Letter to the Editor

The Ellipsoid Paradox of Thermodynamics

The purpose of this letter is to add some more remarks about the "ellipsoid paradox" which has recently been discussed in this journal.[1,2] Boley and Scully[1] are to be congratulated on having fished out the reference[3] which is to a journal which, while often interesting, is only rarely cited. Also his reference to Fallows[4] was pertinent. In fact, just as their paper had a follow-up in this journal,[2] so did Refs. 3 and 4 have their own commentators, which, however, they did not notice. I here supply this information.

There was a brief general response to Ref. 3[5] and a more substantial and protracted one to Ref. 4.

The Editor of the *Bulletin* had many letters and asked the late Professor Guggenheim, author of well-known books, to summarize these. His summary quoted Refs. 4 and 5 and his comments boiled down to noting (a) that point sources are the cause of the trouble and (b) that thermodynamics is correct and so there can be no paradoxes. The readership was not satisfied, and the Editor asked me to take a more detailed look, and so we called for a more quantitative discussion in the January 1967 *Bulletin*. These were forthcoming, and I selected the best of these by P. T. Davies and gave it as an Appendix to my own report.[7] This contained also historical remarks which were, however, hardly exhaustive. Davies divided the energy transfer between the two foci into six parts which he analyzed separately. His short analysis is still a pleasure to read.

1. C. D. Boley and M. O. Scully, *J. Stat. Phys.* **24**:159 (1981).
2. W. T. Welford and R. Winston, *J. Stat. Phys.* **28**:603 (1982).
3. J. Greenleaf, *Bull. Inst. Phys. Phys. Soc. London* (July 1966).
4. J. C. Fallows, *New Scientist* (21 May 1959).
5. G. H. Bisacre, *New Scientist* (23 July 1959).
6. E. A. Guggenheim, *Bull. Inst. Phys. Phys. Soc. London* (September 1966).
7. P. T. Landsberg, *Bull. Inst. Phys. Phys. Soc. London* (July 1967); reprint requests to the author.

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