

VIII. *An Account of a small Telescopical Comet  
seen at London on the 10th of June 1717.  
by Edm. Halley, LL. D. R. Soc. Secr.*

**T**HAT the Number of Comets traversing our Solar System is much greater than some, on account of the late rareness of their Appearance, have supposed it, may be collected from several small ones which have within few Years been described in the Memoirs of the *French* Royal Academy of Sciences; those diligent Observers assuring us that they discover'd one in *Sept.* 1698. another in *Febr.* 1699. a third in *April* 1702; and again a fourth in *Novemb.* 1707. none of which, as far as I can learn, were ever seen in *England*; all of them having been very obscure and without Tails, by means whereof Comets usually first shew themselves. And besides these, two other Comets with remarkably long Tails, the one in *Novemb.* 1689. the other in *Febr.* 1702. past by unobservable in these our Northern Climats, they having great South Latitude, and their Motions directed toward that Pole. Hence we may justly conclude that the Returns of Comets are much more frequent than is vulgarly reckoned, and that it is only contingent that for these 35 Years no one of them has been seen and observed by our Astronomers.

But there may be still a much greater Number of these Bodies, which by reason of their Smallness and Distance are wholly invisible to the naked Eye; so that unless Chance do direct the Telescope of a proper Observer, almost to the very Points where they are (against which there are immense Odds) it will not be possible

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for them to be discovered: And that this is not barely a Conjecture, take the following Instance.

On Monday, June 10. in the Evening, the Sky being very serene and calm, I was desirous to take a View of the Disk of *Mars* (then very near the *Earth*, and appearing very glorious) to see if I could distinguish in my 24 Foot Telescope, the Spots said to be seen on him. Directing my Tube for that purpose, I accidentally fell upon a small whitish Appearance near the Planet, resembling in all respects such a *Nebula* as I lately described in *Philos. Transact.* N<sup>o</sup> 347. but smaller. It seemed to emit from its upper part a very short kind of Radiation directed towards the East, but Northerly withal; which, considering its Situation, was nearly towards the Point opposite to the Sun. The great Light of the Moon, then very near it and also near the Full, hinder'd this *Phænomenon* from being more distinctly seen; but its Place in the Heavens was sufficiently ascertained from the Neighbourhood of *Mars*, from whom it was but about half a Degree distant towards the Southwest, the difference of Latitude being somewhat more than that of Longitude; and *Mars* being at that time in  $\mp 17^{\circ}. 30'$  with  $3^{\circ}. 48'$  South Latitude. I concluded the place thereof in  $\mp 17^{\circ}. 12'$  with  $4^{\circ}. 12'$  Lat. South, or thereabouts; the which may yet be more securely determined by help of two small fixt Stars I found near it, the more northerly of which I judged to have the same Latitude with it, and to follow it at about the Distance of six Minutes; the other Star was about four Minutes more southerly than the former, and about one Minute in consequence thereof; the Angle at the Northern Star was a little obtuse, as of about 100 Degrees, and the Distance of our *Nebula* from it *lesqu海岸* to the Distance of the two Stars, or rather a little more. The Reverend Mr. *Josias Williams*, Mr. *Alban Thomas*, and my self, content-

contemplated this Appearance for above an Hour, *viz.* from 10<sup>th</sup> to near twelve, and we could not be deceiv'd as to its Reality; but the Slowness of its Motion made us at that time conclude that it had none, and that it was rather a *Nebula* than a *Comet*.

However, suspecting that it might have some Motion, I attended the next Night, *June 11th*, at the same Hours and in the same Company, when with some Difficulty by reason of the Thickness of the Air, we found the two little Stars. but the *Nebula* could not at that time be seen, which we then imputed to the want of a clearer Sky. But on *Saturday, June 15.* the Moon being absent, and the Air perfectly clear, we had again a distinct View of the two Stars, with an entire Evidence that there remained no Footstep or Sign of it, in the place where we had first seen this *Phenomenon*, which we therefore now found to be a *Comet*. and that being far without the Orb of the Earth, and in it self a very small Body, it appeared only like a little Speck of a Cloud, such as would scarce have been discerned in an ordinary Telescope, much less by the naked Eye.

IX. *An Account of Books*, I. Joannis Poleni in Gymnasio Patavino Phil. Ord. Prof. & Scient. Societatum Regalium, quæ Londini & Bero- lini sunt, Sodalis, *De Motu Aquæ mixto*, Libri duo, &c. 4<sup>to</sup>. Patavii 1717.

**T**HE Subject here treated of not having hitherto fallen under the Consideration of Mathematical Writers, the Learned Author is obliged to make use of several Terms, which are either wholly new, or at least