tiated linguistic and behavioral repertoires of varied speech networks within speech communities, as well as social scientists and other applied specialists trained to guide the planned and unplanned language change of which all speech communities are capable (*1*).

On the other hand, many linguists (applied linguists among them) have still to learn a vital lesson that Vernon and most other social scientists have long since taken to heart. This is not merely that "the school is by no means as powerful an instrument in practice as in theory" (Vernon, p. 231) even in connection with such a school-anchored matter as the teaching of reading, but that schools are at least as much subject to social inertia and change as they are agents of pedagogical inertia and change. As a result it is vastly more important and more difficult to change people's attitudes, life styles, and power positions than to derive contrastive phonemic, syntactic, and lexical statements about two languages or language varieties. Linguists are undoubtedly good at linguistic description, but they are regrettably (though understandably) poor judges of the relative importance of linguistic factors in any multifactor nexus. The underdeveloped world is strewn with the corpses of exquisitely developed writing systems in which the phoneme-grapheme correspondences are marvelous to behold. These writing systems have not been accepted by those for whom they were intended or by those in a position to adopt or enforce them (*2*). The major problem, then, is clearly one of societal adoption, utilization, and implementation rather than of contrastive (or other structural) linguistic analysis per se. To imply that a better contrastive structural analysis is all or most of what is needed to raise the reading level of many black students is both misleading and unwise. It tends to support *linguistic* gimmickry and nostrums (instead of equally untenable psychological and educational panaceas). With respect to planned social change linguists are obviously conceptually and experientially (and therefore verbally) a sadly disadvantaged group, although perhaps little more so than most of their academic peers. The lack of awareness on the part of linguists that linguistic contrasts between social classes represent merely the beginning of sociolinguistics, rather than its goal, is ultimately a danger to sociolinguistics and to linguistics proper. It is currently far easier to convince psychologists and other social scientists that they do not know what they need to know about language behavior and linguistics than to convince linguists that they do not know what they need to know about social behavior and social science (even though—or perhaps because—some of them "have been around anthropologists quite a bit"). Unless social science training for linguists is soon greatly increased the result may be the same withdrawal of linguistics and the social sciences from each other, due to naively advanced and cruelly disappointed "great expectations," as marked the Bloomfieldian '30's.

Much more remains to be said in praise and in criticism of both books. The praise pertains to the obvious effort of all the authors to write not for each other, or for other specialists, but for the teacher, the educational administrator, and the concerned layman. While it seems to me that both books will still be rather unclear to most nonspecialists and prone to misinterpretation by such readers, they are both obviously better in this respect than most others of their kind. The blame pertains to the sad lack of historical cross-cultural perspective which marks both of them. If parochial, nonurban, traditional, and impoverished origins are truly so central in bringing about intellectual deficiencies, which then handicap the acquisition and maintenance of literacy, how do we explain the nearly universal male literacy (and often multiliteracy) of impoverished and persecuted pre-War *shtetl* Jewry? And if the distance or difference between the vernacular and the school variety is truly so central in causing reading difficulties, then how do we explain the widespread literacy not only in that same population but also among rural Japanese and Germans and Frenchmen and Swedes and Swiss-Germans and many others during the past quarter century and more? As an essentially experimental and quantitative sociolinguist I do not hesitate to say that without historical cross-cultural perspective our growing experimental and technical proficiency strikes me not as versatility but as the same kind of backwardness and provincialism that we so much want to help *others* overcome.

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Problems of National Science Policy

Science and the Federal Patron. MICHAEL D. REAGAN. Oxford University Press, New York, 1969. vi + 346 pp. $7.50.

Science and the Federal Patron is one of the latest in the growing number of publications having to do generally with science and public policy. The absence of a preface leaves the reader with no clues regarding the author's aims in writing it. Whatever these may have been, the impression gained from reading the book is that he has brought together, in printed form, material equivalent to a quarter's introductory course on current relationships between science (sometimes research and development) and the federal government.

Within the genre, the book is more journalistic than scholarly, both in style and in depth. It is organized essentially around problems and issues that were current in the latter days of the Johnson administration, covering, in a three-part sequence, the status of government-science relationships, selected events and developments that were then challenging this status, and the author's conception of how relationships between science and the federal government might be improved.

The background section describes the growth of federal support for science (sometimes R&D) and the pattern of support according to various dimensions such as basic versus applied research, supporters versus performers of research, and physical versus social sciences; the innumerable justifications for the government's support of science (by quotation at length, *ad nauseam*); the organizational struc-

ture of the executive and legislative branches for handling science affairs; and last, *de facto* science policy, including such matters as the machinery of advice, centralization versus decentralization of policy control, research and higher education, and the problem of priorities.

The author takes a Toynbee-like view of change, regarding it as a product of "challenge and response," and reviews a series of developments that were and are challenging the status quo in government-science relationships and the responses that were being made to them at the time the book was written. Among these developments are: the need for improved planning in the face of limited resources and unlimited growth potential; "big science" and institutional support; the discovery of science programs by the Congress; and the changing character of the environment within which science has been supported since World War II. The review of the general developments is followed by a detailed discussion of two specific issues: the place of the social sciences in the scheme of things (the author favors an independent National Foundation for the Social Sciences) and the changed role of the National Science Foundation (particularly the National Science Board) under the recently enacted Daddario-Kennedy legislation.

The third section of the book is devoted to the author's "prescriptive judgments after examining facts and trends" regarding "the major requirements for more effective science policy in the future." Basic to his judgments is a view that "the major reason in fact for governmental support is the *use* that government can make of science" (p. 226). On this premise, in discussing the support of basic research the author takes the view that "arrangements should be developed accordingly to maximize the feedback of governmentally supported science into government's technological programs" (p. 228). From this standpoint the existing machinery of advice regarding science activities is questioned, with particular attention to the locus of responsibility for the expenditure of government funds. Recognizing that support of academic research raises special problems, the author makes the point that the needs of government regarding the support of science are as much at stake as the needs of the scientific community—the danger is that "a rather small group of [mostly] academically oriented scientists will [by unchallenged advice] impose on government a pattern that suits the separate interests of science without sufficient regard for the interests of government and the public" (p. 232).

Various suggestions are made for legislative and executive changes to improve the policy formulation process and the administrative functions that relate to science activities, both internally and in the more general context of government affairs. These include the creation of a new legislative base for government support of science through a proposed "Science and Technology Act," accomplished by a "Joint Committee on Science and Technology" in the Congress and a Department of Research and Higher Education in the executive branch. Regarding the matter of priorities for support, the pattern suggested is as follows: first priority to those social objectives that are identified politically as most urgent and to which science can most clearly make a contribution; second, science-related educational needs at all levels; third, undirected small-scale research; and fourth, Big Science. The balance among these priorities presumably would be determined by overall science policy, at the hands of the Office of Science and Technology and the Bureau of the Budget. As a final note, the author urges that the scientific community, to further the tripartite partnership between government, science, and the public, explain itself more fully to outsiders. The relationship between government and science has entered a "consolidation period," and the future health of the relationship will, to a large extent, depend upon a broadened base of understanding among the public, the federal patron, and its beneficiaries.

If the author meant to write for the unsophisticated reader the book may be successful in that it may serve to acquaint such a reader, at a superficial level, with the wide range of issues that are involved in government-university relations in the area of science. It also may mislead him, for example, into thinking that the history of relations between government and science begins essentially after World War II, or that the problems of science and the resources to carry out its various activities are relatively independent of national resources as a whole or of the larger political system.

If the book was intended as a serious discussion of national science policy and the problems relating to it, I believe it falls considerably short of the mark. Although the author clearly conveys the notion that government-university relationships in science have moved a long way from the relatively simple circumstances that existed when Vannevar Bush wrote *Science the Endless Frontier,* he does not recognize the extent to which science policies, largely as a result of events that have encompassed social and educational issues on a broader front, have become increasingly enveloped by policies relating to higher education and other pressing domestic needs. It is within this context that the future of national science policy lies, and the future does not, at this juncture, appear to be a very happy one.

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Traveler's Account

The Indians of Texas in 1830. JEAN LOUIS BERLANDIER. JOHN C. EWERS, Ed. Translated from the French by Patricia Reading Leclercq. Smithsonian Institution Press, Washington, D.C. (distributed by Random House, New York). xii + 212 pp. + plates. $10.

In 1828–29 a young French botanist, Jean Louis Berlandier, a member of a Mexican boundary and scientific expedition, traveled widely in what is now south and central Texas. He collected biological and ethnological specimens and compiled voluminous notes on the geography, natural resources, animals, plants, and ethnology of the Indian tribes he encountered. Berlandier's Indian manuscript (now in the Thomas Gilcrease Institute of American History and Art) has been neglected or overlooked by many of those who are interested in Texas Indians, and John C. Ewers, senior ethnologist of the Smithsonian, has performed a valuable service by making this handsome translation available. Also included in the volume are 18 plates (16 in color) of watercolor paintings of various Texas Indians which were executed under Berlandier's supervision, as well as illustrations of an assortment of Indian artifacts collected by him.

By the time Berlandier visited Texas, native peoples had been exposed directly and indirectly to Spanish civilization for three centuries. Its impact had been devastating: some natives, such as