Element Naming

The Random Samples item "Elements to be baptized after 19 years" (15 Oct., p. 336) states that element 106 was discovered by a team at Lawrence Berkeley Laboratory in 1974. As a co-author of the 1974 paper reporting the discovery of element 106 (*1*) and a co-discoverer, I would like to point out that this was a collaborative effort by Lawrence Berkeley and Lawrence Livermore scientists.

The news item also states that each of the 19 artificial elements has been named by its discoverers. However, conflicting names for elements 104 and 105 have been proposed, and none has been officially accepted by the International Union of Pure and Applied Chemistry (IUPAC). The use of these unofficial names in publications indicates the authors' political position in an ongoing controversy over discovery (*2*).

The news item suggests that the naming of element 106 has proceeded because new experiments at Berkeley have confirmed our results. However, in July 1992, after a widely accepted report by a working group of the International Union of Pure and Applied Physics (IUPAP) and IUPAC was published (which gave full credit for the discovery of this element to the Lawrence Berkeley–Lawrence Livermore team), Glenn T. Seaborg and Albert Ghiorso initiated the naming process, stating that we now had a mandate to do so. The effort failed at the last stage, when a team member objected to the procedure. Our naming of element 106 was to coincide with a naming ceremony at the Gesellshaft für Schwerionenforschung in Germany by the discoverers of elements 107, 108, and 109. Although these three elements had not met the criteria of being confirmed by others (*3*), they did meet the criteria established by IUPAC and IUPAP for the discovery of new elements (*4*). This history shows that the discoverers of element 106 were not waiting for confirmation by others before offering a name.

A few weeks ago, a new name, seaborgium, was proposed, and it has already been accepted by the American Chemical Society nomenclature committee.

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References

1. A. Ghiorso, J. M. Nitschke, J. R. Alonso, C. T. Alonso, M. Nurmia, G. T. Seaborg, E. K. Hulet, R. W. Lougheed, *Phys. Rev. Lett.* **33**, 1490 (1974).
2. B. G. Levi, *Phys. Today* **45**, 22 (November 1992).
3. B. G. Harvey *et al.*, *Science* **193**, 1271 (1974).
4. A. H. Wapstra, *Pure Appl. Chem.* **63**, 879 (1991).