

Letter from Newton to Henry Oldenburg, dated 29 January 1671/2

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An Extract of M^r Newtons letter to M. Oldenburg about the Metallin Composition for an Object-speculum to his Reflecting Telescope

< text from f 14r resumes >

Jan 29th. Cambridg. 16 $\frac{71}{72}$

Sir

Philosophical Transactions N. 81. p. 4006. Not having tryed many proportions of the Arsenick & Metall I am not assured which is absolutely best, but there may conveniently be used any quantity of Arsenick equalling in weight between a sixt & eight part of the Copper. A greater proportion makes the metall brittle.

The way which I used it is this. I first melted the Copper alone, then put in the Arsenick, which being melted I stirred them a little together, bewaring in the meane time that I drew not in breath neare the pernicious fumes. After that I put in the Tin, & again, so soon as that was melted, which was very suddenly, I stirred them well together, & immediately powered them of.

I know not whether by letting them stand longer on the fire after the Tin was melted, a higher degree of fusion would have made the metall porous, but I thought that way I proceeded to bee safest. In that metall which I sent to London there was noe Arsenick, but a small proportion of silver: as I remember 1^s in 3 iij of metall. But I thought the silver did as much harm in making the metall soft & so lesse fit to bee polished, as good in rendering it white & luminous. At another time I mixed Arsenick 3 j Copper 3 vj & Tin 3 ij. And this an Acquaintance of mine hath polished better then I did the other.]

The publishing a description of the Telescope in the Transactions I wholly leave to your pleasure, being willing to submit my private considerations in any thing that may bee thought of publick concernment. [I have sent you by the bearer John Stiles 40^s] for admission money. And I hope I shall get some spare howers to send you <14v> also suddenly that accompt which I promised in my last letter. In the meane time I rest

Your very faithfull Servant

I. Newton.
