

Science (21 Aug., p. 819), Hsui's *G* value neither confirms nor refutes the anomalous value of *G* reported by the Australian group.

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#### REFERENCES

1. F. D. Stacey *et al.* *Rev. Mod. Phys.* **59**, 157 (1987).
2. G. G. Luther and W. R. Towler, *Phys. Rev. Lett.* **48**, 121 (1982).
3. A. P. French, *Phys. Teacher* **24**, 270 (1986).

*Response:* Although by no means definitive as stated in the conclusion of my report, evidence for a small positive deviation from the laboratory value of the Newtonian gravitational constant by Stacey and his colleagues can be derived from my results. The consistency of this discrepancy (both in sign and in magnitude) does provide some support for the scientific merit of the studies. Perhaps a clarification of how the uncertainty in my data were estimated would make this point more clear. As stated in the report, errors were estimated with the assumption of the largest possible uncertainty associated with each and every measured variable. The major uncertainty of the measurement is in the density determination of the strata. The reported error is calculated with the assumption that the uncertainties associated with each individual stratum are biased in the same direction and to the same extent. This is a conservative approach, and the resultant error bars are expected to represent overestimates. In order to have a narrower error bound, one needs to know the response of the gamma-gamma log to all the different rock types representing the strata. Unfortunately, the necessary information is not available for an improved error estimation.

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#### Big League Botany

In her interesting article on the botanists' newest effort to produce a "Flora of North America" through a large-scale, multiyear, collaborative project, spearheaded this time by the Missouri Botanical Garden, Marjorie Sun (*News & Comment*, 28 Aug., p. 967) does a fine job of putting forth the case for such an enterprise. I would, however, like to

provide some additional information about the earlier Flora of North America (FNA) project headquartered at the Smithsonian (1).

The Smithsonian's FNA project did not fail mainly because of "cumbersome" computer technology. To be sure, it would have been much easier to complete with today's computer technology, but it was not stalling because of technological difficulties (2). Nor was it the National Science Foundation's withdrawal of support that ended the project, as that occurred only after the Smithsonian was unable to get a line-item appropriation and concluded it could not proceed. The project fell apart because the arrangement for guaranteed long-term support fell apart. It is my conviction (3) that no effort, including the present one, will succeed without first solving this problem. Both the flora-writing and the continuing maintenance and growth of the resultant database require such long-term support. Surely, this should not be a one-shot effort, but a permanent resource assessment and monitoring endeavor.

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1. B. R. Rohr, J. I. Lawyer, L. E. Morse, S. G. Shetler, *Brittonia* **29**, 419 (1977).
2. H. M. Krauss, *ibid.* **25**, 119 (1973); S. G. Shetler, in *Biological Identification with Computers*, R. J. Panikurst, Ed. (Academic Press, London, 1975), pp. 197-235; *Taxon* **23**, 71 (1974).
3. S. G. Shetler, in *Foundations for a National Biological Survey*, K. C. Kim and L. Knutson, Eds. (Association of Systematics Collections, Lawrence, KS, 1986), pp. 87-89.

*Response:* As Shetler states, the Smithsonian halted the Flora of North America project in 1972 because of lack of long-term support. More precisely, Congress, after supporting the program for several years, decided not to provide the Smithsonian a line-item appropriation for the program. As a result, the National Science Foundation (NSF), which had been prepared to match congressional funding, stopped its financial support. According to NSF official James Rodman, troubles with computer technology and the lack of familiarity with computer technology by taxonomists at the time were "some of the problems that torpedoed the project."—MARJORIE SUN

Sun's article about the proposed Flora of North America project attributes to Michael Strauss of the National Academy of Science's board on basic biology the suggestion that the project has failed to catch the fancy of NSF because it does not incorporate

much basic research, and instead, the data will largely be accumulated from recent publications. There is an element of truth in this observation, but the matter needs to be expanded on just a bit.

Research in plant taxonomy has several facets, including (i) studies to produce new sources of information, for example, the recent interest in chloroplast DNA; (ii) studies to produce better integration of data, for example, cladistic and phenetic analyses; and (iii) studies to elucidate taxa, their interrelationships, and their evolution, such as monographic and revisionary studies of natural assemblages. Monographs and revisions normally incorporate elements of the first two, but they usually focus on distinguishing the entities under investigation. Monographs and revisions, in turn, provide basic data for a fourth facet of plant taxonomy—floristic treatments and similar works that are directly relevant to a broader scientific community and to the general public.

Digestion and synthesis of the accumulated information in monographs and revisions is a monumental undertaking, and it is notable that plant taxonomy has a well-developed, historical sense of the need for these syntheses. Taxonomists correctly understand that their works are of limited utility until they are synthesized into a "floristic whole" and thus become usable to the larger community of biologists. The Flora of North America project should not be seen merely as a compilation of data lying in the literature, for it is much more than that. It is a synthesis of the diffuse data that document our present understanding of the vascular flora of the continent, north of Mexico. Writing the Flora of North America will require a critical assessment of the available information, as well as decision-making about innumerable taxonomic and nomenclatural matters. The utility of the resulting Flora is beyond dispute, but perhaps the most basic contribution would be to provide a clear statement of the present level of understanding of the systematics, evolution, and geography of the flora.

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*Erratum:* In David Dickson's *News & Comment* article "Bumps and falls on the road to Stockholm" (16 Oct., p. 263), the name of Magnus Gösta Mittag-Leffler (p. 264, column 2) was misspelled.

*Erratum:* In the letter from Keith Bowker concerning journal price increases (30 Oct., p. 597), two conversion rates referred to in the sixth paragraph were incorrect. The rates should have been \$1.69 per £1 and \$1.67 per £1, respectively.