LETTERS

Audubon Society Growth

We appreciate the News and Comment briefing about the dramatic growth of the National Audubon Society under President Russell Peterson (7 Sept., p. 1004), but would like to set the record straight on a few things.

In recent years, the National Audubon Society has indeed expanded its galaxy of activities. We are now thoroughly involved in such diverse issues as energy policy, toxic waste management, world population stabilization, and the effects of nuclear war on the environment. This broadening of our interest base was done for the most practical and basic of reasons: Everything in the environment is interconnected, and we must strive to protect all the links. Adding to our base does not mean that our traditional programs involving wildlife, science, sanctuaries, and education have been neglected. Ninety-one percent of our program budget is spent on these programs. In fact, under Peterson, our wildlife research budget has more than doubled, a whole new environmental policy section has been created, our longstanding wildlife management projects have been enhanced, and our sanctuary system has grown markedly.

We have not missed opportunities for wildlife litigation; like most responsible environmental groups these days, we use the courts only as a last resort, and still our case docket is larger than ever before.

Under Peterson, the Society's staff has been revitalized and strengthened. That some previous staffers have departed—some involuntarily—is a sign of organizational health for which no apologies are needed.

We will miss Peterson. We are determined to keep the pace that he has set and to meet the environmental protection challenges of the 1980's head-on.

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Organic Superconductor

We wish to comment on Thomas H. Maugh II's article "New organic superconductor" (Research News, 5 Oct., p. 37). Maugh presents his interpretation of the most recent developments in the field, gleaned from the three publications he cites, but some important points should be clarified. First, to the best of our knowledge, no one predicted in advance that the triiodide salt of BEDT-TTF would be an organic superconductor. What was stated by us (second reference of Maugh's article) was that certain of the $(BEDT\text{-}TTF)_2X$ materials, where X is a monovalent anion, "constitute a different *structural* class of organic metals, compared to the $(TMTSF)_2X$ systems, and hold the promise of a rich variety of electrical properties including potentially new superconductors." Second, our confirmation of ambient pressure superconductivity in the triiodide salt occurred after the reports of the discovery by Soviet scientists. From our extensive x-ray structural data, we did predict that similar polyhalide ion derivatives of BEDT-TTF, such as IBr_2^-, might become superconducting. As it turned out, we were fortunate, and the $(BEDT\text{-}TTF)_2IBr_2$ system has yielded new ambient pressure organic superconductors with the highest transition temperatures yet recorded for any organic system. It should be stressed that the transition temperature of 4.2 K refers to a *metastable state* observed in one sample only, as we reported. While this gives a very tempting hint of higher T_c superconductivity, we cannot yet report a chemical or crystallographic structure or characterize the superconductivity in samples with this T_c.

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Materials Research Priorities

With great excitement and anticipation I raced from the table of contents of *Science*'s 17 August issue to page 704, on which, it was promised, was an article entitled "Major materials facilities ranked" (Research News). At last! Someone (Uncle Sam) was considering establishing major facilities to perform research into preparation (what else would a materials facility do?), characterization, and subsequent provision of state-of-the-art materials. However, I discovered quickly that my excitement was unfounded: the facilities under consideration, while of great importance, offer no prospective support for materials preparative research. Rather, they comprise a selected list of synchrotron and neutron radiation sources for physics research likely to be done in some instances on samples of materials acquired from any available street source without verification of quality.

The unfortunate consequence of thorough, authorative, but misnamed reports such as the National Research Council's *Major Facilities for Materials Research and Related Disciplines* (*1*), is that the legislative, executive, and public communities may assume that a 10-year research program on materials totaling $900 million is under serious consideration by the government. Contrast this with the existing government-wide annual *real* materials research expenditures on growth of critical electronic materials: bulk very large scale integration silicon ($1.5 million), float-zone silicon necessary for power switches and laser detector devices (near zero, and the only domestic vendor just quit); epitaxial silicon necessary for the complementary metal oxide semiconductor wave of the future (near zero); bulk gallium arsenide ($1.5 million); and magnetic recording media (near zero). Electronic ceramics—chip carriers, capacitors, and so forth—fare somewhat better ($4 million), but this is due largely to the Navy's research in piezoelectric materials for sonar device applications. In all but the epitaxial silicon material and magnetic recording media the merchant market for these economically and militarily strategic materials has become dominated by foreign firms. Furthermore, the United States is losing its international competitive edge with respect to the technology base necessary to support material self-sufficiency in the manufacture of these man-made strategic materials.

It is essential that support of the premier requirement for materials research—growth and basic characterization of the materials themselves—be given a priority at least equal to the priorities of the research community who are in fact consumers or users of materials. Otherwise, a "major facilities for materials research" initiative will place us in the position of applying first-rate research tools and talents to the study of second- or third-rate samples.

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References

1. Commission on Physical Sciences, Mathematics, and Resources, *Major Facilities for Materials Research and Related Disciplines* (National Research Council, Washington, D.C., 1984).