for the first time since 1945 a sharp reaction against militarism, is it inevitable that public support of universities should also be declining?

Hilbert possessed a robust common sense which allowed him to see the folly of wars of national aggrandizement and still remain a patriotic German. Politically, his finest hour came in October 1914. The German government then published a Declaration to the Cultural World in which the leaders of German science and art and literature were invited to proclaim their support for the German war machine. Among other dubious statements, the Declaration said: "It is not true that Germany violated the neutrality of Belgium." At a time of intense nationalistic hysteria, to refuse to sign the Declaration was in many people's eyes an act of treason. Almost all the Germans of international repute, including Röntgen and Planck, signed. Of the leading scientists, only Einstein and Hilbert refused.

The catastrophe of 1933 found Hilbert already retired and too old to comprehend fully what was happening. "The so-called Jews are so attached to Germany," he said at that time, "but the rest of us would like to leave." He did not leave, but stayed in Göttingen to the bitter end, a relic of past glory. Of his vast circle of brilliant pupils and friends, only Sommerfeld, a relic like himself, remained to stand at his grave.

The author says in the preface that the book was "to a large extent written from memory." By this she means that she has mined the memories of the many people still alive who have been colleagues of Hilbert's or wives and children of colleagues. Looking at her list of sources, it is hard to think of any important witness that she has not successfully contacted. In addition, she has researched all the surviving correspondence and public records that have any bearing on Hilbert's life. As a work of historical scholarship, this biography maintains a consistently high level of critical accuracy. Hilbert is shown as he was, warts and all.

But the book is much more than a piece of conventional historical research. Beyond this, it is a poem in praise of mathematics. It brings to life through the many-sided personality of Hilbert the struggles and glories of mathematical creation, giving birth to the purest and most durable works of art that the spirit of man has yet produced.

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Inorganic Preparations

The Synthesis and Characterization of Inorganic Compounds. WILLIAM L. JOLLY. Prentice-Hall, Englewood Cliffs, N.J., 1970. xiv, 594 pp., illus. $15.95. Prentice-Hall International Series in Chemistry.

To those who are familiar with the author's contributions to synthetic inorganic chemistry the excellence of this book will come as no surprise. There is no comparable book available in inorganic chemistry, and this one will rapidly assume the position of a standard text. The book is far more than a revision of the author's previous monograph on the subject, *Synthetic Inorganic Chemistry* (Prentice Hall, 1960), although the themes developed in that work have been utilized more effectively in this volume.

The book falls naturally into four sections. The first section, which assumes a knowledge of thermodynamics and kinetics, shows quite clearly the application of these subjects to synthetic chemistry. The second is concerned with the techniques available and utilized in preparative chemistry. This section quite naturally varies widely in amount and level of presentation. The author seems, wisely, to have chosen to survey some areas critically and to concentrate on those subjects concerning which information is not so readily available, rather than to compete with other well-known texts. The third section deals with structural characterization; here again the author undertakes a critical survey with numerous well-chosen examples rather than an exhaustive review of each technique. The last section is a truly representative set of inorganic preparations chosen to illustrate not only the techniques and principles outlined in the previous chapters but, more importantly, the diversity of preparative inorganic chemistry. In addition to accounts of the preparations described in *Synthetic Inorganic Chemistry*, all of which have been rewritten and improved, in some cases substantially, this section contains detailed descriptions for the preparation of some 50 compounds. Considerable emphasis is also placed on adequate characterization of the materials when obtained. I was particularly struck by the organization of this section into types of operations and classes of compounds rather than a random list of increasingly difficult experiments.

The text is exceptionally well referenced and well illustrated with drawings and diagrams and contains a large number of useful tables. A feature I found particularly attractive is the large number of problem sets contained in the various sections.

I think that the author has lived up to the objectives he stated in the preface and the book will be "a useful reference guide for all experimental chemists."

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Semiconductor Technique

Current Injection in Solids. MURRAY A. LAMPERT and PETER MARK. Academic Press, New York, 1970. xiv, 354 pp., illus. $18. Electrical Science series.

The literature on current injection in solids is very extensive, and it is therefore enormously beneficial to scientists or engineers engaged in research in semiconductor physics to have available to them a lucid and comprehensive book on the subject. The conduction of electricity in semiconductors or insulators is frequently nonohmic, and it is not always easy to separate out the various effects that produce such behavior. One set of such effects results from carrier injection, usually from the contacts, leading to a disturbance of the carrier concentration in thermal equilibrium. Majority and minority carriers, together or separately, may be injected and can then give rise to unusual current-voltage relations and field distributions within the solid. An understanding of the field is, however, desirable not merely for the purpose of unraveling nonohmic behavior phenomena. As the authors point out repeatedly, carrier injection can be used as a tool to study the solid itself. Examples abound in the book, but just two of them will suffice to illustrate the point. From experiments with single-carrier space-charge-limited currents it is possible to gain information about trap densities and energies. From single-carrier drift experiments it is possible to measure mobilities in solids (usually films) which do not lend themselves to steady-state, thermal-equilibrium determinations of mobility.

The book is admirably organized and lucidly written. The theoretical treatment is always carefully broken down into approximate and analytical sections. Uniform treatments are also fre-