Si tamen Extiterit aliquis ingenii adeò lividi & Sceptici, ut præmiſſis fidem detrahat; conſulat velim Clariſſ. Schenkij Obſervat. cap. de calculo veſic. et tum forte concedat me non planè ἀδύνατα & δύσατα hic loci tradidiſſe.

Malbani, Jun. 15. 1704

VI. *An Experiment made at a Meeting of the* R. *Society, Decemb.* 20. 1704. *Of firing Gun-powder on a red hot Iron in* Vacuo Boyliano. *By Mr* Fr. Hauksbee.

THe Candent Iron being included in a Recipient proper for that purpoſe, and the Air withdrawn (which was in about two minutes of time) the Mercury then in the Gage ſtanding at 29 inches ', a quantity of Gunpowder was made immediately to deſcend upon the red hot Iron, which continu'd upon the ſurface of it ſome ſmall time before it went off, and then was obſerv'd not to fire all at once; and the laſt of the Quantity that did ſo, ſeem'd to give the greateſt flaſh: Upon which, the Mercurial gage was taken notice of to deſcend ſomething more than an Inch, it riſing again $\frac{1}{10}$ of the ſame. And upon ſeveral Repetitions of the like quantity of Powder (the factitious Air being always firſt withdrawn) the Appearances were very reſembling. Again, upon Purging the Recipient of the factitious Air, and the Mercury elevated in the Gage as at firſt, three quantities were caus'd to deſcend upon the Iron, whoſe Exploſion, as well as the Air produc'd from them, ſeem'd in proportion to the quantity of Powder: The Mercury then in the Gage ſubſiding to 25. But upon dropping 6 Quantities (the Recipient being firſt purg'd as before) which Quantities not deſcending all at once, but ſucceſſively as faſt as might be, the Quan-

Quantities that firſt reacht the (ſtill ſgnited) Iron taking fire, by their flame making an Exploſion of the whole, at once blowing up the Recipient, altho the weight of Air incumbent on it was equal to 144 *l.* ½, accounting the Receiver at 3 inches ½ diameter, but was ſomething more, which does ſufficiently allow for the want of height of Mercury. The Gage then ſtanding at 29 ½, inſtead of 30, from which the Calculation is made. The Gunpowder us'd was the common Glas'd ſort; and the weight of the ſix quantities, which remov'd the Recipient, with ſo great a Preſſure incumbent on't, was but 7 grains, each Quantity weighing ſomething more than one. I did not obſerve the Recipient to be broke before it reach'd the Floor. It was thick lin'd with Sulphureous and Nitrous Steams, ſo that the flaſhes of Fire thro the Clowdineſs of the Glaſs ſeem'd very much to reſemble faint Lightnings. The Content of the Receiver was equal to about 25 ounces ½ of Water, allowing for the Bulk of Iron and Pedeſtal.

VII. *An Account of an Experiment made* Decemb. *the 26th*, 1704. *To try the Quality of Air, produc'd from Gunpowder, fir'd in* Vacuo Boyliano. *By Mr* Fr. Hauksbee.

UPon making the late Experiment of firing Gunpowder in *Vacuo*, it was hinted as well worthy of tryal, Whether the Factitious Air of fir'd Gunpowder was endu'd with any Quality differing from Common Air. In order to the ſatisfaction of the Query, On *December* the 26th about noon I includ eda Candent Iron in *Vacuo*,