

Some Observations

Concerning the Organs of Generation, made by Dr. Edmund King, a Fellow of the R. Society, and by Dr Regnerus de Graeff, Physician in Holland; which later occasioned the publishing of the former.

The Observations of the former we shall here declare, as he presented them in writing to the R. Soc. the 17th of December 1668, which was as follows;

YOU may remember, that about 3. weeks since I brought the *Testiculos Cuniculorum marium* dissected in several shapes; which appear'd to several of this illustrious Company, as well as to my self, to be indeed made up of Vessels; and I then had particularly show'd them to M. Hook and some others, and the manner how they lay; who seem'd to be fully satisfied by the help of a good Glass, they then made use of. And being desired, to give in the Account in writing, I cannot but affirm here, that I find the Vessels in the *Testes* of this kind of Animals to lye in round folds, in the manner of the little intestins, but both ends of each roll meeting at their insertion, which seems to be made into the *Ductus Nervosus*: And every one of these little rolls are very curiously embroidered with other vessels, which I Judge to be Veins and Arteries by reason of their reddish colour; appearing in them even to the bare Eye.

These little rolls lye in ranges, having a kind of uniformity not unpleasant to behold by a good light. But I do not mean, that every one of these rolls is one entire tube, but consists of many tubes, besides the said Embroidery of Veins and Arteries: For, when I cut one of the said rolls transverse, there seem'd to me (and so, I suppose, will it do to any, that think it worth examining,) 5. 6. or more distinct tubes in one roll, contain'd as 'twere, in one common *membrana*; but the fine texture and tenderness of them is such, that they will not admit of expansion in such a manner, as some other *Testes* will, and especially as that of a *Ratt* is said to doe by Dr de

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Graeff

Graeff (if we mistake him not ;) yet if it shall appear, that they are really made up of vessels, though of never so many sorts, I humbly conceive you will not think the Experiment lost, because I suppose the chief thing intended by these trials to be, that it may be well known, what indeed the Body of the *Testes* is made of ; Whether indeed it be a *Congeries* of Vessels and Liquors without any intermediate substance, as was asserted by me to many of this Honorable Company, several years agoe, concerning most if not all parenchymous parts, which was inserted in Numb. 18 of the *Ph. Transactions*, since which time I have made several Experiments of the same kind, about the *Testes*, the *Pancreas*, and other so esteem'd *Glands* ; and as far as I have examined them, I find them to be only a Texture of fine Tubes or ducts, with more or less liquor, without any other substance.

But perceiving, the *Testes* of several Animals to be variously compos'd and intertext ; I proceeded *ad Testiculos Tauri*, which I have dissected and order'd several wayes ; some boyled, others broiled, others infused in Spirit of wine, hot and cold ; &c. and upon the best examination, I can make, I cannot see any of this intermediate substance, or indeed any thing else, that is not Vessel or Liquor.

Now in obedience to your comands, I have added another Experiment, and that is *Testiculi humani*, (the exact knowledge of whose fabrick we suppose to be chiefly aimed at in this kind of Inquiry,) hoping to prove it clearly, and perhaps to put it out of dispute, That it is nothing else but a *Congeries* of Vessels of various sorts, and their several Liquors ; and that there is no such thing as an intermediate substance (by what name soever it be call'd ;) And to demonstrate this, I think, it will evi-

* See Fig. 1. which represents only the 4th or 5th part of what was exhibited of the same testis after the same manner with this on Glass.

dently appear to the bare Eye, by what I have here expanded, * which is the true genuine substance *Testiculi humani*, I mean, the Body of it, after the *Tunica albuginea* is remov'd, without any addition or diminution, excepting only what Liquors are dryed up during the time of the Expansion, which could not be prevented in making such a Scheme of it,

as this is. And this is continued from one end to the other of the Glass, on which you see it exhibited, in several places, without breaking; which breaking yet does not at all prejudice the truth of this Experiment. And although I had not time to open every part, which you see to be like that substance, I deny; yet I can order it so, as to show you with ease, that that also is nothing but Congeries of Vessels, as aforesaid, not yet opened; fix on what part you please.

And if it should be objected, that this may be drawn out into *seeming* Vessels, which yet may not be *really* such; I answer, that these Vessels have the same appearance in the Body of the *Testis*, as to denote them such, before they are drawn out; and in the extension it does sometimes so happen, that one of them will extend easily near halfe a yard long, before it breaks, though so exceeding delicate and tender, as you may imagine: And when it is thus extended, it hath a kind of resemblance of the corrugations of the *Epididymis*, and keeps the same figure and magnitude in the whole extent of them, as to the sight, unless they begin to dry, and then you may see them loose their *girations* upon stretching: as you may see of both sorts on the Glass above mentioned.

And if the greatest part of these Vessels are Arteries, or other Vessels, that immediately receive liquors from them; I may prove, I think, from another Experiment, made by Injection into a part of the *Arteria preparans*, before I began to expand the Body of the *Testis*; whereupon opening the part, which I saw discoloured, I found, that many of these Tubes had received some of the fine particles of that matter, which I tinged my injected Spirit with.

And to prevent another Objection, that might arise, *viz.* That these particles might possibly change their colour only outwardly; I used other endeavours to assure my self, that the said particles were indeed included within the Cavities of these tubes. In the doing of which, I did moisten those two Tubes with Spirit of wine, to see whether that would remove or alter those particles; but finding no such thing, I prickt an open'd with a fine needle part of the containing tube, whereupon I saw issue forth several of those liquid particles aforesaid mentioned

tioned: Which assures me farther that this is a mere Scheme or Congeries of vessels.

I have made several other Experiments of this kind, about other parts of the Body, not to mention the Muscles, Heart, and Kidneys, because I suppose, that few men will now undertake for a *parenchyma* in them. And as I have opportunity, I shall shew, I hope, that all sorts of *Glands* (so called) are nothing else but Vessels (and their Liquors) variously wrought, and receptacles of several Liquors for divers uses; the difference of which alters their Colour, Consistence &c. My meaning is, that there is in no reputed *Gland* any other thing, than in the Body of the Testis, *viz.* That it hath not this or that intermediate substance, but that the Liquors, regularly come and go to and through them in fine tubes (in such and such heaps and figures, as may make them appear so and so form'd in several parts of the Body, where they are situated,) As also, that the more conspicuous Vessels of the Body have other vessels, that help to make up their Coats, and serve for the nourishment of the same, besides such, as import or export those liquors, for the conveyance of which they were designed for common use. But of this hereafter, as occasion shall serve.

So farr Dr King: As to Dr. de Graeff, we shall deliver what he lately imparted to us upon this subject, in his own words, extracted out of his Letter dated July 25. 1669. at Delft: accompanied *cum Testiculo Gliris dissoluto, & transmisso in Spiritu vini*; represented in Fig. II.

Quod Clar. D. Clark ait, Se parenchyma (quod succum quendam denotare dicit affusum vel effusum & aliquomodo concretum in vasculorum & fibrillarum interstitiis,) in Testiculis virorum & aliorum etiam animalium, testimonio sensuum ostendere posse; hoc Ego, pace tanti viri dixero, non nisi Autopsiâ edoctus admittere possum. Quandoquidem sæpissimè Hominum aliorumque Animalium testiculos, exceptis tenuissimis quibusdam membranulis, ita dissolverim, ut ne umbra quidem talis parenchymatis remaneret; imò, quod magis est, quorundam Animalium testiculos ita dissolvi, ut visus acie ne quidem membranula illa conspicerentur. Et ut verba mea factis comprobem, mitto ad Te Gliris testiculum meo modo dissolutum, ut videas, an Glandula tales in Testibus (quales

les proponit *Clar. Dn. Clark in Epist. sua*, 18. Maji, 1668. *Transactiōibus Philosophicis inserta*) vel etiam Parenchymatale, quale in *Epist. sua* 10. Maji, 1669. describit, reperiatur. In hunc ferè modum reliquorum Animalium Testiculos dissolvere possum, cā tamen diversitate, ut in nonnullorum Testibus aliqua membranula tenuissima, & in quorundam, radix præterea Epididymidis Highmori remaneat.

So farr these two industrious Physitians; which though it looks very fair to evince, that the *Testes* of Animals are made up of nothing but Vessels and their liquors, yet doth our Learned and Inquisitive Dr. *Timothy Clarck*, and divers other Ingenious and expert Anatomists and Physitians still doubt, whether that be so indeed, considering that not only it cannot be denied, that this curious heap of Strings or suppos'd Vessels was at first cov'ed all over with a Mucous matter (which in so fine and tender a part may well be thought to serve for a *parenchyma*,) but also that *Monfieur de Graeff* must himself grant, that in the said part there are found certain smal Membrans besides those Vessels, he is asserting, such another substance being conceived to be highly necessary to serve for a *medium*, whereby that compounded liquor, which from the greater Vessel passeth into the minute arteries, nerves and lympheducts of the *testes*, may be secreted, and according to the different nature and figure of their several particles conveyed into those several small and subtil v ffels.

An Extract of a Letter

Written by the Learned Dr. William Darston, Physitian at Plymouth, to the Right Honorable the Lord Vice-Count Br uncker as President of the R. Society; concerning a very sudden and excessive Swelling of a Womans Breasts.

My Lord

IN obedience to the commands of the Right Honorable the Lord Ambassadour for *Barbary*, I present your Lordship with a *Phænonenon* and matter of tract in Nature, which, for its rarity and prodigiousness, may, with a lesser check to me from your Lordship for the presumption, and a lesser regret for the avocation,

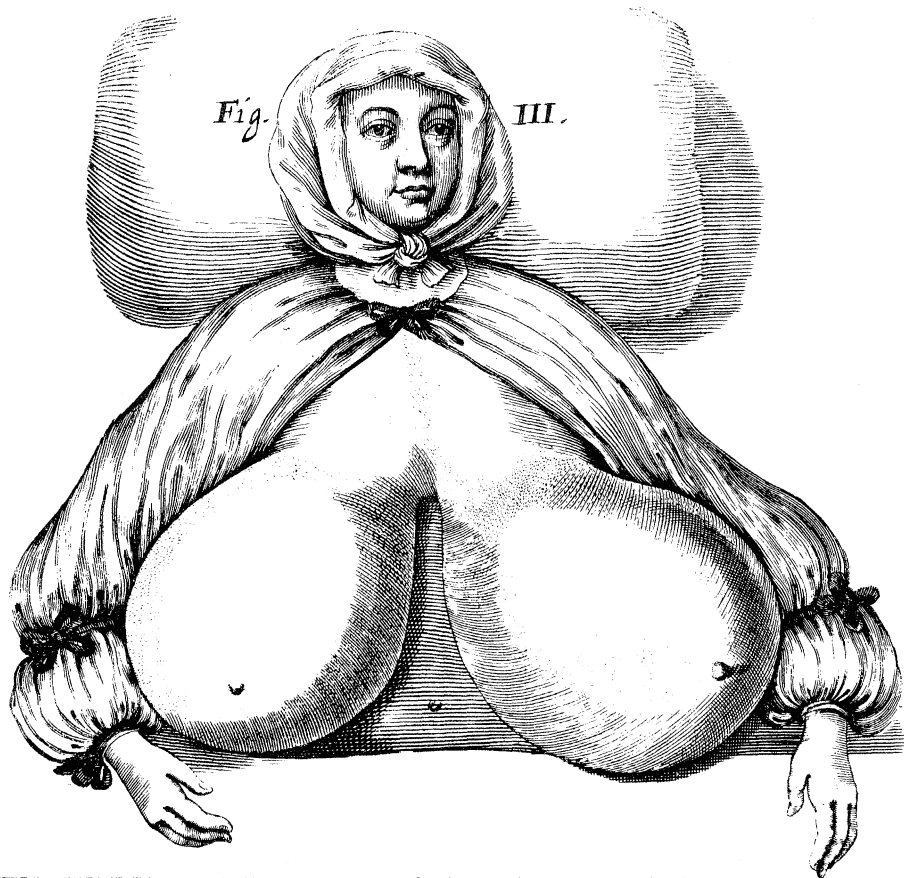
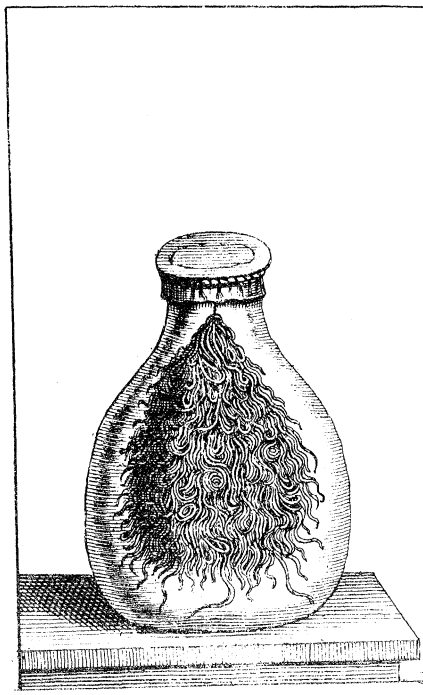
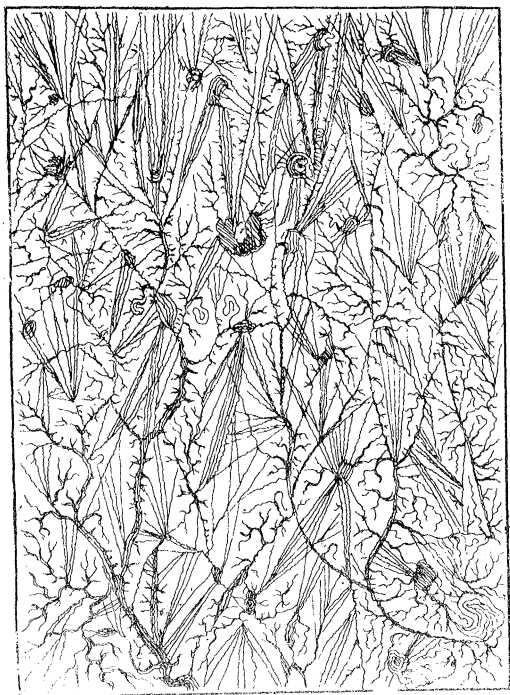


Fig. I.

Fig. II.





Philosophical Transactions

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