I preſerved ſome Plants with their natural Earth, and brought them to *London* alive; and I obſerved the remarkable Change produced by the Sun's Heat on them; for the ſaline Matter in *Greenland*, which certainly was analogous to a fix'd Salt, became, in a Month's time, almoſt to the ſame Volatility as that which naturally grows in *England*.

This I make mention of, in caſe other Gentlemen, who have had the ſame Opportunity, have been remiſs in their Curioſity.

David Nicolſon.

VI. *A Letter from* Edmund Stone, F. R. S. *to* ——— *concerning two Species of* Lines *of the* Third Order, *not mentioned by Sir* Iſaac Newton, *nor Mr.* Sterling.

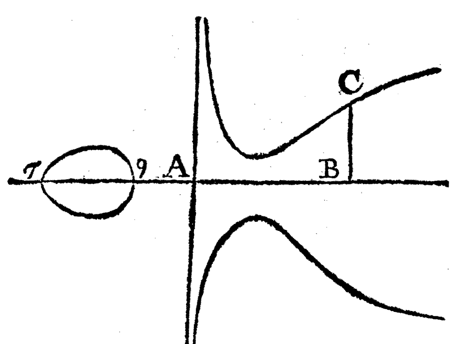
SIR, *July* 31. 1736.

HAVING for ſome time paſt been reading and conſidering the little Treatiſe of Sir *Iſaac Newton*, intituled, *Enumeratio Linearum tertii Ordinis*, as alſo the ingenious Piece of Mr. *Sterling*, called, *Illuſtratio Tractatus* Domini Newtoni *Linearum tertii Ordinis*; I have obſerved, that they have neither of them taken Notice of the two following Species of Lines of the Third Order; and venture to affirm, that the Seventy-two Species mentioned by Sir *Iſaac*, together with the Four more of Mr. *Sterling*, and theſe Two, making in all Seventy-eight, is the exact Number of the different Species of of the Lines of the Third Order, according to what Sir *Isaac* has thought fit to constitute a different Species.

The two Species I mean, are to be reckoned amongst the Hyperbolo-parabolical Curves, having one Diameter, and one Asymptote, at N°. 8. of *Newton*'s Treatise, or Page 104. of Mr. *Sterling*'s; whose Equation is $xyy = \pm bx^2 \pm cx \pm d$; which will give, not Four, as in these Authors, but Six Species of these Curves: For,

I. If the Equation $bx^2 \pm cx + d = 0$, has two impossible Roots, the Equation $xyy = bx^2 \pm cx + d$, will (as they say) give two Hyperbolo-parabolical Figures equally distant on each side the Diameter *AB*. See the 57th Figure in *Newton*'s Treatise, and this is his 53d Species, and *Sterling*'s 57th.

II. If the Equation $bx^2 - cx + d = 0$, has two equal Roots both with the Sign $+$; the Equation $xyy = bx^2 - cx + d$, will (as they say) give two Hyperbolo-parabolical Curves crossing each other at the Point τ in the Diameter. See Fig. the 58th in *Newton*; and this is his 54th Species, and *Sterling*'s 58th.

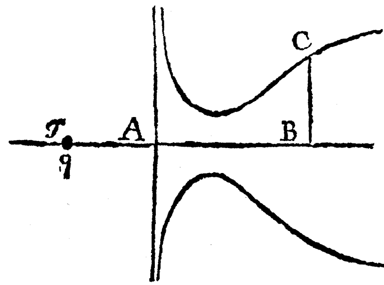


III. But if the Equation $bx^2 + cx + d = 0$, has two possible unequal negative Roots $A\rho$ and $A\tau$, the Curve given by the Equation $xyy = \pm bx^2 + cx + d$, will consist of two Hyperbolo-pa-

rabolical

rabolical Parts, as alſo of an Oval on the contrary Side the Aſymptote or principal Abſciſs. And this is one of the Species omitted by Sir *Iſaac* and Mr. *Sterling*, which is really the 59th Species.

IV. Alſo if the Equation $bx^2 + cx + d = 0$, has two equal negative Roots $A\rho$ and $A\tau$; the Curve given by the Equation $xyy = \pm bx + cx \pm d$, will conſiſt of two Hyperbolo-parabolical Parts, and alſo of a Conjugate Point on the contrary Side the Aſymptote or principal Ordinate: And this is the other Species of theſe Curves omitted by Sir *Iſaac* and Mr. *Sterling*, which is really the 60th Species.



V. If the Roots of the Equation $bx^2 - cx + d = 0$, are real, and unequal, having both the Sign $+$; the Curve given by the Equation $xyy = bx^2 - cx + d$, will (as they ſay) conſiſt of a conchoidal Hyperbola and a Parabola, on the ſame Side the Aſymptote or principal Ordinate. See Fig. the 59th in *Newton*; and this is really the 61ſt Species.

VI. If the Roots of the Equation $bx^2 + cx - d = 0$, have contrary Signs, the Equation $xyy = bx^2 + cx - d$, will (as they ſay) give a conchoidal *Hyperbola* with a *Parabola* on the contrary Side the Aſymptote or principal Ordinate. See Fig. the 60th in *Newton*; and this is really the 62d Species. I remain

Your humble Servant,

Edmund Stone.

VII. *An*