A Deſcription of the Uſes of a certain Powder for yielding very ſmooth and cloſe Mettal, and of eaſier carriage, &c.

THis was lately communicated to the Publiſher by a German Phyſitian reſiding at *Frankfort* on the *Mayne*, in High-Dutch; the Engliſh of which is as follows;

1. The Powder, I ſpeak of, maketh the Mettal ſo cloſe and ſmooth, that it leaves not the leaſt pit in the piece, and that a Gun ſo caſt needs no boaring.

2. One third of the Mettal may be ſpared.

3. Such Guns remain clean and neat a long while. In the Year 1672. July 9. there was caſt a Demy-canon; weighing 34 hundreds of weight. This being tryed with a bullet of 34 pounds weight, there was employed the firſt time 12 pounds of powder, the ſecond time as much, the third time 15 pounds, and the fourth time 24 pounds, ſtrong powder; all which tryals it endured very well. Beſides, not long ſince there was caſt a ſmall Petard of only two pounds of this mettal, with which I broke in pieces a beam of a Rhine-foot ſquare, the Petard remaining entire and perfect.

When you have occaſion to carry theſe pieces over land, you ſhall not need ſo many horſes by far as otherwiſe. And in great Ships and Galleons, that are ſometimes mounted with 100 Guns each, you may of the matter of 200 make 300 Guns, performing the ſame, if not a better, effect. If his Majeſty be pleaſed to command a *Specimen* of this Powder for a good tryal, we are ready to ſend it. It is not only eaſie to make, but alſo of ſmall expence.

Extracts of two Letters of Dr. Swammerdam, *concerning ſome Animals, that having* Lungs *are yet found to be without the Arterious Vein; together with ſome other curious particulars.*

WE ſhall give the Reader both theſe Extracts in the ſame Language the Letters were written in. The firſt was written *Jannar.* 24. 1673. at *Amſterdam*, viz;

In

——*In nuperis meis Sectionibus Animalia quædam deprehendi, quibus, licet uterentur Pulmonibus, Vena tamen Arteriosa fuerit à Natura denegata; sic ut sanguis immediate è corde, præviam nullam in pulmonibus Circulationem aut conquassationem passus, per totum corpus distribueretur: quæ Observatio Anatomiam comparatam quàm maximè commendat.*

Scarabæi nasi-cornis genitalia, quoad vasa testicularia, ad amussim cum humanis convenire testiculis, atque ex unico tantùm funiculo, longo, cavo, innumerabiliter flexo, atque (quod nondum in homine mihi visum,) principio seu apice cæco, constare, non sine aliquo stupore lustravi: Ut jam nullibi non manifesta sint divinæ sapientiæ & summi in abjectissimis animalibus artificii vestigia.

Thus He in his first Letter: whereupon being desired to nominate those Animals, that are destitute of the *Vena Arteriosa*, he very obligingly sent, in a second Letter dated *March* 14. 1673. at *Amsterdam*, the following Observations.

——*Cùm videam*, Societati Regiæ *meas non displicere operas, æquo illius desiderio è vestigio obtemperare volui; eoq; libentius, ut aliis etiam in rem adeò notabilem inquirendi ansa daretur, proindeque Naturæ abdita eò citiùs manifestarentur.*

Nemo, opinor, Ranis *pulmones denegabit, postquam Exercitatissimus* Malpighius *tam curiosa tamq; notabilia de iis divulgavit, atque Solertissimus* Gualterus Needham *pulmone manifesto eas donari atque respirare annotavit. In his tamen Amphibiis Vena arteriosa desideratur: Quare nec eorum sanguis ullo modo per Pulmones circulatur, in iisve cribratur, verberatur aut comminuitur; cùm mox ex simplici eorum cordis sinu per totum corpus, pulmonibus intactis relictisque, dispescatur. Quod certè haud debile mihi argumentum videtur, quo, inter alia, Hepati suum Sanguificationis munus, restituere aliquando conabor.*

Arteria tamen manifesta (bronchiali, seu potius pulmonali analoga) in Ranarum pulmonum succingente tunica adest, quæ mirandum in modum, ac retis mirabilis ad instar, per eorum superficiem tenditur, atque minutissimis suis propaginibus sensim ad interiores Vesiculas progreditur; ubi, ut Ego quidem arbitror, cum Vena pulmonali Anastomosin patitur, etiam oculis manifestam. Venosum illud vas Arterioso duplo majus: In Pulmonum cavo,

at præcipuè in Veſicularum ejus oris ac limbis ſitum eſt, à quo omnibus cellulis, imò & ipſi tunicæ ſuccingenti, capillaribus ac ferè inviſibilibus ramuſculis proſpicit.

Animalia, quæ ſuſpicor eandem cum Ranis Pulmonis ſtructuram obtinere, ſunt Bufones, Lacertæ, Serpentes, Chamæleontes, Teſtudines, Salamandræ aquaticæ, *& ſi quæ ſunt alia pulmonibus Membranoſis inſtructa; quorum ſtructuram mihi nondum licuit perquirere. Suffecerit jam indicaſſe animalia, Viriſque me longè ſagacioribus viam monſtraſſe.*

Cùm videam vobis grata fuiſſe, quæ de Naſi-cornis Scarabæi genitalibus nota veram, non alienum fore duxi eorum delineationem Cl. Tuæ tranſmittere; in qua imprimis exhibentur non modò Teſticuli ex unico funiculo, duos pedes & ſex pollices longo; ſed & Vaſa Deferentia, ſemen copioſum ac album, quando læduntur, ſtillantia; nec non veſiculæ ſeu potius glandulæ ſeminales ſex, admodum elegantes; glandularumq; ſeminalium ductus protenſi, materiam ſeminalem ſub-flavam (ut in hominibus ac brutis quoq; obſervatur) continentes.

An Accompt of ſome Books.

I. *LA STATIQUE, ou* La Science des Forces Mouvantes, *par le* P. Ignace Gaſton Pardies, *de la Compagnie de Jeſus.* A *Paris*, 1673. *in* 12°.

THE Learned Author of this Book had propoſed to himſelf to write a whole Body of *Mechanicks*, ſuch an one, as might be accommodate to ordinary Capacities; he conceiving, that there had not been extant hitherto a compleat ſyſtem of that Science, or, if there had, it did exceed the reach of moſt Readers: which latter he thinks to be the Character due to Dr. *Wallis* his Three Tomes *de Motu & Mechanice*, of which we gave an Account N°. 54. p. 1086. N°. 61. p. 2005. N°. 76. p. 2286.

But ſince the publication of this part of it, we underſtand that he hath been prevented and cut off by an intimely Death; being regretted by thoſe that knew his frankneſs and ſtrong inclinations to promote philoſophical knowledge. How far he hath indeed advanced thoſe other parts of this Deſign, and, whe-