REPORT
of the
THIRD ANNUAL
ROUND TABLE MEETING
on
Linguistics and Language Teaching

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Meeting America’s Needs in Languages

L. E. DOSTERT (Georgetown University), in his opening remarks on the aim of the Round Table Meeting, pointed out that the pattern of the topics of discussion on linguistics and language teaching has emerged from actual experience. These annual meetings have been focused on three general topics, or some of their aspects: 1) language as a functional need of our culture; 2) the broad aspects of linguistic science in its relation to pedagogy in the field of languages; and 3) the use of technical aids in the field of language work, both as instruments for research and as aids to teaching. In view of the fact that the use of technical means as aids to teaching has been more emphasized in the past than has their use as instruments of research, it is hoped that this third round table meeting will restore some balance in the focus. An attempt has been made in these meetings to present diversified viewpoints and to bring together linguists and people who are simply language teachers, not trained or skilled in the field of linguistics. The members of the panels are rotated in order to permit the greater number of experts to make their contributions to the total result.

RICHARD MILLER (University of California), chairman of the panel, speaking on “Intensive Language Courses” took as a sort of case history the intensive language courses given at the University of California.

The subject of intensive language instruction has been under constant review by the University of California since 1941. In October of that year intensive language courses were first offered at that university. By the beginning of 1947 there were literally four separate intensive language programs developing along four different lines, in Japanese, Chinese, Korean, and Russian. However, these programs were unified as a single activity, and the Far Eastern and Russian Language School University Extension was established, with
Mr. Miller at its head. The new school was faced with the problem of providing a program which would fulfill degree and major requirements and at the same time fulfill the needs of other than University students. The Far Eastern and Russian Language School had to consider the intensive language courses in the light of University of California policy, credits, and academic achievement. It aimed at providing facilities which would be adequate for the training of government personnel, some of whom were not of collegiate standing. Consequently, it was decided that any student who could satisfactorily do the work could matriculate in the Far Eastern and Russian School without reference to past academic standing. This willingness to accommodate both collegiate and non-collegiate students represented a major step forward.

The following were a few of the problems faced by the school in 1947: 1) to secure the cooperation and advice of expert descriptive linguistic specialists; 2) to coordinate the techniques of language philosophy in the four intensive language programs; 3) to develop and train an outstanding staff of language teachers thoroughly conversant with the intensive method of instruction; 4) to establish close liaison with the pertinent university departments; 5) to acquire the necessary mechanical equipment and develop a library of language recordings; and 6) to publicize the work of the school to the general public, interested government agencies, missions boards, other universities and commercial firms. It would have been ideal if each language program could have called upon a descriptive linguist to take charge of a number of native speakers and continue the type of instruction which was fostered on the university campus under the A.S.T.P. This was impossible because of the lack of such specialists. However, in 1948 the school secured the services of Dr. Mary R. Haas who was concurrently appointed Assistant Professor of Siamese and Linguistics in the Department of Oriental Languages. She was appointed linguistic adviser for the Far Eastern and Russian Language School and at the same time undertook a summer program in 1948 in the intensive instruction of Siamese along absolutely ideal lines. The question arose as to how to utilize most efficiently the services of a single descriptive linguist on a faculty composed of twenty
traditional teachers. Since there was not a ready answer it was necessary to experiment. Dr. Haas not only gave courses in General Linguistics to prepare students technically and psychologically to approach a language properly, but, as Mr. Miller pointed out, "she gave her time and training in convincing the traditional language teachers who were inherited from various sources in 1947. After a short time it was obvious that students in a specific intensive language course did not profit sufficiently from a course in General Linguistics attended by students of Chinese, Japanese, Korean, and Russian. For an English speaker the Japanese phonemic structure is simple, whereas for Chinese and Russian, phonemic structures are not only widely different but very complex. Consequently, we found our greatest success in linguistics courses designed specifically for the English-speaking student of Japanese, or the English-speaking student of Korean." According to Mr. Miller there are several outstanding factors which are essential in the use of such specialists: "it is urgent to saturate the students from the very beginning with the essentials of the philological structure of the specific language concerned. The linguist specialist should devote a large number of hours, particularly at the beginning of the course, with the native teachers present on an informant level, during which time correct pronunciation is stressed and drilled. The so-called grammar part of the course, amounting usually to approximately twenty-five percent of the total number of hours of instruction per week, should be under the direction of the linguistic specialist, during which time the other teachers in the course should attend the class. The development and training of a staff of language teachers conversant with the intensive method has been also given constant attention. . . . I do not wish to minimize, however, the problem of securing the cooperation of traditional language teachers and the linguistic specialists in an intensive program. It would be ideal to secure not only the cooperation of the traditional language teacher, but also have him thoroughly convinced of the technique. The former is easier to secure than the latter, and although the development seems slow at times, the student products of this specialized type of instruction have been the best means of convincing the traditionalists of the good points of the new method."
The coordination of the four intensive language programs was accomplished for credit purposes by standardizing the hours of instruction in each language program. Between 1947 and 1951 twenty hours a week were established as the number of organized classroom and conference hours for direct student-teacher contact. Of this total, five hours a week were devoted to grammar analysis and reading, twelve hours to conversation drill. The problem of integrating credit derived from intensive language instruction into the total degree and credit procedures of the University was solved in such a way as to allow academic profit to the student who devotes himself exclusively to such a specialized language program.

It has been the policy of the Far Eastern and Russian Language School, from its first organization, to make language a tool to be used by the students in their special field of interest in any one of the academic, business, or governmental fields. On an average, approximately fifty per cent of the students are undergraduates, and a good number have been of pre-collegiate standing. Professional students such as nurses, journalists, and engineers have been trained.

Turning to more general topics which he considers of first importance, Mr. Miller stated that after five years of experience in intensive language courses he is convinced "that the psychological factors involved in intensive language instruction are of equal import to the purely procedural matters of number of hours of instruction, small number of students in classes, conversational, linguistic and grammatical drill, phonemic analysis and transcriptions, etc. Sight must never be lost of the fact that the teacher is not some sort of machine or of a particular model in efficiency. More teachers participating in an intensive program must not only be thoroughly acquainted with the philosophy of this type of work, but they must also be willing to dovetail their varying abilities for the advancement of a unified program. More teachers must be willing to relinquish a large degree of independence which a good teacher in a normal university class must exhibit. A well-developed interlocking teaching schedule is one of the prime requisites of a successful intensive language program and such a well-developed teaching schedule can only be accomplished by an understanding of the problem by
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the teachers involved." At the University of California various methods have been employed to overcome these problems. Frequent, frank discussions have been carried on with members of the teaching staff on both linguistic and the native speaker levels, and frequent conferences have been held with the students. Preference has always been made to accept and employ the suggestions of all three groups within the school. Mr. Miller reminded his listeners that it is impossible to dictate the tastes of the students, and that for this reason a "standard" course can not be planned and rigidly adhered to year in and year out except on the general beginning level; and that adjustment must be made constantly in terms of the varying talent of the class and interests and objectives of the students.

In conclusion, he said that "any intensive language program must be based on a workable, pedagogical technique, and upon a philosophy of language instruction which has been shaped in part by the psychology of the students. Their aims and aspirations must be given constant attention. The student, we feel, must be made to think of himself as a customer, even though in this case the customer is not always right. The teaching staff must be ever aware that the teaching techniques learned abroad are not always workable with the American student. A series of basic principles must be employed in any intensive language program, but every effort must be made to prevent these basic principles from crystallizing into a static course of study. We must remind ourselves constantly that we are dealing with a living language, and a living language is a complicated product of an even more complicated mechanism, the human mind."

HUGO GIDUZ (University of North Carolina) observed that the twenty contact hours would leave the student no time for any other work. Mr. Miller agreed that a student devotes himself exclusively to one language for a given period of time, which may be three semesters, a full fiscal year. The students can transfer the credit earned in the language course to their ordinary major in the Bachelor of Arts.

L. E. DOSTERT was informed by Mr. Miller that the maximum number of so-called credits allowed for language
achievement toward an academic degree at the University of California is approximately twenty, and that sixteen of these are acquired after about one semester of regular work. With this in mind, Mr. Dostert called attention to the fact that in that system it is possible for a student to devote two full semesters to intensive work in language without getting substantial academic recognition for it. If in one semester he earns sixteen credits, and the maximum he will receive is twenty, this means, in effect, that for the remaining two semesters he gets no academic recognition except to the extent of four credits. He added that at the Georgetown Institute of Languages and Linguistics no limit is put because it is felt that such a move might discourage the student from carrying on with the language after he had completed one or two semesters. At the Institute it does not matter if the student’s work is translated in terms of a given number of credits. The important thing is the learning of languages by the students.

Father Edmund A. Walsh, S.J. (Georgetown University), citing the example of the Institute of Languages and Linguistics, which has a curriculum built in an entirely independent spirit, stated that much depends on the framework in which a language program works. At the Institute of Language and Linguistics it was not necessary to argue and dispute with the credit problem, and the student is not obliged to compute the credit hours. Although there is continual pressure on Father Walsh and Mr. Dostert, in particular, both from within and from outside, to interpret the curriculum in credit terminology, they are resisting it because they want to set up a purely achievement objective. At the Institute there is no record in credit equivalents except on request of a student for a breakdown into a semester-hour transcript. The curriculum is made up of languages and linguistics with the area studies and the other requirements dovetailed in, so that the student may be not merely a translator or a teacher of languages, but a broadly trained person.

Albert D. Menut (Syracuse University) raised the question of graduate credits for intensive language work at the University of California. Mr. Miller’s answer made it clear that the language course is a lower division college course,
and that the graduate student who wishes to acquire facility in one of these languages has to take the time to study that language.

L. E. DOSTERT observed that this seemed to him a non-realistic view of the matter. He observed that the student taking introductory Arabic in a graduate school gets graduate credit for Introductory Arabic. However, a junior or sophomore in an undergraduate school who takes Introductory Arabic is learning the same thing. In one case the course is called a graduate course and in the other it is called undergraduate, simply because the student happens to take it at a different time in his life or in his intellectual chronology.

MRS. JOSEPH STEVENS (School for Advanced International Studies, Johns Hopkins University), in answer to Mr. Dostert's question as to whether there are universities where Introductory Arabic or Introductory Hindi are considered at the graduate level, stated that Arabic courses at the School for Advanced International Studies are not considered at the graduate level, but that the transcript given to the student contains a description of his language achievement. This is true for any language taken at that school.

CHARLES HOCKETT (Cornell University) remarked that all modern foreign languages taught at Cornell are taught at the undergraduate level; at that University there is no major in languages. Learning a foreign language is not essentially an intellectual task. It may be the road to learning new things about the structure of the world about us, but in itself it does not achieve that. Considerations of this kind are to come up in the discussion of how foreign language work, at any level it may be done, should be accredited.

W. NORMAN BROWN (University of Pennsylvania), replying to Mr. Dostert's question about Hindi, said that students going into graduate courses in the South Asia Program at the University of Pennsylvania are expected to have as prerequisites the equivalent of two years of work on not a full intensive basis, but, nevertheless, on a basis much larger than that of the ordinary college course; he should have two years of work in an important modern language of the area. That
may be taken by the student after he enters the South Asia Program; and since the Department is a graduate school department, the work is taken by registration in the Graduate School. On the recommendation of the Department the student is not allowed to count credits accumulated for those courses towards a graduate degree. If some other department sends in a student to those courses, that department may or may not, as it wishes, let him satisfy some of its requirements.

**Father Walsh** commented that it should be up to the receiving institution or the department to which the student makes application to evaluate themselves what the status is or what amount of credit they will give to his transcript, knowing what is being done in the other institution or other department.

**Richard Miller** brought the discussion on his paper to a close with the observation that the trend in the University of California in all languages is to lower the credit offering to sophomore or freshman standing. Chinese and Japanese, which, about twenty-five years ago, were considered to be of almost graduate standing, are now freshman offerings. Through the years these have been drawn down and the offerings of the Department on the graduate level have been expanded.

**William N. Locke (Massachusetts Institute of Technology)** spoke on the topic "Languages in a Technological Curriculum." Although he based his remarks on his experience at MIT, he expressed the hope that they would have some general application.

During the Twenties language study had gone from a very strong position, which it had had at MIT about fifty years before, down to zero. In the Thirties engineers began to realize that as citizens and as engineers they would need languages. Perhaps the primary purpose today of teaching languages in technical schools is to make it possible for students to read the research output of the foreign countries. The average young engineer can not afford to have articles translated for his use. It is essential that the engineer and especially the research worker in nearly every engineering and scientific field have
a reading knowledge of the technical material of the foreign countries.

The three ways of meeting the language needs of the students at MIT are 1) the tool knowledge of a language, 2) the humanities aspect of language teaching and study and 3) the research aspect of language. The students in a technical school need very badly to be able to read technical material, particularly on the graduate level, where MIT has adopted a reading requirement which specifically states that every doctorate candidate must be able to read technical material in two foreign languages in order to get a degree. He not only must be able to read it; he must convince the Department of Modern Languages that he can read it.

At MIT the graduate students learning how to read a foreign language are all taught the same grammar. The men in each field are taught their own vocabulary. This is done by the use of publications in that field, either books or periodicals. Students are invited to suggest reading material in their particular field. A group of aeronautical students, for instance, brought in a number of articles in French from various periodicals. At the moment there are twenty sections of graduate French, each with four to twenty students, and each in a different field.

CARLETON HODGE (Department of State) asked Mr. Locke at this point by what means students who have had no French are taught to read scientific articles. Mr. Locke, after calling attention to the fact that this is a one-semester course which meets three hours a week, explained that at the very first meeting the students are given "unedited, unsimplified papers in their field, and for the second meeting of the course they read a paragraph. They hold a dictionary in one hand, a specially designed grammar in the other hand, and they read the paper word for word. This they are able to do mainly because it is their own field and they know what the paper is going to say. There is a very high predictability factor. If the man is a mathematician, he has the best chance of all. Fifty percent of the paper will be in the language which he already understands." One of the bases in this sort of course is to show the students very clearly that intelligent guessing is expected of
them. The students are given the basic structure, the basic grammar, on which to proceed. Vocabulary is de-emphasized. The students are required, however, to know the common connectives, adverbs, and conjunctions. The so-called grammar course meets one hour a week. For the grammar, everything which does not apply to the aims at MIT has been taken out of the grammar books.

L. E. Dostert inquired whether any phonology is given in these language courses at MIT, and was told by Mr. Locke that at the beginning one brief summary is given on the pronunciation of letters. He finds, however, that the students frequently want to know how words are pronounced. Mr. Dostert observed that in a reading knowledge course at the Georgetown Institute of Languages and Linguistics the students' reading was greatly slowed down if they did not know how to put sounds in the combination of letters they had before them. Therefore, at their own insistent request, the students were given, during the first two weeks, a thorough grounding in the sound system of the language in order to facilitate their reading.

Pierre C. Delattre (University of Pennsylvania) expressed the opinion that a reading knowledge would be gained more rapidly if the course were started by the aural-oral method even if it were only on a small scale and for a short time. Mr. Locke reiterated that one hour a week, for fourteen weeks, is the linguist's part of the program, for the theoretical part of the grammar. Two hours a week are devoted to reading with an instructor in small sections. There is not enough time to have the students read aloud in a foreign language. The important thing for them is the translation. There can be no extensive treatment of pronunciation. The students realize that language is to them a hurdle and that their approach to language must of necessity be a practical one.

Charles Hockett stated that a person who is to learn to read a foreign language must be given a set of more or less regular pronunciation habits correlated with what he sees; but that, on the other hand, for the reading of scientific material there need not be any close matching between the regular habits of pronunciation that he is given and the way the
speaker of the given language pronounces it. Mr. Locke agreed on this point and added that in some cases a perfect pronunciation in the foreign language would hinder rather than help the student's guessing.

HENRY H. JOSSELSON (Wayne University) called attention to the fact that in Russian a period of two weeks is spent in starting the course because of the script. Mr. Locke reported that because these two weeks are not spent in reading texts on Russian the results at the end of the course are not as good as in other languages at MIT.

ALFRED S. HAYES (Louisiana State University) suggested that these courses might be called exercises in cryptography rather than language courses.

R. Ross MACDONALD (Georgetown University), referring to the course previously mentioned by Mr. Dostert, spoke of the examination procedure. During the examination students may ask the instructor for the meaning of any word which occurs, but he is charged a point for each word he asks. The final examination is in two parts. In one part they may use dictionaries, notes, etc., to translate; in the other they have no aids at all. In some classes students have done better on the part where they have no aids, mainly because when they have aids they look up everything in the dictionary and refuse to try and guess intelligently. Mr. Locke noted that this has been the experience exactly at MIT.

FATHER WALSH pointed out to Mr. MacDonald that in the particular field of technical engineering there would be a greater chance for more accurate guessing than in the more general field with which most of us are accustomed to deal.

PAUL GARVIN (Georgetown University) asked whether in the hours of grammar the instructor facilitates intelligent guessing by teaching the students the essentials of word formation in the given language. Mr. Locke replied that this is one of the very important aspects of the teaching, included in the period devoted to the structure of the language.

M. G. MARTINEZ (Georgetown University) related that from experience he has found that the use of dictionaries is indis-
pensable, especially for engineers. Mr. Locke explained that in the language courses under discussion—offered to graduate students only—dictionaries are allowed in the preparation of class hours. The student works with the dictionary in one hand and a grammar in the other, as has already been pointed out. Only at the actual examination dictionaries are not allowed.

Returning to his main topic of discussion, Mr. Locke remarked that undergraduates at MIT are required to take two semesters of language. Although students in the science departments must be able to read papers in foreign languages, these courses are not pure reading courses. The spoken knowledge, particularly in French and Spanish, is being emphasized. Only three hours a week, even for the elementary courses, are available for language work. Nevertheless, gratifying progress is made partly because the students like their language work, as something completely different from their engineering work. No student at any level is taught to write in a foreign language at MIT.

Turning to a consideration of the offerings at MIT from the humanities point of view, Mr. Locke noted that every undergraduate must take eight semester courses in the humanities field. Four of these can be in languages. Any student who wishes may take six subjects in languages. Courses are given in the French and German classics, as well as on modern literature and on contemporary literature, both French and German. There is also a course in semantics, an elective course, for both undergraduate and graduate students.

On the research aspect of the curriculum at MIT, Mr. Locke expressed the opinion that a technological school like MIT is particularly well-equipped to do research on various aspects of language. The most important aspect of the MIT Language Research Program is the study of the basic nature of speech itself. A staff of three is engaged in trying to analyze how it is that we decide that a particular speech sound is that sound and not another sound. Hand in hand with this basic research of trying to understand speech goes the building of new and better research instruments, done at MIT with the help of acousticians, electrical engineers, and physicists.
J. Allan Pfeffer (University of Buffalo) described in the third paper of the first session, on the topic "Modern Languages in the American College Curriculum," the background and the development of language teaching in American universities. With the exception of Harvard University, where courses in French were offered as early as 1733, no other college offered modern languages until the nineteenth century. The trend in language teaching was from the classical to the modern languages, and these were well established by the end of the nineteenth century as integral parts of virtually all American colleges and universities. Interest in languages continued to grow until it reached its high mark in 1915. Marked changes in the period between the two World Wars were the decrease in Greek and Latin, the partial comeback of German, and the boom in Spanish.

Language teaching developed against the background of the Renaissance study of Humane Letters. But with World War II the United States, faced with new problems, realized a new need for language training on a large scale. Language and area programs of the Armed Forces were set up. For these programs the old system of teaching languages seemed inadequate because it aimed chiefly at a reading knowledge of language and proceeded at a slow pace. Speed was needed, and new procedures had to be devised. Although these devices have been found wanting, they had an energizing effect on language study.

Cornell University, with the help of a foundation grant and a group of zealous advocates, was the first to experiment with the pattern of intensive language study. The Committee on Educational Policy of Cornell's College of Arts and Sciences recommends that there be continued effort to develop a maximum reading facility compatible with an aural-oral basis of instruction. Many colleges and universities are devising an effective way of teaching students to understand, speak, read, and write a foreign language; and they are experimenting with the technological innovations of the language laboratory. To accomplish this task, some colleges and universities, such as Michigan State College, have instituted a dual sequence of classes with the same number of credits for both the regular and the conversational class, except that for the latter there
are more class and drill hours. At Harvard University and at the University of California the approach is conservative. Some schools have abandoned the new approach, resent the definition of languages as a tool, and insist on the humanistic approach.

Whatever the method, language courses are not enrolling the number of students they should. Of sixty-odd institutions in New York state nearly one-third admit students with no foreign language, a little more than one-third admit students with two years of a foreign language, and one-third require more than two years of a foreign language. One of every ten colleges in New York state grants B.A. and B.S. degrees to candidates who have no knowledge of foreign languages.

In spite of figures which would seem to suggest a disheartening picture a fundamental turn is in the offing. As Mr. Pfeffer put it, "the chorus of voices of educated laymen, professional educators, and civil and military leaders that will speed these changes is clearly growing louder and more persistent. Laymen who have had the occasion or the opportunity to travel abroad speak with increasing embarrassment of the linguistic ignorance Americans inevitably display in foreign environments. They publicly call for the general study of foreign languages to eradicate suspicion that thrives on misunderstanding . . . . they insist that America will be understood abroad as it understands other nations . . . . as a recent newspaper editorial contended, there should be more emphasis on the type of language study which would enable the student to speak fluently the language of at least one non-English speaking country. Such students should be induced to read the literature of the nation whose language they have learned and encouraged to travel and live and study abroad. Only an informed people can inform others . . . . Eminent educators, too, incline to the view that, unless a student shows a marked lack of aptitude in the study of a foreign language, he ought to gain at least an elementary knowledge of one language other than his own as part of his general education . . . . Committees on pre-professional training are evincing an increasing concern about the general cultural preparation of future legal and medical practitioners . . . . America has at last fully conceded that it is impossible to draw near to a foreign people
without a knowledge of their language.... The recently published survey of the Social Science Research Council suggests the extent to which many schools are already girding for those needs by setting up area study programs aiming at language competence and an integrated background knowledge of certain areas and peoples.... As such language and area programs offer the only satisfactory approach to the cultural needs of a universal humanity, all schools must cast aside the constricting impediments of intellectual segmentation.... Perhaps rechristened 'Departments of Civilization and Culture,' as Professor Spiker of the University of West Virginia suggests, the departments of language and literature might subordinate for the moment such tremendously important things as vocabulary, irregular verbs, phonemics, and time-saving requirements and ask what information, what overall skills and attitudes relative to foreign countries will be most useful to the student as a citizen of the United States and of the world. They will consider the problem of giving the most desirable form to the values of language study in consonance with the demands of our epoch, its philosophy of life, and its evaluation of human achievement. As language learning, like teething, is a normal function of childhood, they will insist that foreign language study begin at an early age. Encouraged by the psychologists who recognize that mastery of more than one language definitely adds to one's equipment of effective, accurate thinking and adequate feeling, they will demand that such language study continue normally for an optimum period of six years. And, in keeping with America's intellectual and useful needs, these departments will so distribute the emphasis on a graduated but properly weighted level, especially on the college level, that future generations of educated Americans will secure for the United States the intellectual and linguistic position it now holds politically and economically in the eyes of the world."

WILLIAM LOCKE opened the discussion on this paper by raising the question as to how much professional type competence in language the liberal arts colleges should attempt to give
within the scope of their curriculum. Mr. Pfeffer expressed the opinion that leaders are no longer content to accept the person who has little or no training in the languages and correlated area information. They want people who are able to think more broadly and to gain a perspective on our own way of life by looking at it through the eyes of other peoples. In answer to Mr. Locke's question as to how many language and area courses can be justified as humanities, Mr. Pfeffer expressed the feeling that even the beginning language course can be considered a humanities course if it is taught in terms of literary content.

Father Walsh observed that in the evolution of language teaching a somewhat wider target has crept in. Language is not merely an introduction to the culture of a country; it must be something of a more proficient character. This change is noticeable not only in the highly professionalized group in the Georgetown Institute of Languages and Linguistics but also in the Liberal Arts College of Georgetown University, where the number of hours for language courses was raised from three to six a week. In the latter courses the student is only exposed to the richness of a culture. If he wants to become a qualified area expert, he attends the Institute of Languages and Linguistics.

Mrs. Stevens asked for comments on an efficient one-year language program that might be given to the student of such schools as the School of Advanced International Studies, where the student is so busy at his substantive courses in area training that he does not have the time properly required for intensive language study. Father Walsh expressed doubt that such a program could be given for one year. Mr. Dostert added that the distinction between so-called substantive courses in the area and the language seems to be somewhat of a deformation of meaning, and that certainly language is an established part of area training.
The Language Problem of India and Pakistan

W. Norman Brown (University of Pennsylvania) read the following paper on this subject:

The character of my talk today is determined by the fact that language difference has an important significance in internal Indian and Pakistani politics. Since about the middle of the first millennium B.C. this same phenomenon has been recorded in the literature of India as a source of group antipathy. At that time speakers of “standard” Sanskrit expressed scorn for those whose pronunciation was inferior, for example, by sounding $l$ for $r$. This corresponds to the strong linguistic consciousness and high development of scientific language study in ancient India. To make clear the present problems I want to remind you of a few well-known facts. Linguistically, the people of India and Pakistan are today distributed among five speech groups. In the descending order of number of speakers, these are Aryan (Indo-European), Dravidian, Munda, Tibeto-Chinese, and Khâsi (in Assam). The two latter seem to be of recent arrival, have only limited provenience and small numbers, and may be ignored here. The best, that is, most arable, regions of India are occupied by Aryans and Dravidians; speakers of the Munda, Tibeto-Burman, and Khâsi languages and some speakers of Dravidian occupy the less desirable areas, which are on the fringes of the subcontinent or in the interior hills.

The Munda languages may have been the first of the five groups to enter India, perhaps coming in from the East. Speakers of Munda languages have now a comparatively low economic culture, but may nevertheless have been a substratum of the population in areas where speakers of other languages are now in full possession. There is today a strongly self-conscious movement among them as Ādibāsis (“first inhabitants”) which seeks to establish their equality with the economically more advanced peoples of India.
The Dravidian languages constitute the second most important group in the subcontinent and were certainly there before the Aryan. They may once have occupied nearly all the country. They dominate South India today below an irregular line starting south of Goa on the west coast, running roughly northeast to skirt the eastern side of Berar, and then about east-southeast to the Bay of Bengal. Small scattered preliterate groups speaking Dravidian tongues are found in some areas where Aryan speech prevails.

The most important Dravidian tongues are four which have well developed literatures. These are Tamil, covering most of the lower part of the Madras state and some adjacent territory in Mysore and Travancore; Telugu, spoken chiefly in the Hyderabad state in the Deccan and in the northern part of the Madras state; Kanara (or Kannada or Kanarese), prevalent chiefly in the state of Mysore but overflowing into adjacent states; and Malayalam, used in Travancore and Cochin and in the southwestern part of Madras. The Dravidians have long had a high civilization. Though most of their literature is secondary to Aryan Sanskrit literature, they also possess an independent and ancient literary tradition going back a century before the Christian era, and have a pride in their peculiar cultural achievements. This leads them today to feel that they possess a cultural entity, whose integrity is threatened by farther Aryan advance. Within the Dravidian family each of the four literary languages mentioned above also aspires to have the territory it occupies constituted a separate political unit.

The largest and most important language group in India is the Aryan. Aryan speech has been steadily spreading in the subcontinent for three thousand years; in our own time each successive census has found it encroaching a little more upon the territories of other language groups.

To the Indian branch of Aryan belongs Sanskrit, the pre-eminent classical language of Hindu India, in which are expressed its intellectual canons. As the common language of culture, Sanskrit was in ancient and mediaeval times the language through which the learned of all parts of the country communicated with one another, whether their native speeches
were Aryan or Dravidian. In this way it was the cement that bound together diverse linguistic groups in a cultural unity, and, though the Aryan language complex is an immigrant into India, we call the country's culture Aryan.

Modern Aryan languages in India are many. The most widely used has for some centuries been a group of dialects broadly called Hindi, which is native in the important state Uttar Pradesh (formerly called United Provinces). It has several spoken varieties; one of them under the name of Hindustani serves as a lingua franca over northern and central India and even in a very spotty fashion in south India; this last has two literary varieties, one called narrowly Hindi and the other called Urdu. We shall say more of these later.

The next most numerous Aryan language of India is Bengali. Others are Marathi, spoken east and south of Bombay City, and in nearby portions of Madhya Pradesh and Hyderabad; Gujarati, spoken north of Bombay City; Punjabi; Sindhi; Rajasthani, spoken in Rajputana; Balochi, used in Baluchistan; Pashtu, spoken on the northwest frontier; Bihari; Oriya, the chief language of Utkal (formerly Orissa); Pahari, spoken in the Himalayas; Kashmiri; Assamese.

The preeminence of Sanskrit as a medium of educated communication throughout India was impaired by the Muslims as they invaded and spread over the country from the 8th century on. The languages they honored were Arabic as the vehicle of religion and Persian as the tongue of palace, courts, and polite letters. In the period of their power the position of Sanskrit declined.

The current social and political problems arising in India and Pakistan from language center around the question: what should be the language or languages of government and higher education? The conflicts are those of Aryan with Dravidian, Indic with English, Hindi with Urdu, and each of the latter two with other Aryan tongues. Aryan has for three thousand years been encroaching upon Dravidian. A century ago Bishop Caldwell spoke of Aryan contempt for Dravidian and the prideful self-assertion of Dravidian in reaction. The British introduced English in the first half of the 19th century as the
preferred alternative to both Sanskrit and Persian (not to the vernaculars, which were then disesteemed). Nationalist promotion of the vernaculars as the medium of instruction in education appeared in the late 19th and first half of the 20th century. Their literatures began to gain prestige then and a press developed in them. The most striking illustration was the establishment at Ahmedabad under Gandhi's inspiration of the Vidyapith at the time of the First Non-Cooperation Movement (1920-22). There the medium of instruction was Hindi and the cultural material studied was Indian. Rabindranath Tagore too in the institution he founded at Shanti Niketan (Bolpur, Bengal), now become the Visva Bharati ("Universal Indian") University, used Indian languages for the medium of instruction and their literature as material for study. The Osmaniya University in Hyderabad and the Aligarh University (another Muslim institution) employed Urdu.

Nationalism was intent on displacing English both as the official language and as the medium of instruction, but the question was with what. Here Hindu-Muslim antipathy known in India as communalism affected the question and divided Indians. The Indian National Congress, chiefly composed of Hindus, wanted Hindi, or, when it listened to Gandhi, Hindustani. Muslims wanted Urdu. Now Hindustani, Hindi, and Urdu, as we said above, are varieties of the same language. Hindustani is the current spoken form, providing the phonology, grammatical structure, and basic vocabulary. Hindi and Urdu are literary forms of Hindustani, and are differentiated from each other in the learned or highly cultivated vocabulary and script. Hindi borrows words freely from Sanskrit, is generally written in an indigenous script known as Devanagari (or Nagari), and as so written is chiefly current among Hindus. Urdu borrows copiously from Persian and Arabic, usually is written in the Perso-Arabic script, and is largely restricted to Muslims. Hindi and Urdu came to be rival symbols of Hindu-Muslim communalism. Gandhi tried to resolve the language quarrel by advocating Basic Hindustani written in both scripts, and continued to do so as late as January, 1948, shortly before his assassination. The Congress Ministries during their period of power (1937-39) were not always thoughtful of Muslim susceptibilities and sometimes promoted
Hindi rather than Hindustani, thus leading Muslims to react by affirming claims for Urdu.

The attack which nationalism made upon English, therefore, induced communal controversy over the substitute as to whether it should be Hindi or Urdu. It also aroused regional linguistic jealousy among the Dravidians, living in South India, proud of their own literary tongues—Tamil, Telugu, Kannada, Malayalam. They thought the movement for Hindi another bit of that Aryan cultural aggression which they had been resisting for 3000 years. They neither understood Hindi nor were willing to give it a preferred place above their own languages. Congress party regularity compelled some politicians to support it, though frequently they could not speak it.

There was also jealousy of Hindi in various parts of India where Aryan languages were current. The Bengalis, who consider themselves the intellectual leaders of India, thought their language should be second to none; to a less extent speakers of Marathi in western India had a similar feeling; to a still less extent did Gujaratis, also in western India.

These various linguistic rivalries now carry over into India and Pakistan. In each country nationalist sentiment urges that English be demoted from its present dominance. But in India the choice of Hindi as the replacement is unpopular in southern, eastern, and western parts of the country, and in Pakistan the choice of Urdu, though accepted in West Pakistan, is questioned in East Pakistan, where Bengali is the vernacular. In each nation, therefore, the linguistic problem is a double one: first, to find a suitable substitute for English; second, to persuade the people of the nation as a whole to accept any single one of its tongues as that substitute.

India has committed itself to Hindi, and the Constitution in Section 351 proposes that the State should positively promote the development of that language (as against Urdu or any other), saying: "It shall be the duty of the Union to promote the spread of the Hindi language, to develop it so that it may serve as a medium of expression for all the elements of the composite culture of India and to secure its enrichment by
assimilating without interfering with its genius, the forms, style and expressions used in Hindustani and in the other languages of India specified in the Eighth Schedule, and by drawing, wherever necessary or desirable, for its vocabulary, primarily on Sanskrit and secondarily on other languages.”

It is doubtful that the decision for Hindi solves the problem of finding a suitable national language. It is, first of all, not at present a feasible substitute for English. The fact is revealed by the Constitution itself. This says in Section 343(1): “The official language of the Union shall be Hindi in Devanagari script.” But after giving this acknowledgment to national cultural aspirations, it goes on to say in Section 343(2): “Notwithstanding anything in clause (1), for a period of fifteen years from the commencement of this Constitution, the English language shall continue to be used for all official purposes of the Union for which it was being used immediately before such commencement.” And still further in the same section it states in 343(3): “Notwithstanding anything in this article, Parliament may by law provide for the use, after the said period of fifteen years, of—(a) the English language . . . for such purposes as may be specified in the law.” During the fifteen-year period mentioned the President may authorize the use of Hindi for such official purposes as have been (1) recommended in a report by a Commission on language appointed at the expiration of five years from the commencement of the Constitution and thereafter at the expiration of ten years to survey the language position, and (2) considered by a Committee appointed to examine the Commission’s report. More stringently and specifically the Constitution, dealing with a field where the use of language may be administratively critical, provides in Section 348 that “. . . until Parliament by law otherwise provides—(a) all proceedings in the Supreme Court and in every High Court, (b) the authoritative texts—(i) of all Bills . . . (ii) of all Acts passed by Parliament or the Legislature of a State and of all Ordinances promulgated by the President or the Governor or Rajpranukh of a State, and (iii) of all orders, rules, regulations and by-laws issued under this Constitution or under any law made by Parliament or the Legislature of a State, shall be in the English language.” (There are certain
minor modifications.) In accordance with this provision the official text of the Constitution is in English. Indians who are aware of the practical problems involved know that English cannot be eliminated by any simple constitutional fiat, but vote-seeking politicians, of course, and cultural chauvinists agitate otherwise.

In Pakistan, since a Constitution has not yet been adopted, there is no provision about language, and English is by default the current official language. The Pakistan Educational Conference called by the Ministry of Education in 1947, after discussing this touchy subject, adopted a resolution which avoided the phrase “official language” but indicated the prevailing sentiment: “This conference recommends to the Constituent Assembly that Urdu should be recognized as the lingua franca of Pakistan.” The Minister of Education (Fazlur Rahman) in the opening address of the Conference had said: “. . . English . . . must for some considerable time to come retain its pride of place both in the sphere of our University education and as a means of international communication.”

Both countries are greatly dependent in government upon English. It is the only medium through which legislative representatives and officials from all parts of the nation can communicate with one another. In education and business the situation is the same. At the Pakistan Educational Conference mentioned above, delegates from Bengal (East Pakistan) frequently complained that they could not understand speeches in Urdu. The courts, except on the lowest level where the simplest and smallest cases are handled, could not today proceed in any other language than English. Decisions have been rendered and precedents are established and quoted in it all over the land. The legal vocabulary is that of English law; none of the native languages, not even Sanskrit or Persian, is equipped to express the necessary concepts. Though a vocabulary could be invented as a tour de force, its terms would not have the context of usage and the definition that would give them significance. The growth of a legal vocabulary is a long process, and a language now without it can acquire it only slowly. The same considerations apply in framing legis-
lation. Aside, however, from basic needs of drafting legislation and delivering court decisions, Indian languages can be used for many administrative procedures, and are beginning to get such usage. In the process they may duly acquire the vocabulary to let them some day supersede English, as the spoken languages of Europe came to displace literary Latin in similar circumstances. For international communication it is evident that neither Hindi nor Urdu is usable. English will remain the logical international language for India and Pakistan, and whatever national language officials may use in these countries for their internal affairs, for their foreign affairs they will have to continue to employ English.

Though the Constitution of India prescribes Hindi as the goal for national language, it recognizes that separate regions within the nation need to use their local languages in public affairs. Of these it lists thirteen in its Eighth Schedule including Hindi and Urdu, but omitting their spoken basis "Hindustani," which, however, it mentions in Section 351. The other eleven are Assamese, Bengali, Gujarati, Kannada, Kashmiri, Malayalam, Marathi, Oriya, Punjabi, Tamil, Telugu. The list also includes the Hindu literary language Sanskrit, (which a good many Hindus have pedantically urged as national language). Of other local languages (such as Bihari, Rajasthani, Kashmiri, Bhilli) their importance is presumably considered insufficient to justify inclusion. The recognition of local languages is for local use only, and is covered in Section 345, where it is provided that "... the Legislature of a State may by law adopt any one or more of the languages in use in the State or Hindi as the language or languages to be used for all or any of the official purposes of that State." But (by Section 346) for communication between one State and another and between a State and the Union the language shall be that authorized as the official language of the Union, unless two or more States agree to use Hindi (in place of the present official English). To prevent a majority language from dominating unfairly in a State, the President of the Union may, by Section 347, on demand, if he is satisfied that a substantial portion of the State's population desires the use of a language spoken by them to be recognized by that State, direct that it be recognized in all or part of the State. The end result could
well be in theory that in the government of a State where Hindi is not a local language, such as Madras, officials might need to use in their interstate and intrastate affairs jointly English, Hindi, Tamil, Telugu, and annada. In practice, however, it might equally well be that English would remain the sole official language for any but the lowest levels of action, and a good many realistically minded citizens say so.

Closely associated with the problem of language as a vehicle for legislative, administrative, and judicial functions and as a means of intellectual and business communication is that of language as the medium of instruction in the educational system. Cultural nationalism in both India and Pakistan urges use of a native language instead of the present prevailing English, but the issue is again which one to employ. In India the Congress has demanded Hindi and in Pakistan there is sentiment for Urdu, but again there are local objections, as in the case of the adoption of these two as official languages. The issue rises only on the higher levels of education, that is, in colleges, technical and professional institutions, and graduate schools, possibly to a limited extent in high schools. For education below those levels the local vernaculars are necessary and satisfactory. On the higher levels, however, vernaculars lack the scientific vocabulary to replace English. It is, of course, possible to borrow the terms directly from English, with some slight adaptation to the phonetic system of the language which borrows them, and this would be the obvious way to treat the problem. But the nationalist sentiment which demands the ouster of English insists that the prestige of the native literary languages requires that they supply a terminology made from their own lexical resources. That is, English terms would be translated into forms made from Hindi or Sanskrit or Urdu or Persian or Arabic elements through derivation or compounding. Such proposals to manufacture a vocabulary, though fair to hear, are liable to be a delusion, because the meaning of scientific terminology depends largely upon usage by scholars, and newly fashioned terms with no scientific history and context have little meaning or chance to acquire it. The scientific terminology of English illustrates our dependence upon foreign languages, Latin and Greek, while the associations adhering to old terms give
a coloring to our new terms as we devise them. Scholars tend to write for an international audience and to use languages which are internationally intelligible. A non-international language such as Hindi or Urdu, to break into international company, needs to be a vehicle for voluminous important publication, which neither of those languages is at present. For education, therefore, as for government, the provisions of the Constitution of India, unless administered thoughtfully and without political demagoguery, would impose a heavy language burden upon the country, and the implications of the Pakistan Educational Conference, if put into statute form, would do the same there. For a considerable period to come—and it is impossible to estimate the length of that period—higher education in the subcontinent must retain English as the medium of instruction. This last fact puts a double burden upon students of studying the subject matter and doing so through a foreign language—unlike our own situation where a learner faces only one of them. Learning is bound, in average cases, to be slower than with us and the educational process either longer or less satisfactory.

The language problem also includes a subsidiary problem of script. Sanskrit and the other indigenous classical languages of India, and also the modern Aryan and Dravidian vernaculars, are usually written in local scripts, originating in India, of which there are many. These all developed in India and spring from a single type of writing known as Brahmi, which is first preserved for us in inscriptions of the third century B.C. The most widely used today is Devanagari, cited in the Constitution of India, Section 343, which is employed for Hindi and Marathi. Bengali and Assamese have a common script but each of the other spoken languages mentioned in the Eighth Schedule of the Constitution of India has its own special system. Most of the scripts are not sufficiently alike to be mutually intelligible. All are alphabetic, but are complicated to write and difficult to learn. The symbols for different sounds may vary in appearance according to position in the word, whether initial, medial, or final, or when combined with other symbols in ligatures, which are common. Hence, while our own roman script with its small and capital letters (some of which are duplicates), requires a learner to master only about 40 shapes, an Indian script, though having
no capitals, may present literally hundreds of forms. This is a handicap to education, to typewriter use, and to printing. The scripts have, indeed, all been adapted to old-style printing with separate movable, handset types, and most of them have been put on the typewriter. A number of the most important have been adapted to mechanical type-composing machines (linotype, monotype), and some as now developed can be used successfully with modern highspeed newspaper-printing equipment, and may soon be further adapted to teletype usage. To render these scripts capable of successful use with typewriter and type-composing machines some simplification has been necessary, which sometimes leads to modification of the appearance of the symbols or to changes of orthography.

There are today two imported foreign scripts which are rivals to the indigenous. One of these is the Perso-Arabic. This was introduced by the Muslims, is now standard in Western Pakistan as well as frequent in Eastern Pakistan, where, however, the native language Bengali normally uses a native Indic script. The Perso-Arabic is employed in Kashmir and eclectically in some other places such as Uttar Pradesh and Hyderabad. Like the native Indic scripts it is cumbersome to use in printing. It has separate forms for the letters in their different positions, uses many ligatures, and in the Nastaliq form common in India and Pakistan is written so that it slopes away from the horizontal axis of the page. Nastaliq has never been adapted to type. The other is the roman script introduced by the Europeans and given official position by the British.

The central and local state (or provincial) governments of India and Pakistan have been concerned with the problem of simplifying scripts so as to ease the learning process and fit them for typewriting and modern printing. Newspaper publishers and other printers have also been so concerned, and to a less extent so have business interests. Some newspapers in India and Pakistan, publishing in Bengali, Hindi, Tamil, and Urdu, have experimented with script reform. Since inde-
pendence the Governments of Uttar Pradesh, Bombay, and Madras have had active Script Reform Committees; some other states have had less active committees. The Government of India has also had a committee, which seems to be waiting to see what the States do. The Government of Pakistan now seems prepared to use the Naskh form of the Perso-Arabic script which is common in western Islamic countries, and has been adapted there to printing. The Naskh is being simplified in Pakistan.

The problem in simplifying either the Indic or the Perso-Arabic scripts is to do so in such a way that, though the writing is made easier, the appearance of the symbols is kept near enough to the accepted traditional forms to be neither ambiguous nor offensive to public taste, which is extremely sensitive on the subject.

The easiest and most successful method of script reform would be use of our roman script with modification as was done in Turkey. With the aid of simple diacritical marks it is possible to adapt the roman to the phonetic demands of any language used in India. Scholars do so successfully now. Roman would have the advantages of being simple to learn, easy to use on the typewriter and in printing, and widely used elsewhere. Some of India's leading linguistic scholars proposed this change in the 1920's and 1930's and Nehru, as recently as in February, 1949, said "it would be desirable to explore the possibilities of the roman script," but such advice is not welcome at the present time. Nationalism has as part of its program the assertion of Indian or Pakistani cultural prestige, and script is an item deeply cherished in that connection: No language group in the subcontinent is willing that its language should be written in a European script.

A bothersome problem to the Government of India since independence has been that of linguistic provincialism. This is the desire of linguistic groups to constitute separate states. It is based partly upon the normal latent desire of any culture group, especially one identified by language, to have
political integrity, and students of 19th century European
history have seen many illustrations of it. Partly in India,
however, it is also the consequence of propaganda by the
Indian National Congress in its campaign for independence.
As part of its complaint against British rule, Congress depre-
cated the provincial structure of India, calling it illogical
because the boundaries cut through cultural groups and so
frustrated their natural aspirations. Congress ascribed such
division to the British policy of divide and rule, since several
groups (or parts of groups) might constitute a single prov-
ince, in which they quarreled and so through their disunity
made the British hold easier. Congress, operating in the
eleven provinces of British India, organized itself into 20
“Congress Provinces,” two of which were the cities of Bombay
and Delhi. Its provinces were mostly delimited by language
boundaries, and Congress demanded reconstitution of India’s
provinces according to this division. The demand was, of
course, one that in certain respects conflicted with the demand
for a national language, and the two demands were useful to
Congress simultaneously only when they were being used
against British control. After independence, when Congress
was responsible for Government, the issue of linguistic prov-
incialism became embarrassing. Some of the language groups
had hoped that, when independence was obtained, their politi-
cal aspirations would be realized. The new Government, how-
ever, now considered any such political reorganization im-
practicable and possibly even harmful to efficient adminis-
tration and did not wish to effect it. The areas most insistent
were the Andhra, that is, the region where Telugu is spoken,
lying in Madras and Hyderabad; the Kannada, lying in My-
sore, Madras, and Hyderabad; the Kerala, where Malayalam
is spoken, lying in Travancore, Cochin, Madras, and Mysore;
the Maharashtra, where Marathi is spoken, lying in Bombay,
Hyderabad, Berar, and the Central Provinces (now Madhya
Pradesh); Gujarati, lying in the northern part of Bombay;
and Gurmukhi, consisting of Sikh States in the Punjab. There
was a little talk, in Bengal, not very serious, of absorbing
into Bengal the few regions outside it where Bengali was the
prevailing tongue. The Indian National Congress was able to restrain most of these demands, but that for an Andhra province was for a long time too strong. The first draft of the Constitution conceded the future creation of Andhra; this was, however, omitted from the final version. The Sikh States still agitate for a Sikhistan or Gurmukhi area as a separate State if not an independent nation. In the south the demands are still strong and it is not yet entirely certain that at some future time the region may not be reorganized in part on linguistic lines.

In Pakistan linguistic provincialism exists among the speakers of Pashtu (Pushto, Pakhtu), who would like their entire area, which lies in Pakistan and Afghanistan, to be a single political unit, preferably independent of both countries. This is one of the elements in the quarrel between Pakistan and Afghanistan. The demand is strong and reflects the Pashtu-speaking tribesmen's contempt for the plainsmen of the Punjab.

Throughout the subcontinent the problems arising from language disturb political leaders, who, however, tend not to face them openly since they are too hot to handle safely. There have been numerous demonstrations on the subject in both India and Pakistan, and some of these have been accompanied by violence, especially in East Pakistan, where ardent Bengali students have been inflamed to defend the rights of their beloved native speech. Politicians, as is their wont in many lands besides India and Pakistan, try to find other causes for local recalcitrance on language issues than the mere power of inherited culture. A common charge is that agents from a rival country foment disturbances, or that the communists, that convenient scapegoat, are making trouble. The language problems are one of the great sources of internal weakness in each country, not so great as the problems of poverty, population, production, social order, defense, but in their way they appear to be as difficult of solution.
J. MILTON COWAN (Cornell University), chairman of the panel, made some brief introductory remarks on “Technological aids in the Study of Languages.” He called attention to the fact that, as Mr. Dostert had already pointed out, in the past, discussion of the Language Laboratory has centered primarily on the application of various audio-visual aids in language teaching; and that it would be desirable to introduce discussion, if possible, about some of the research aspects that are going on with recently developed pieces of equipment that analyze out the essential acoustic characteristics of the signals which go from the voice of the speaker to the ears of his listeners and act as the medium by which communication is transmitted. Mr. Cowan stressed the necessity of bridging the gap between direct pure research and its application to anything which can be identified as an important function in language teaching. He cited as one of the practical applications already made the visible translators, as they are called, which put on a screen a form of speech which is readable, so that deaf mutes can be taught to speak. This is a first attempt in the application of this kind of research to a practical problem. The two fields of language laboratory work to be considered are 1) the language laboratory as it applies to pedagogical devices, as it is an adjunct to the teaching function, and 2) the language laboratory as a practically pure research operation and its ultimate contribution to problems of language.

Pierre C. Delattre (University of Pennsylvania and Haskins Laboratories) read the following paper, prepared by him in conjunction with Franklin S. Cooper (Haskins Laboratories) and Alvin M. Lieberman (University of Connecticut), on “Some Suggestions for Teaching Methods Arising from Research on the Acoustic Analysis and Synthesis of Speech”:
In going over the research problems that have been treated by acoustical analysis and synthesis at the Haskins Laboratories in the course of the last few years, we have found several instances in which the results should have some value in the devising of teaching methods. But before turning to a discussion of the possible applications of this and related work, it perhaps would be well to review briefly the work itself and the general sort of results that are being obtained.

In acoustic phonetics, one of the problems is to find an appropriate way to represent and describe the acoustic events. The sound spectrograph is becoming a generally accepted tool for this purpose; it not only immobilizes the sound so that it may be studied at leisure but it provides also a "picture" which seems reasonably comprehensible to the eye. By studying a variety of spectrograms, one can begin to see the relation between the acoustic events and the perceived sounds of normal speech. Also, one can distort the pronunciation intentionally and observe the change in the spectrogram. But there are obvious and very narrow limits to the variations in sound which can be produced by the human voice, and consequently, the spectrograms will not answer all the questions which we should like to ask.

Spectrograms will usually exhibit several distinct features for any given phonetic unit or combination of units, and in that sense, the information which comes from the spectrogram is ambiguous with reference to the relation between acoustic stimulus and perception. For example, one looks at spectrograms of a given speech unit, and wonders which of the regularly occurring features are redundant for the identification of the sound, and which are not.

The most casual inspection of the stop consonants raises several questions: for example, does the recognition of [k] at the beginning of a word depend upon the characteristics of the initial burst of noise, or as the spectrogram seems to suggest, is recognition determined by a larger pattern which includes the [k] explosion and also the following vowel?

Spectrograms of connected speech show much more formant movement than steady state, and we should like to know about
the role of formant movement in the perception of the speech stream. For example, in the case of [l], the spectrogram typically shows that the formants glide and then reach a steady state. To what extent does the identification of the [l] sound depend on the steady state, and to what extent on the direction and rate of change of the formants? If the dynamic characteristics of the sound are involved, what then is the essential pattern on which perception depends?

To answer these questions, and many others, it is convenient, if not indeed necessary, to experiment with speech—that is, to make controlled modifications of the sound, and then to evaluate the effects of these modifications on the sound as heard. For this purpose, an instrument, called a pattern playback, was developed at Haskins Laboratories. The experimental work which we shall describe for you was done with this instrument.

In principle, the playback is somewhat like a player-piano except that a spectrogram replaces the perforated piano roll and the individual sounds are pure tones rather than harmonic-rich notes from a piano. Briefly, the playback generates 50 harmonic tones, 120 cycles apart, from 120 to 6000 cycles, in the form of beams of light modulated by a tone wheel. If the spectrogram is drawn with white paint and is made to pass under the modulated light, each painted portion of the spectrogram will reflect light and cause the corresponding harmonic to be heard when that light is converted into sound by means of a phototube. The principal advantage of such a machine is that it enables one to experiment with the dynamic aspect of speech sounds—that is, the rapid changes of formant frequencies in time—though it can also be used to deal with steady-state sounds.

We have found that this method provides a very convenient basis for experimenting with the perception of speech—that is, for making a great variety of changes in the acoustic stimuli and then determining the effects of these changes on the sound as it is heard. The method has been used to determine the acoustic correlates of nasality in French nasal vowels, to find a reasonably satisfactory way of producing the cardinal vowels with two formants only, and, in several exploratory
studies, to find the effects on intelligibility of the omission and modification of various aspects of the speech pattern, including alterations in the rate of change of the various formants.

Let me trace for you, now, the general path along which this research has proceeded, with some recordings to illustrate the kinds of sounds with which we are experimenting.

One of the very first things we tried was, of course, connected speech played back directly from spectrograms. Here is a spectrogram showing nonsense sentences.

(An original spectrogram on photographic film of three standard test sentences was shown, and recording was played of the three sentences as converted into sound by the playback.)

In order to secure greater flexibility in manipulating speech sounds, we paint by hand spectrograms such as this one, which shows the same sentences in much simplified form.

(A hand painted spectrogram was shown.)

Here is a recording which will let you compare the synthetic speech from an original spectrogram, from a detailed painting made from this spectrogram, and from a much simplified painted spectrogram. The phrase is “Never kill a snake.”

(The three recordings of Fig. 1 were shown, and recordings of them played.)

Here, also, are several more of the test sentences, all synthesized from painted tapes like the one we have shown.

(Recordings of four sentences in simplified form are played as spoken by the playback.)

Fig. 1. Three versions of the phrase “Never kill a snake.” TOP: A spectrogram containing full information about the spoken phrase, i.e., a spectrographic analysis of normal speech. MIDDLE: A painted spectrogram in which an attempt was made to include much of the detail of the photographic version. BOTTOM: A painted spectrogram which was considerably simplified and schematized, but with little loss of intelligibility.
We have found, from studies of the sort we have just described, that it is possible to simplify and schematize the spectrographic pictures very considerably and still to have them just about as intelligible as the complete original spectrogram.

We turned next to a detailed study of individual speech sounds, attempting to strip them down to the simplest possible form even though this does result in sounds which are not as natural as those we could produce by copying spectrograms. With the vowels, we have worked out the frequency positions which give the correct vowel color when one limits the representation to two formants only. These cardinal vowels, some of which we will play for you now, were selected on the basis of rather extensive systematic variations of formant positions and relative intensities (see Maître Phonetique, December, 1951).

(Recordings of synthetic cardinal vowels [i], [e], [æ], [α], [ɔ], [o], [u], were played.)

In experimenting with the stop consonants, we had, of course, to deal with dynamic aspects of speech. One characteristic of [p], [t], or [k] at the start of a syllable is the initial burst of noise. We have carried through one experiment in which the vowels were limited to two formants preceded by a burst of noise centered at each of several possible frequency positions.

A systematic test of each of seven vowels with each of twelve frequency positions for the burst of noise—that is, 84 syllables—served to locate the positions of the burst which most nearly resemble spoken syllables. The results show very clearly that the identification of the initial consonant

Fig. 2. Systematic investigation of the frequency of the burst of noise involved in the voiceless stop consonants, p, t, and k. TOP: An “outline” of the experiment. In part A are shown the frequency positions and extents of the twelve bursts; in part B, the frequency positions of the formants of the seven vowels; and in part C, one of the 84 test syllables. BOTTOM: Results shown as the distribution of p-, t-, or k-preferences. Thus, a high frequency burst is heard as t with all seven vowels; a lower burst is heard as k when it is just above the second formant of the vowel, or as p if it is elsewhere. (Reproduced by courtesy of the American Journal of Psychology)
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does not depend *simply on the position of the burst, but on burst in relation to the vowel*, i.e., on the syllable.

( Diagrams taken from the complete account of this experiment, in the Oct., 1952, issue of *The American Journal of Psychology* were shown. See Fig. 2.)

But the initial burst of noise is not the only thing we see in the spectrograms for stop consonants. Usually the portion of the vowel immediately following the stop shows the formant in rapid transition. A second systematic experiment involved syllables without bursts preceding voicing, but with some eleven different degrees of initial transition, that is, from an extreme downward shift, to no transition, to an abrupt upward shift. This work is still in midcourse and we shall not attempt to go very far into the results which we have obtained thus far, except to say that the transitions alone provide adequate cues to the identification of stop consonants, and that the perception of the transitions is very much influenced by the following vowel.

( Some recordings were played illustrating the synthetic stop consonants differentiated by vowel transitions. See Fig. 3 for corresponding spectrograms.)

Ultimately, findings from research of this kind should enable us to synthesize speech without copying from spectrograms. We have not tried to go very far in this direction, but here is an example which may interest you.

( Hand painted spectrograms of the word *Alabama*, a) with American pronunciation, Southern accent, b) with French pronunciation, were shown (Fig. 4), and recordings of the corresponding sounds were played. These were painted in accordance with rules derived from our research, and not by reference to spectrograms of spoken sounds.)

**Fig. 3.** Vowel transitions as isolated cues for the perception of stops and resonants. The transitions shown are those which were most reliably identified by ear as the syllables indicated by the phonetic symbols.
Figure 3
Let us turn now to some aspects of this sort of research which seem to bear on the problem of teaching a second language. We shall point out some suggestions for teaching methods based on our experimental findings thus far. We trust that you will realize how very tentative these suggestions are.

1. French nasals. As you know, French has four nasal vowels, [e], [œ], [5], [ô]. Spectrographic analysis and synthetic reproduction of those four nasals shows that their articulatory position is not at all similar to that of the oral vowels whose symbols they share. For instance:

- [e] does not have the organs in the position of [e]:
  - [e] is less fronted and less open; when denasalized, it is not far from [œ].
- [ô] does not have the articulatory position of [o]:
  - [ô] is farther back and much less open; when denasalized, it is not far from [5].

This was found by analysis of spectrograms in which denasalized nasals were compared with the oral vowels whose symbols the nasals share. By synthesis we were able to determine the acoustic features which had to be added to an oral vowel to make it sound nasal, and also the combination of oral and nasal features which gave the closest approximations to the four French Nasals.

The practical lesson here seems to be that the allegedly phonetic method of teaching the French nasals is not sound. The student who is taught to say [e], then to nasalize it to [e], does it correctly only in front of his teacher while he can have the sound repeated to him, so that he can make—unconsciously—the proper compensations of tongue and lip positions; when he practices nasalizing [e] without the teacher to correct him, he is very likely to fixate an incorrect pronunciation.

**Fig. 4.** Two versions of the word “Alabama” painted by the rules which have emerged from systematic studies of groups of phonemes. TOP: With an American (Southern) accent. BOTTOM: With a French accent.
The correct way to teach French nasals would seem to be by direct imitation—preferably in words or sentences—inde- pendently of all oral vowels. Recordings or a good instructor are indicated.

2. Movement vs. steady state. Almost every day, in the laboratory, we meet new evidence of the importance of change, movement, as opposed to steady state, in the perception of speech. The steady state implied in the traditional descriptions of speech sounds can hardly be found in spectrograms, and in synthesizing speech we must constantly deal with changes—that is, frequency changes of the formants (in acoustical terms) corresponding to articulatory movements (in physiological terms).

In our research, we have found that at least three types of changes—change in extent, change in rate, change in direction—are important for identifying or discriminating speech sounds. All other conditions being equal, it is possible, for example, to distinguish, in synthetic sounds:

\[
\begin{align*}
\text{[ga]} & \text{ from } \text{[da]} \text{ by extent of change of formant 2,} \\
\text{[an]} & \text{ from } \text{[an]} \text{ by extent of change of formant 2,} \\
\text{[am]} & \text{ from } \text{[al]} \text{ by rate of change of formant 2,} \\
\text{[al]} & \text{ from } \text{[au]} \text{ by rate of change of formant 1,} \\
\text{[ba]} & \text{ from } \text{[ga]} \text{ by direction of change of formant 2,} \\
\text{[am]} & \text{ from } \text{[an]} \text{ by direction of change of formant 2.}
\end{align*}
\]

Another way to demonstrate the importance of these changes is, in playing back the spectrogram, to stop at several points in the course of a single phone. What we hear, then, is the steady-state sounds corresponding to those instants of time. Rarely do any of those correspond to the phone. Thus, stopping the spectrogram at different points in the [l] in child gives different vowel-like sounds ranging from about [o] to [u]; the short vowel [ɛ] of leg begins near [a] and ends near [i] without yielding a clear [ɛ] anywhere in between; and the different points of [b] in [ba] give a series of vowels ranging from about [u] to [a].

Another example of the importance of change in the perception of speech is offered by the voiced stops [b], [d], [g],
which can be made quite intelligible just by synthesizing the
frequency changes—or so called transitions—to the contiguous
vowel, the explosion itself being entirely omitted.

The practical lesson here is perhaps that the teaching of
speech sounds as steady states may be largely useless. They
should be taught in movement from and to the contiguous
sounds, that is, in syllables, in words, and in connected speech.

3. The Syllable. The importance of change leads us to the
third point, which concerns the syllable.

Two extensive experiments, one of them completed, the
other in course, furnish strong indication that the irreducible
acoustic stimulus of speech is not the phoneme but the syl-
labile. (We do not mean that the phoneme is not the
linguistic unit, but that its perception, in syllables of more than one
phone, seems not to occur independently of the neighboring
phone.)

In one experiment (briefly described earlier in this paper)
we were looking for the preferred frequency of the burst of
sound occurring in the production of initial [p], [t], [k],
before each of the main vowels, [i], [e], [ɛ], [a], [ɔ], [o],
[u]. Among other things, we found this interesting phenom-
enon: one of the bursts was heard as [k] before [a], but
as [p] before [i] and before [u]. In other words the same
acoustic stimulus was perceived in two ways depending on the
neighboring stimulus.

In a second experiment (also mentioned earlier) we are
investigating the effect on initial [b], [d], [ɡ], of the rate,
extent, and direction, of frequency changes (formant transi-
tions) at the beginning of the vowel. We find that two transi-
tions of same rate, extent, and direction, may be perceived
differently depending on the vowel to which they are joined;
for example, the rate, extent and direction of transition that
is perceived as [ɡ] before [ɛ] is perceived as [d] before
[ɛ].

In certain of these cases, therefore, it seems that the brain
does not perceive the initial consonant of a syllable until the
whole syllable has been heard, or in other words, that conso-
nant and vowel are dealt with as a unit.
The practical lesson is again, perhaps, that isolated sounds should not be used in teaching, but only connected speech, or at least syllables, and preferably, of course, those that occur with high frequency in the language. A phoneme is known only after practice with the neighboring phonemes of the language.

4. The role of articulatory movements in the perception of speech. One explanation of the two phenomena just described lies in a motor theory of speech perception, that is, in the assumption that phonemes may not be perceived directly from the acoustic wave impinging upon the tympanum, but rather indirectly by reference to the proprioceptive stimuli which arise, or would arise, from the movements of articulation corresponding to those phonemes. The proprioceptive stimuli would be different for the two consonants compared ([k] and [p] in the first experiment, [g] and [d] in the second), because of the articulatory relationship of consonant and vowel, and therefore the perceptions would be different even though the acoustic stimuli were not different. Let us put it another way. In these two pairs of events, the perceptual event is more like the articulatory event. Therefore it is fair to assume that the articulatory event occurs as a link, or a basis for reference, between the acoustic and the perceptual ones.

The practical suggestion from this theory—and that is what a theory is for—is that while studying language we must not only listen but articulate—indeed, listen by articulating. The sounds produced by these articulations must be actually those of the second language. Not until correct habits of articulation are acquired, are we able to hear the second language correctly, let alone reproduce it.

(It might be added that the student should listen to his voice through a recording of it, so as to receive it from the outside, as he receives the teacher's voice from the outside. This simplifies for him the task of comparing his own pronunciation with that of the model, since it eliminates the modifications normally introduced in hearing his own voice through bone conduction.)
5. Spectrographic displays as teaching aids. One of the newer methods of teaching languages involves the use of the spectrograph and the direct translator as means of checking one's pronunciation. If this method is to be maximally effective we must know first which aspects of the spectrographic picture are important for the recognition of speech. As we pointed out earlier in this paper, it is difficult, and sometimes impossible, by simply examining the spectrogram, to determine the relation between what is seen on the spectrogram and what is heard. Our own research has been primarily concerned with the attempt to find these relations, by simplifying, and otherwise modifying, the spectrogram, and then determining the effects on the sound as heard. With this method, we are engaged in finding the essential acoustic cues to speech perception, the allowable range of stimulus variations, and, by exclusion, those acoustic components which are redundant linguistically.

We should hope that results from research of this kind will be applicable, not only to the use of the direct translator as a teaching device, but more generally to the problem of teaching a second language.

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L. E. DOSTERT noted that Mr. Delattre does not appear to favor the teaching of some isolated sounds, that he does not endorse the isolation of vowel sounds, at the beginning of the course, and that he advocates starting the teaching of the second language immediately with meaningful statements. Mr. Delattre cited the example of a grade school teacher who tried to apply the phonetic method to children, only to find that, in the word cat, he could get from them the three sounds but not the two movements. Asked by Mr. Dostert whether he would endorse the use of isolated sounds and corresponding symbols as correctives, Mr. Delattre expressed the opinion that this is not necessary, and added that to correct a certain French sound it might be much more efficient to say it consistently with an added consonant before or after.
Charles Hockett, although agreeing with the specific recommendations made by Mr. Delattre at the end of his talk, expressed doubt that they necessarily stem from acoustic phonetics; and he remarked that every point made in these recommendations was one which some of us had reached as a pedagogical conclusion, without any help from spectrographic analysis and other such means. He is of the opinion that the work done by Mr. Delattre may find one practical application, which is only allied to foreign language teaching, in the attempt to train people who have some sort of physiological or traumatic defect in their speech tract to make the best possible articulatory compensation, so as to produce acoustically acceptable results.

Archibald Hill (University of Virginia) remarked that the results of the acoustic phonetics and the results of the phonemic analysis are not quite so far apart as they would seem from Mr. Delattre's presentation, that throughout the presentation there was more relation between phonemics and the acoustic results than perhaps appeared.

V. G. Spratlin (Howard University) asked whether, in view of the inaccuracy of the phonetic symbol for the French nasal i, the so-called system of international phonetic transcription needs overhauling, and whether there are inaccuracies in the symbols used. Mr. Delattre's reply was in the affirmative.

Henry Lee Smith, Jr. (Department of State) discussed at some length the spectrograms and recordings used by Mr. Delattre in his demonstration. He stated that from the first spectrogram, the actual one made by a speaker of English from which the subsequent simplifications were made, he had been able to eliminate most dialect areas from which the speaker came. Having heard the original spectrogram, he found that the two subsequent simplifications substantiated this impression, although some features were lost. In all three, that is in the original spectrogram and in the two simplifications, he felt that the phrasing and the stress in this language
were apparent and that he could mark in phonemics the stress in English and the phrasing in terms of terminal junctures and clauses, so that one could make a syntactical analysis of this.

**ALFRED S. HAYES (Louisiana State University)** read the following paper on “Problems of the Language Laboratory”:

This paper is in two parts. The first part deals with certain technological problems of the language laboratory and discusses (1) the use of microphones in avoiding murmur-type responses encouraged by many language laboratory installations; (2) the problem of adequate headphone reproduction with inexpensive magnetic headphones. The second part of the paper deals with teaching problems deriving from the integration of laboratory and classroom. Under this heading are discussed (1) beginning the elementary language course; (2) the problem of normal vs. slow speech; (3) the role of student recordings; (4) testing oral fluency; and (5) some ideas on structural drills.

The years which have elapsed since World War II have seen interest in the mechanical implementation of language courses—in language laboratories—grow steadily to the point where most teachers agree that they are highly desirable. If we add the qualification that the usually high initial cost is justified only when the materials and procedures of the language laboratory are carefully integrated with those of the classroom, then we may say that this is just about the only question concerning language laboratories, the answer to which does not constitute a problem. Language laboratories carefully integrated into course content are eminently desirable establishments. From this point on, there are problems everywhere. There are problems of selection or design, and of the installation and maintenance of mechanical equipment. There are problems of administration. All other language laboratory problems may be classified under the single heading “What goes on the record?” or “How did I get into this, anyway?”

Established in 1947, at a time when such a venture could be considered a pioneering effort, our language laboratory
has used disc as its basic recording medium. Fairchild studio equipment records and duplicates materials, while students listen to some 100 play-back machines, each installed in a partitioned cubicle and equipped with headphones, microphone, and the pertinent recordings. The first two courses in each department are the ones using the laboratory on an organized basis, and meet five times weekly for five semester hours credit each. No credit is given for laboratory attendance and no minimum attendance is required. Course procedures are so organized that it is difficult, if not impossible, for a student to maintain a reasonable standard of classroom performance if he has not spent some time in the laboratory. We are at present preparing at LSU to convert to tape as a standard recording medium, so that by next fall, in addition to the equipment listed above, it will be possible for students to listen to scheduled tape materials on the proper level of their language, using a selector system patterned after the one used in the Hill installation here at Georgetown.

I should like to consider first some problems in the selection of certain equipment. You will recall the familiar classroom injunction to students, when using chorus response techniques, whether it be "Sprechen Sie, bitte, lauter!" or "pozhaluista govorite gromko" or even "chying dá-shēng shwō!", all exhorting the student to produce more and more decibels, in a word, to speak as loudly and clearly as possible, the idea being that an error cannot be corrected until it is made, and that satisfactory imitation cannot take place if the positions required by a particular articulation are only approximated, as is likely to be the case when mumbling. In sharp contrast to this principle, many laboratory installations are likely to encourage half-hearted, murmur-like responses by way of imitation, since working conditions will obviously prohibit shouting or even loud talking. You will recall the mention of a microphone, which has been used as standard equipment with our disc reproducers. This microphone is not used for recording purposes, but to permit the student to hear his own voice electrically amplified, and hence at the same level of intensity and quality as that of the speaker on the record, while allowing him, incidentally, to speak at a level which will not disturb his neighbors.
Recently I had occasion to check some features of Portuguese pronunciation. As I listened to the first of the Holt recordings and dutifully repeated after the speaker, I became vaguely aware that I was somehow dissatisfied, not so much with my imitation of the Portuguese sounds, but with my own inability to judge how well I was imitating. I had been speaking in an extremely low tone, with the microphone turned off. Turning up the mike volume solved the problem completely. To those who have never tried listening to themselves through headphones while speaking into a microphone, I suggest it as an interesting and valuable experience. It may be necessary to sacrifice this feature of our present installation as we shift to tape as the principal recording medium. For this reason it is possible that in German, which is the only language about which I can speak with authority, we shall continue to use disc for the introductory period of our elementary course, in order to preserve the microphone feature during the critical period of the students' initial exposure to the foreign sounds.

The second problem I should like to consider is concerned with the design of amplifiers for laboratory use, from the point of view of the quality of speech reproduction. It was once the fashion in engineering circles to dismiss the whole question of high fidelity reproduction of speech with a wave of the hand and a casual "Oh, speech, that's no problem." It was presumably well known that speech frequencies lie well within the reproduction capabilities of practically any amplifier. Actually, there was a strong tendency to consider the reproduction of speech frequencies primarily from the point of view of intelligibility in a language native to the listener. And there are indeed extremely important applications for this view. Even within the native language, however, audio engineers have come to realize that speech reproduction characterized by both high intelligibility and naturalness is not the easiest thing in the world to obtain by means of any but the most expensive of equipment. Listeners turn out to be far more tolerant of frequency response limitations and distortion in music than they are in speech.
Certainly the reproduction of a foreign language for teaching purposes should demand the highest quality of reproduction that the state of the art permits. This standard can, of course, be met by the best of broadcast quality reproducing heads, amplifiers, and loud speaker systems, installed in acoustically treated rooms. Most laboratory installations must, however, use headphones, frequently high impedance magnetic phones costing less than five dollars. This is generally considered an evil, born of necessity, and it is obviously true that headphones are no match for high fidelity loud speaker systems installed under ideal conditions. But communications men, particularly radio operators, will verify the observation that the headset often seems to provide greater intelligibility under trying interference conditions than does an average loud speaker installation. Phonetics who have tried to take close transcription from a loud speaker system of average fidelity will also agree that the headphone seems somehow to provide a higher degree of intelligibility. This is probably due to the better isolation of the ear from incidental room disturbances, as well as to the relative efficiency with which the diaphragm of the headset can move the small volume of air lying between it and the ear. The demands of foreign language learning in laboratory installations certainly invite an examination of the weaknesses of the telephone headset, with a view to seeing what might be done about them. What are these weaknesses? (1) The potentially high intelligibility of the magnetic headset is not realized because the frequency response falls off rapidly above 2500 cycles, and experiments have shown that it is the higher, speech frequencies—the consonants—which carry most of the intelligence. (2) The naturalness of magnetic headphone reproduction is very low, because the low frequency response is very poor at frequencies below, say, 300 cycles, and it is the relatively low speech frequencies which provide naturalness. It should be pointed out that such a headset is not incapable of reproducing frequencies at both ends of the speech range; it is simply extremely inefficient at those frequencies. It follows that large amounts of extra amplification or “boost” at the high end of the speech range would serve to increase intelligibility, while large amounts of low frequency or bass boost would provide the missing naturalness which is so desirable. Large amounts
of both treble and bass boost are required, and at frequencies different from those affected by the treble and bass controls of the usual amplifier. An experimental tape recording recently made at LSU reveals a high degree of intelligibility and an astonishingly lifelike character with 16 db. of treble boost at 6000 cycles and 10 db. of bass boost at 100 cycles. The recording was made by a Pentron tape recorder plus a Fairchild variable equalizer, while results were observed through a pair of $3 Trimm Dependable headphones. Six thousand cycles was as low as the equalizer would go on the high side, and 100 cycles was as high as it would go on the low side. Better would have been 3500 or 4000 cycles and 150 cycles. At any rate, after the desired amount of treble and bass boost has been determined experimentally, it should be possible to add special fixed treble and bass amplifiers to any existing recorder. Welcome news will be the information that less than ten dollars worth of parts would ordinarily be required to do the job, and that after the circuit constants have been arrived at, construction would be a simple task for any student engineer. It must be emphasized that these changes would have to be made in the amplifier which is used to make the recording, not in the playback amplifier. If the attempt is made to provide these extremes of high and low speech frequency amplification in a playback amplifier, all the noise inherent in the playback system would likewise be amplified, and the results would be most unsatisfactory. It is planned to compare results achieved in this manner with the reproduction of the better, and much more expensive, crystal headphones used without speech preemphasis. We believe that these experiments constitute a forward step in the design of more inexpensive reproducing equipment specifically for language laboratory installations, and that the use of extremes of high and low speech frequency preemphasis may provide a new standard of headphone reproduction.

So much for purely technological laboratory problems. We now move on into the area where language laboratory problems are inseparable from language teaching problems; in other words, into the domain of what goes on the record or tape, as the case may be. Let us begin with the choice of materials for the early weeks of the elementary course. A
two to three week introductory period, during which students are taught the sounds of the new language and drilled intensively therein, and in which no use is made of any written symbols at all, has become standard procedure in LSU French and German, and may be said to be inherent in the Spanish program, which uses no textbook of any kind throughout the first semester. In beginning French, the recordings of Professor Delattre's *Introduction to French Speech Habits* are the basic laboratory materials. I am sure that Professor Delattre will be pleased to know that "la belle demoiselle qui passe là-bas", has acquired a German playmate, namely, "die junge Dame, die da vor uns geht." Instead, however, of being "la voisine de Jeanne à la classe de mathématique de la capitale," she is "eine neue Studentin, und wohnt seit dem sechsten September in dem Haus an der Ecke neben der Schule." Echelon sentences, patterned after those of Professor Delattre, thus constitute the basic German materials used during the introductory period. These have been recorded for laboratory use, and form the introduction to twenty-five twelve inch sides of drill material, which is then used throughout the course for remedial purposes as needed. Descriptions of difficult sounds and the articulatory pitfalls to be avoided by speakers of English are included in the recordings as constant reminders for those who need them. Recorded drills consist not only of single words containing the sounds, but of groups of contrasting word pairs containing sounds frequently confused by speakers of English, such as *Wahn* and *wann*, *seit* and *Zeit*, *Goethe* and *Güte*, *musste* and *müsst* and others. Many examples are given of each type. I have even had the audacity to refer occasionally to this collection of material as an "Introduction to German Speech Habits." (If I may be permitted one minor digression, I should like to mention that in German the written language is introduced during the third week, and that it has been most gratifying to observe how traditionalist teachers can make a special point of clarifying the differences between speech and writing for their students and to deal quite separately and successfully with the noises Germans make when they talk, on the one hand, and the marks Germans make when they write, on the other.)
In recording materials for laboratory use, the question of what rate of speech to record will arise very early in the proceedings. So-called "normal" speech is supposed to be the answer. But there are problems involved in the imitation of normal speech. If the written form of a new polysyllable is not before the learner, he may miss it completely, even after several hearings; if the written form is before him he may produce a spelling pronunciation, his still English-reading eyes ("seine immer noch Englisch lesenden Augen") providing wrong data, after his ears have missed the succession of sounds in question. Phonetic transcription obviously avoids this, but phonetic transcription can be misread, and average students are not always the masters of their "aids to listening" they are supposed to be. To help the learner avoid slips of this kind, a German sentence is first recorded at a very slow rate, and followed immediately by the normal speed version with its repetition space. Students are cautioned never to imitate the slow speech. The slow rate recordings must be done by someone familiar with the fact that normal speech slowed down is quite different from a native's idea of how his language sounds when spoken slowly. The native speaker is likely to slow down his speech in terms of spellings, which will not help the student to master the normal speed version at all. Of tremendous aid to student and teacher alike would be the speech stretcher described by Professor Martin Joos, of the University of Wisconsin, in his paper here last year. In any event, we feel that by means of these slow-rate recordings directly preceding the normal speed ones, we are cutting down on the number of spelling pronunciations or mis-hearings of whatever kind.

At some time during the first language course the question of student recordings will arise. I have always felt that a language learner is by nature a poor informant, and that unsupervised listening to his own mistakes is a dubious procedure at best. Supervised listening to such recordings, with teacher, student, and recorder working together, may achieve something that teacher and student alone do not. The chief role of student recordings, however, is two-fold: (1) They serve as valuable indications of mechanical progress, and (2) they provide the strongest motivation yet found for keep-
ing the students practicing, which is really what we want. For this reason periodic student recordings, averaging one every four weeks, are included in LSU elementary Spanish and German courses. The recordings are checked for errors, which are then discussed with the student. It is made clear to him that his next recording will be checked for progress, and that if he does not progress, his grade will be adversely affected.

Testing oral fluency: There are many courses being offered nowadays which presume to teach people to speak a foreign language, but it is still very difficult to measure how well they are doing it. Indeed, it is not unlikely that courses for university students of average motivation, with their present emphasis on the spoken language, are actually doing an excellent job of teaching people to understand the language in question; how well these students learn to speak is another matter. We know pretty much what goes on in our own institutions, but from published accounts or other verbalizations it is difficult to get an adequate picture of the results being obtained elsewhere. Our suggestion is this: that language laboratories undertake the systematic recording of individual final oral examinations, of whatever type may be used by a particular institution. Sets of these recordings, accompanied by whatever explanatory material might be necessary, would then be made available on loan to interested teachers at other institutions. We would then be able to capitalize on the inevitably subjective nature of oral testing, by testing, as it were, the products of other institutions ourselves. Obviously superior results would soon become evident, justifying generally increased interest in the procedures which produced those results. No such project has as yet been undertaken at Louisiana State University. We have been trying for some time to muster the fortitude necessary to initiate it.

One final problem, again to culminate in a suggestion and a challenge. To what extent should structural drills form a part of the recorded laboratory materials and of what sort should they be? It has frequently been observed that one of the most difficult problems in oral-aural language work is the satisfactory transition from memorized pattern to free control of the material in practical language situations. While
straight mimicry-memorization procedures may lead directly to such free control in highly intensive programs of long duration, I have never seen this result achieved in regular university courses by any except the most gifted students, and doubt seriously if rote memory procedures alone can do the job. The usual treatment of language structure in the classroom has produced little effective transfer from intellectual fact to free control thereof. The facts of language structure, when available, are fascinating data, appealing to adult intellects, which demand to know how the language works, but these facts in themselves have nothing to do with the changes an individual may have of using a given form as a native would use it. What kind of drills are needed, then? Drills which provide sufficient material, centering around a given structural point, to furnish the basis for using the correct form by analogy, as a child presumably does in producing correct speech patterns while using lexical units which are new to him. The usual mim-mem patterns do not begin to provide enough material to do this. The average learner's ability to function analogically is amazingly low, and when we provide him with two, three, five, even ten examples of a structural phenomenon and have him practice it a bit, we may, if we are fortunate, have made the intellectual point involved, but little more. What is needed is not ten examples, but fifty, or a hundred, or as many as basic materials can be designed to provide, set up first to highlight the form, and then the contrastive patterns in which it occurs. Some examples from German (based on Funke, Die Umgangssprache. Crofts, 1945): We record: ich verstehe Deutsch, ich sage es auf Deutsch, ich wiederhole es auf Deutsch, ich denke auf Deutsch, ich finde kein Restaurant in der Nähe, ich komme Morgen, ich gehe heute, ich wünsche einen Anzug, ich fahre nach Hamburg, ich spreche Deutsch, ich gebe dem Verkäufer das Geld, and so on and on, with as many examples as the basic materials can be designed to provide, dinning it into the learner's ear over and over again. If by this means the ich-forms of German acquire an inevitable final schwa-ness, we can happily cope with ich könne when it occurs for ich kann. To point up the contrast sie geht (she is going) with sie gehen (in this case, they are going), let us suppose that there has been drill on the separate forms similar to the ich-form drill...
above. We record further: Anna versteht Deutsch. Ja, sie versteht Deutsch. Karl und Anna verstehen Deutsch. Ja, sie verstehen Deutsch. Luise sitzt im Restaurant. Ja, sie sitzt im Restaurant. Luise und Frau Berg sitzen im Restaurant. Ja, sie sitzen im Restaurant. Frau Schneider fährt nach Hamburg. Ja, sie fährt nach Hamburg. Herr und Frau Schneider fahren nach Hamburg. Ja, sie fahren nach Hamburg, and so on, with many more examples. In order to avoid putting the student to sleep with too much passive listening, the many examples might be broken up by groups of check questions, like this: Wir wissen ja, Karl sitzt im Restaurant. Aber wie steht es mit Anna? Pause, for the student to try to answer the question, and continue: Nun, sie sitzt auch im Restaurant, nicht wahr? Und wie steht es mit Karl und Anna? Pause. Nun, es ist ja klar, sie sitzen auch im Restaurant. And so on. In German a form contrast distinguishes reported from direct statements. Appropriate drills similar to those just illustrated can be constructed, showing ist contrasting with sie, the latter varying freely with wäre; er kommt contrasting with er komme, the latter varying freely with er käme, etc. It is obvious that these types of drills cannot be worked up on the spur of the moment. Recording the material is a simple matter; constructing the drills, especially where descriptions are inadequate or incomplete, is an enormous job for many bright young men with fire in their eye and generous endowments of Sitzfleisch. But, if we can envision the day when we shall have not only recorded vast quantities of drill material designed to functionize both morphological data and the structurally contrastive patterns in which they occur, but can relate them to the world of experience by providing simultaneous mechanical visual stimuli as well, then at last we shall have banished all the purely mechanical features of language learning to the laboratory where they belong, and even the elementary language classroom will be really free for the first time, free for a meeting of the minds of men.

Hugo Giduz observed that both the time and money factors can be a hindrance to the development of language laboratories.

Robert Lado (University of Michigan) called attention to the testing of fluency that was tried by Agard and Dunkel,
who arrived at the conclusion that the scoring was still subjective and not satisfactory. According to Mr. Lado, the problem is not simply to have the student make a recording and then make this recording available, but there is a problem of the objective scoring of that recording.

L. E. DOSTERT spoke of a dual-track recorder which he has been developing and which should prove of considerable assistance in laboratory work. By means of this dual-track recorder the student can imitate the model during the interval of pause, but, in an advancement over the present system, his imitation is recorded. At the end of the exercise the student can rewind his tape, play it back, and determine the degree of success with which he has imitated his model. It is also possible to have a conversational theme between the student and the recording, so that he may test his fluency. This recorder will afford the student an immediate control and verification over his own performance.

ALFRED HAYES expressed the opinion that we are still far from making any kind of analysis that would permit us to agree on any kind of standard, and that the suggestions of the Agard-Dunkel publication were made simply to allow the individual teacher to make his own decisions.

ROBERT LADO feels that we can go a little further, for we have at least some phonemic analysis that would help language teachers determine whether a student has produced a sound that would carry the meaning to a native speaker.

M. O. MOST (Revyuk Foundation) suggested that this testing might be started at a much more elementary level, namely, at the level of prognostic tests, where the standards would be rather low. It might be done at a sufficiently rudimentary level even to permit the spectrographic comparison of the production of certain sound sequences.

J MILTON COWAN expressed faith in the suggestions made by Alfred Hayes about the establishment of an exchange of some sort of material indicating what the end product can do. Such a recording, accompanied by a brief statement of the number of contact hours that were necessary to achieve it, some indication of previous language experience of the
student, and a brief description of the methodology involved, would constitute a convenient label, which could serve as a guidepost for anyone interested in the promotion of language pedagogy through the techniques involved nowadays in the laboratories throughout the country. We are not quite ready to make a statistical evaluation of the end product. As far as the actual application of techniques in the laboratory and the keying of those to the classroom work, we are going through a self-educative process. It will be only after much experimentation, testing, exchange of information, visiting back and forth from institution to institution, that a body of information will be built up, upon which we can count and upon which people who go into this work in the future will be able to draw. Only after we have gathered that kind of experience can we begin to get down to any genuine evaluation of what the end products of our language teaching are. The important part about the establishment of language laboratories is that it is focusing the emphasis upon spoken abilities with language work; it is counteracting what Mortimer Graves has called "that puzzled decipherment known as the translation method." In conclusion, Mr. Cowan expressed the hope that all those who are operating language laboratories and are interested in the particular problems connected with the building of a laboratory into their teaching process, take it upon themselves to exchange information.

L. E. DOSTERT suggested the designation of a working group of three out of the Round Table Meeting who would prepare a questionnaire on the operation of a language laboratory, distribute it to all the schools or universities which are known to possess a language laboratory, collate all the replies and data which they would gather through this questionnaire, and report next year on a preliminary survey. It would be by no means conclusive, but it would be a first step in the attempt to bring some order in the collation of the data which is now emerging.
IV

Linguistic Science and Pedagogical Application

HENRY LEE SMITH, JR. (Department of State), chairman of the panel, gave a talk on the topic "An Outline of Metalinguistic Analysis." He submits the following as a summary of the main points of the talk as delivered:

I

The "compartment" of macroinguistics referred to as metalinguistics is that portion which considers the relation of parts or the whole of the MICROLINGUISTIC SYSTEM, or language as described on the levels of phonology and morphemics, to the other systems of the total culture. Here is considered WHAT PEOPLE TALK ABOUT (AND WRITE ABOUT) AND WHY, AND HOW THEY REACT TO IT.

MICROLINGUISTIC analysis proceeds without recourse to meaning except as DIFFERENTIAL MEANING. The informant is asked only whether items under consideration on various levels of analysis, from phones through sentences, are the same or different. The CONTEXTS in which the material appears are left for the consideration of the analyst only after the linguistic system has been completely described. By CONTEXT is meant the consideration of WHO IS TALKING TO WHOM AND HOW THEY ARE INTERACTING (AND REACTING) IN TERMS OF THEIR COMMON CULTURAL EXPERIENCE. This constitutes the METALINGUISTIC MEANING (or METAMEANING or, more simply, the MEANING of the material.

Thus MORPHEMES, WORDS, PHRASES, CLAUSES, and SENTENCES are seen to have differential meaning in the DISTRIBUTIONAL SITUATIONS in which they occur. Thus boy is not girl, the plural ending -s is not the same as the -s of goes, etc. (For a full treatment of morpheme, word, etc. see Trager and
Smith *An Outline of English Structure* SIL OP3, 1951). Proceeding then, the *word* as a whole—a strictly defined combination of segmental morphemes and a word superfix—has differential meaning resulting from the *combined* differential meanings of the morphemes and the distributional situations of the words. For example, *one boy, two boys; one girl, two girls.*

**PHRASES** are strictly defined combinations of words with phrase superfixes; they have differential meanings as wholes resulting from the combined differential meanings of their components and the distributional situations of the phrases.

**CLAUSES** are strictly defined combinations of phrases with intonation patterns, each component having differential meaning. The clause as a whole has differential meaning resulting from the combined differential meanings of the components and the distributional situations of the clauses.

**SENTENCES** are defined as combinations of clauses, the last of which has an intonation pattern ending in one of the terminal junctures. A single clause so ending is thus also a **SENTENCE**. In fact, intonation patterns used with at least one primary stress in conjunction with vocalization not analyzable as part of the phonemic system—such as uhuh, m-m—are **SENTENCES** by this definition. Sentences as a whole have differential meaning resulting from the combined differential meanings of the component clauses.

II

Microlinguistic analysis ends with the analysis of the sentence. Metalinguistic analysis concerns itself with the consideration of sentences in terms of their **CONTEXT**. Sentences so considered will be called **UTTERANCES**. The totality of utterances in any speech situation is the **DISCOURSE**. The discourse has **MEANING** in terms of the **CONTEXTS** of the component utterances and their **METACONGRUENCE** within the total discourse. The overall metacongruence of a discourse is the **STYLE** of the discourse and the selection of special metacongruences achieves **EMPHASIS**.
Metacongruence is analyzed in terms of the selection of items which can be treated on the general levels of **Metalinguistic Phonology, Metalinguistic Morphology and Metalinguistic Syntax**.

1. Under metalinguistic phonology we consider the occurrence of *metaphones* and *voice qualifiers*.

   a. Under *metaphones* we treat the variations in phones seen in terms of the style of the utterance or discourse, and the reactions to different phonetic occurrences of items of the same phonemic structure. For example, the aspiration of the occurrence of final stops as contrasted with the usual unreleased articulation is free variation on the level of micro-linguistic phonology that carries meaning when considered metalinguistically. Such articulation is considered fitting in discourses requiring emphatic and deliberate speech and is frequently interpreted as being quite elegant and erudite.

   b. *Voice qualifiers.* In the more detailed consideration of features of style referred to in the *Outline of English Structure*, § 1.8 and § 5.4, under the term DISTORTION, it becomes apparent that these phenomena can be examined objectively and analyzed systematically by rigidly observing the physiological events that occur. Also no valid statements can be made unless the microlinguistic system has been completely analyzed, since these phenomena always extend over more than one syllable nucleus and can be seen to affect segmental and supra-segmental phonemes and the relationships between them in morphemes. Most of what has been referred to as "tone of voice" is a COMBINATION of intonation patterns and voice qualifiers, though each may be selected separately. Just as intonation patterns have only differential meaning, voice qualifiers *per se* cannot be said to have a single, unequivocal metalinguistic meaning, but when added to the whole or parts of the utterances they may either help support or emphasize the meaning of the words, phrases, clauses, or may serve completely to negate their meaning, depending upon the context. It must be borne in mind that the selection of voice qualifiers takes place in terms of the total COMMUNICATION SITUATION in the same way as is the case for all other linguis-
tic elements, that is, it is culturally conditioned and the individual is not systematically conscious of the process.

The ten voice qualifiers that have been isolated so far from contexts are given below in terms of their physiological and acoustic characteristics.

(1) **OVERLOUDNESS**: increased intensity over whole or portions of utterance, with automatic occurrence of over-high or overlow pitch depending upon the shape of the intonation morpheme.

(2) **OVERSOFTNESS**: decreased intensity over the whole or portions of the utterance, with automatic occurrence of lower than normal pitch depending upon the shape of the intonation morpheme.

(3) **RASP** or **STRUCTURE**: laryngal and pharyngal muscles held under great restriction and tension.

(4) **RASPLESSNESS** or **OPENNESS**: exact opposite of above physiologically; laryngal and pharyngal muscles extremely lax and "open."

(5) **DRAWLING**: prolongation of the duration of the whole or parts of the utterance, particularly noticed at syllable nucleus.

(6) **WHINING**: greatly increased nasalization accompanied by tightening of laryngal and pharyngal muscles, often producing **RASP** concurrently; vocalization generally produced with less than usual intensity, though **OVERLOUDNESS** frequently accompanies utterances so produced.

(7) **SINGING**: distortion of the relation between pitch phonemes so as to increase the range between them in the intonation pattern; an automatic drawling of the syllable nuclei occurs frequently.

(8) **CHUCKLING**: repeated interruptions of voicing during phonation.

(9) **INGRESSIONS**: phonation on intake of breath.
(10) **WHISPERING:** complete absence of voicing.

2. **Under METALINGUISTIC MORPHOLOGY are considered METAMORPHS, SYNONYMS and PHRASE-FORMING SUPERFIXES.**

   a. **Under metamorphs** we consider variations in the phonemic structure of segmental morphemes and words in terms of the style of the utterance or discourse. Particular attention is again paid to the reactions to different phonemic structuring of the same morpheme or word, especially in regard to social and regional differences. The regional variation between the pronunciation "greezy" and "greessy" for *greasy* has long been known to evoke quite marked reactions. In transition areas where both forms are heard, the use of one or the other in different contexts is significant from the point of view of style. Most awareness of dialect difference comes from noticing different metamorphs, generally the whole word, but stem-forming suffixes of different structure also are reacted to.

   b. **Under synonyms** we consider the choice of one word rather than another in an utterance. In a discourse which is relatively formal in its tone *evil*, for example, will usually be selected rather than *bad*, though the selection of *evil* in other instances may be made for stylistic effect precisely because it would NOT be the expected choice.

   c. **Under phrase-forming superfixes** we consider the selection of phrase superfixes within the clause, particularly for the achieving of emphasis.

   Under METALINGUISTIC SYNTAX are considered METALOGS, CONSTRUCTIONS INVOLVING SYNONYMS, EQUIVALENT CONSTRUCTIONS, and CLAUSE-FORMING INTONATION PATTERNS.

   a. **Under metalogs** we consider the selection of forms from different paradigms, one or more of whose paralogues may be identical. Note, for example, *strike, struck, STRUCK versus strike, struck, STRICKEN.***

   b. **Under constructions involving synonyms** we examine the stylistic considerations for the selection of unit constructions rather than single words, one unit construction
rather than another and the reactions to social-regional differences in the usage of such items. For example, much of the material collected by the Linguistic Atlas would fall under this category, as in the case of see-saw versus teeter-totter, pantry versus kitchen-closet, dragon-fly versus darning-needle and mosquito-hawk.

(c) Under EQUIVALENT CONSTRUCTIONS we examine the occurrence of different words in similar syntactic frames and note the reactions to the constructions as wholes in terms of the overall style level of the discourse. Thus the literary It is I contrasted with the standard colloquial It's me involves an equivalent construction in which both the subject and the object form of the pronoun appear in identical positions.

(d) Under CLAUSE-FORMING INTONATION PATTERNS, we consider principally the selection of intonation patterns that form final clauses, that is, sentences. The number of non-final clauses ending in single-bar juncture is also an important consideration in longer sentences, since breaking up a sentence which is normally composed of one or two clauses into several is one of the chief means by which emphasis is achieved.

Preliminary research conducted at the Foreign Service Institute, has led to some very tentative hypotheses about intonation patterns in languages other than English and German. French seems to have a four pitch, three terminal juncture system paralleling English and German to the other Germanic, Baltic and Slavic languages, but all the other Romance languages seem to have a three pitch, two terminal juncture system, in common with Greek, Turkish and the Eastern Arabic dialects. Persian, however, gives indications of having a system similar to English and the others in the North European group.

EMPHASIS, which is the result of special metacongruences, draws on all of the possibilities sketched above on the phonological, morphological and syntactic levels in all possible combinations. A complete study of all of the ways and means of achieving emphasis comprises a large part of the considerations under the general heading of STYLE. This is true in re-
gard to both spoken and written style. The writer first should be keenly aware of voice qualifiers, metaphones, metamorphs, synonyms, phrase-forming superfixes and the possibilities of their replacement within the clause, metalogs, constructions involving synonyms, equivalent constructions and clause-forming intonation patterns. Much of his success as an artist, particularly in the drama and in genres like the novel and short story, depends upon his ability to lead the reader to supply automatically the parts of the linguistic system which are not represented in the traditional orthography in such a way that the meaning is accurately conveyed and the reader is convinced that the net result is in keeping with his experience in the culture and with his conception of how the characters would behave in the situations depicted. In other words, an author's "ear for dialog" not only depends upon his ability to select words that fit his characters and the situations they find themselves in, but also upon his ability to add such things as "he spoke in a tone of voice that belied the meaning of the words," or "he bit each word off sharply," or "he spoke in such a way as to leave no doubt that he meant far more than was conveyed by his words alone," and so on. A thorough study of English on all levels as part of every one's education might well lead to a revolution in the writing and appreciation of literature as well as to a new understanding of the role of language in culture.

III

Considerations of style lead us immediately into considerations of the relations of the linguistic system to the other systems comprising the totality of the culture. Although much must still be done in the whole field of linguistics and more in the study of the other cultural systems, recent research conducted at the Foreign Service Institute has thrown considerable light on the behavioral system most closely connected with language. This is the structuring of the motions and gestures that accompany speech in all usual communication situations. This field of analysis has been named kinesics. (See R. L. Birdwhistell: Introduction to Kinesics, 1952.) In fact, the communication situation can be described chiefly as the combination and interaction of the linguistic system
and the kinesic system. It is, of course, true that elements of other cultural systems also participate in the overall situation involved in communication.

A rather thorough preliminary study of *kinesics* has indicated that the kinesic system can be analyzed and described in much the same way as the linguistic system.

As was stated above, the *communication situation* comprises the combination and interaction of the linguistic system and the kinesic system. Just as in linguistics various portions of the system can reinforce the total meaning of the utterance while a single voice qualifier can negate the meaning as stated by all the other parts of utterance, so in communication the occurrence of a kinesic activity can serve to reinforce the meaning of the utterance or can negate it completely. In communication, quite frequently part of the interaction is carried on through kinesics alone, but the normal situation, with speaker and person or persons spoken to face to face, can be seen as the constant interaction and interplay between both systems.

HENRY LEE SMITH contended that we may well find that certain intonation morphemes and certain voice qualifiers more than others seem to have a more or less universal meaning. From the point of analysis it is extremely important for us at the beginning to realize that we must keep these things in terms only of differential meaning. Even when we look at voice qualifiers as part of metalinguistic phonology they still have only differential meanings. Mr. Most remarked that he does not believe we should say that they do have meaning, but at this phase we should not say that they do not have meaning. According to Mr. Smith, this consideration calls for much more data than we have at present.

M. O. MOST expressed the belief that we should look for the differential meaning of intonation morphemes. He believes that in teaching French, English, and German it would be possible, perhaps a little intuitively, to make some comparative
studies of intonation morphemes for teaching purposes, before we have a complete study of the microlinguistics and metalinguistics of each of these languages.

CHARLES F. HOCKETT (Cornell University) read the following paper on "Speech and Writing":

"Writing is not language." This lesson has been dinned in our ears for so long, and with such convincing evidence, that few of us doubt its truth—even though the man on the street would. But to have learned this lesson is rather negative. If writing is not language, what is it? If the relationship of writing to language is not that of identity, just what kind of a relationship is it? If, in teaching people a foreign language, their learning of the language does not automatically subsume acquisition of literacy, then by what separate organized and progressive steps can we go about the task of imparting the skills of literacy to them?

These problems have concerned the writer for a number of years, and the present brief talk might be taken as an interim report; certainly there is nothing of a conclusive nature in it.

As necessary background, let us portray what goes on when individual A says something to individual B and is understood by the latter—A and B being members of a single speech-community. We can draw a sort of box-diagram of the sequence of events, confident that the functions we assign to the several boxes are actually performed by the human organism during the production and reception of speech, but without in any way implying that the actual physiological processes are more than remotely parallel to our description. This diagram is given as Diagram A; we shall discuss it starting from the outside and passing "inwards", and for best effect the reader should at each point examine only that portion of the diagram that has been discussed up to that point.

What comes from the lips of a speaker is a continuum of sound. The phonemic hypothesis implies that although what is emitted is a continuous signal, this is a transformation
of a discrete, discontinuous stream of units flowing along somewhere inside; in Sapir's words, there is an "ideal flow of phonetic elements which (a speaker hears), inadequately from a purely objective standpoint, as the intention of the actual rumble of speech." Nowadays we call these "phonetic elements" phonemes. Box A, in the diagram, is intended to subsume that portion of the human central nervous system, and appended musculature, which, as one speaks, maps the discontinuous "inner" flow of phonemes into the "actual rumble of speech", the continuous sound signal which we can record on wax, tape, or spectrograph.

This inner stream of phonemes, however, itself must come from somewhere; wherever that somewhere may be, we have drawn a box for it (Box B). The output of Box B is the phoneme-stream which gets "smeared" or "continuized" by Box A into the speech signal. The input to Box B, which drives Box B and determines what shall be the particular sequence of phonemes that is emitted, is a discrete flow of what we shall call morphemes. I cannot show you a picture of a morpheme, or present one marked "Exhibit A," but I can illustrate by giving a pair of English utterances which will differ in only one way as to their ultimate morphemic content:

That's a dog.
That's a cat.

Or another:
That's a dog.
That's a dog?

Or another:
That's a dog.
Is that a dog?

What is implied is that as these utterances enter Box B inside my head, one of each pair differs from the other of the same pair only in one point, just as the sequences of letters ABCD and ABCE differ only at one point. But I have not actually displayed these utterances to you in pure morphemic terms, because in order to present them I have had to
lead them through Box B, converting the relatively small number of morphemes into a somewhat longer series of phonemes, and have then had to lead the sequences of phonemes through Box A, smearing them into the "rumble of speech" which you heard as I gave the examples.

The output of Box B is a stream of phonemes; the input to Box B is a stream of morphemes, and this input is in turn the output of Box C, the "morpheme generator." We can assume that there is an almost continuous morpheme flow passing around inside of Box C, bits of which are from time to time routed all the way through Boxes B and A to become observable as speech aloud. Now this chain of boxes cannot go on back "in" forever; for convenience I have added a single additional Box, Box D, called simply "elsewhere". This Box is of no linguistic importance; dogs and apes have it just as do men, whereas only humans have boxes C and B. Presumably, if I say, in a given life-situation, That's a dog, I have said that rather than, for example, That's a cat, because of the state of affairs in the "elsewhere" box. If an ape or a human is driving a car and stops at the sight of a red light, that is presumably due to events in the "elsewhere" box. For the most part in the present context the "elsewhere" box does not concern us.

Now let us turn around and look at Individual B, who is hearing (and understanding, we assume) what Individual A says. What reaches B's ears is a continuous train of sound. If this continuous signal is to have any impact, the first processing to which it must be subjected is that of recovering from it the phoneme sequence which, in individual A, drove Box A to the production of the continuous sound signal. For this function we supply Box E. Box A smears a discrete signal into a continuous one; Box E quantizes the continuous signal back into (a reasonable facsimile of) the discrete signal. In the hearer, the output of Box E, a discrete flow of phonemes, constitutes the input to Box F, which performs the inverse function to that of Box B in the speaker, converting or "transducing" the discrete flow of phonemes into a discrete flow of morphemes, matching the morphemic input to Box B in the speaker. The output of Box F, in turn, is fed into Box C, where, so to speak, it "induces" specific
lines of development in the continual inner flow of morphemes in the hearer. Then, by mechanisms which we do not understand and need not worry about, the various hook-ups between the hearer’s Box C and Box D bring about what we simply label “understanding”.

Now with few—and pathological—exceptions, any speaker of a language is also a hearer. This means that our original speaker, individual A, even though at the moment he is transmitting a linguistic message rather than receiving one from someone else, necessarily has inside his own skin the various “reception” boxes we have described for individual B. These will be found on the diagram, directly below the analogous output boxes. Furthermore, we know that when a person speaks aloud he both feels and hears himself speak. For this reason, a dotted line on the diagram is given to show the output of Box A reentering the speaker via Box E. Indeed, various experimentation shows that this “feedback” is absolutely essential; it is impossible to speak, at least in any satisfactory way, without this “monitoring” of output via immediate kinesthetic and acoustic feedback. The other “feedback” routes which have been sketched into the diagram with dotted lines are more conjectural. But it is reasonable to assume that the output of Box B, the morpheme-to-phoneme encoder, is channeled not only to Box A, but also directly into Box F, where it is reconverted to morphemes and fed back to Box C, to constitute the basis for a kind of internal monitoring of what is being produced in Box C. Indeed, when we “speak silently” or “think in words”, and yet feel that we are hearing what we say, the output of Box B is not being sent through Box A, but is presumably travelling along this inner feedback route. No doubt an individual momentarily performing the function of hearer rather than speaker makes similar use of such internal feedbacks.

So much for the process of speaking and hearing speech. This is a human universal, and has been for a long time; in every human community, literate or not, the physiological analog of the boxes we have described—whatever its actual physiological nature may be—is to be found in every human past the age of infancy. The boxes are not built; the raw-
If we observe, next, a member of a literate community in the act of writing, we can postulate and sketch in the additional boxes that are needed for this type of behavior. We see the individual moving his hand and fingers (or, rarely, some other portion of his body), equipped with one or another type of writing implement, and the results of these motions are visible patterns of marks on some flat surface— for simplicity let us just say pencil and paper rather than bothering with the actually very great variety of artefacts that have been or could be used. The marks may be more or less continuous, or they may be discrete; this does not seem to be an essential problem. Experience shows, however, that a physically very wide variety of marks, even for a single individual, may all count as in some sense "the same"; on this the theory of graphemics has been built, paralleling more or less closely the phonemic hypothesis in linguistics. So for the most external output box, Box G, what we need is one which will have a discrete flow of graphemes as its input, and which will map that discrete flow into the arrangement of graphs that all can see on the paper. In series before Box G comes Box H, which is the source of the discrete grapheme flow that constitutes the input to Box G. Just as we hear ourselves when we talk, so usually we see what we write as we write it, and certainly feel the motions of writing; so below Box G, for the writer (paralleling Box G for someone else who reads what our given writer has written) we place an input box, Box I. This involves the eyes, at least, and other parts unknown of the human body; what it does is to interpret graphs back into graphemes, straining out irrelevant differences of physical shape in what is seen. Similarly, below Box H we put Box J, which has graphs as its input. And dotted lines indicate external and internal feedback routes much as for speech.

But now comes the main question. What drives—what is the input—to Box H? And to what Box is the output from
Box J routed? Let us look at the parts of the diagram we had drawn earlier and see what the possible answers might be.

In the first place, our "elsewhere" Box might function directly as the source of impulses for Box H, and the output of J might be routed directly thereto. When we see conventionalized geometrical road-signs (not printed words, but stereotyped maps and pictures), this is undoubtedly the case. We can take our choice as to whether such man-made marks as these shall be called "writing" or not; the common-vocabulary use of the word "writing" would tend to exclude such items, and this has been the general tendency among linguists and graphonomists. However we label phenomena of this type, there is no question but that they exist, and in rather complex forms.

A second possibility is that the input to Box H would be a flow of morphemes, routed directly from Box C, and that the output of Box J, similarly a flow of morphemes, would be routed directly back to C. There is no known writing-system in the world in which this is the only mechanism involved, but there are writing-systems in which this is clearly the major routing; Chinese writing, used for the writing of Chinese, is an example.

A final possibility is that the input to Box H would be a flow of phonemes, routed from Box B, and that the output of Box J, likewise a flow of phonemes, would be routed to Box F. Once again, there is no known writing-system which is to be completely characterized by this routing, but our familiar writing-systems in the western world show more of this than of any other possibility. A pure and complete instance of this is to be found only in a well worked-out phonemic transcription. A phonemic transcription, of course, is just as much a variety of writing as is any traditional orthography, but most actually used "phonemic" transcriptions do not prove, on close examination, to be "pure and complete", so that the reservation made above can stand.

Most actually used writing-systems involve a mixture of these three sources, with the output of Box B or of Box
C clearly predominating. We can illustrate the presence of all three easily enough with English. On a picture-display page of a newspaper one may find a caption such as the following:

Mortimer Smith holds the largest beet on record (←). At auction it finally was knocked down for $17.00.

We hardly need dwell on the features of this written passage which stem from the output of Box B, since that is the predominant factor in English writing. Notice, however, the word "beet". This sequence of four letters correlates with a particular phoneme-sequence, but there is at least one other sequence of letters which correlates with exactly the same phoneme-sequence: "beat". The choice of the spelling "beet" rather than "beat" in this particular instance has nothing to do with the underlying phonemic flow, but must be traced to the direct influence of one morpheme rather than another present in the appropriate place in the inner morpheme-flow. Similarly, the symbols "1", "7", and so on, at the end, do not directly correlate with any phonemes; they correlate, in a fairly complicated way, with certain morphemes. Finally, the parenthesized arrow, telling the reader that the picture being described is to the left of the caption, does not correlate with phonemes or morphemes, but directly with something in Box D.

The complexities and irregularities and mixtures of type of representation (phonemic, morphemic, and "direct") which are to be found in the writing systems of the world are almost past belief; a detailed analysis of any but the simplest and most regular writing-system requires a very lengthy exposition. We need not get into this, but there is one more generality that does concern us.

If one has a message which must be transmitted via a channel through which it cannot be sent in its original form, then what one has to do is to "transduce" it into a physical shape fit to travel the channel in question, and "retransduce" it into something more or less closely matching the original at the other end. Old fashioned telegraphy will afford an example. The message that one has, just before it gets put through a
key onto the wire, is in written form; and at the receiving end it is transformed back into that form. But writing cannot be sent along a wire; what goes along the wire is a series of voltage pulses, assigned by certain conventions to the letters of the written form. Now a particular channel, and the associated conventions of transduction, may not render possible the transmission of everything which can be contained in the original message. Telegraphy, for example, makes no special allowance for the transmission of the difference between lower-case and capital letters. A message which in written form achieves some of its meaning by virtue of this distinction may become ambiguous by losing the distinction during the transduction and retransduction. An amusing example is to be found in a telegram received by the wife of a colleague of mine a few years ago:

ARRIVING TOMORROW NIGHT WITH CHAOS

—which any of us would do at least a double-take on, and perhaps fail to understand. In written form, with the distinction between lower-case and capital letters maintained, it is easy to distinguish between “chaos” or “CHAOS,” something lacking order, and “Chaos,” recognizable to someone who knows them as the plural of a Chinese family name.

Now if a particular variety of channel is customarily used over a period of time, its limitations may lead to the development of a special style of message-preparation for transmission over it, a style which compensates for what the channel will not carry. One could easily enough have reworded the above telegram into “ARRIVING TOMORROW NIGHT WITH CHAO FAMILY”—but it would have cost more.

This is what has happened in every case of an established writing-system so far studied. The conventions of the writing-system fail to provide for all the phonemes, or for all the morphemes, and as a result a special writing style of the language grows up, in which the phonemes (or morphemes) which cannot easily be written are replaced by various types of paraphrase. In English, for example, our writing-system provides a very limited machinery for the indication of intonation phonemes, and therefore, indirectly, very limited machinery for the indication of a set of morphemes which are
extremely important in English oral communication. In reading, we learn in time to compensate for this by making best guesses; but all of us have had the experience of coming across passages, particularly in newspapers, which made no sense until we have tried several alternative groupings of words and several alternative intonations. These passages were not sufficiently adapted to the writing style of English.

Part of the traditional confusion of “writing” and “language” has been due to failure to recognize this special writing style. The writing style of a language spoken by literate people is not writing; it is part of the language itself. It is the particular variety of the language which a person speaks to himself just before transducing what he is saying into written form. But its peculiarities, its divergences from ordinary conversational style, stem causally from the nature of the particular writing-system in use.

The following pedagogical tasks were presented by Mr. Hockett in closing his talk:

1. Teach the student the graphemics of the writing system that is used; recognition of visual shapes; identification of them in terms of what letter they are. This should not take more than half an hour.

2. Build up the right associations between graphemes or sequences of graphemes, and the linguistic units, whatever they may be, which correlate with these graphemes.

3. Train the learner in the conventions of the writing style of the language he is learning. These tasks should be kept distinct.

Paul Garvin called attention to the difference in European and American scripts and to the fact that there are regional allographs by means of which we can identify people who come from different areas, and suggested that it might be useful to go into metagraphemics. Mr. Hockett stated that this is a matter of comparative graphemics rather than metagraphemics, for what Western European languages have in common is the same script, not a graphemic system. Mr. Garvin suggested that one might be able to get something approaching
the graphemic equivalent of intonation with underlines and all capital letters, and also the graphemic equivalent of voice qualifiers, which one might want to call writing qualifiers.

HENRY LEE SMITH remarked that even the devices in comic strips do not give us a way to show the combinations of voice qualifiers and intonation patterns. An effort is made to show some of these things by punctuation, but the results are unsatisfactory and very misleading.

ARCHIBALD HILL observed that modern English writing is much more nearly a morphemic system than even the instance of *beet* indicates. In all probability far more than fifty percent of all writing, he believes, is combinations of letters which cannot be predicted unless one knows what the morpheme is. In other words, it is almost as much a morphemic writing as the Chinese system. It is Mr. Hill's opinion that there is a certain danger in dismissing and not fully examining the kinds of writing which are not in any way linguistic. We are being forced every day to examine modern English writing and to develop a system of graphemics. It is high time that linguists also examine the writing systems of the world to see what relationship they have with language and with linguistics, and to see what further information we can derive from them.

CHARLES HOCKETT said that there is, of course, one well-known and highly elaborated system of what one may want to call writing, which does not correlate either with phonemics or morphemes, namely, the international road sign convention in Europe.

HENRY H. JOSSELSN (Wayne University) read a paper on the subject "Russian Word Count." The objective of the word count "is to determine the frequency of occurrence of vocabulary in Russian printed material, starting with the second quarter of the nineteenth century and including the modern Soviet period. It is planned to confine the word count to prose material of general content and thus to include short stories, novels, general periodicals, and plays, and to arrange the material in such a manner that the data can be utilized for several other purposes, like the determination of the time of
occurrence of words within the several periods of Russian literature. . . . Chronologically, the material comprises twenty-five per cent for the nineteenth century, twenty-five per cent for the period 1900-1918, and fifty per cent from 1918 to date. Another subdivision of the material is ten per cent drama, ten per cent literary criticism, twenty per cent journalism, and sixty per cent fiction. Again, another subdivision of the material is fifty per cent conversation and fifty per cent non-conversation, i.e., description, exposition, and other material. The material examined in the magazines covers twenty per cent in political topics and surveys, forty per cent in government, economics, history, politics and such, thirty per cent in popular description of exact sciences, and ten per cent in literature and fine arts. The material examined in newspapers is designed to cover ten per cent in editorials, twenty per cent in foreign news, twenty per cent in domestic news, ten per cent in party news, twenty per cent in industry, agriculture and sciences, ten per cent in miscellaneous survey articles, and ten per cent in short stories. The above distribution of percentages of the material in magazines and newspapers was decided after a survey of the actual proportion of materials found in them.”

The data was recorded on Hollerith cards, (1) to make it available for any subsequent linguistic investigation which might be undertaken; (2) to assemble data dealing not only with the frequency of occurrence of vocabulary, but also with the distribution of the several inflected forms of Russian words; (3) to indicate the occurrence of a given word in the fields of journalism, fiction, or non-fiction, conversation or non-conversation; (4) to indicate the occurrence of a word chronologically, i.e., within a given period, and by author; and (5) to establish the relative frequency of the occurrence of the several grammatical categories, the frequency with which certain roots combine with prefixes and suffixes to form new words in the language, and the prevailing patterns of word composition in Russian.

The word count is also assembling quantitative linguistic information pertaining to the Russian language on such problems as “the frequency of occurrence of verbal aspects generally, by periods, by individual writers, type of discourse, and
the like; the appearance and spread of verbs of the so-called ‘dual aspect’; the degree to which certain verbs are transitive or intransitive, and the like.” This material is being assembled and punched into the Hollerith cards.

A comparison of the sources used in this word count with those used by the *Dictionary of Contemporary Russian Language* (Academy of Science Publication, Moscow-Leningrad, 1950) shows that there is fairly close agreement between the Word Count Committee and the Dictionary Committee as to what constitutes standard literary Russian.

In conclusion, Mr. Josselson said that eventual publication of this word count “will list the top two thousand words occurring most frequently in groups of five hundred, each arranged alphabetically. There is a considerable amount of statistical reliability in that group, according to the formulae worked out by our statisticians. The next three thousand most frequently occurring words will be scrutinized by a committee of twenty or so Russian teachers throughout the country, who will select from that list the words which in their estimation are most important to know for a student who has had two years of college Russian or its equivalent.”

**JOHN DE FRANCIS** *(Johns Hopkins University and Georgetown University)*, questioning the validity or usefulness of such a generalized word count, asked whether this count should not be broken down into the most frequently used words in economics or in literature, for example. Mr. Josselson answered that this task, to be done by the individual interested, should be an easy one because the data is assembled on Hollerith cards. Mr. Dostert observed that it should be easy to have topical lists in addition to general lists. Mr. Josselson said that these will be made later and that there will also be a section called journalese.

**FATHER WALSH**, commenting on Mr. Hockett’s talk, said that he considered it a very good example of the attempt of the human mind to get a working knowledge of the fre-
quently mysterious processes of the hidden intellect, and that it seemed to him that Mr. Hockett was analyzing from the point of view of a linguistics specialist the processes as they appeared to observation. From the point of view of the rational psychologist there is a more satisfactory, though less detailed, explanation—more satisfactory to him because he is not able and not disposed, perhaps, to go into all the techniques of the operational process. First, the intellect conceives what is called the *verbum mentale*, and it is the same idea that is then communicated to another, whether it is expressed in the *verbum orale* or the *verbum scriptum*. In the matter of speech, it is a conclusion of philosophers and theologians, too, that the gift of speech is one of the principal characteristics that differentiate the beast from the rational animal, which is man. After all, speech, ultimately, is a mystery. We cannot always completely analyze it; we may analyze the *operation* of it. However, there is a certain point where we can describe what we think happens, but can only speculate on what goes on inside. In concluding the third session of this Round Table Meeting, Father Walsh stated that he deems the possibility of communication between human minds or between cultures one of the most important elements in any international program. To know a person does not always mean to love that person, but it does mean to understand, which means to evaluate, in this case, the various motivations which may underly what seems to us an impossible conduct. Therefore, if we can understand him both in his speech habits and in his speech formulation we have made a considerable advance toward peaceful living. The teacher of languages and the research specialist in linguistics have as important a role to play now as the technician who defends us by weapons or the statesman who attempts to negotiate purely political or economic issues, because the linguist gets nearer to what motivates man. In human relationships what gives the drive to conduct is not pure logic alone; it is that complexity of all those elements that go to make up a man or a civil society, a culture or a civilization.
Poets Can Be Professors

HENRY GRATTAN DOYLE (George Washington University) read the following paper on this subject at the closing luncheon of the Third Annual Round Table Meeting on Linguistics and Language Teaching:

Father Walsh and Mr. Dostert, before I start on the prepared portion of my talk, I should like to state that we at The George Washington University have watched, not with envious but with admiring eyes the tremendous progress that has been made at the Georgetown Institute. We are very much interested in the fine work that is being done.

When I was a young professor, or at least a much younger professor than the young professor who addresses you today, one of my closest friends at The George Washington University was a Professor of English, the late DeWitt C. Croissant. In spite of his French name, he was very much an old-time American. Some of you may have known him. He had a great affection for me, I'm sure, but that did not save me from being the occasional victim of his sharp tongue, or as one of our Professors of Education who had just been treated to a biting description of the faults of educationists once put it, his "God-given gift for vituperation." I'm convinced that Croissant thought I possessed at least a moderate amount of intelligence, but he never could understand why I liked Tennyson or "the New England poets." Somehow that put me into the same category as the admirers of Edgar Guest or even of the "Sweet Singer of Michigan." He introduced me on occasion as "my good friend, Henry Doyle, who thinks Longfellow was a poet"—and when he was feeling particularly paternal towards me, or even vituperative, I never was quite sure which, he would be likely to add, "Henry's idea of a poetic masterpiece is 'Where did you come from, baby dear?—Out of the everywhere, into the here.'" Croissant was ready to
admit that Longfellow had made some good translations and that Lowell had written some good essays, and I believe he thought well of the Bigelow Papers and the “Commemoration Ode,” but otherwise he consigned Henry Wadsworth Longfellow and James Russell Lowell to whatever Limbo awaits fallen literary idols.

By now you will have penetrated the protective coloration of the title I chose for this talk. It is just another indication of my life-long interest in the Smith Professorship of the French and Spanish Languages and of Belles-Lettres at Harvard College. This interest grew out of my discovery as an undergraduate of the Ticknor Collection in the Boston Public Library, and my early acquaintance with my beloved teacher J. D. M. Ford, the successor of Ticknor, Longfellow, and Lowell in the Smith Professorship. Perhaps you will find in my continued interest in the holders of one of the great American professorial chairs a demonstration not only of a one-track mind, but of the truth of my late colleague’s animadversions on my critical taste, in short, of my conditioning by my early environment, to which I frankly and, I hope, modestly reply, mea culpa, I was irretrievably “conditioned.” Now, I’m going to interject here something that I hope will work out the way I had planned it. How many of you know the historical significance of the nineteenth of April? (Father Walsh, please keep quiet.) “The eighteenth of April in ’75, hardly a man is now alive who remembers that famous day and year.”

I want to interject another personal note. I had a remarkable father, a man who was self-educated. He went to work when he was only eleven years old, when his schooling ceased. He came to Boston from Prince Edward Island, where he was born, right after the Civil War, at a time when the newspapers printed advertisements like this: “A job open for this, that or the other; no Catholics need apply.” Now, in spite of that experience, he developed the greatest “intolerance for intolerance” of any person I’ve ever known, and when he came to choose a name for me twenty-five years later, he chose the name of Henry Grattan, who everybody familiar with Irish history knows, was a Protestant who fought for the civil rights of Catholics, and that name is one of my greatest
prides. The two things, I suppose, that as an ordinary human being I'm proudest of are the name my father gave me and the wife I was fortunate enough to marry.

Well, let me get back to Longfellow and Lowell. My father used to take me on long bicycle rides—and in those days you could ride a bicycle with safety. We used to ride regularly to Lexington and Concord, or out to Sudbury to see the Wayside Inn, or over to Cambridge, and we lay sometimes on the grass in the park in front of Longfellow's house. We had a wonderful time together, my father and I, and he filled me full of the New England tradition, which wasn't his by birth, but it certainly was by adoption, as well as with pride in the American tradition generally. So when I finally got to college, and visited the Boston Public Library, and discovered the Ticknor collection, my fate really was decided. Up to that time I thought I was going to be an economist, but after browsing in the Boston Public Library, and after meeting Professor Ford, and running into the Ticknor collection, I decided that I was going to be a teacher of Spanish. It's a decision that I've never had the slightest reason to regret.

In my school days I was conditioned by what we call the era of Friday afternoon recitations. We learned by heart "Excelsior," now condemned by modern critics for its silly symbolism, "A Psalm of Life," "Hymn to the Night," "The Village Blacksmith," "The Arrow and the Song," and, of course, "The Children's Hour." My father, at our Sunday evening sings at home, sang the musical setting of Longfellow's "The Bridge," and in high school we sang, "Stars of the Summer Night," or excerpts from "Hiawatha" set to music, or a musical setting of Lowell's "What Is So Rare as a Day in June?" And when I was graduated from the Somerville Latin School in 1907 we sang a musical setting of "The Wreck of the Hesperus"—in four parts, and with solos. On one Friday afternoon I recited "The Belfry of Bruges," with its reference to the proxy marriage of Mary of Burgundy and Maximilian of Austria, one of the series of marriages that built the tremendous inheritance of Charles V of Germany, otherwise known as Charles I of Spain, with its lines, "I beheld proud Maximilian kneeling humbly on the ground, I beheld the gen-
The teacher told us that the naked sword was just a part of the ceremonial of a proxy marriage, and it is a tribute to my innocence, of which I'm still proud, and maybe an explanation of my love for Longfellow, that its symbolic significance did not strike me until I reached college and read *Cymbeline* and "The Tale of the Curioso Impertinente" interpolated by Cervantes in his "Don Quixote," and "Tristan and Iseult." Then I grasped its meaning, and with a practicality derived from long living with New England Yankee neighbors, wrote an essay on the "Curioso Impertinente and its relation to tests of fidelity" and won the Susan Anthony Potter Prize in Spanish literature at Harvard, the check for which arrived at Commencement, just in time to pay for my "Senior spread."

So I was "conditioned" by my father, by my school days, by the region in which I lived, even by my college experience, and I have no doubt that many of you were "conditioned" too. You all recall the classic experiment in conditioning, in which the Russian physiologist Pavlov, after associating the idea of food with the sound of a bell, was able to make a dog's mouth water with the sound of the bell alone. Well, my mouth still waters, and my lips begin to move, when I hear my particular bells sound. See whether yours do too, when you hear these quotations from Longfellow:

"Toiling,—rejoicing,—sorrowing, Onward through life he goes"; or "And departing, leave behind us Footprints in the sands of time"; or "Standing, with reluctant feet, Where the brook and river meet"; "Not thy councils, not thy Kaisers, win for thee the world's regard, But thy painter, Albrecht Dürer, and Hans Sachs, thy cobbler-bard"; or "The night shall be filled with music, And the cares, that infest the day, Shall fold their tents, like the Arabs, And as silently steal away." Or this one: "A boy's will is the wind's will, And the thoughts of youth are long, long thoughts"; or "Between the dark and the daylight, When the night is beginning to lower"; "Archly the maiden smiled, and with eyes over-running with laughter, said in a tremulous voice, 'Why don't you speak for
yourself, John?" Or these, from Lowell: "Truth forever on the scaffold, Wrong forever on the throne." Or "They have rights who dare maintain them——"? "They are slaves who fear to be, In the right with two or three...."; or "Climbs to a soul in grass and flowers...." Or, returning to Longfellow: "A hurry of hoofs in a village street, A shape in the moonlight, a bulk in the dark, And beneath, from the pebbles, in passing, a spark Struck out by a steed flying fearless and fleet." Well, I could give you a lot more of that, for I see that many of you also are "conditioned," but I'm going to spare you. But I would like to remind you that the last quotation had to do with the ride of Paul Revere, which took place 177 years ago last night, and that he rode through the town in which I was raised. When Longfellow tells us "He has left the village and mounted the steep", I know exactly what he meant, because "the steep" is in my "home town" of Somerville, Massachusetts, namely, "Winter Hill" on Broadway, and I can never forget the day when for the first time in my life I was able to ride up that hill on my bicycle without getting off and "pushing", so I know what "mounting" it meant.

In spite of the critics, there is no question about Longfellow's popularity, both here and in England. The "lost generation" of the 1920's was extremely critical. To these last, Alfred Noyes paid his respects in a stinging review of Herbert Gorman's A Victorian American, Henry Wadsworth Longfellow, which appeared in The Bookman just twenty-five years ago. Noyes does not threaten to punch the critic in the nose, but he leaves him in a rather bedraggled condition intellectually. I quote: "When you speak as you have spoken of men that have brought a measure of beauty and poetry into millions of obscure lives, men who have not been disdained by the leaders of your own country in their own day, it is as though one heard a blear-eyed, coarse-mouthed, ignorant boor, in one of your smoking cars, trying to make a butt of a silent and gentle scholar. . . . You seize upon the faults of art that better men than you have pointed out, and what else there was to be said as a poet you drown with a vacant guffaw. . . . You sneer at his life, because it was loyal to God and man; you sneer at his married life because it was clean; and you sneer at his death as though you, like Pumblechook, were superior even to
that. . . . Let me say again, then, that Longfellow is not among the great poets; that he wrote much inferior work. . . . but he also wrote some true poems that will always live on their own merits, and will always be an honor to himself and to his country." And the author of the sketch of Longfellow in the Dictionary of American Biography sums up Longfellow by saying: "It remains to be seen whether, by the pure style and gracious humanity of his best poems, he will not outlast louder men in popular favor."

That favor he surely enjoyed during the nineteenth century. Of his first published volume of poems, Voices of the Night, 43,550 copies were sold in the United States alone—no small record for a young and hitherto unknown poet. A British soldier at Sevastopol, in the Crimean War, died with "Footprints on the sands of time" on his lips. A British workman stopped Longfellow, during his visit to England in 1868-69, as he emerged from the House of Commons, asked the privilege of shaking his hand, and then insisted on reciting "Excelsior." When The Courtship of Miles Standish was published in 1858, 10,000 copies were sold in London alone on the first day of publication. The growth of Longfellow's reputation may be gauged by the price he received for the "Belfry of Bruges"—$15.00—and what the New York Ledger paid him in 1874 for the "Hanging of the Craner"—$3,000.00. Oxford and Cambridge gave him honorary degrees, but a greater tribute, in his mind, I am sure, was the presentation in 1870 of an armchair paid for largely by the children of the Cambridge Schools and made from the wood of the horsechestnut tree under which the "Village Smithy" stood. "Such popularity must be deserved."

I was announced to talk about "Poets Can Be Professors," and so far I've spoken only of one poet and no professors. Well, James Russell Lowell was also a poet, though to my mind he really excelled not as a poet but as an essayist. May I limit consideration of Lowell as a man of letters, and speak of him and of his predecessors, Longfellow and Ticknor as professors, a topic upon which I perhaps have better claims to speak with some authority? When Abiel Smith, of the Harvard Class of 1764, endowed the Smith Professorship of the French and Spanish languages and of Belles-Lettres in
Harvard University in the year 1816, he probably did not realize that his name would be associated in history with one of the most famous chairs in American higher education, and that in the century that followed this chair would be held by two great American Hispanic scholars and two great American men of letters.

In including the Spanish language and Spanish literature in his plans for the chair, Smith was somewhat in advance of his time, but not as far in advance as people sometimes think. For New England in the first decades of the nineteenth century was developing a keen interest in Spain and in the other Spanish-speaking sections of the world, as has been pointed out by Professor Edith Helman of Simmons College. In part, that interest sprang from the memory of Spanish friendship for the United States during our own Revolution, in still larger part from our sympathy with the struggle for independence in Spanish America, and perhaps in equal measure from the profitable trade with the Spanish-speaking world, which accounts as a striking illustration for the existence in Chile of Delanos, descendants of a collateral ancestor of Franklin D. Roosevelt. By the middle of the third decade of the century, that interest led Jared Sparks to write in the North American Review for April, 1825: "Next to our language, Spanish will be likely at a future day to become the most important in this country. The new theater of enterprise, which is opening to the whole world in the vast extent of the South American Republics, and the intimate intercourse, which from proximity of situation, and similar principles of government, must necessarily grow up between those Republics and the United States, will make the language a desirable, if not an essential, acquisition to our men of business, as well as to our scholars and politicians."

The promulgation of the Monroe Doctrine in 1823 gave added point to this early expression of the Good Neighbor Policy. Just a year later, Sparks called attention in the North American Review to the importance of the study of Spanish literature as a means of understanding the Hispanic world, when he wrote: "We shall have the additional advantage, moreover, and it is not a small one, of the examples and spirit of the best Spanish writers operating on our own literature."
In this country little is known of the elegant letters of Spain.” (Everybody used the word “elegant” in those days in a way that we don’t use it now.) “It is a field unexplored, but it is wide and fertile, rich in the fruits of genius and of cultivated intellect.”

The restriction to French and Spanish in the title of the Smith Professorship was, however, more apparent than real, largely because of the association with it of a college professorship in Belles-Lettres. If there ever was a broad-gauge university department of modern languages and literatures, the Harvard department under Ticknor from 1819 to 1835, under Longfellow from 1836 to 1854, and under Lowell from 1854 to 1886, was such a one. Not only were French and Spanish taught, but German, Italian, and for a time Portuguese, and “Belles-Lettres” included the study of the great writers of Germany and Italy as well as of France and of Spain. Dante, Cervantes, and Goethe were lifelong concerns of Ticknor, Longfellow, and Lowell alike; and they did not neglect great writers in English. Ticknor, during the winter of 1833-34, lectured in Boston on Shakespeare, and the papers of Lowell on outstanding English and American writers are well known. From Ticknor’s early interest in Dante and his Dante lectures undoubtedly stems that intense interest in Dante that has made Cambridge a center of Dante studies. It gave us Charles Eliot Norton’s prose translations of the Vita Nuova and the Divina Commedia; Longfellow’s blank verse line-for-line translation of the Commedia, on which Lowell and Norton helped with criticisms and suggestions at weekly meetings of the Dante Club, a forerunner of the present Dante Society, still active; and the scholarly edition of the Divina Commedia and other studies of Dante by my own teacher, Charles Hall Grandgent, not to mention that other friend of mine, Ernest H. Wilkins, our greatest living American authority on Dante, Petrarch, and Boccaccio.

But I am digressing from my main concern, which is the existence of a general department of languages and literatures at Harvard, and this I should like to deal with particularly with reference to the system of instruction: the broad concern of the “head professors,” as they were called, with
"Belles-Lettres in general," and the fact that they combined creative literary work as scholars, poets, essayists, or critics, with their teaching duties.

Under the system of instruction that prevailed at Harvard, beginning under Ticknor, the fundamental instruction in languages was given by so-called "natives." This is considered by some present-day experts as a revolutionary idea, that came with the "Reform Method" of foreign language teaching initiated in Germany in the last quarter of the nineteenth century, or by those who may be even more ingenuous, with the rise of the "linguistician" and the development of the so-called "Army Method" of teaching languages. In fact, like many other essentially good things, it flourished a long time ago in a little town on the Charles River. The "natives" taught the language—and received $500 a year for their services as instructors. The "professor" supervised their work, examined their classes as to proficiency, and himself taught or lectured only in the various fields of literature, for which Ticknor received an annual salary of $1,000, of which he gave back $400 during the last seven years of his fifteen years of service because the finances of the College were embarrassed. Thus he received only $600 a year. Longfellow received $1,500, later raised to $1,800, and Lowell received $1,200. Throughout the terms of Ticknor and Longfellow, in spite of repeated efforts by the latter to obtain increased compensation for his "native" assistants, the latters' salaries remained at $500 a year. One of them, Pietro Bachi, a man of no vices, after struggling for twenty-one years to raise a family and support aging and ailing relatives on his $500 a year salary, was finally forced into bankruptcy in 1844, and in 1846 he was "fired" by President Everett. Everett's predecessor, President Josiah Quincy, had refused to act against Bachi for bringing this dishonor against the College, but Everett told Longfellow, who naturally interceded for Bachi, that "the College was not to be trifled with." It may be of interest to note that while Ticknor and Longfellow prepared themselves for their professorships by years of study and travel abroad at their own expense or that of their families, Everett, who was in Europe at the same time as Ticknor (both were students at Göttingen) received a salary for these years while preparing
himself to assume his duties as Eliot Professor of Greek. (This was the same Everett who spoke for two hours at Gettysburg, and who is no longer remembered, while Lincoln's brief address is one we all know.)

The flies in the ointment, as far as the employment of "native" teachers is concerned, and in spite of certain obvious advantages, have long been known to most specialists in language teaching. Among them is the tendency, as at Harvard, to expect foreigners to work at low salaries, or even at "starvation wages." Even during the ASTP Program of World War II, charges were sometimes heard that native "informants" were working under "sweatshop" wage conditions. Some of our American girls' finishing schools for years followed the practice of engaging French widows as teachers of French and giving them only their board and room, perhaps with chaperoning duties added, in return. Such an attitude does not tend to provide an able staff, as Longfellow found out.

Another common mistake is the idea that any foreigner can teach any foreign language. When all foreign languages are thought to be "outlandish," any "outlander" is assumed to be able to teach any one of them. This was once true even at Harvard. Francis Sales, from the south of France, lovable and useful man that he was, taught French with a typical "Midi" accent—and also taught Spanish. Pietro Bachi, an Italian, taught not only his native tongue but Spanish and Portuguese as well. François Surault, a Frenchman, had pretensions as a teacher of Italian as well as a teacher of French. Thus, a fundamentally good idea proved disappointing because it was carried to unwarranted extremes. Poor salaries attracted only second-rate or third-rate people. The post of a foreign "language master" was only a little above a "dancing master"—or was it lower? Longfellow studied French, "a little French," he tells us, in Portland with a presumptive Italian named Charles Nolcini, who also was a "music master," for he taught the pianoforte as well as languages. There are some grounds for suspecting that he wasn't even a genuine Italian and that Nolcini, like the names of some of our opera singers, was an attempted Italianization of something else. Longfellow realized that his French was weak. In fact, he
worried when he was in Paris in 1826 because one of his French teachers in Maine was really a German, and Longfellow was discouraged, as he says, "to find myself speaking French with a German as well as an American accent."

The weakness of the "native," any "native instructor," was the tendency at that time of any émigré or refugee to try to turn to account the mere accident of his birth in a foreign country by becoming a "language master." He might not be a real teacher, either by temperament or by training; he might be sadly unaware of the psychology and learning capacities of American youth. He might be gross, or unmannerly, or immoral, or neglectful of his duties. Fit or unfit, he could too often count on an American teaching post. Even in my own day at Harvard we had a Frenchman on the staff who was characterized by one of my cultivated European friends, long resident in France, as "having the accent, and the manners, of a Parisian cabman."

Ticknor "rode herd" on his native staff with great success. When he resigned the Smith Professorship he wrote: "During the nine years a Department of the Modern Languages has existed, with four foreigners for teachers, who are generally more likely to have difficulties with the students than native Americans, no case whatsoever has been carried before the Faculty." Longfellow was not so successful, for within a year of his taking over Ticknor's post, he wrote to his father, "This four-in-hand of outlandish animals, all pulling the wrong way except one"—he meant the unfortunate bankrupt Bachi—"gives me more trouble than anything else. I have more anxiety about their doing well than about my own. I think I should be more satisfied if I did the work all myself." In 1838, Hermann Bokum who "had conducted himself unbecomingly both in the classroom and out of it," was dismissed and along with him, François Surault, for no recorded reason. A replacement, Bernard Roelker, was appointed to take Bokum's place, but no one was appointed for French, and the Corporation, in violation of the terms under which Longfellow had accepted his post, voted that Longfellow be required to take on the work in French, with extra compensation at the rate of not less than $8.00 per student. The total salary, however, to be not more than $2,000 per annum. Longfellow was displeased
with this arrangement, hitherto unknown, in his department, and asked that he receive the stated salary formerly allotted to Surault. The Corporation voted "That it is not expedient to comply with this request." In 1839 Longfellow tried again to be relieved of the basic work in French only to be told by the Corporation that it was "inexpedient to increase the number of instructors in the modern languages." Longfellow made an issue of this continued violation of his agreement. The matter was referred to a committee of the Corporation, and the outcome was the appointment of a new instructor in French and Longfellow's return to his original schedule of duties at his original salary of $1500. But the Corporation's tendency to drive a sharp bargain, perhaps growing out of the weaknesses of the "native" instructors, continued. In 1846, upon the discharge of Bachi, Longfellow's salary was increased to $1800 and he was directed to take over the instruction in Italian. This he continued to do for seven years, but he finally succeeded in having Luigi Monti, "the Sicilian" in Longfellow's *Tales of a Wayside Inn*, appointed to take over instruction in Italian. Longfellow's teaching schedule was what we should now consider heavy. Sometimes six hours a day, three days a week, sometimes four hours a day. In 1853 he records (July 16) in his Journal: "day of hard work. Six hours in the lecture-room," and on July 19th of that year: "Today all given to college. My eyes begin to suffer." Add to this his constant visit from foreigners seeking jobs: "A young German wanting employment, letter from an Italian wanting same." And again he records in his Journal: "Another call from the Peruvian refugee, who lays hold like a leech. If one could only be sure of people! One may entertain angels unawares and also ......." I know just how he felt. Yet when he was advised that he was giving too much time and attention to one of these foreign visitors, he replied, "Who else would be kind to him if he didn't have me?"

In 1849-50 Longfellow took on the German classes of Roelker who had gone abroad. In the spring of 1850 he was informed that he would be expected to give, in addition to his regular work, seventy lectures on modern literature during the coming year. Apparently, after a brief vacation, he met that test. But he was obviously becoming more and more
weary of his routine duties, primarily because they kept him from doing creative work as a poet. Perhaps he was also discouraged because of lack of support from the College Administration. For instance, he had been anxious, like Ticknor, to build up the Harvard Library. After various disappointments, he made an attempt to have the Library purchase two books that he recommended, one costing $3.12 and the other $2.25. His recommendation was dated May 12, 1838, and Professor Johnson, in his work on Longfellow as a Professor, reports that one of the books was finally acquired in 1875; the other "is not yet (1944) in the Harvard Library." "When Longfellow went abroad in 1842 he made no effort to get money to buy books for the College Library."

As a teacher, Longfellow, like his predecessor Ticknor, had little of the dry-as-dust, pedantic, rote-memory teacher about him—a trait that was too common in his day and may be in ours. Both at Bowdoin and at Harvard he seems to have been able to instill some of his own enthusiasm for his various subjects into his students, or as Ticknor put it, "He taught his students rather than merely requiring them to learn." He laid great stress on reaching their hearts. In closing a series of lectures on the Italian poets, delivered in 1850-51, after reminding his hearers that he had opened the gateway into the "God's acre" of Italian poets, he added: "Perhaps I might have found less to praise and more to blame if I had endeavored to do so, for in poetry as in religion, 'many are called but few are chosen.' But I have a natural antipathy to that censorious criticism which seeks for defects rather than excellencies; and moreover, I have strong predilection for the Italians. I love the skies over their heads and the ground beneath their feet!"

He apparently had the respect of his students, and respected them. Thomas Wentworth Higginson tells us that Longfellow was the first Harvard instructor who addressed the individual student with the prefix "Mister," and that during an abortive rebellion in the College Yard, the students, who had refused to listen to others, yielded to the demand of their ringleader, "Let us hear Professor Longfellow. He always treats us like gentlemen."
Like Ticknor, Longfellow was genuinely interested in teaching techniques. He actually prepared textbooks in accordance with his ideas, a task that Ticknor, more definitely a research scholar, left to his subordinates. I have a lot of material on the textbooks in French, Spanish, and Italian that Longfellow prepared during his Bowdoin experience, and if any of you can pick any of these books up, you have a bibliographical prize, because they’re worth many, many times their surface value.

I now come to Longfellow’s resignation, when he wrote to his sister, Caroline, “My reason for leaving the College is in part to help the state of my eyes, and in part, the weariness of doing the same things over and over again for so many, many years.” That weariness apparently did not appear in his lectures. As Samuel Eliot Morrison tells us, in his Three Centuries of Harvard, a future president of the United States, Rutherford B. Hayes, who took a Law Degree at Harvard in 1845, enjoyed the lectures of Jared Sparks on Colonial History and of Longfellow on Goethe quite as much as he did his law courses. Undoubtedly, another element entered into Longfellow’s decision. His literary reputation needed refurbishing. *Kavanash*, 1849, and *The Golden Legend*, 1851, had been only moderately successful. Moreover, his marriage to Frances Appleton, in 1843, had definitely ended his youthful period, of which Lawrance Thompson in his biography perhaps makes too much. Longfellow’s future was now secure. He had married wealth. It was his wife’s father who bought the Craigie House, now known as the Longfellow House, and later, the land in front of it, extending down to the Charles River, as a gift for the young couple. This does not mean that the marriage was not a love match, for it was. Longfellow’s own income from his writings was itself becoming substantial. He was in a position to abandon routine tasks and devote himself exclusively to creative writing. He cannot be blamed for doing so. A year later *Hiawatha* was published, and it was a great success. Like Ticknor twenty years before, Longfellow seems to have had a hand in choosing his own successor as Smith Professor. His Journal entry on January 31st, 1855, reads: “Lowell is to be my successor. Dr. Walker talked to me
about it this morning. I've been to see Lowell and the matter is as good as settled. I'm sorry for some of my friends who wish the place.”

With Lowell, the Belles-Lettres aspect of the professorship outshone the language side. The success of his Lowell Institute Lectures on the English poets, delivered during the winter of 1854-55, may have helped to decide his selection. He was only thirty-five, and already had established a reputation, based on the Bigelow Papers, *The Vision of Sir Launfal*, and *A Fable for Critics*, all published in 1848, as well as for his earlier works. He was perhaps somewhat weak as compared with his two predecessors in practical knowledge of the languages, a deficiency he promptly set out to correct by further study and travel in Europe. (One of the beautiful things about these appointments back in the good old days is that they would give you the job and then they would allow you two or three years to prepare yourself to hold it. You could go abroad, make yourself a specialist, and then come back and take over your duties.) Lowell's régime of study at Dresden was almost as rigorous as Ticknor's Spartan régime had been in Göttingen thirty years before. Ticknor had worked fifteen to eighteen hours a day making himself proficient in the Classics as well as in German and other languages. Lowell gave his mornings to polishing up his German, which he had begun at Harvard, his afternoons to Spanish, teaching English to a young Spaniard in return for Spanish lessons. He also went again to Italy. His Spanish was further improved by systematic study during his stay in Madrid as American Minister, from 1877 to 1880, so much so that George Santayana, who took Lowell's *Don Quixote* course in 1885, told me, during my visit to Rome in 1949, that Lowell's Spanish was perfectly pronounced. As a Spaniard, he ought to know.

Longfellow, by the way, wrote to his father, and apparently with no effort to boast, that during his travels in Italy many Italians told him he spoke Italian without the slightest trace of American accent. So these men really knew their languages.

Lowell was however a little contemptuous of mere language skill. Writing of James Gates Perceval, in a review of Ward's
Life and Letters of Perceval, republished in My Study Windows, Lowell says, "Perceval's faculty of acquiring foreign tongues we do not value so highly as Mr. Ward. We have known many otherwise inferior men who possessed it. Indeed, the power to express the same nothing in ten different languages is something to be dreaded rather than admired. It gives a horrible advantage to dullness."

Lowell's salary as Smith Professor was $1,200. He had a private income of $600, and his income from his writings was "not considerable," according to Ferris Greenslet's biography, so that the Harvard salary "was a timely help." Unlike their textile manufacturing cousins, the Elmwood Lowells were "land poor." Lowell's father was a minister. The Lowells labored under the burden of paying taxes on non-income producing land for many years, a situation that was only slightly relieved by occasionally selling off part of their land. Lowell's salary as editor of the Atlantic Monthly was $2,500, later increased to $3,000, plus $6.00 per page for his own contributions, which gave him a freedom from financial cares he had not before enjoyed, but it was short-lived. By 1862 he was again dependent on his Harvard salary, as is clearly evident in a hitherto unpublished letter to Edward Everett Hale, now the property of a former Congressman, Mr. Foy A. Fitzgerald of Dayton, Ohio, which I printed some years ago in Hispania. In it Lowell says very frankly that he had to teach the elementary work in Italian, and in Spanish, too, because otherwise he couldn't collect his salary. This letter indicates that the tendency to reduce the Smith Professor to the status of an elementary language teacher, from which Longfellow suffered, was still operating. On occasion Lowell was also forced to take over classes in French or German for weeks at a time, when subordinate members of the staff were ill.

By 1872 Lowell was again harassed by money worries. He had given up part of his salary in order to be free for literary activities, including the joint editorship of the North American Review, but the Review and his books brought him no large income. He lectured at Cornell University and elsewhere to eke out his income. At last he gave up the unequal struggle, and in 1871 sold off 25 of his remaining 30 ancestral acres for a sum sufficient to bring him in $4000.00 a year. A request for
a sabbatical leave for two years at half-pay, after 16 years of teaching, was denied by the College authorities, and so he resigned in the Spring of 1872. Subsequently he went into the diplomatic service as Minister to Spain, and later London, and was very successful in both positions. He came back in 1874, and continued as Smith Professor until his retirement in 1886, and as Professor Emeritus until his death in 1891.

Throughout his teaching career Lowell never ceased to improve his scholarly background. In my opinion he made himself, in the last twenty years of his life, a highly competent general Romance Language scholar, in spite of the demands of public life as a diplomat and in other capacities. His standing in the field was recognized by his election as President of the Modern Language Association of America, an honor that certainly does not go to dilettantes. His presidential address before the Association, delivered in 1889, is a convincing demonstration of his scholarly competence and of his belief that the study of languages and literatures is important for Americans.

What I have been trying to say—indirectly and doubtless imperfectly—is that not only can poets like Longfellow and Lowell be hard-working professors, but professors can be poets. If not poets in the restricted "creative" sense they can at least be poets in the sense that they serve as sympathetic interpreters of one culture to another. Such interpretation depends on what Lowell himself once called "the two halves of culture: the world of books and the world of men." We must not neglect the important role of the study of literature, and especially of poetry, in that interpretation, for which language per se is the essential handmaiden.

What a comfort it is to realize that the two great leaders of the Anglo-Saxon nations, in a dark moment of World War II, should choose poets to say for them what was in the hearts of their peoples! And the poets they chose were Longfellow—no poet at all, according to my old friends in the English department—and Arthur Hugh Clough, now doubtless regarded
by "advanced" critics as only a second-rate "Victorian" with no special poetic ability. But Roosevelt was not the first to find inspiration in Longfellow's "Building of the Ship," when he sent Churchill the message:

“Our hearts, our hopes, are all with thee,
Our hearts, our hopes, our prayers, our tears,
Our faith triumphant o'er our fears,
Are all with thee—are all with thee!”

Many years before, the person who is dearest to me had sent me the same message at a moment when I sorely needed consolation, and fresh hope, and renewed courage and confidence. We were not the first to find needed strength and courage in Longfellow—"second-rate poet" or not—nor will we be the last.

And what about Churchill's famous reply—another call to faith and hope from what the pseudo-critics may call another "second-rate" poet? I venture to quote Clough's masterpiece in full:

“Say not, the struggle nought availeth,
The labour and the wounds are vain,
The enemy faints not, nor faileth
And as things have been, they remain.

If hopes were dupes, fears may be liars;
It may be, in yon smoke concealed
Your comrades chase e'en now the fliers,
And, but for you, possess the field.

For while the tired waves, vainly breaking,
Seem here no painful inch to gain,
Far back, through creeks and inlets making,
Comes silent, flooding in, the main.

And not by eastern windows only,
When daylight comes, comes in the light,
In front, the sun climbs slow, how slowly,
But westward, look! the land is bright!”
APPENDIX 1.

PROGRAM OF THE THIRD ROUND TABLE MEETING

FIRST SESSION—FRIDAY, APRIL 18, 1952, 10:00 A.M.

SUBJECT: "Meeting America's Needs in Languages"

1. "Intensive Language Courses"
2. "Languages in a Technological Curriculum"
3. "Languages in The Liberal Arts Curriculum"

PANEL: RICHARD MILLER (Chairman)
    WILLIAM N. LOCKE
    J. ALAN PFESSER

LUNCHEON MEETING—FRIDAY, APRIL 18, 1952, 1:00 P.M.

SUBJECT: "The Language Problem in India"

SPEAKER: W. NORMAN BROWN
SECOND SESSION—FRIDAY, APRIL 18, 1952, 3:00 P.M.

SUBJECT: “The Language Laboratory”

1. “Technological Aids in the Study of Languages”
2. “Speech Analysis and Synthesis as a Background for Language Teaching”
3. “Problems of the Language Laboratory”

PANEL: J MILTON COWAN (Chairman)
Pierre C. Delattre
Alfred S. Hayes

THIRD SESSION—SATURDAY, APRIL 19, 1952, 10:00 A.M.

SUBJECT: “Linguistic Science and Pedagogical Application”

1. “Metalinguistic Phonology”
2. “Speech and Writing”
3. “Russian Word Count”

PANEL: Henry Lee Smith, Jr. (Chairman)
Charles F. Hockett
Henry H. Josselson

LUNCHEON MEETING—SATURDAY, APRIL 19, 1952, 1:00 P.M.

SUBJECT: “Poets Can Be Professors”

Speaker: Henry Grattan Doyle
APPENDIX 2.

MEMBERSHIP OF THIRD ROUND TABLE MEETING*

Ani, Monkhtar  
Foreign Service Institute, Department of State and Georgetown University

Antonoff, Mrs. Anna  
Institute of Languages and Linguistics

Austin, William M.  
Johns Hopkins University

Bargin, Germaine  
Catholic University of America

Barner, Maj. John H.  
Department of the Army

Barritt, Westbrook  
University of Virginia

Boyle, James X.  
Institute of Languages and Linguistics

Brougher, John F.  
District of Columbia Schools

Carr, Denzel  
University of California and U.S. Naval Language School

Castiglione, Salvatore J.  
Institute of Languages and Linguistics

Cowan, J Milton  
Cornell University

Cox, John Hadley  
Institute of Languages and Linguistics

Crespo, Luis A.  
School of Advanced International Studies, Johns Hopkins University

Croft, Kenneth  
Information Center Service, Department of State

Croft, Mrs. Kenneth  
Johns Hopkins University and Institute of Languages and Linguistics

De Francis, John  
Georgetown School of Foreign Service

Delecluse, Jacques E.  
Observer for SHAPE

Deny, Jean  
Institute of Languages and Linguistics

* Not all those who attended the Third Round Table Meeting signed the register. Consequently, the above list is not complete.
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Mantini, Lawrence  Georgetown University
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Meimandi, Mohamad  Catholic University of America
Javad
Menut, Albert D.  Syracuse University
Meyer, Prof. Richard N.  Information Center Service, Department of State

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Milovanovic, Mrs. M.

Morgan, W. J.  U.S. Government
Most, Mel Osborne  Elizabeth Revyuk Foundation, New York

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Myers, Col. Adolph  UNESCO

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Spratlin, V. G. Howard University
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von der Steinen, Navy Language School
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Walsh, Rev. Edmund A. Georgetown University
Wilhelm, Marie Howard University
Williams, David Georgetown University
Wilson, Baxter D. University of Virginia
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Young, Elizabeth J. Institute of Languages and Linguistics
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