In this article the influence of linguistic science on language teaching is traced from the mid-nineteenth century through the present. The earlier concepts of universal logical grammar, formal discipline, and transfer of training are explained. Linguistic development is charted through behaviorism and formal analysis to the combination of mimicry-memorization and pattern practice now in vogue. Cited as recent trends are programmed instruction and transformational grammar. Also stressed is the role played by contemporary educational theory and national attitudes in language teaching styles. (AF)
The Impact of Linguistics on Language Teaching: Past, Present and Future*

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Our views of the nature of language have today and have always had a profound influence on the teaching of methodology used by the average foreign language teacher. The story of how linguistic science has influenced language teaching in the past decade has been told in some detail by various scholars.¹ The purpose of this presentation, however, is to put the interplay of linguistic theory and foreign language pedagogy into a broader historical perspective and to show that linguistic theory by itself is perhaps not sufficient to shape pedagogical procedure but that also other forces, especially ideas of educational psychology and above all our general attitude toward international communication are decisive.

For many centuries our views of grammar and language were dominated by the idea that there is a basic identity between grammatical and logical categories. This view is well illus-

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¹ Address delivered at the State Foreign Language Conference, Nov. 16, 1963, Gearhart, Oregon.
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A quotation—taken by the great linguist Otto Jespersen—from the Rectorial Address of Stuart Mill in 1867:

"Consider for a moment what grammar is. It is the most elementary part of logic. It is the beginning of the analysis of the thinking process. The principles and rules of grammar are the means by which the forms of language are made to correspond with the universal forms of thought. The distinction, between the various parts of speech, between the cases of nouns, the moods and tenses of verbs, the functions of particles, are distinctions in thought, not merely in words. . . . The structure of every sentence is a lesson in logic."2

Now it is interesting to note that even within the nineteenth century, the view that grammar reflects the universal categories of human thought was comparatively rare. Jespersen, for instance, explains that even nineteenth century grammarians, perhaps under the influence of the study of "exotic" languages, abandoned the idea of a universal "logical" grammar. Jespersen notes that perhaps Ch. Bally's statement: "La grammaire qui n'est que la logique appliquée au langage" (Traité de Stylistique française, Heidelberg, 1909, p. 156) is perhaps one of the very last instances of a well known linguist going on record in favor of universal logical grammar.3 Within the twentieth century, at any rate, the idea of universal logical grammar was rapidly abandoned and attacked by the linguistic scientist. The universal grammatical categories defined in terms of semantic content rather than form proved inapplicable and useless in the investigation of language. This uselessness was especially evident to the anthropological linguist who was so often concerned with languages in which the entire pattern of structure and as a result perhaps thought was radically different from the Indo-European language group from which the notions of universal grammatical categories had been evolved.

Yet the idea of a universal and at the same time logical grammar had for centuries provided not only the method but perhaps even the ultimate justification of foreign language instruction. The grammar-translation approach was based on the principle that the method of expressing thought and ideas in a foreign language started with the grammatical analysis of the parallel statement in the native language: A sentence like the son sees the father was thus dissected into a subject (3rd person singular), a verb (present, third person singular), and a direct object (accusative singular). Once this analysis is undertaken, all that remains is to express again the same categories in the "target" language: The son sees the father thus becomes le fils voit le père or filius videt patrem, etc. Now the important fact to be retained in this procedure is, of course, that the categories employed in the analysis were meant to be universal and logical. They served not merely as the stepping stone from one language to the other; they were, in the minds of some language teachers and educators, perhaps more important than the languages involved. Being universal and logical they were in a sense the real goal of language instruction. The purpose of foreign language teaching was to make the student aware of "grammar" in order to teach him "how to think." Another purpose often mentioned in pedagogical discussion was to make the student aware of the existence of these categories in his native language, e.g. English, where some of these categories such as accusative or dative are not at all obvious—for the simple reason that they fit Latin rather than English.

With the rejection of "universal logical grammar" the grammar-translation approach to foreign language teaching lost its most important theoretical justification and Foreign Language Education one of its important avowed aims. What is of particular interest to note is that almost simultaneously there occurred in Educational Psychology a development which corroborated and intensified the effect of the linguist's denial of universal logical grammar: the doctrine of "formal discipline" which had dominated much of the thinking of educators in the nineteenth century had held that the human mind could be compartmentalized into specific "faculties" like "thinking," "memory" etc. and that these faculties could be trained by practice. What better subject then for the "training" of "thinking" and "memory" than languages which embodied the eternal and universal prototypes of logic! But at just about the same time that linguistic science began to dispose of universal grammar, the theory of "formal disci-

2 Jespersen, op. cit., p. 48.
"Formal discipline" had run its course. The "transfer of training" controversy in Educational Psychology has perhaps never been settled to everybody's satisfaction. Yet the work of Thorndyke and of his disciples throughout the twenties did make it rather abundantly clear that "transfer of training" could at least not be taken for granted and that the training received in one subject was no real guarantee for higher achievement in another. At any rate, by 1925 neither linguistics nor educational psychology could in any way substantiate the claim that the learning of foreign languages contributes to the student's ability to "think." The fact that this claim was—and perhaps still is—advanced by some foreign language teachers does certainly very little to improve communication between those teachers on the one hand and linguists and professional educators on the other.

Of course even during the nineteenth century not all language teachers had advocated "grammar-translation" as a method and "formal discipline" and "logic" as a goal. There had been some who advocated so-called "natural" or "direct" methods, the inductive teaching of grammar with acquisition of the skill and cultural insight as primary goals of language instruction. With the involvement of the U.S. in world affairs and into World War I interest in language instruction for practical purposes mounted rapidly. Language teachers like A. J. Bovée, F. B. de Sauzée, A. A. Méras, and others evolved methods emphasizing a direct and oral approach. In these days when we—sometimes quite proudly—proclaim the virtues of the "new" "American" methods, of the "audio-lingual" approach, etc., we may well remember the pioneers of audio-lingual teaching, direct method and inductive grammar who tried to shape American language Education in the twenties. The primary reason that they did not have the impact which the audio-lingual approach and the so-called "new key" have today does not lie in the shortcomings of their methods but simply in the fact that the United States was not ready to embark full-scale into international and thus foreign language-minded endeavors. The same spirit which kept the U.S. from joining the League of Nations can certainly be detected behind the limited objective "Reading knowledge only" approach in foreign languages, which is represented by the famous Coleman report of 1929. Since it was taken for granted that the high-school curriculum could allow only two years for the foreign language course, reading knowledge was assumed to be the only legitimate objective that could feasibly be attained.

When the United States entered World War II and became thus definitely and finally committed to involvement in world affairs, linguistic science was given a chance to influence language instruction at a most opportune moment. To appreciate the nature of the impact one has to consider briefly the development of linguistics during the twenties and thirties. Linguists became increasingly involved in elaborating refined methods of linguistic analysis for the purpose of describing languages—typically languages which had not yet been recorded. These methods were in a sense methods of learning these languages. They were—by the very nature of circumstance—"audio-lingual." They used formal procedures such as comparison of similarities and dissimilarities of utterances, substitutibility within the same utterances to derive the grammatical categories of languages. There is also little doubt that the linguistic scientists in their insistence on the description of the form without reference to meaning, the desire to deal with the overt and observable, were influenced by behavioristic psychology. At any rate, behaviorism and the definition of learning as "habit formation" or the "establishment of a functional relationship between stimulus and response" could easily be understood and absorbed by the linguistic scien-
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entists whose entire training and background was profoundly influenced by behavioristic psychology.

Thus, behaviorism and formal analysis of language were the chief features of the linguistic impact on language instruction in the 1940's. The initial avenues through which their impact made itself felt are well-known. They were principally the Intensive Language Program of the American Council of Learned Societies and its subsequent influence on the Army Specialized Training Program on the one hand, on the other the development of Centers of Teaching of (American) English as a foreign language, chiefly the center of the University of Michigan. What is often misunderstood, is that these two different avenues of approach were by no means identical and did, therefore, not exert the same type of influence. The Intensive Language Program was primarily concerned with developing an audio-lingual knowledge in practical situations. The teaching materials consisted primarily of conversations and utilized the "mim-mem" approach: mimicry and memorization on the part of the student. They were—by and large at least—not characterized by a careful grammatical structuring: they were primarily situationally oriented. The teaching of English to foreigners took a very different approach. In the English Language Institute of the University of Michigan, the goal was to impact an audio-lingual knowledge of English to native speakers of Spanish most of whom had already received some previous training in English. The materials evolved were highly structured from the grammatical point of view; the special points of difficulty for native speakers of Spanish received special emphasis. The intensive course for foreign students was, and still is, carefully divided into pronunciation, structure, vocabulary and pattern practice. The latter, above all, was a primary feature of the Michigan program and an outgrowth of the belief that the very methods (comparison of likes and unlikes, substitution) which the linguist uses in linguistic analysis could also be employed as teaching methods in the classroom.

In the atmosphere of the United States' commitment to participation in world affairs which developed after World War II, and even more so after the Korean struggle, language instruction has, of course, continued to blossom. Language enrollments on all levels have been increasing. The American public has become conscious of foreign languages as a necessary tool for communication and international understanding. In this atmosphere and context linguistics made and still is making its impact on language instruction. The emphasis on an audio-lingual approach, the emphasis on attainment of skills rather than "mental discipline" or better understanding of English, are thus ultimately in line with the attitudes and wishes of the public. The ultimate reason for the fact that the audio-lingual approach has become steadily more popular since 1945 is neither linguistic theory, nor the Foreign Language Program of the Modern Language Association, but the change toward "internationalism" which has occurred on the American scene. As far as the specific impact of linguistically oriented teaching in the American classroom is concerned, it should be stressed that it came first primarily on the college level and through the situationally oriented mim-mem approach rather than the "pattern practice" type of teaching. Rather soon after World War II, several textbooks, destined to become popular, appeared on the market, using memorization of dialogues as key feature. Some institutions (chiefly Cornell University) used materials based chiefly on those used in the Army Special Training Program for their regular instruction which also in some

*See Moulton, op. cit., p. 85 ff.
*In the controversy over methods after World War II, the two rather distinct currents of linguistic impact on language teaching were often confused. The impact of linguistics on language teaching did in fact not consist merely in advocating intensive courses and the audio-lingual approach. Thus Charles C. Fries stated in 1949 (Language Learning II, 89-99): "The 'new approach' to language learning is not greater allotment of time, is not smaller classes, is not even a greater emphasis on oral practice, although many of us believe these to be highly desirable. The fundamental feature of this new approach consists in a scientific descriptive analysis as the basis upon which to build the teaching material... It is the practical use of the linguistic scientist's technique of language description that is at the heart of the so-called 'new approach to language learning'..." At the same time, it must be emphasized that Professor Fries' statement was at that time by far more valid for the teaching materials produced under his direction than the primarily situationally oriented "Mim-mem" materials of the "Intensive Language Program—ASTP current."
In the present situation, the influence of linguistics on language instruction has, of course, been intensified by the widespread recognition of its usefulness for language teachers. This recognition has found many different expressions, chiefly the inclusion of linguistics or applied linguistics courses in the teacher training programs, the inclusion of applied linguistics tests in the teachers' proficiency tests sponsored by Educational Testing Service and the Modern Language Association, the sponsorship of applied linguistic research under the National Defense Education Act. As far as the actual impact of linguistics in the classroom is concerned, two aspects characterize the present situation: (1) the high school—perhaps even more than the college—is beginning to adopt linguistically oriented materials; (2) the most popular linguistically oriented materials in use today seem to be an attempt to combine the two currents of linguistic influence discussed above. The orientation is still largely situational: conversations to be memorized are still the key of the approach but imposed (some might say "superimposed") are structural type, pattern practice drills which are supposed to furnish not only fluency but also an inductive understanding of structure. This "marriage" of the "mim-mem" and "pattern practice" approach can be found in types of modern texts which are enjoying every increasing popularity.

Any meaningful prediction of the future impact of linguistics on the American classroom must of course be based on currents already discernible in linguistics and other areas. The current which most obviously is gathering ever increasing momentum is that of programmed self-instruction. Partly through private initiative, partly under government sponsorship, programmed courses have already been developed for various languages, though none of the programs have had large scale application. Whether the completely programmed course is really the course of the future is of course difficult to predict with any certainty; yet the idea of achieving greater instructional efficiency through greater flexibility is a dominant one in our present educational thinking—flexible scheduling, team teaching! Programmed self-instruction or at least partially programmed self-instruction which allows the language laboratory to take over those phases of drill, in which it is more efficient than the teacher, which allows the individual student to progress at his own rate, is thus definitely in line with educational orientation in other areas. The programmer is interested in developing "minimal" learning steps; the linguist is interested in isolating elements of language by a procedure which compares utterances to derive the "minimal" elements of phonology and grammar. There is a natural affinity between linguistics and programmed learning and we should, therefore, not be surprised to find linguists turning to programmed language instruction.

Perhaps the most recent trend in American linguistics is that of "transformational grammar." In transformational analysis the entire system of a language is presented by showing how one structure chosen as a starting point, "a kernel," can be successively transformed into others which cover the entire grammar of the language. The formulas which show these successive transformations, can thus be said to "generate" all possible utterances of the language. So far we have no complete transformational grammars available. Transformation (e.g., shifting from positive to negative, active to passive) is, of course, an old pedagogical device which does not await the writing of transformational grammars. Yet in attempting to write transform grammars the linguist will become aware of another pedagogically important and relevant factor—which so far has been of little interest to him and which may have limited some of his effectiveness in making pedagogical contributions; he shares with the pedagogue the concern for sequence in presentation. This does not necessarily mean that peda-
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gogical sequencing and the sequencing followed in the presentation of a transform grammar, are necessarily identical; but we can predict that the concern with transformational grammar, coming as it does at a time in which self instruction and programmed learning are also an important interest, will lead within the next ten to fifteen years to the creation of more teaching materials, characterized by extremely careful step by step presentation of grammatical structures.

Linguistics, educational theory, public attitudes are thus among the major forces which are shaping methodology in language instruction. Educational theory from "formal discipline" to the "operant conditioning" which lies behind the programmed learning approach, attitudes of philologists and linguists from "universal logical grammar" to "transformation," they all have or will be making their impact in the language classroom. One cannot but feel that theoretical considerations coming from the disciplines of educational psychology and linguistics have had to immediate and too direct influence. Linguistics and educational psychology are not and should not be the forces which actively shape language teaching methodology, but rather the tools which the language teacher uses to create and validate his methods. To quote John Carroll, "There remain many questions which could be profitably investigated by rigorous psychological and educational research, and it is clearly within the realm of possibility that the results of such research could make language teaching more effective and efficient." Educational research which is being undertaken now confirms the hope that the answer to many questions concerning foreign language learning and teaching may finally be found and that perhaps the most important role of linguistic science will not be in the direct shaping of teaching methodology, but in the precise and scientifically meaningful formulation of the questions and answers concerning foreign language teaching.