

Cryſtallum iſtam in complura fruſta confregi, & fruſta microſcopiis applicavi ; diſquirere volens num & illa ex ſuperſtratis ſibi lamellis compoſita eſſent : quâ ratione Adamantes magnitudinem ſuam adeptos eſſe dixi. Sed, tametſi perquiſitionem iſtam ſæpius iteraverim, ne tantillam quidem lamellam in iis deprehendi. Iſtud autem in Cryſtallis, quas quidem præ manibus habebam, plerumque animadverti, in omnibus earum lateribus, quæ numero ſena erant, tranſverſas protendi lineolas, alias aliis ſitu aliquantulum ſuperiores ; tamquam ſi illic, increſcentibus Cryſtallis, ortæ productæque fuiſſent : quâ ſuper re, quantumcumque Cryſtallorum numerum ante conſideraverim, atque confregerim, numquam ipſe mihi ſatisfacere potui.

Delphis in Hollandiâ,
Nov. 20. 1722.

IV. *An Account of an Optical Experiment made before the Royal Society, on Thursday, Dec. 6th, and repeated on the 13th, 1722. By the Reverend J. T. Desaguliers, L. L. D. F. R. S.*

SIR *Iſaac Newton*, in his *Optics*, (*B. I. Prop. I. Exp. 2.*) relates an Experiment made with a Card, or Paper, painted red on one half and blue on the other, which being enlighten'd by a Candle, the Image, by the Interpoſition of a *Lenſ*, is ſo projected on a white Paper, held on the other ſide of the *Lenſ*, that the Place where the blue half appears diſtinct, (or as the Opticians term it, the diſtinct Baſe of the Image of the blue half) is much nearer to the *Lenſ* than the Place of the Image of the red half. And this is made
apparent

apparent, by seeing on one of these Images the Representation of the black Threads, that are wrapp'd round the Card, whilst they are not visible on the other. This is fully described in the Place abovemention'd ; but yet a * Gentleman abroad has call'd the Experiment in question, and denied the matter of Fact, saying, that he could not make it succeed, but proposes an Experiment of his own to disprove the different Refrangibility of the Rays.

Upon this I was desir'd to make the Experiment over again, before the Royal Society, which succeeded well. But because there must be care taken in the making it, I shall mention all the Particulars observed in the Performance ; which, if duly put in practice, will make the Experiment always succeed.

I painted one half of the Card R B, (*Fig. X.*) as B, with *Ultramarine*, made deeper with a small Mixture of *Indigo*, and the other half R, I painted over with *Cinnabar* heighten'd with a little *Carmine*, so that the Line, that separated the red from the blue, was perpendicular to the long sides of the Card.

Then I wrapp'd a black Silk four times together, over the middle of each painted part of the Card, as in *Fig. XI.*

Upon a square Trencher, *Fig. XII.* painted black, and suspended vertically against a Wall, I fix'd my colour'd Card with a Pin, and the Room being made very dark, I enlighten'd the Card with a strong Light thrown upon it from a dark Lanthorn, that had two Convex Glasses in it ; then setting up the *Lens LL*, (represented by *Fig. XIII.*) in such manner, that its Axis pass'd perpendicularly thro' the Image of the Card, at

* A&T. Erudit. Lips. Supplem. tom. 8. §. 3. p. 130. 131.

the distance of nine Feet from the Card, the Image of the Card being receiv'd upon a white Paper, at the distance of nine Feet on the other side of the *Lens*, at B, the blue half appear'd distinct, with the Image of the black Silk going vertically along its Plain, whilst no Appearance of the black Silk was perceivable on the red half. Then removing the Paper about two Inches, to R, the red half of the Image had a black Line very plain upon it, whilst it was invisible on the blue half. This was more evident, when a strong Image of the Candle was successively thrown on that half of the Card, whose Image was under Examination. When the Paper was held in the middle between R and B, the black Line upon each Colour was visible, but indistinct.

N. B. Care must be taken that the Colours be deep, because having accidentally rubb'd off some of the blue, the Whiteness of the Card under it, made its Image fly out farther, almost as far as that of the red.

FIG. I.

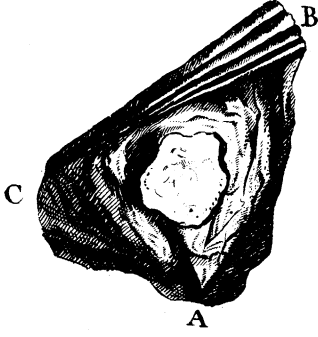


FIG. II.

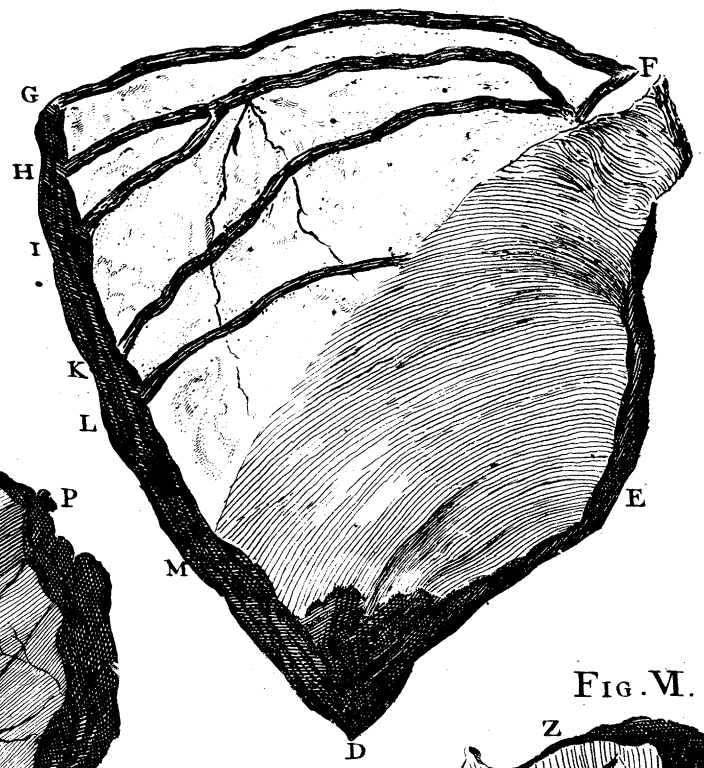


FIG. III.

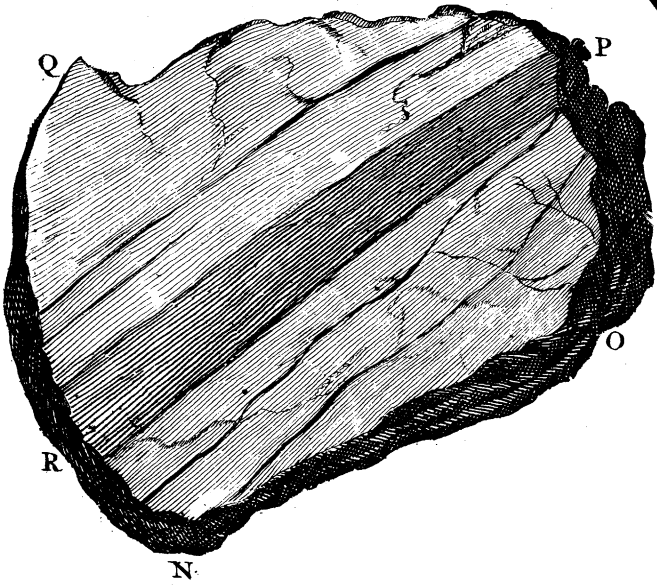


FIG. VI.

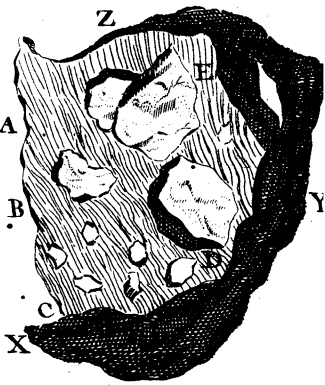
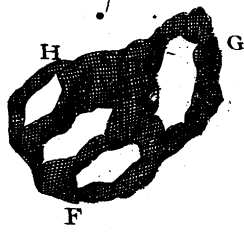
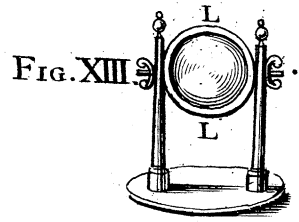
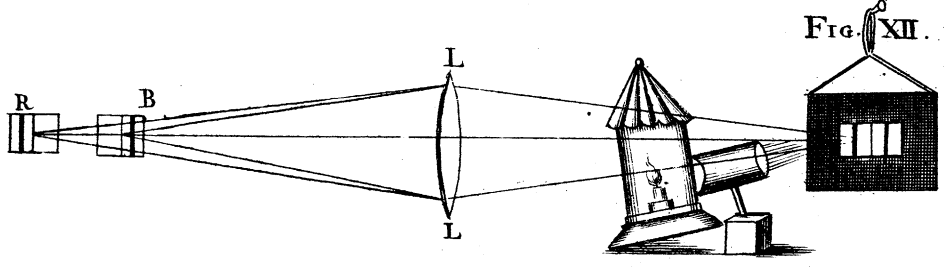
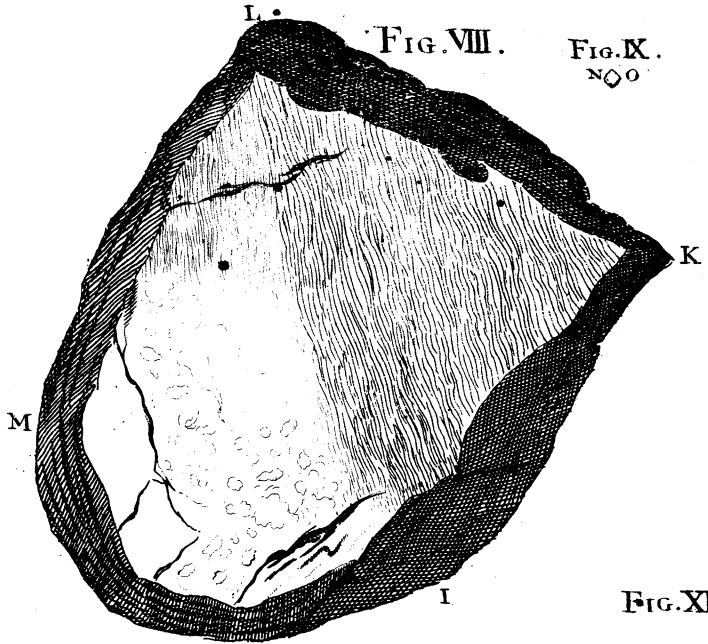


FIG. IV.
s o t

FIG. V.
v o w

FIG. VII.





J Sturt sculp.

FIG. I.

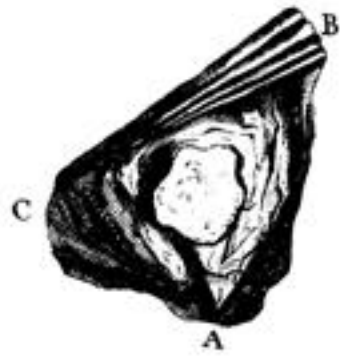


FIG. II.

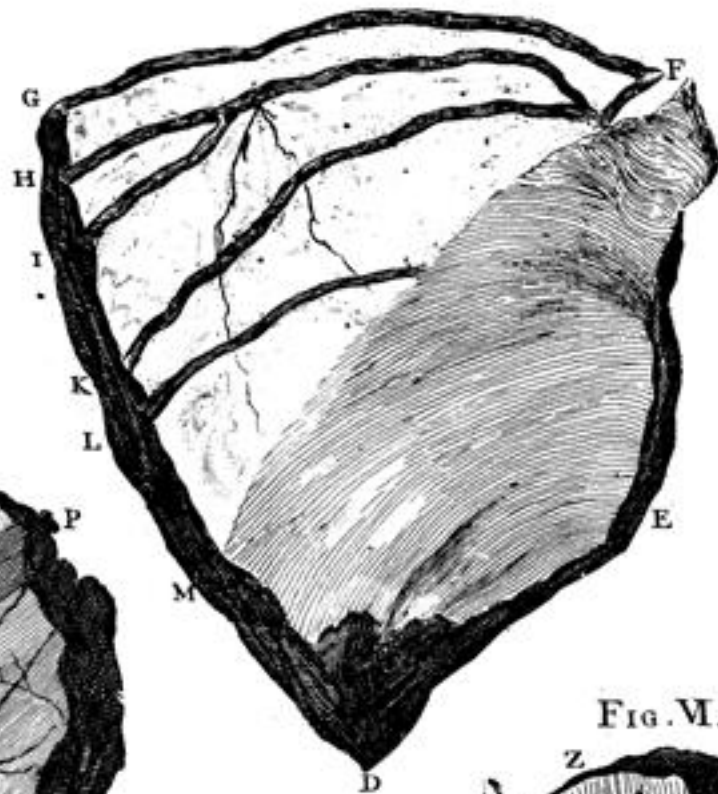


FIG. VIII.

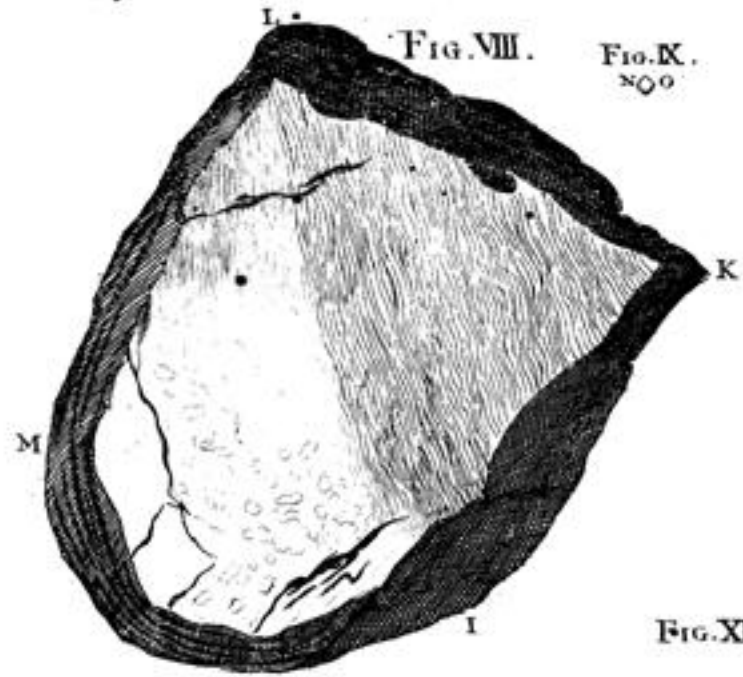


FIG. IX.
NOO

FIG. III.

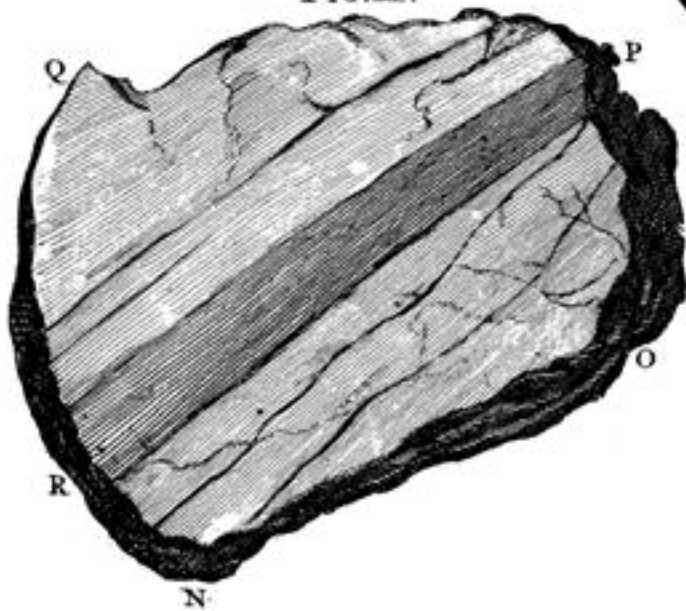


FIG. X.

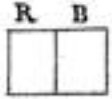


FIG. XI.



FIG. V.



FIG. IV.
SOT

FIG. V.
vow

FIG. VII.

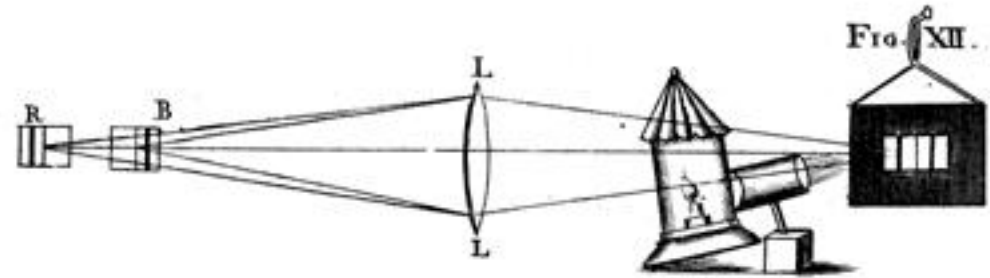


FIG. XII.

FIG. XIII.

