Language and linguistics

PHONETICS AND PHONOLOGY

68–1   **Kohler, Klaus.** Towards a phonological theory. *Lingua* (Amsterdam), **16**, 4 (1966), 337–51.

The distinctive feature framework within Chomsky/Halle phonology does not seem adequate as a general *phonetic* theory because it is acoustic rather than auditory–articulatory. The phonetic theory put forward by the author is auditory and auditory–articulatory and contains a fixed number of discrete categories, and five scales of an undefined number of subdivisions. The categories and scales are taken into the phonological component of a description as plus or minus if there are phonological oppositions and if all the elements symbolized in the same way have a common phonetic denominator.

The whole of the phonological component of a description should be given as generative rules, and this is only possible if the phonology recognizes sequential elements, i.e. formatives (which are not recognized by Chomsky and Halle). Such a system of rules generates an indefinitely large number of structures and makes the fundamental structures explicit. It integrates the syntactic and phonological components more fully. It makes feature specification of lexical entries simpler and avoids the distinction between fully and incompletely specified morphonemes.

The phonological rules are formal universals of three types: intra-formative, inter-formative, and phonetic. The intra-formative rules operate on the formatives of the derived phrase-marker, while the inter-formative rules consider the relations between these formatives when joined. Intra- and inter-formative rules deal either with sequential or with componential elements. Componential features in these rules are all binary. Phonetic rules are only concerned with those componential specifications that cannot be given as binary oppositions by the other two types of rules.

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The groups 'vowel' and 'consonant' are substantive universals, and different kinds of sequential element. The association of stricture and cavity features with vowels and consonants as componential elements is determined by a gradation consisting of (1) complete interruption, (2) fricative obstruction, (3) frictionless obstruction. [The author lists the ways in which he has departed from Chomsky and Halle as regards the treatment of vowels and consonants.]

The syllable is either an unnecessary concept, or an impossible, or harmful one (if it clashes with morphemic divisions or obscures the underlying phonological structure).

[The author illustrates with examples how a phonological description of English follows from the phonological theory discussed.]

68-2   Tillmann, H. G. Akustische Phonetik und linguistische Akustik. [Acoustic phonetics and linguistic acoustics.] *Phonetica* (Basle), **16**, 3 (1967), 143–55.

Automatic speech recognition is a field that can be shown to have a precise relationship with the central problem of classical phonetics (although theoretical development of the subject does not fall within the scope of technological researchers).

The problem of automatic speech recognition is examined at the operational level; the importance for acoustic phonetics of this approach might include verification of its results and automatic speech analysis. The author concludes that linguistic acoustics (automatic transcription or description of spoken texts) may be described as a narrow field within acoustic phonetics.

GRAMMAR

68-3   Richards, I. A. Why generative grammar does not help (I). *English Language Teaching* (London), **22**, 1, (1967) 3–9.

Recent reconstructions in American linguistics have sprung chiefly from Chomsky's discontents in the middle 'fifties. Chomsky wanted grammarians to explain formally how language works, how the inter-

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verbal relations it works through are to be specified. He rejects the idea that preparation for possible computer use could have had any-thing to do with the recent history of U.S. linguistics. He has re-formulated the traditional task. Chomsky contrasts surface and deep linguistic structure. Generative linguistics gives a central position to grammatical structure. Formal description is highly developed for phonology, rapidly growing for grammar, and virtually non-existent for semantics. Attempts at formal accounts of the interdependencies of linguistic levels have been unsatisfactory.

For the psychologist the distinction between deep and surface structure is less between two types of abstract structure dependent upon the syntactic component than between structures of sentences as apprehended by the subjects of his experiments.

There may be reasons other than Chomsky's for assigning a central place to grammar. We should not overlook the influence of its tradi-tional pedagogic status.

Language skill and language theory, in close mutual control, have a joint task: to design steps that will help our successors to deal better with linguistic needs. It is a pity that more of Chomsky's critical dis-cernment could not have been turned to more pressing linguistic tasks.

68–4   **Tuniks, Galina.** Linguistic theory in the transformationalist approach. *Lingula* (Amsterdam), **16**, 4 (1966), 364–76.

The purpose of the paper is to describe some aspects of the theory of the generative transformational approach in American linguistics with special reference to Chomsky's viewpoint.

The new transformationalist approach has developed out of the failure of positivist and ordinary-language schools of thought. For the transformationalists a grammar of a particular language must be formal, explicit, complete and simple. It must generate not only all the grammatical sentences that have been said in a language, but also all those sentences that may or will be produced by native speakers. The author summarizes Chomsky's requirements for a general theory. If this general theory were achieved, the construction of specific theories could become automatic.

LEXICAL STUDIES

68–5   Mackey, W. F. and J.-G. Savard. The indices of coverage: a new dimension in lexicometrics. *IRAL* (Heidelberg), **5**, 2/3, 1967, 71–7.

Lists of the most useful words of a language have been compiled by applying four criteria: (1) *frequency* of occurrence, (2) *range* or number of different texts in which the word has been found, (3) *availability* in a given semantic field, and (4) *coverage* or capacity for replacing other words.

The first three of these have been quantified but for the fourth no indices of coverage existed. Yet this criterion has often been used to justify modifications in word lists. The writers analysed the uses of *coverage* as: (1) *definition*, if the replacing word defines the other, (2) *inclusion* as in synonyms, (3) *extension* of a simpler word's meaning to cover another, or (4) *power of combination* to form other words.

After counting from dictionaries and similar works, four lists of words with corresponding figures for their coverage capacities were drawn up. By statistical analysis these were shown to be independent; coverage did not measure the same thing as frequency, range and availability.

There are lists of coverage indices for basic French words; similar lists for English should become available in 1967.

TRANSLATION

68–6   Wood, D. N. The foreign-language problem facing scientists and technologists in the United Kingdom—report of a recent survey. *Journal of Documentation* (London), **23**, 2 (1967), 117–30.

The survey, conducted by the National Lending Library for Science and Technology, set out to provide quantitative information as to how far British scientists and technologists are deprived of useful knowledge because of the language barrier.

A large amount of scientific literature is published in languages

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other than English and much of it is of interest to British scientists; analysis of questionnaires completed by librarians and scientists showed that German, Russian and Japanese present the greatest problems, because of (*a*) the volume of literature published in these languages, and (*b*) the linguistic ability of British scientists. Many scientists who replied did not know of many existing services (translation indexes, etc.) or did not use them, and few organizations had their own translation facilities.

Recommendations resulting from the survey include: an increase in the number of Russian courses (for example, for scientists in universities), publicity for and improvement of translation information services (an international index of translations is suggested), the establishment of a centralized Japanese translation service, and a national collection of translations from German.

68–7   **Wyatt, F. R.** The progress and techniques of mechanical translation. *Te Reo* (Auckland), 8 (1965), 53–61.

The work of translation and interpretation is dealing with one of the biggest obstacles to the spread of knowledge and understanding—the nature of language itself. This article is intended to be a readable abstraction of the hitherto scientific reports on the progress of mechanical translation from its early history to the present decade, showing how such problems as ambiguity can be handled. In conclusion Dr Lehmann is quoted saying that machine translation has taught us that our knowledge of language must be deepened and that it provides us with our first opportunity for testing models of language and for verifying linguistic theories in ways comparable with those available to physical and biological scientists.