40° long, and 1° or 1° ½ broad; the Brightneſs of the Moon outſhined the Comet as it came near it.

Pleaſe to excuſe the Trouble of this by the Way of *Holland*; but knowing your Curioſity in Aſtronomy, and viewing your Synopſis of the Aſtronomy of Comets, I thought it might be in ſome meaſure acceptable, though we had not Conveniency to take a very exact Obſervation of it. I am,

SIR,

Your moſt humble Servant,

JOHN DOVE.

P. S. Variation *per* Azimuth, *a. M.* about four or five Leagues Weſt from this Bay, by two Compaſſes, 16° 23′ Weſt; and by eight Obſervations in this Bay, Azimuths and Amplitudes, the Medium 15° 56′ Weſt.

V. *An Account of two Experiments of the* Friction *of* Pullies. *By the Reverend* J. T. Deſaguliers, *LL. D. F. R. S.*

AS the Experiment which I made on *Thurſday, January* 14, 173$\frac{0}{1}$, before the *Royal Society* (See *Philoſ. Tranſ.* N° 423.) did perfectly agree with

with my Theory of Friction, I was willing to try how the ſaid Theory would agree with ſuch a Tackle of Pullies as is commonly uſed in Building.

The firſt *Experiment* was made with a Tackle of five Braſs Sheevers in Iron Frames or Blocks; that is, three Sheevers in the upper Block, and two in the lower.

Having made an Æquilibrium, by hanging one Hundred and a quarter at the lower Block, and a quarter of an Hundred at the running Rope; I added 17 Pounds and a half before the Power could go down and raiſe the Weight.

Experiment 2. Two Hundred and an half being balanced by half an Hundred, the Addition of 28 Pounds made the Power raiſe the Weight.

N. B. The Sheevers were five Inches Diameter, the Pins half an Inch, and the Rope three quarters.

In the firſt Experiment 17 Pounds and an half exceeds by 4 Pounds and a half the Sum of the Frictions deduced from the Theory. But in the ſecond Experiment 28 Pounds exceeds the Sum of the Friction but one Pound.

The Reaſon of this appeared to be, that the Rope at firſt was too big for the Cheeks that held the Sheevers; but in the ſecond Experiment, where the Rope was more ſtreteched, it was ſomewhat diminiſhed in Diameter, and ſo brought off from rubbing ſo hard againſt thoſe Cheeks.

From knowing the Quantity of Friction *à priori* in ſuch large Tackles, we may know what to expect in Practice: For if one man, who for a ſmall time can exert the Force of one Hundred Pounds, thinks that

that he may draw up a Stone, or a Roll of Sheet-Lead, or any other ſuch Weight to the Top of an Houſe with a Tackle of Five (becauſe this would ſeem feaſible from mechanical Principles) will find himſelf miſtaken on account of the Friction, which will not be ſurmounted without an additional Force of fifty Pounds.

FINIS.

ERRATA.

PAG. 154. l. 24. and p. 356. l. penult. read, *They may be either of Metal, or Glaſs Plates foiled having their two Surfaces*, &c. Tranſact. Numb. 410. p. 142. l. 20. *perterriti.* P. 143. l. 15. *Ventriculo.* l. 18. *disjici.* P. 148. l. 3. *ſignificari.* l. 11. *Phænomeno.* P. 151. l. ult. *Lond. pro Leg.*

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