THE SELF-IMPOSED RESTRICTION OF LINGUISTIC SCIENCE TO
THE STUDY OF LINGUISTIC COMPETENCE HAS PREVENTED LINGUISTS
FROM CONCERNING THEMSELVES WITH THE STUDY OF HOW LANGUAGE IS
USED IN THE DAILY LIVES OF PEOPLE AND, ASIDE FROM OCCASIONAL
SPECULATIONS, HOW IT IS INVOLVED IN THE MAJOR CONCERNS OF
SOCIAL SCIENCE—SOCIETY, CULTURE, AND PERSONALITY. STUDENTS
IN VARIOUS DISCIPLINES HAVE GRADUALLY COME TO REALIZE THAT
MUCH OF INTEREST IN HUMAN BEHAVIOR IS RELATED TO THE
KNOWLEDGE AND USE OF LANGUAGE. TO MEET THE GROWING NEED FOR
THE INTERFERTILIZATION OF LINGUISTICS AND BEHAVIORAL RESEARCH
SCIENCES, NEW CENTERS IN RESEARCH IN LANGUAGE BEHAVIOR HAVE
BEEN ORGANIZED. THE UNIVERSITY OF CALIFORNIA AT BERKELEY IS
CURRENTLY ONE OF THE LEADING CENTERS OF RESEARCH. THIS PAPER
DESCRIBES THE NATURE AND FUNCTIONING OF THE PROPOSED CENTER
FOR LANGUAGE BEHAVIOR RESEARCH AT THE UNIVERSITY OF
CALIFORNIA, BERKELEY. A PROPOSED BUDGET IS ALSO INCLUDED IN
THE OUTLINE. (AMM)
PROPOSAL FOR A CENTER FOR LANGUAGE BEHAVIOR RESEARCH

Submitted to the Institute for International Studies,
University of California, Berkeley

Principal Investigator: Paul Kay, Anthropology
Co-Principal Investigators:
  Brent Berlin, Anthropology
  Susan Ervin-Tripp, Speech
  William Geoghegan, IIS and Anthropology
  John Gumperz, Anthropology
  Terrence Kaufman, Linguistics
  Dan Slobin, Psychology

Total amount requested: $297,065

April 1967
0. Outline of the proposal.

Section 1. deals with the need for and the goals of the proposed center and gives some historical background. Section 2 describes the structure and functioning of the Center. Section 3. contains the budget.

1. Until sometime in the mid 'fifties, studies of language and studies of human behavior occupied surprisingly separate intellectual traditions with little cross-fertility. Linguists concerned themselves with language as a self-contained code disdaining the study of speech behavior. Psychologists and other social scientists on the other hand pursued the study of verbal behavior with small cognizance of or interest in the sizeable amount of knowledge of the nature of language then available. Unquestionably, both groups suffered from this gratuitous parochialism, and almost as surely the behavioral scientists suffered the most. For example, large amounts of data have been gathered on word associations and until the knowledge of linguistics was applied to these data, little if any theoretical sense was made of them. Similarly, the intellectual abortion that machine translation has turned out to be testifies dramatically to the folly of attempting to deal with practical problems of language use without proper control of the relevant knowledge of language structure. On the linguistic side, the loss has been less
dramatic; the structure of the linguistic code has shown itself susceptible of valid theorization. The work of Chomsky and his associates and the general acceptance of this work by the scientific community attests to the empirical reality of the area of phenomena that linguists have chosen to consider as their special province. The notion of the linguistic code *sui generis* is unquestionably one with an empirical referent. Nevertheless, the study of linguistic competence, the tacit knowledge that underlies the use of the linguistic code by speakers of a language, by no means exhausts the study of all interesting phenomena relating to language. Above all, the self-imposed restriction of linguistic science to the study of linguistic competence has prevented linguists from concerning themselves with the study of how language is used in the daily lives of people and, aside from occasional speculations, how it is involved in the major concerns of social science: society, culture, and personality.

The situation described above is one that cried for remedy and the SSRC conference on psycholinguistics of 1953 can be taken, as well as any single event, as the date from which interfertilization of linguistics and the behavioral sciences began in earnest.¹ There has developed in the last decade and a half a truly interdisciplinary field based, not on an abstract belief in the magic of interdisciplinary research, but on the gradual realization by students in various disciplines that much of interest in human behavior is related to the knowledge and use of language. Various aspects of this nascent field, and
sometimes the field itself due to an excess of parochialism of one kind or another, have been called psycholinguistics, sociolinguistics, and anthropological linguistics or linguistic anthropology. A better name might be language behavior. Berkeley has been very much at the center of this development.²

Currently research on language behavior is one of the liveliest frontiers in social science. There is a need for consolidation of research in this area and for breaking down the remaining disciplinary barriers.

The study of human behavior involving and related to language is an increasing area of concern in social science, and a field that will be increasingly called on in the future by all pure and applied social sciences. A few exemplary areas are (1) translation, as regards overseas research of all types, (2) language socialization, of interest to all students of human development, whether primarily interested in the individual or in social aspects, (3) the nature of systems of knowledge and belief, a subject unapproachable without a thorough study of the language facts involved and of prime importance to any research, pure or applied, involving a culture foreign to the investigator, (4) the effects of differential language experience on ethnic and social minorities in plural societies, (5) the nature of man [sic]: language is by far the best understood exclusively human and pan-human phenomenon.

Probably the most general contribution of language behavior research to the broad field of social science is its
development of sophisticated methods of comparative analysis. As will be shown in section 2., language behavior research involves comparisons between dialects, languages, human and animal communication, systems of social relationships, occupants of social roles, etc. The list could be extended almost indefinitely. To all these problems of comparison, language behavior research brings the techniques of descriptive linguistics, psychological experimentation, anthropological formal ("compositional") analysis, and mathematics. It is perhaps not too much to hope that some useful general principles for comparative analysis in social science may emerge from this area. As argued below, effects of this kind are already being felt in the fields of anthropology and psychology.

In naming the proposed Center, the phrase "Language Behavior Research," though lacking in euphony, was chosen with some care. The point bearing emphasis is the marriage of empirical social science method with a knowledge of abstract linguistic structure. Investigation of the behavior of speakers of a language without control of the structure of that language is an intellectually arid and profitless undertaking. Similarly, exclusive concentration on the structure of language as an abstract object, although an intellectually rewarding pastime, does not get on with the major business of the social sciences: finding out how people work. Language behavior is a growing interdisciplinary field that bridges just this gap.

Evidence that this field is growing in numbers, and in
influence out of proportion to its numbers, can be seen in the effects it has produced in the various traditional disciplines. The first social science disciplines to be affected were naturally psychology and anthropology. Not only does the burgeoning field of psycholinguistics attest to this influence but the increasing prominence of cognitive psychology and even social psychology generally owe much of their impetus to work by linguistically sophisticated psychologists such as Brown, Ervin-Tripp, Lenneberg, Miller, and Slobin. Although traditionally American anthropology has claimed linguistics as one of its subdivisions, the highly touted intimacy of the relation of language to the rest of culture has until recently (Sapir notwithstanding) often been honored more by extravagant lip service than careful research. The recent highly influential, and accordingly controversial, trends in social-cultural anthropology named variously "ethnoscience," "formal analysis," "ethnographic semantics," etc., show the influence of language behavior research in anthropology. Sociology has been less affected than anthropology and psychology, but not totally unaffected. The promising new field of socio-linguistics has had to be invented largely by linguists and anthropologists such as Labov, Hymes, Gumperz rather than sociologists. There are exceptions however; for example Fishman, Bernstein, and one can confidently expect that contributions of sociologist to language behavior research will increase in the future. Of the general social science fields (excluding economics) political science has been the least influenced, at
least so far as can be judged by the published literature. (Some of the work of Deutsch and Pool constitute partial exceptions.) Nevertheless, more than one political scientist has expressed in private a real interest in developments in this field, particularly political scientists engaged in comparative international work who are not satisfied with current methods of dealing with language problems in international sample survey work. The attitude here seems to be one of hopeful waiting for the language oriented social scientists to come up with some new ideas in methodology. Linguistics itself is also showing interest in language behavior research. Among the many linguists whose recent work shows this trend are Labov, Ferguson, Greenberg and Weinreich.

The Berkeley campus is currently one of the leading centers in research in language behavior. (For a discussion of individual projects now in progress and in the planning stage see section 2. of this proposal.) Other universities have recognized the need for such Centers; examples are the highly productive Center for Cognitive Studies at Harvard and the recently created Center for Research on Language and Language Behavior at Michigan. Given the relevant intellectual resources now present on the Berkeley campus (for which see Section 2.) now would appear to be the time for Berkeley to centralize, unify, and actively promote its own research in this area.

The proposed Center for Language Behavior Research will seek to implement this general goal in six major ways:
(1) by providing basic research overhead costs of the kind difficult to obtain under the usual sort of research grant, including especially research space, (2) by localizing in space a number of persons and projects on this campus that have everything to gain intellectually from a higher rate of interaction with the resulting mutual interfertilization, (3) by integrating a core of students into an ongoing, intellectually valid, interdisciplinary research culture, (4) by attracting to this campus outstanding contributors to this area of research as fellows of the Center, (5) by providing the sort of research culture that will attract the best graduate students interested in this kind of work to Berkeley, (6) by providing a small pool of highly flexible funds to stimulate pilot projects of high innovativeness and low certainty of payoff by Berkeley faculty and students. Each of these six points is discussed in greater detail in the following section.

2. The number of separate research projects currently in operation at Berkeley in the social science of language is quite large. Many of these involve collaboration of several faculty members and students. Most of this collaboration is of an interdisciplinary type.

Research in this area always includes language as one of its central foci and always also at least one, but usually more than one, of the social science disciplines. Also, human biology and psychophysiology often play an important part. Character-
istically, the research involves not only variables from linguistics and one social science but consideration of results and methods from other social and biological sciences as well. For example, psycholinguistic studies usually involve social and cultural, and frequently biological, considerations. This fact, which will be established by the following discussion of research presently in progress, argues strongly for a Center at which social scientists from all the interested disciplines and linguists act in effect as intimate (and free) day to day consultants for each other.

The following list of research projects is given as exemplary, but by no means exhaustive, of the currently operating and immanently planned research activity in language behavior at Berkeley. Each project discussed is provided with documentation in the like numbered appendix, except as otherwise noted.

(1) Animal Communication as Part of the General Study of Human Communicative Ability. A. Richard Diebold (proposed Fellow of the Center for the first year, currently of Stanford University). This research seeks to place animal communicative systems in a framework that includes all human communicative systems, including those of gesture, posture, spacial positioning, etc. It aims at a deeper understanding of (1) the nature of all forms of human communication, (2) the particular place of language in this total framework, and (3) the continuities between animal and human communicative abilities.
(2) Biological Bases of Speech Perception. Peter MacNeilage (Visiting Associate Professor of Speech, whose research will form part of the activities of the Project on Phonological Research, directed by William Wang, Linguistics). Speech perception is studied in terms of the muscular and neurological bases of speech production.

(3) Cognitive and Linguistic Development (Dan Slobin, Psychology). Linguistic development in the sense of the acquisition of linguistic competence and cognitive development in the sense of the Geneva school are assessed independently. Relationships, causal or otherwise, between these two phenomena are sought and an attempt is made to assess the roles of maturational and environmental factors.

(4) Color Terminologies: their evolution. (Brent Berlin and Paul Kay, Anthropology). Preliminary research has shown clear substantive universals across languages regarding the foci of color categories encoded in lexicon. An evolutionary sequence in the development of color terminologies is strongly suggested by a pilot analysis of twenty-five languages representing many unrelated language families. A world survey is planned.

(5) Editing of Speech Signals into Linguistic Symbols. (Paul Kay, Anthropology. [There is no Appendix dealing with this project, which is not yet underway. A separate proposal for a pilot project in this area is being submitted to the IIS]). Actual speech, which is commonly quite ungrammatical, is generally
held to be understood by virtue of its relation to (hypothetical) perfectly grammatical utterances. The nature of this theoretically important relationship has not previously been studied empirically.

(6) Ethnobotany of Tzeltal (Brent Berlin, Anthropology). A comprehensive study including plant inventories, nomenclature, identification, classification, use, and cultural significance of all kinds.

(7) European Loan Words in Arabic and Hindi and their Cultural Significance. (Terrence Kaufman, Linguistics). A comprehensive inventory of words borrowed from European languages into Arabic and Hindi will be compiled. Which elements of their meaning as well as the global meanings of the words themselves are studied in terms of the light they shed on the receiving cultures and societies and on the culture contact situations.

(8) Language Socialization Studied Cross-Culturally (Susan Ervin-Tripp, Speech; John Gumperz, Anthropology; Dan Slobin, Psychology). Psychological, cultural, social, and maturational factors in the acquisition of linguistic competence in children in a variety of societies and languages.

(9) Linguistic Atlas of West Coast Indian Languages. (David Reed, Linguistics. [No documentation is currently available for Appendix. The unpublished Ph.D. thesis: A Word Geography of California and Nevada by Elizabeth Bright, Berkeley Department
A linguistic Atlas of the Indian languages of the West Coast of the United States is being compiled with particular reference to dialect variation correlated with such social variables as age, sex, income, social class, etc.

(10.) Mathematical Models of Semantic and Cognitive Structures. William Geoghegan, IIS Visiting Scholar and Department of Anthropology). A general mathematical theory is being developed for the description of semantic and cognitive structures. Emphasis is on the processing of information relating to the identification, evaluation, and prescribing of action in culturally standardized situations. Data is taken chiefly from Philippine and American systems.

(11.) Numeral Classifiers as Linguistic, Semantic, and Cognitive Systems. (Brent Berlin, Anthropology) A world survey is in progress. Tzeltal systems are treated in fine detail. Numeral classifiers occur in many languages in almost all major language families and furnish well defined semantic domains of great scope that can be studied from cultural, structural, and developmental points of view.

(12.) Psychological Aspects of Transformational Generative Grammar. (Dan Slobin, Psychology) Chief foci are the role of syntax and semantics in the comprehension and memory of sentences.
(13.) Social Rules as Part of Linguistic Competence.
(Susan Ervin-Tripp, Speech) The notion of Linguistic Competence as comprising only the tacit knowledge of syntax, phonology, and semantics must be expanded to include the tacit knowledge of social context as determiner of appropriate speech style and content. Chief sources of data are observations of natural conversations and interview situations in which the experimenter controls the social context and observes differential effects on the verbal performances of subjects.

(14.) Sociological Variables and Linguistic Code Selection.
(John Gumperz, Anthropology) When a community of speakers has more than one linguistic code at its command, a fine-grained analysis of the social situation, including the roles and statuses of the participants, will predict which code will be selected. Similarly, the use of a particular code variant can be shown to influence the definition of the social situation.

(15.) Syntax Acquisition in Children. (Susan Ervin-Tripp, Speech) Detailed observation of the speech of young children (aged roughly 1½ to 4 years) indicates that the developmental sequence has a very strong maturational or innate component and that imitation and reinforcement play a minimal role in the learning of appropriate linguistic behavior.

There has also been considerable graduate student research in language behavior at Berkeley, a good part of which is mentioned in the various Appendices.
The above list of research projects is illustrative of the kind of work in the area of language behavior now taking place at Berkeley. As previously noted, this list by no means exhausts that relevant research that could be mentioned here. Almost every one of these projects, whether primarily ethno-linguistic, psycho-linguistic, socio-linguistic, or bio-linguistic properly includes variables from at least one of the other fields and ideally should be conducted in a Center of the kind proposed.

In addition to the projects named above, the existence of the proposed Center is certain to spawn additional collaborative research and will no doubt lead to interdisciplinary seminars as well.

We return now to the six major ways of implementing the goals of the Center introduced at the end of section 1 and discuss the structure and functioning of the Center in these terms.

(1) Space and facilities. Space will be adequate to accommodate about ten faculty offices, work space for fifteen students (many of these will be fellowship holders working on their own projects; others will be graduate and undergraduate paid research assistants; the full complement of fifteen will probably not be achieved until the third year of operation), work space for three administrative and clerical personnel, a duplicating and reproducing room, a conference room, and two rooms for laboratory work (observation of child speech, recording of texts, interviewing of all kinds, small group experiments,
etc.). Conversations with Mason-McDuffie and Claremont realtors indicate that such space is available convenient to the campus. We have entered into preliminary negotiations with one of these agents regarding a three-story apartment building on a street bordering the campus for a figure within that given in the budget. This building would be ideal for our purposes, both in size and layout and in location.

In addition to the direct participants, the Center will serve a wide variety of faculty and students. For example, in the Anthropology Department alone, at least five faculty members not now working primarily in the language behavior field have in the past done research in or directly related to the field of language behavior (Foster, Hammel, Keizer, Handelbaum, Nader). No doubt similar statements hold for other departments. The proposed Center may be expected to perform the valuable function for the campus generally of serving as a central clearing house for information, consultation, student support, etc. on all manner of social science problems relating to language.

(2) The scientific payoff from high rates of interaction of scholars with mutual interest. A high rate of intellectual interaction among the participants in the Center will be promoted by both formal and informal means. As regards formal means, a regular weekly (or bi-weekly, depending on accumulated experience) seminar will be held on topics of current research by participants in the Center and by other Berkeley and
non-Berkeley persons engaged in research of interest to Center participants. As regards informal means, the facilities will contain at least one refrigerator, and general bag lunch in the conference room will be encouraged. Trivial as this may seem, previous experience with several research centers has shown that eating lunch together is a strong stimulus toward intellectual interaction. A seemingly even more trivial, but nonetheless relevant, fact is that the presence of a refrigerator and coffee make regular group lunches more convenient for many people and hence more generally practicable.

The intellectual fertility fostered by research centers run on this general plan is attested by several historical cases, perhaps the most outstanding and relevant being the Cognitive Studies Center at Harvard. A few of the many possible other relevant examples with which the participants in the proposed Center had some contact include several cutting edge groups at the Center for Advanced Study in the Behavioral Sciences (CASBS), the Palfrey House Project at Harvard and Anthropology Research at Stanford. Experience in all these cases has shown that, given significant overlap of interests, a high degree of interaction around a blackboard and a coffee pot produces a lot of intellectual innovation and a large amount of collaborative research.

(3) Given the high rate of fellowship support for graduate students in many departments of the University, it seems likely that many of the graduate students participating in the Center will be free to work on their own projects or on joint projects
as co-investigators with faculty or other student participants in the Center. This fact should yield the dividend of encouraging student originality, which will benefit not only the students but the entire Center. For these students, the Center will provide not so much financial support as a stimulating milieu in which to do their research and grow intellectually. The high likelihood that interdisciplinary seminars will grow out of Center activity also promises a contribution to the training of graduate students on the campus. In addition the Center will support six graduate students per year as half-time research assistants.

(4) The Visiting Fellow plan. The Center plans each year to invite an outstanding scholar in the field of language behavior to the Berkeley campus. As mentioned above, Professor A. Richard Diebold of Stanford has expressed interest in the first fellowship to be offered. If the Center can continue to attract Fellows of this caliber, and there is no reason to think otherwise, the fellowship program will be a source of major enrichment to the Center and to the campus as a whole. The success of similar visiting fellow programs at the Harvard Cognitive Studies Center and elsewhere is well established.

(5) Attracting top graduate students to Berkeley. All the research centers named above (with the exception of the CASES groups) have shown themselves to be strong forces in attracting the best graduate students to their Universities. A case closer
to home in a different but related research area may be cited; it appears that the Primate Project of the Department of Anthropology has contributed significantly to Berkeley's attracting perhaps the most outstanding corps of physical anthropology graduate students in the country. When recommending a graduate school to a superior undergraduate one usually thinks first of the places where organized research is being pursued in the student's area of interest.

(6) The provision of small funds for novel, unproven, and innovative research projects. The IIS itself has a program of small grants, which appears, albeit from the outside, to be motivated somewhat by these ideas. In the social sciences generally, and particularly in a new area like language behavior, a Center such as the one proposed should not pass up the opportunity to encourage highly innovative research, particularly on the part of advanced graduate students.
Diebold, A. Richard, Jr.

Gumperz, John and Dell Hymes (eds.)

Hymes, Dell (ed.)

Osgood, C. E. and T. A. Sebeok (eds.)

Romney, A. K. and Roy G. D'Andrade (eds.)

Saporta, Sol (ed.)

Notes

1 Among the many results, direct and indirect, of the 1953 SSRC conference can be included the following four influential volumes: Saporta (1961), Romney and D'Andrade (1964), Gumperz and Hymes (1964), Hymes (1964). For general background see also Diebold (1964) and Osgood and Sebeok (1965).

2 For example, in the first four volumes cited in the previous footnote, names of Berkeley people appear as editors three times, as contributors nine times, and in personal notes and acknowledgements with even greater frequency.

3 Professor Diebold has expressed interest in the proposed Center Fellowship for the next year.
3. Budget

I. Basic Plant
   Rental of Space: $800/mo. x 12 mos.\(^1\) $9,600
   Furniture Rental: $820/mo. x 12 mos.\(^2\) 9,840
   Janitorial Service: $300/mo. x 12 mos.\(^3\) 3,600
   Xerox Rental: $150/mo. x 12 mos.\(^4\) 1,800
   \[\text{Total} = \$24,840\]

II. Personnel
   Director: 1 half-time salary 5,650
   Secretary: 1 full-time salary 5,772
   Typists: 2 full-time salaries at $4,752 9,504
   Research assistants: 3 full-time salaries at $3,192 9,576
   Fellow: 1 full-time salary 14,000
   Subtotal 44,502
   10% employee benefits 4,450
   \[\text{Total} = \$48,952\]

III. Expendable Supplies: $200/mo. x 12 mo. 2,400

IV. Research Fund: (for small student and faculty grants) 15,000

V. Travel: 12 round trips to East Coast at $465\(^5\) 5,580

VI. Permanent Equipment
   Typewriters: 3 IBM Executive w/ linguistic keyboard) at $536.44 1,609
   Tape recorders: 4 Uher (4000 model) at $434.72 1,739
   2 Woltersak (standard model) at $653.72 1,307
   Desk calculator: 1 Monroe (model 1-213) 1,215
   Mimeograph: 1 (model 865) 735
   Addressograph: Elliot Stencil Machine 144
   \[\text{Total} = \$36,749\]

VII. Yearly operating budget (=Total of Items I-V) $96,772

VIII. Three year operating budget (= 3xItem VII) 290,316

IX. Total amount requested (Item VIII + Item VII [Permanent Equipment]) $297,065

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\(^1\)Based on verbal estimates by Mason-McDuffie and Claremont realtors.
\(^2\)Based on verbal estimates by AA Office Equipment Co. of San Leandro. Items:
20 desks
10 Swivel chairs
10 Work tables
50 straight chairs
30 four-drawer files
1 14' conference table
30 3' x 6½' bookcases

Based on verbal estimate by Crosetti & Musanti, Co., Oakland.

Based on verbal estimate of Xerox Company for model 914 at 4,000 copies/month.

Estimated on the basis of one trip per year for the investigators and the Fellow plus four trips for graduate students and other faculty participants. Trip estimate includes $350 air fare plus 5 days per diem at $23/day (=$115).
ERRATA
for
PROPOSAL FOR A CENTER FOR LANGUAGE BEHAVIOR RESEARCH

1. title page: 'Institute for International Studies' should be 'Institute of International Studies.'
2. p. 4, line 3 from bottom: 'findoug' should be 'finding.'
3. p. 7, line 7: 'core' should be 'corps.'
4. p. 10, line 4 from bottom: 'Indian Languages' should be 'American English.'
5. p. 11, line 2: 'Indian languages' should be 'American English.'

NOTE: Errata 4 and 5 involve matters of substance.

5/2/67
P.K.