

## ***Interactive comment on “Systematic and rapid extraction of direct downwelling irradiance estimates from Campbell-Stokes sunshine recorder archives” by A. M. Horseman et al.***

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The referee is correct to point out that our text does seem to give Sir George Stokes credit for the design of the current instrument.

The referee's own paper (Weather (2003 58(1):3-11). and references therein) shows that the concept originates with Athanasius Kircher in 1646. J. F. Campbell's 1853 instrument initially used a glass sphere filled with water fixed within a hemispherical mahogany bowl - Campbell also suggested using a paper ribbon within the bowl as the recording medium. The referee's also paper points out that who is really responsible

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for the subsequent development is not entirely clear. The publication record suggests that R. H. Scott (Q. J. Roy. Meteor. Soc. 1877 vol. 3, pp 18-9) was first to use card as the recording medium in practice, and that he also realised that a full hemispheric bowl was not needed. Sir George Stokes (Q. J. Roy. Meteor. Soc. 1880 vol. 6, pp 83-94) is subsequently credited with adding the three-position card holder.

We suggest that the sentence is amended to read:

"The modern Campbell-Stokes sunshine recorder is the result of the development of the instrument created by J. F. Campbell in 1853. Subsequent practical modifications by R. H. Scott (recorder cards, 1877) and Sir G. G. Stokes (card holder frame, 1880) produced the pattern of instrument that is recognisable to this day (see Stanhill (2003) for a fuller description of the instrument's history).

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