

CORRESPONDENCE

Sunshine recorders

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The results of the comparisons between the Campbell-Stokes and the U. S. Weather Bureau sunshine recorders given in the recent article by Brooks and Brooks¹ were of considerable interest. We would like to comment on a few statements which may otherwise give a wrong impression of the Campbell-Stokes recorder.

The remark that "C. S. recorders are subject to minor errors of focus or orientation, perfect adjustment not often being found in common practice" is quite correct, in fact, one could say that *perfect* adjustment is *never* found, but in all recorders approved by the British Meteorological Office the errors of focus are negligibly small. This is ensured by careful tests as described by Bilham.² In addition, records from all stations whose results are published are systematically examined to verify that the errors of orientation and other possible errors are negligible—orientation errors do not of course affect the total recorded duration of sunshine, but only the recorded time of occurrence.

The Meteorological Office tests also ensure that the focussing powers of the spheres are so uniform that no significant errors can arise from lack of uniformity. Hence the bare statement that "the focussing power of the spherical lens may not be uniform," while strictly correct, may be misleading.

With regard to changes in transparency of the spheres with age, we would like to relate a recent

experience. An observer thought that his sunshine recorder was recording too little sunshine and it was accordingly brought to the Instruments Branch for test. The sphere was found to be over 30 years old. Nevertheless it was mounted alongside a new recorder and the records were compared after several weeks. The duration recorded by the old instrument was 182.4 hours, and that from the new instrument 182.7 hours. It would be interesting to know if such good agreement can be obtained from two Weather Bureau recorders differing in age by over 30 years.

¹ C. F. Brooks and E. S. Brooks, "Sunshine recorders," *J. Meteor.*, **4**, 105-115, 1947.

² E. G. Bilham, "An instrument for the optical examination of sunshine recorder lenses," *J. sci. Instrum.*, **6**, 283-287, 1929.