The 28th about 7 in the Morning, I ſaw that the great Spot was much augmented, but the leſſer ones that yeſterday attended it, were vaniſh'd, and that there were two new ones generated at about 1 ½ minutes diſtance from the great one below, and towards the left hand of it the great one was a paralellogram, with a very black diagonal croſſing it, ſee Fig. 5. at 10 a Clock there was another diagonal croſſing the former, and the two leſſer Spots which before were longiſh, had now taken a round form, the Spot c. being much larger than the other at b.

I am not yet furniſh'd with proper Inſtruments to find the poſition of the Suns Spots, with reſpect to Longitude and Latitude on the Suns Disk, ſo I contented my ſelf with obſerving the poſition and variation of the Spo s among themſelves, which afforded me a moſt ſtrange and wonderful variety.

III. *Some Obſervations on the Spots of the Sun, by the reverend Mr* William Derham, F. R. S.

Explication of the Figures.

THe two Circles repreſent the Suns Disk, and N. the Northern part thercof, S. the Southern, E. the Eaſtern, and W. the Weſtern part.

The place of the Spots, and the manner of their Appearance every day, is repreſented with the day of the Month on the Sun's Disk.

But I deſire it may be obſerved, that altho the Figures of the Spots are done pretty exactly, yet their places on the Sun are not ſo, for being unprovided with convenient Inſtru-

Inſtruments for the purpoſe, I could not exactly ſet of their delineations, nor their diſtances from the Suns limb but was forc'd to repreſent them only as well as I could by taking the ſpecies of the Sun upon Paper through a Teleſcope, and ſo marking out their places.

But ſince the laſt appearance of the Spots, I have invented, and have provided my ſelf with an exceeding nice Micrometer, and a Watch that beateth half Seconds, hoping to have been able to have ſeen another Revolution of them.

My Micrometer is not as uſually, to be put into a Tube, but is to meaſure the ſpecies of the Sun on Paper (of any *Radius*) or to meaſure any part of it, which I am inclin'd to think is more exact than the common way. By this means I can eaſily, and very exactly, with the help of a fine thread, take the declination of a Spot at any time of the day; and by my half Seconds Watch, and a fine croſs hair (which latter way I learnt from my Friend Mr *Flamſtead*) I can meaſure the diſtance of the Spot from the Suns Eaſtern or Weſtern Limb.

This croſs fine Hair, I adviſe, from my own experience, ſhould be ſet, not at the exact focal diſtance from the Eye-Glaſs (as uſually) but a little out of that diſtance, nearer towards the Object-Glaſs, becauſe the ſhadow of the Hair will be thereby much narrower, and more ſtrongly appear croſs the ſpecies of the Sun receiv'd on the Paper, which I take this occaſion to note, not only becauſe I believe it hath ſcarcely ever been before obſerv'd, but becauſe it may be of good uſe in taking the Suns altitude, meaſuring his diameter, *&c.* this being a more eaſy, and perhaps a more exact way, than by looking through the Tube.

Being thus provided, if I could have ſeen another Revolution of the Suns Spots, I ſhould have been able to have given the Society a more accurate Account of their Poſition and Motion. But I hope it hath been done by ſome others, and that their more accurate Account may render this of mine

uſeleſs. And this I the more earneſtly wiſh, becauſe I have now little hopes of mending my defects, by reaſon the Spots are all quite gone off. They ſeemed ſtrong enough to have laſted another, or more Revolutions, but none have been viſible ſince the ſixth of this Month, on which day I think I had a glimpſe of a Spot on the Suns Weſtern Limb, about 7 of the Clock in the Morning.

The appearances of the Spots, being in the Figures above, ſet with every day of the Month, I need ſay but little, only take notice of a few things that the Figures do not ſo well expreſs.

The Spot in Fig. 1. was as repreſented, *viz.* 1ſt round and ſtrong, afterwards long, and with a *Nucleus*. The very ſame Spot (I doubt not) I ſaw again on the Suns Eaſtern ſide on *July* 5, but very faint, ſmall and long (as in Fig. 2.) ſo as to be but juſt diſcernible. On *July* 6 it quite diſappeared, both through my Tubes, and on Paper, which is better.

The Spots in Fig. 2. had theſe remarkable appearances and variations. On *June* 28 viewing the Sun towards Evening, I eſpy'd a large, ſtrong dark Spot, with two or more glaring *Nubeculæ* behind it, ſomewhat like the repreſentation in the Figure. Theſe the next day were become four ſtrong dark Spots, the foremoſt with a tail to it, conjoyning the little Spot next it, as in the Figure. On *June* 30. I ſaw Spots, but it being a cloudy morning, and I abſent from my Tubes in the afternoon, the Repreſentation of them in the Figure is not exactly as they were. *July* 4. between two long Spots appeared ſomething like a round *Nubecula*, as in the Figure. The reſt as in the Figures.

Thus, for want of a better from others, I have given the beſt account of the late Solar Spots. The ſingle Spot in *June* may be ſeen to have paſſed above half over the Disk before a very good Friend of mine gave me notice of it. And that or ſome others were, I hear, ſeen in

May:

May: but it was not my fortune to ſee them ſooner; which if I had, I might have been able probably to have made my account better. But notwithſtanding it is imperfect, it may, I hope, introduce better from others: or however be a teſtimony of my great Veneration for the Auguſt Royal Society, and obedience unto the commands thereof, who at one of their Meetings ſome time ſince, were pleaſed to deſire me to procure, or give an account of this matter.

IV. *Some Obſervations concerning the Invention and Progreſs of Printing, to the Year* 1465. *Occaſioned by by the Reverend Mr* Ellis's *Letter, exhibited in* Phil. Tranſ. *No* 286. *Pag.* 1416.

WHat this Gentleman ſays about the Books Printed at *Harlaem* by *Laurence Koſter*, agreeing ſo well with the account given by *Theodore Schrevelius* and others, leaves us little or no room to doubt (who muſt needs take it for granted that his Obſervation is accurate, and the *Dates* to be true;) whether the Honour of the Invention be due to *this* or the other Cities, whoſe Writers have ſo eagerly contended for it; ſince none of them have pretended to ſhew any Book Printed ſo ſoon as *A. D.* 1430 or 1432, or near that time. But the difficulty lies, either in ſhewing why the Practice of this Art ſhould be at a ſtand from *A. D.* 1432. to the noted Reviving of it at *Mentz* by *John Fuſt* and *Peter Schoeffer*, who (as it has been vulgarly, but erroneouſly ſaid) did Print the firſt Printed Book there *A. D.* 1465. namely, *Tully's Offices*: or elſe, in giving any tolerable account of the Progreſs of this Invention during an Interval of above 30 years.

The Appearance of the Spo
on the Sun in June & July
1703. as observed by
W: Derham F.R.S.

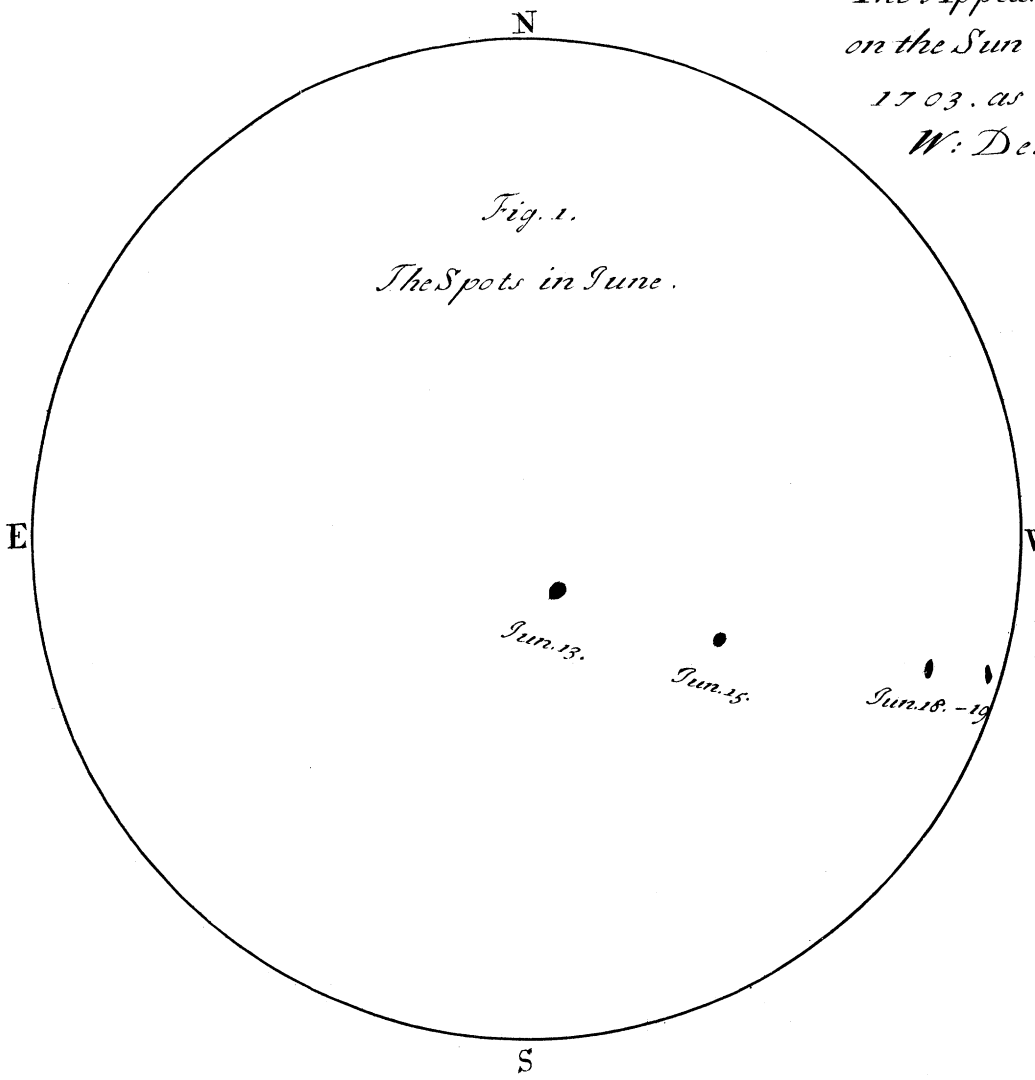
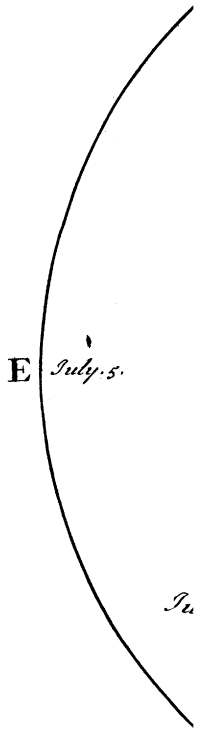


Fig. 1.

The Spots in June.



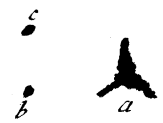


fig. 1.

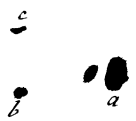
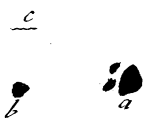


fig. 2.



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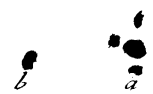

fig. 4.

fig. 5.

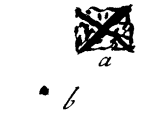

fig. 6.

he Spots
July
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S.

N

Fig. 2.

The Spots in June and July.

W

Jun. 28. Jun. 29. Jun. 30. Jul. 1. Jul. 4. 5. 6.

S

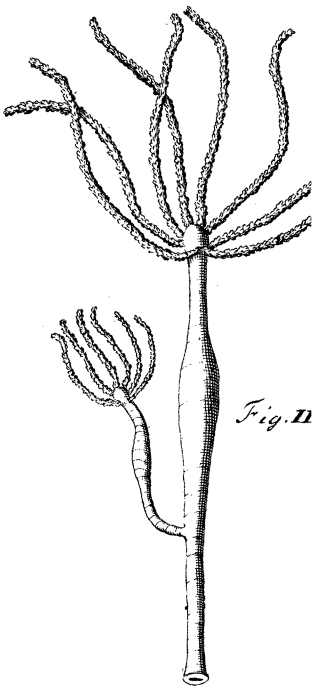
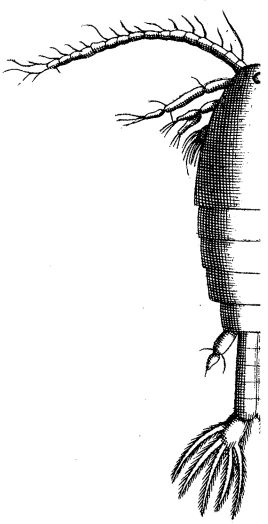


Fig. II

Fig



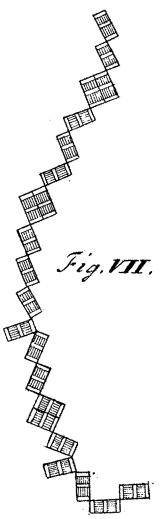


Fig. VII.

S

1703 June 15 16 18

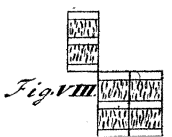


Fig. VIII.

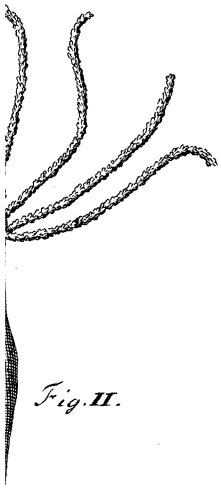


Fig. II.

Fig. III.

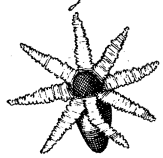
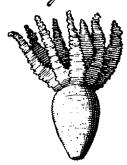


Fig. IV.



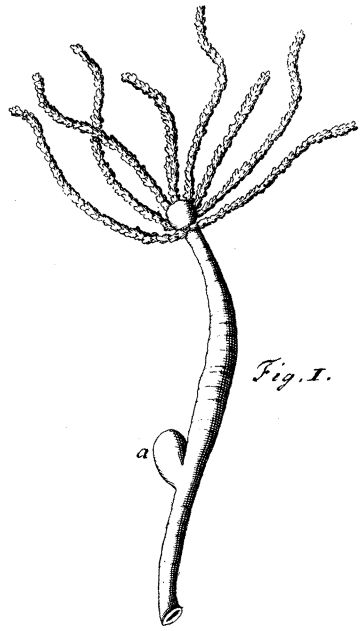
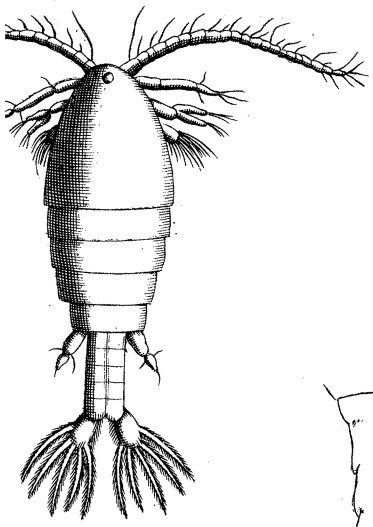


Fig. I.

Fig. VI.



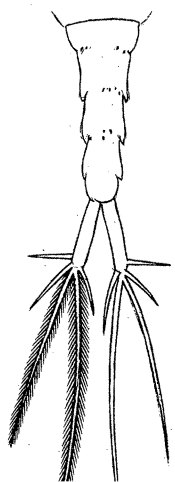
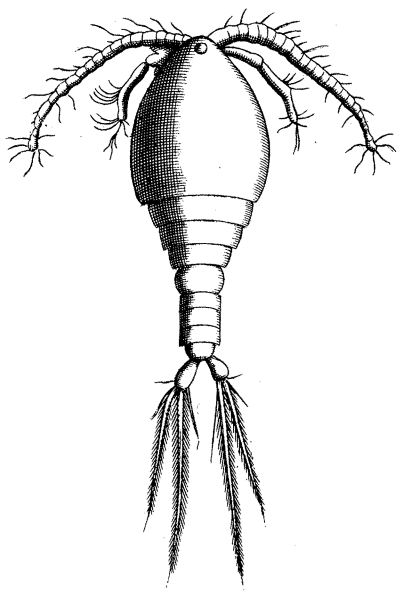
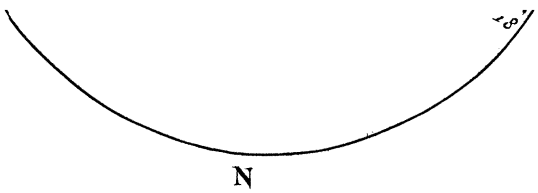


Fig. V.

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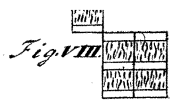
Fig. VIII.

The Appearance of the Spots on the Sun in June & July 1703. as observed by W: Derham F.R.S.

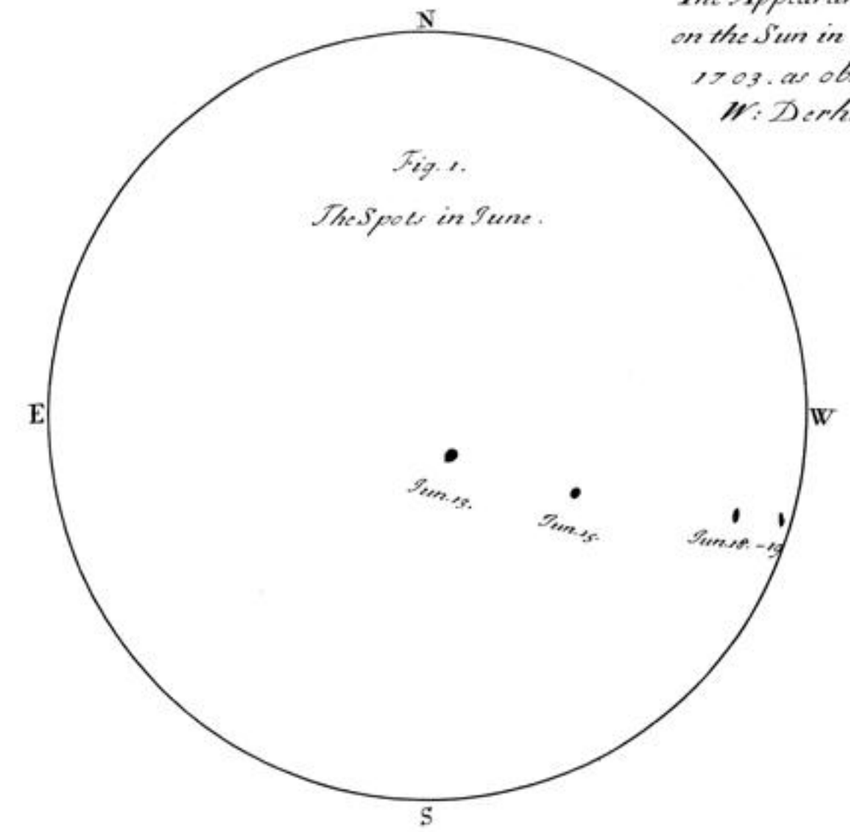

Fig. 1.
The Spots in June.

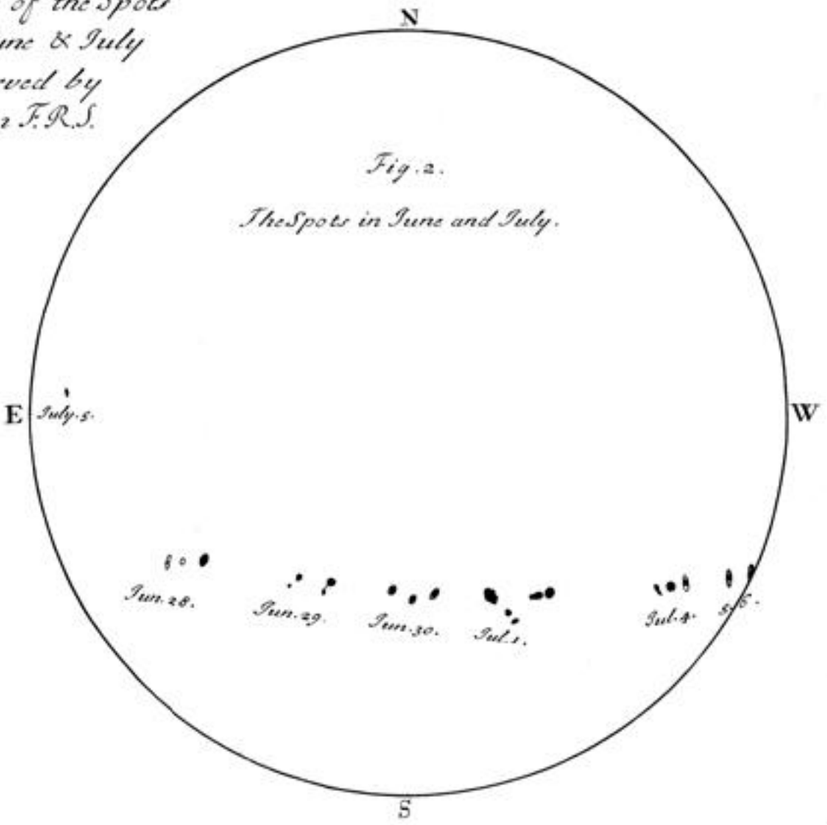

Fig. 2.
The Spots in June and July.

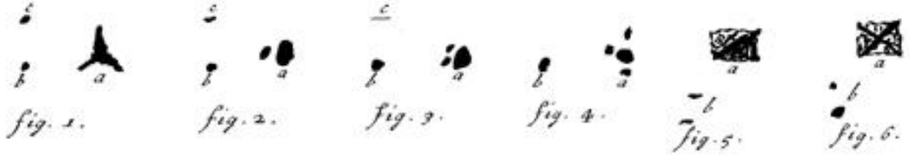

fig. 1. *fig. 2.* *fig. 3.* *fig. 4.* *fig. 5.* *fig. 6.*