

"findings" be found? Has the author of this report conducted a study of the "interests" of some scientific sampling of social scientists in order to ascertain the relative degree of their commitment to pure knowledge versus social problems? The answer is no. However, volume 3 of the report does contain a remarkable array of more or less relevant testimony. More than 50 social scientists responded to a question put to them by the subcommittee which read, in part, "Some concern has been expressed lest the increased emphasis on technical problems of their disciplines decrease the interest of academic social scientists in practical issues of public policy. Is this concern warranted?" Only six respondents agreed in the slightest. A few were unresponsive. The remainder disagreed with varying degrees of qualification, elaboration, and vehemence.

Readers clearly have ample warrant to wonder about the empirical justification for other "findings" revealed in the press release and widely publicized by the subcommittee. But what of the "study" itself?

It consists of motley and disparate materials. For instance, there are statistical data on federal expenditures for social research, the result of a subcommittee request to various federal agencies. The subcommittee request and all agency responses are printed verbatim in volume 1. The remainder of that volume (pp. 80-379) would be known in the college publishing business as "readings": material snipped from a large number of published sources containing comments on federally supported social science research, including such matter as three Presidential addresses "on the role of the intellectual in government." Volume 2, 635 pages long, is once again mostly a scissors-and-paste job including such old favorites as Durkheim and Sutherland on crime, Harvey Perloff and Wolf Von Eckhardt on cities, and so on. This volume also includes verbatim reprints of responses by 61 social scientists to a 12-item subcommittee questionnaire that begins: "What is your opinion of the general quality, scope and nature of the research now being sponsored by the Federal Government in [one of six areas: crime, education, poverty etc.]?"

On to volume 3! Six hundred and five pages. Once more, mostly readings. Max Weber on "objectivity." C. Wright Mills. Merton. Moynihan. A veritable

plum-pudding of "findings." But given the distinction, and in some cases the antiquity, of their sources, these findings are not properly attributable to the subcommittee's work. In this volume, the subcommittee's original contribution consists of the responses of 50-odd social scientists and research administrators to a 21-item questionnaire. Item 2 has already been quoted. Item 4 goes: "What can your professional field contribute today, on the basis of present knowledge, in helping the nation to cope with its domestic social problems? Please comment briefly."

Volume 4, along with still more readings, interoffice memos, and legal texts, offers responses of natural scientists, government agencies, university research administrators, and foundation executives to a more restricted but not more focused list of questions, such as, "Who shall make policy for the social sciences in the executive office of the President?"

Given the ramshackle structure of the report proper, it is perhaps no wonder that neither the rather ill-humored introductory summaries to each volume by editor Harold Orlans of the subcommittee staff nor the committee press release do the report justice. Nor can this attempt to summarize in brief compass the mass of undigested, unevaluated, and unsupported testimony the subcommittee has jumbled together in these four volumes. But at this stage it is perhaps not inappropriate to observe that the subcommittee has permitted to be published at public expense a work that is not likely to be widely cited as an exemplar of federally financed social research.

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Luminescent Materials

Luminescence of Inorganic Solids. PAUL GOLDBERG, Ed. Academic Press, New York, 1966. 779 pp., illus. \$29.50.

This book is unique in giving a well-balanced scientific account of all the major kinds of luminescence in all the major categories of inorganic crystals, plus a separate chapter on the glassy state. Theory and experiment are in appropriate proportion, and material dimensions range from large crystals to microcrystals to thin films.

The 12 chapters are authored by as many outstanding researchers—from the United States (eight), the United Kingdom (two), the Netherlands, and Japan. Each author is a current contributor to his topic, and each chapter treats its topic in depth, with generous use of figures and references. The reader is expected to be familiar with atomic and solid-state physics.

The book portrays both the strengths and weaknesses of luminescence research. It is concerned mostly with measurements of physical properties and interpretation in terms of physical concepts and diagrams. There is the usual sprinkling of chemical shorthand for hosts and activators, but relatively little about preparation of luminescent materials. There is also relatively little about characterization of materials; that is, quantitative identification of the significant features of composition, structure, and defects of a particular specimen of material. These are the features that (i) determine the physical properties of the specimen, and (ii) result from the particular ingredients and preparative conditions used in making that specimen. The book shows that, whereas the measurement of their physical properties is now a science, the making and characterizing of luminescent materials is still an art. Nonetheless, good progress is being made toward a science of some luminescent materials, with reproducible correlation between preparation, characterization, and properties having been obtained for certain high-bandgap hosts containing activator ions with radiative transitions of *d* and *f* electrons, and for certain low-bandgap hosts with radiative recombinations of electrons and holes in or near *p-n* junctions. A major new tool for characterization of luminescent centers, electron spin resonance, is highlighted in a special chapter.

Here is a convenient and valuable source of scientific information for graduates who are starting or continuing luminescence research and for teachers of courses on optical and electronic phenomena in solids. More technological information, especially about the preparation and application of useful phosphors, may be found in "Luminescence and Phosphors," by J. L. Ouweltjes (in *Modern Materials*, vol. 5, B. W. Gosser, Ed. Academic Press, 1965, pp. 162-257).

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