(measuring from aphelion), from its geometrical representation $AP = QR$, as shown in Figure 6 [1, p. 244] (where $\angle QBC = \beta$ is the auxiliary angle and e is the focal eccentricity). From that figure it is also simple to substitute for $d\theta$ by differentiating the relation $PH = r \sin\theta = b \sin\beta$, while dt is determined as in equation (3) of 91.54. Indeed because this elegant approach is so often overlooked, I felt obliged to provide a complete account of the geometry and kinematics of a Sun-focused elliptic orbit in terms of the auxiliary angle [2]. (The Appendix (pp. 386-392) contains a modern mathematical demonstration of the exactitude of the geometry and kinematics in an elliptic orbit.) In this context, no approximations are involved.

Most people have no reason to be aware that the word 'mean' has many different interpretations in ancient astronomy. In Kepler's work we can find 'mean anomaly' for time as an angle; 'mean longitude' for the mid-orbit/quadrant position; 'mean' as an ordinary arithmetical average; and occasionally 'mean' in the sense of 'uniform', when applied to motion. Moreover, though some mathematicians may not like the notation used for the auxiliary angle, the angle itself, referred to as 'the eccentric anomaly', has far more ancient antecedents. (The term is still in use today, while the polar angle is known in astronomy as 'the true anomaly'.)

References

1. A. E. L. Davis, Some plane geometry from a cone, *Math. Gaz.* **91,** (July 2007) pp. 235-245.
2. A. E. L. Davis, The Mathematics of the Area Law: Kepler's successful proof in *Epitome Astronomiae Copernicanae* (1621), *Archive for History of Exact Sciences* **57**(5), 2003.

Correspondence

DEAR EDITOR,

I was very happy to learn in the July issue of 2006 that I won equal second prize in a beauty contest, for my article 89.38 'An identity involving binomial coefficients'. I was less than impressed that in 'Average lengths for the two-player Name Game', David Neal found it necessary to prove the same identity, with no reference to my paper.

Moreover, in 91.11, 'Explicit formula for power sums of an arithmetic sequence', N. Gauthier makes no reference to my much briefer note 90.16 'Evaluating $\sum_{n=1}^{N} (a + nd)^p$'.

Also, in 91.13, 'A new proof of a curious identity', X. Wang and Y.Sun make no reference to my note 87.68 'Comment on 85.38 A curious identity'.

I would appreciate it if you were to alert your readers to all the above.

Yours sincerely,

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