Section of the Bladder.* B. *A Section of the Pubis.* C. *The Cavity of the Abdomen.* D. *The Peritonæum.* E. *The Integuments of the Abdomen.* F. *The Space between the Pubis and the Peritonæum, taken up by the cellular Membrane. It is the Place of the Incision in the high Operation of Lithotomy.* G. *The Rectum.* H. *The Glans.* I. *The Corpus cavernosum.* K. *The Urethra.* L. *The Elbow of the Ligamentum suspensorium.* M. *The Bulb or Gulf of the Urethra.* N. *The Streights and Elbow at the Entry of the*

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Gulf

Gulf of the Prostate. O. *The Gulf of the Prostate.* P. P. P. *Sort of Elbows, or blind Cavities, found therein.* Q. *The Streights of the Entry into the Bladder.*

VI. *A Letter from George Lynn, Esq; to Ja. Jurin, M. D. F. R. S. containing some Remarks on the Weather, and accompanying Three Synoptical Tables of Meteorological Observations for 14 Years, viz. from 1726 to 1739. both inclusive.*

SIR,

HAVING, for these 14 Years last past, kept a constant Register or Diary of the Altitudes of the Barometer and Thermometer, the Quantity of Rain, Course of the Winds, &c. according to your Invitation (in the *Philosophical Transactions*;) the Five first Years of which have been by you communicated to the ROYAL SOCIETY, and taken notice of in the *Transactions*; I now, Sir, send you the remaining Nine Years at large, ending *December 1739.* in the same Method as formerly. But, believing it would be of good Use, both here and abroad, if the Mean Heights of the Barometer, Thermometer, and Quantity of Rain in every Month of the whole 14 Years, with the collateral Means, both of the Months and Years, were brought all into one View together, I have taken the Pains to range them accordingly in a Scheme, or Table, herewith sent, which does not
take

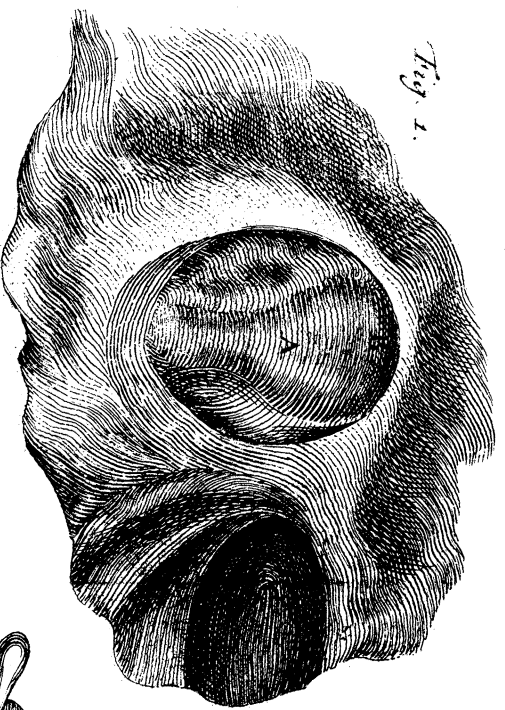


Fig. 1.

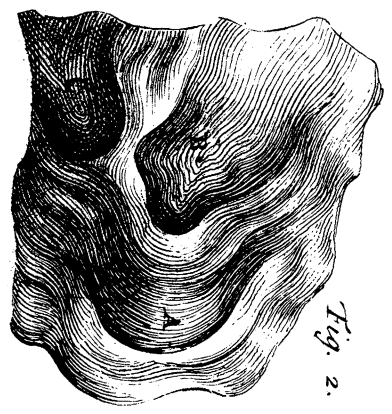


Fig. 2.

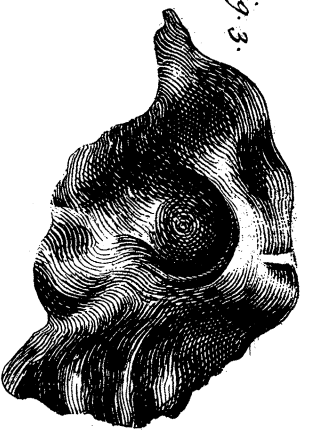


Fig. 3.

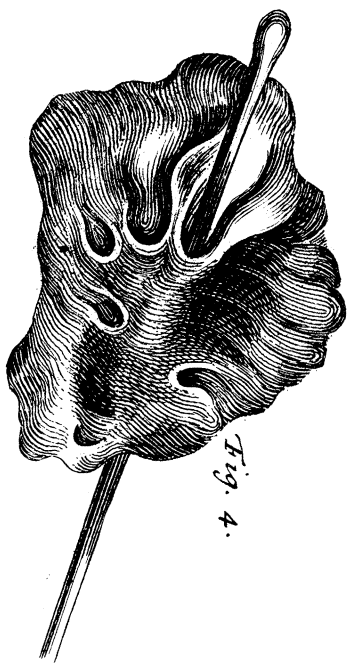


Fig. 4.

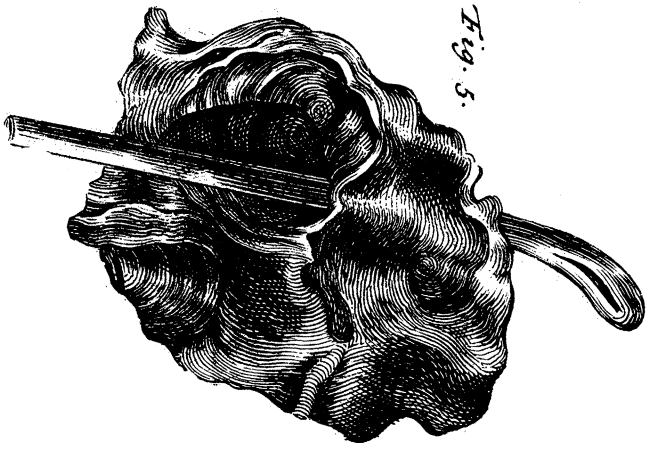


Fig. 5.

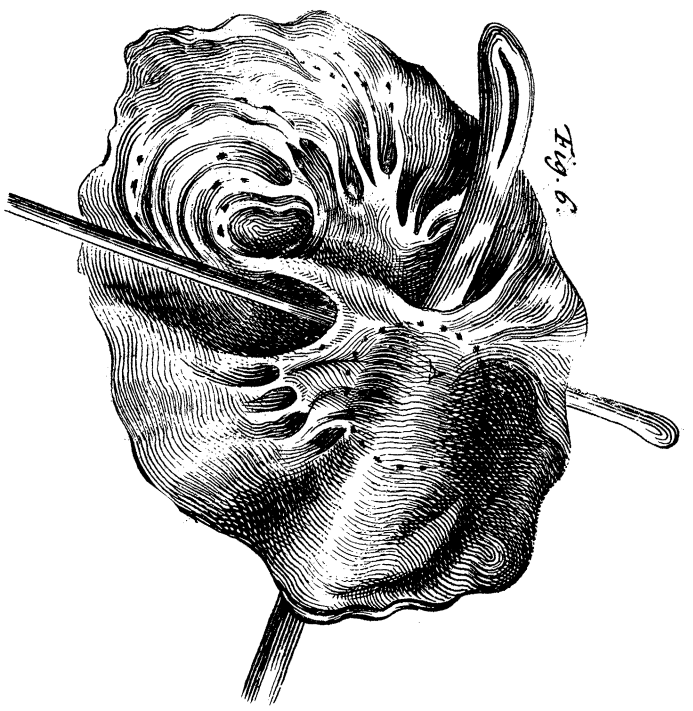


Fig. 6.

A Scale of Inches.

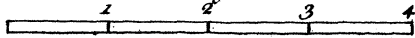


Fig. 2.

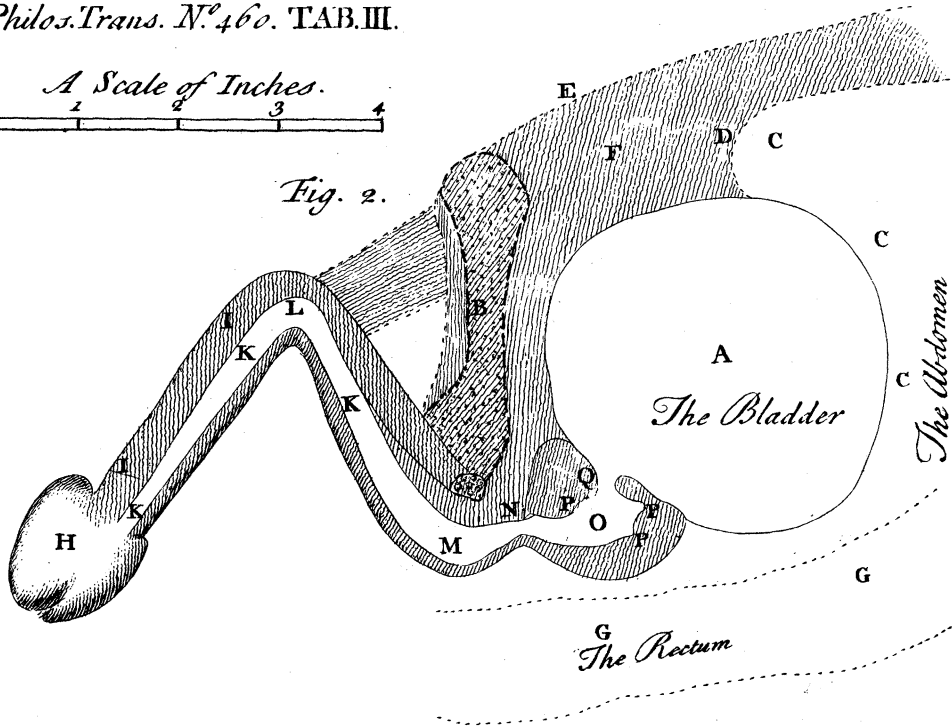


Fig. 1.

