letters

The Smithsonian wants your synthetic crystals

The Division of Mineralogy at the Smithsonian Institution has begun a project the success of which will depend on the assistance of your readers.

One of the most important jobs of a museum is preservation of materials for future generations; at the Smithsonian, this aim is supplemented by the documentation of historically significant events, discoveries and inventions. The study of materials synthesis and crystal growth has mushroomed in recent years into a major worldwide industry. Yet nowhere is a systematic record or collection being maintained that comprises a cross section of the research and development efforts in the materials industry. Such a collection would have immeasurable value to future research scientists, engineers, science historians and students of crystal growth processes. Many of the crystals grown in laboratories today are analogs of natural minerals, thus offering unique study material for the mineralogist.

Our goal is to acquire for the Smithsonian representative samples of all inorganic synthetic materials, produced both in laboratories and in industrial plants, by accident or by design. Included in this collection would be:

- crystals grown commercially for materials applications
- crystals formed accidentally in laboratory experiments
- crystals formed accidentally in commercial production runs
- experimental materials produced in laboratory studies

All growth techniques (solution, flux, vapor, gel, melt, VLS, zone and so on) and all types of inorganic materials (metals, ceramics, chemical compounds such as used as reagents, minerals) should be represented. Even the "accidents" of crystal growth, normally unwanted by research and production people, offer opportunities to study morphologies of rapidly grown crystals. The processes by which these crystals form resemble in many ways those of natural environments, and are of great interest to earth scientists.

It is hoped that materials scientists will recognize the value of the proposed National Synthetics Collection, and

will put aside all crystalline materials that are no longer needed. A brief description of available material should be sent to:

Dr Joel E. Arem, Crystallographer
Dept. of Mineral Sciences,
Smithsonian Institution
Washington, D. C. 20560

All donations to the collection will be formally acknowledged.

JOEL E. AREM
National Museum of Natural History
Washington, D. C.

Refereeing challenged

In their July article, "Sociology of Refereeing," Harriet Zuckerman and Robert Merton (page 28) reported a number of measurements regarding the refereeing process for *The Physical Review*. These measurements are:

- High-ranked authors have papers judged faster and more favorably than lower-ranked authors.
- Young authors (to age 50) have higher percentages of papers accepted.
- High-ranking referees are harder on authors.
- High-ranking authors tend to have a high (50%) proportion of their papers judged by high-ranking referees.

Zuckerman and Merton also quote a number of editorial views including:

- Anonymity of authors is impractical (apparently in all cases).
- The referee system serves as a control by anticipation of authors.
- More humanistic journals reject more papers than do experimental journals.

On the basis of the above, Zuckerman and Merton conclude:

- The referee system does what it is supposed to do—sift out good papers from bad.
- The referee system is not superfluous in the case of *The Physical Review*.

It is perhaps humorless to point out that the conclusions do not appear to follow from the data.

On the other hand the article does contribute some interesting food for thought both by its content and by its omissions. For example, because in 85% of cases in humanistic journals the editors reject papers without review, with four out of ten being amateurishly written, presumably a major factor in selection is conformity of expression, unless one assumes that the editors are capable of judging the physical content.

It also appears that the opinions of physicists as regards the refereeing process are not relevant to a study of the sociology of refereeing, since Zuckerman and Merton don't consider this subject. Along this line one wonders whether the procedure utilized at present has adequate safeguards to prevent an arrogance of opinion from repressing new concepts. Is not the power relationship between the journal on the one hand and authors on the other an interesting sociological question? Can the exceptional case at present such as, historically, that of Grasman be analyzed by the authors' methods? Is not the sociology of refereeing a very complex question deserving of a serious, thoughtful analysis by the most capable, nonpartisan minds available?

RODGER L. GAMBLIN
IBM
Armonk, N. Y.

Zuckerman and Merton comment: A cardinal rule for referees goes something like this: In general, it's a good idea to