Linguistics

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LANGUAGES, LANGUAGE, AND LINGUISTICS

Linguistics has been called the most scientific of the humanities and the
most humanistic of the sciences. Using both humanistic and scientific modes
of inquiry, it is a field that defines language and Language as its domain. The
term language—wth a small l—denotes particular symbolic systems of human
interaction and communication (e.g., English, Spanish, Korean, Sanskrit).
Language—with a capital L—refers to characteristics common to all languages,
especially grammatical structure. While some linguists consider language the
proper domain of the field, most study particular languages and view the field
broadly.

All language varieties—that is, all dialects (standard and nonstandard,
regional and national) and all registers (written and spoken, from pidgins to
purity and from orthodoxy to lepelen)—contribute equally to our knowledge
of languages, and every variety is equally shaped by the laws of Language. For
some linguists, languages are quick studies in the social structure of human
communities and the myriad of social interactions; for others, Language
is primarily a window on facets of the mind. For all, languages and language are
puzzles whose patterns are not yet adequately described, let alone explained,
in social or psychological terms or, indeed, in ontological or biological terms.

The principal objects of linguistic investigation are the structural properties
of languages and the variations in linguistic form across communities, situations,
and time. Ideally, the goal of linguistics is to acquire both the invariant and
variable structure of languages, for language acquisition and language change,
and ultimately, to provide an account of what links language structure and the
communicative, social, and aesthetic uses to which they are put. As Deborah
Tannen writes, "Linguistics . . . can be scientific, humanistic, and aesthetic. It
must be, as we are engaged in examining the central tension between truth and
credibility within communities." (Talking 1997).

A central concern of linguistic analysis is grammar. Grammarians focus on
the structural characteristics of languages and, often, on universal grammars
which encompass the principles and structures common to all grammars. Fol-
lowing nineteenth-century comparative and historical linguists, modern struc-
turalists treat grammar as autonomous systems and view them abstractly,
independently of their communicative functions, their social contexts, and their
aesthetic deployment. Typically, structural grammars analyze sentences and
parts of sentences rather than discourse or texts, and they do so strictly in terms of form.

Another major focus of linguistic analysis is language use, particularly the ways in which linguistic structures reflect and sustain social relations and social situations. Linguists interested in language use focus on structural variation and seek to explain differences in communicative and situational contexts and the social relations among participants. They take discourse rather than sentences as their domain, in part because the choice of a structure (e.g., active voice over passive voice or the pronunciation of "in over ing") cannot be explained without reference to the discourse and context of that structure. Discourse can be spoken, written, or signed, of course, and it can be produced by interacting interlocutors (as in conversation and interviews) or by solitary speakers or writers with specific addresses (as in personal letters) or generalized addresses (as in radio broadcasts and scholarly articles).

A pair of examples may help clarify matters. Structural grammarians aim to characterize the relation between active-voice sentences ("The author persuasively argues the thesis in a dazzling central chapter.") and passive-voice sentences ("The thesis is persuasively argued by the author in a dazzling central chapter."); their work focuses on the arrangement of syntactic elements within the sentence and on the formal relations between active and passive structures (a topic to which I return later). Structural grammarians do not ask which contexts favor one form over the other in a discourse. Functional grammarians—those types of linguists interested in language use, however, account for the choice between active and passive by appealing to such phenomena as parallel structures in successive sentences, the linear organization of given and new information, and textual coherence. In functional analyses—for instance, of the syntactic and distributional patterns of over four hundred relative clauses ("the car that she borrowed") transcribed from tape-recorded conversations—researchers typically conclude that their findings strongly support a position which, views grammar... not as autonomous or as independent from issues of pragmatics, semantics, and interaction, but rather as necessarily including the entire practical dimension of the communicative situation in which conversationalists constitute the people and things they want to talk about.

At the second example, consider the variant pronunciation of English "ing" words like studying. Structural linguists might note that "ing" and "-es" are alternative pronunciations having the same referential meaning (finally an exam is no less painful than failing one). Sociolinguists (with their focus on language use) would note that, while all speakers use both these forms, they do so with different proportions of the variants, depending on their social situations and the context of their discourse; even within a small strip of conversation, a single speaker may use both "-ing" and "-es." Sociolinguists aim to uncover the patterns linking "-ing" and "-es" to social groups and social situations that have been found in Norwich, England (Trudgill, Social), and New York City (Labov) that women use more "-ing" than men and, likewise, that people with higher socioeconomic status use more "-ing" than people with lower socioeconomic status do in comparable situations. Thus, "-ing" and "-es" are social joint features because they mark gender and socioeconomic status; they are characteristic of particular social groups.

These same variants of pronunciation also index situations of use in Norwich and New York, with "-ing" occurring more frequently in formal situations than in informal ones. This variation across situations makes these pronunciation features as well as dialect features, and it is curious that the same variable marks both speakers and situations, especially since such joint functioning of linguistic features seems to be the rule rather than the exception. Similar patterns of distribution characterize other features in these and other English-speaking communities, and features of other language communities function in much the same way. Social stratification of linguistic variables is known in Argentine and Paraguayan Spanish, in Beaufort English, in the French of Montreal and of Lyon, and in several German-speaking communities. Interaction between social dialect variation and register variation is probably equally important in these communities, as in Norwich and New York. Such interrelated patterns between social dialect and register variation challenge sociolinguistic theories to provide an explanation.

Because the myriad shapes of human languages—from Swahili and Street French to Persian and French—must conform to the constraints of the human language faculty, the explanation for the existence of between four and six thousand languages and countless dialects, as well as for the disparate forms of any of the thousands of separate and different languages that have ever been written or spoken, is a topic that challenges sociolinguistic theories to provide an explanation.

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The subfields of linguistics

There are many frameworks for language analysis, and, though individual analyses are faulted for eclecticism, the field of linguistics is itself eclectic. One

| Specialisms: | Will Global English |
observation that drives much current grammatical theorizing is the stunning efficiency and uniformity with which children acquire a native tongue, and subsequent abounds on the contributions of nature and nurture—the roles played by the hypothetical essay language structures of the brain and by the social and cultural contexts of acquisition, including the "input" available to children (on language acquisition and language learning, see Kuczynski in this volume.) Like the authors of certain linguistic treatises of seventeenth-century Europe, grammarians today are struck more by similarities across languages than by the obvious but superficial differences between languages, and much current work emphasizes aspects of grammar that are thought to be common to all languages. Such language universals, if they prove to be innate, could explain the efficiency and uniformity of first-language acquisition. Thus the aim of many linguists is to design a model of the representation of language in the mind, delimiting the universal features of grammatical structure and characterizing the parameters that could lead to actual and potential differences across languages; that is, these linguists strive to provide a characterization of the notion "possible human grammar."

Linguists have different goals, and grammar is only part of what they aim to account for. For these linguists, grammatical analysis that does not consider what communities make of their language is too limited and mechanistic; they stipulate that formal, autonomous grammars overlook socially and humanistically significant variation within and across communities. This difference in viewpoint, which currently divides the field of linguistics, is captured in the dichotomy between grammatical competence and communicative competence.

From Chomsky, "grammatical competence is "the speaker-hearer's knowledge of his language" (Aspects 4). Echoing Ferdinand de Saussure's distinction between langue and parole (see his Course), Chomsky distinguishes between competence and performance (more recently between "unanalyzed" and "exocentricized" language). Although earlier he seemed principally to want to exclude slips of the tongue and other errors from linguistic description by elevating them to performances, his exclusions ignore far more than errors. For Chomsky, exocentricized language is language as it exists in utterances and discourse, as it can be observed in use. Internalized language, in contrast, is a property of the mind or brain, and thus it cannot be observed directly: it is "some element of the mind of the person who knows the language, acquired by the learner, and used by the speaker-hearer" (Knowledge 22). Chomsky's linguistics excludes real-world language: language in use (internalized language) "appears to play no role in the theory of language"; indeed, "languages in this sense are not real languages". (Knowledge 23)

Of course, many linguists regard language use as the basis for all that is known of language, and they view language variation as an essential part of the competence of speakers and a legitimate object of linguistic analysis. Linguists studying language use bestow it as the raison d'être of grammatical systems, particular and universal, and believe that variation not only reflects social identity but helps to create and maintain it. To these linguists, Chomsky does not represent the field at large; he is an advocate for a school that aims to determine the innate and universal characteristics of grammar.

In an alternative conceptualization, John C. Bower and Dell Hymes define the object of linguistic analysis as linguistic competence—a communicative competence that "cannot be effectively dealt with in terms of subconsciously internalized constraints and rules" similar to grammatical constraints. Linguists who focus on communicative competence "deal with speakers as members of communities, as incumbents of social roles, and seek to explain their use of language to achieve self-identification and to conduct their activities." For the student of literature, communicative competence is of greater concern than grammatical competence, which focuses only on sequences and fails to address discourse. But grammatical competence is also important for literary analysis because verbal art exploits the same grammatical structures as other language varieties. If Chomsky's views were not popular, it would go without saying that an adequate conception of language must attend to both grammatical and communicative competence.

Within these broad approaches, most linguists pursue relatively narrow goals in their research; often, one of the number of subfields of linguistics. Some of these subfields reflect particular levels of the analysis of language, such as sound systems and syntax, while others reflect distinct methodological approaches such as acoustic phonetics and computational linguistics. Still, as a whole, contemporary linguistics provides a dynamic of analysis with different methodologies, these include historical linguistics, sociolinguistics, psycholinguistics, and discourse analysis. Grammatical analysis has held center stage in linguistic analysis for many decades, but compare Levi's comments in this volume concerning the historical importance of rhetoric. Today grammatical syntax "treats sounds and their pairing (phonetics and phonology), the organization of semantic and grammatical elements within words (morphology), the arrangement of words into structured strings (syntax), and the complex system of lexical and sentential meaning (semantics)." Between grammar and use is the subfield of pragmatics, which treats the relationship between linguistic form and its contextualized use within discourse and interaction in communicative acts.

Neither psycholinguistics nor computational linguistics can be even minimally characterized in this essay. Except to note that psycholinguistics ranges
widely, from first- and second-language acquisition (as treated in Karmosch's essay in this volume) to the mental processing of meaning, sentences, and texts, and that is overlapped with applied linguistics in such arenas as bilingualism and reading. Increasingly, too, psycholinguistics has clinical applications, for example with dyslexia and Alzheimer's disease. Computational linguistics is a full-fledged subfield that has a core term for a wide range of computer-units studies, from the modeling of postmodern theories to the statistical analysis of natural-language texts. Computers also have promising applications in lexicography (see Sinclair), but their prevalent use for machine translation remains disappointing, primarily because an insufficiently explicit understanding of languages still enables us and the rapid and the contextual information remains inadequately formalized. (For computer applications to literary texts, Hock and Mill provide useful overviews; see also the issue of the journal Literary Linguistics Computing.)

Historical linguistics, the nineteenth-century springboard for modern linguistics, uses a variety of methods to trace the evolution of languages and relates them to one another "genetically." It employs two principal models: the family-tree model (in which offshoots of parent tongues evolve over time) and the wave model (which posits the influence of languages on one another when they are in contact). From the family-tree model we understand "to be the historical predecessor (the parent language) of Spanish, French, Italian, Portuguese, and Romansh, among others, and we see Proto-Celtic (of which we have the earliest records) to be the parent of German, English, Dutch, Norwegian, Swedish, Danish, and the dialects of Gothic, among others. From the wave model we understand the influence of French on English after the Norman invasion in AD 1066 and of the neighboring Baltic languages on one another in the Baltic speech area (borrowed from the German word for "speech abuse")."

Historical linguistics has provided knowledge of the Indo-European family of languages, including the Germans, Irish, Helvetic, and Celtic branches on the one side and the Slavic, Baltic, Indo-Iranian, Armenian, and Albanian branches (as well as the extinct Anatolian and Tocharian) on the other. It has also given us a group of other language families and established the genetic independence of languages sometimes thought to be related (e.g., Chinese and Japanese). Much work remains to be done in identifying the genetic relations among the native languages of Africa, the Americas, Australia, and Papua New Guinea and in discerning between inherited and borrowed similarities. Despite the central role of historical studies in the development of linguistics, the subfield does not now enjoy the prominence it once did (see Winfield). Still, the last decade has witnessed an exciting revival of valuable historical work even on languages as well known as English and French. Much of this new work falls into one of four broad approaches: it reexamines earlier stages of a grammar at the higher level of what is now understood about structure, typology, and universals (see Housen, et al.), it applies current models of sociolinguistic and register variation to the competing forms of earlier periods in an effort to explain changes (see Weinreich, Labov, and Herzog), it turns to the study of the linguistic patterns of a particular language (such as the phrase patterns of conversational speech (see Hopper and Thompson), and it seeks the relations between form and function (see Thompson and Thompson). Sociolinguistics have a wide spectrum of interests, including urban dialects, ethnic and social-economic language variation, the relation of language characteristics, register variation and stylistics, the ethnography of communication, and the study of language in its cultural context (see Hymes). Sociolinguistics have also begun to focus on the relationship between language and society, and the role of language in social interaction (see Muller). Sociolinguistics, and their use in political and social control (see Fishman) as well as in the field of language policy, are rapidly developing. The field of sociolinguistics is now a major contributor to the study of language and society, and the role of language in social interaction (see Muller). Sociolinguistics, and their use in political and social control (see Fishman) as well as in the field of language policy, are rapidly developing. The field of sociolinguistics is now a major contributor to the study of language and society, and the role of language in social interaction (see Muller). Sociolinguistics, and their use in political and social control (see Fishman) as well as in the field of language policy, are rapidly developing. The field of sociolinguistics is now a major contributor to the study of language and society, and the role of language in social interaction (see Muller). Sociolinguistics, and their use in political and social control (see Fishman) as well as in the field of language policy, are rapidly developing. The field of sociolinguistics is now a major contributor to the study of language and society, and the role of language in social interaction (see Muller). Sociolinguistics, and their use in political and social control (see Fishman) as well as in the field of language policy, are rapidly developing. The field of sociolinguistics is now a major contributor to the study of language and society, and the role of language in social interaction (see Muller). Sociolinguistics, and their use in political and social control (see Fishman) as well as in the field of language policy, are rapidly developing. The field of sociolinguistics is now a major contributor to the study of language and society, and the role of language in social interaction (see Muller). Sociolinguistics, and their use in political and social control (see Fishman) as well as in the field of language policy, are rapidly developing. The field of sociolinguistics is now a major contributor to the study of language and society, and the role of language in social interaction (see Muller).
PREMISES OF LINGUISTIC ANALYSIS

Before we consider the structural levels of language, several widely accepted premises of linguistics are worthy of mention. First, most linguists recognize that linguistic symbols are essentially arbitrary—that is, no inherent relation exists between things and their names in various languages. The word for "cat" differs from language to language, and so do the words for the vocal languages, though an occasional hint of a culturally slender echo inhabits words like "mow." The same arbitrariness might be claimed for the order of events in the world and the order of linguistic expressions representing them, although rhetorical strategies may favor sequences of expression that mirror actual chronology, as in narratives. Even so, to say that linguistic symbols are essentially arbitrary is not to say that they lack iconicity altogether. The child who reports, "My mother is taking a long, long, long, long, long shower," reflects this innate tendency of iconic expression as much as the poet's crafted onomatopoeia does. But despite increasing recognition of iconic elements in word and clause formation, the essential arbitrariness of basic linguistic symbols remains intact. (For recent work on iconicity, see Hamburger.)

Second, linguists agree to be a descriptive, not a prescriptive, science. Linguists describe the structure of human language and the use to which these structures are put; they do not (or shouldn't) prescribe what it is structures ought to be, in some ideal world or judge those in the real world. In fact, linguists have been belligerently neutral on questions of language value. (On descriptivism and prescriptivism, see Barlow; Finkel; and Milroy and Milroy.)

Third, since Saussure in the early twentieth century, linguists have taken description of a language at one point in time (synchronic description) to be distinct from all other analysis. Historical (or diachronic) analysis with its focus on language change is distinct from and more synchronic descriptions. Diachrony, like synchrony, can focus on texts or sentences or words or sounds, and it can appeal for explanation to factors that are structural, psychological (e.g., perceptual), or social (e.g., language contact). Synchrony cannot appeal to diachrony for explanation, though history can often shed light on how the real explaining came to be as they are.

GRAMMATICAL ANALYSIS

Phonology: Not all the sounds of a language are structurally significant in that language (i.e., not all differences in sound will signal a difference in meaning). A given pair of sounds existing in two languages may represent different structural units in one language but not in the other. Thus both English and French have oral and nasal vowels, but nasalization (a feature of the vocal languages, whereas in English it can also occur) in English, the occurrence of a nasalized vowel is predictable (i.e., any vowel preceding a nasal consonant will be nasalized, and thus nasalization cannot serve to differentiate words. The nasalization rule makes it impossible for English to have a pair of words such as man and woman or face and lace, where only the first of each pair has a nasalized vowel. In French, however, nasalization is not rule-governed; rather, it is a feature of individual words that can signal a meaning difference in contrasting pairs such as [n] and [ɛ] (though 'nez' 'nose' versus 'lent' 'lent'). Note that nasalization, then, is a significant feature of French, capable of making a contrast between words. Children (and adults) learning French must learn, in their mental dictionaries, nasal and non-nasal vowels for each word (e.g., [bɛ] 'bleu' is not the same as [bə] 'bleu'), whereas an English-speaking child systematically nasalizes vowels by rule and doesn't need to identify nasalized vowels word by word.

Another example is provided by English and Korean, which both have the same three oral consonants articulated by closure of the lips: the aspirated p of pill (pronounced with an audible breath of air, strong enough to blow out a match, and represented phonetically as [p]), the unaspirated p of spill (represented as [p]), and the b of bit (represented as [b]). These three articulations have only two representations in the mental lexicon of English speakers (i.e., as [p] and [b]). The aspirated [p] of pill does not need to be distinguished from an unaspirated [p] in s speaker's lexicon because all English speakers have internalized a rule that aspirates every /p/ that begins a word (as well as /p/ in certain other positions; the same rule also aspirates /t/ and /d/ sounds in parallel positions). But no conceivable rule could specify whether /p/ or /b/ occurs in an English word. Therefore /p/ sounds and /b/ sounds must be distinguished from each other English word by English word. In Korean, by contrast, the occurrence of aspirated [p] and unaspirated [p] is determined by rule, so speakers must note for each word whether it has [p] or [b]. The occurrence of [b] in Korean, however, is rule-governed: [b] never occurs before vowels or other voiced sounds (and hence [b] would never occur at the beginning or end of a word).
Thus, Korean and English subsume the same three sounds in two structural units of their phonological systems, but they do so quite differently. In English, the units are /i/ and /u/, with /i/ and /u/ merely rule-governed variants of /i/ and /u/. In Korean, the units are /i/ and /u/ with /i/ merely a rule-governed variant of /i/. In other words, English attaches significance to whether a consonant is voiced (like /t/ and /d/) or voiceless (like /p/ and /b/), but it treats aspiration as insignificant. Korean attaches significance to whether a consonant is aspirated or unaspirated but treats voicing as not significant. As a consequence, English can have the words bill and fell (the latter with rule-assigned aspiration), but it does not have pill without aspiration (as pronounced in spill). Korean distinguishes /p/ from /p/ as rule-fact, but it has /p/ and /m/ and /n/ without aspiration but could not have /m/ because of the rule that voices /i/ and /u/ between vowels. Learners of a foreign language tend to transfer their native distributional patterns of rule-governed variants to the target language. Thus, an English speaker learning French is heard to pronounce fire and pen with the aspirated /t/ that English (but not French) uses at the beginning of a word, while a French learner of English may fail to provide the aspiration to words that begin with /t/ in English.

This tendency to apply the phonological rules of one's native language to another language is part of what creates a foreign accent. In sum, languages have inventories of significant phonological units (phonemes) such as /i/ and /e/ and rules for generating required but non-significant "phonetic" variants. Distinctively underlying "emic" units from "etic" realizations is at the heart of structural linguistics, and the notion of "emic" and "etic," which have been borrowed into folkloric and anthropology through the work of Claude Levi-Strauss, constitute part of the definition of structuralism in other fields. (For more on the cross-disciplinary use of linguistic constructs, see Gunn in this volume.)

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Language also has constraints on how consonants and vowels can be joined to form syllables. Japanese, for example, has three basic syllable types. If C represents a consonant and V a vowel, Japanese permits CV and CV syllables (e.g., /a/ and /ga/), as well as CVC syllables provided that the second consonant is a nasal (as in /ang/). English, by contrast, permits not only V, CV, and CVC syllable types but also syllables beginning with two consonants (plate and gate) and three consonants (pronounced in spite, spam, and squad). With three consonants, however, the first must be /s/, the second /sp/ or /sl/, the third /l/, /tr/, or /br/. English permits many other syllable types, including relatively complex ones like CVCVCC representing words like sports and superficial (where /sp/ represents a single consonant sound and /sl/ represents /s/). Renewed interest in syllables has contributed to a new "metrical phonology." With its focus on stress patterns and other rhythmic phenomena, metrical phonology has transferred its interest in literary uses of meter and rhythm among linguists (see Kiparsky and Youmans).

Morphology and Morphophenomena. At a level higher than sounds and syllables, grammars make reference to morphemes, which are sequences of sounds associated with a meaning (coin, see) or grammatical function (third-person singular present-tense marker -s as in see or progressive marker -ing as in sing). Unlike a desk language, whose entries are typically words, the mental lexicon of a speaker also lists morphemes (many of which, like coin, see, and Sandberg are likewise words). As the speaker’s counterpart to a published dictionary, a mental lexicon has entries that lack etymologies and illustrate citations but specify certain other information about a morpheme: which phonemes it contains and in which order (as a basis for pronunciation), semantic information (for meaning), and syntactic information about word class (part of speech) and which classes it can co-occur with (e.g., plural -s affixes to nouns but not to adjectives). For a verb, the lexicon contains information about its syntactic-semantic frame, for example, give, as in "Alice gave Sarah the book," takes three noun phrases (or "arguments"): an agent giver (Alice), a patient giver (the book), and a recipient (Sarah). It is a grammatical sentence to be discovered about how mental lexicons are organized so as to make their contents accessible for online sentence production and comprehension: obviously the alphabetical organization of dictionaries is neither available to speakers nor adequate for such purposes.

As it happens, much of the information needed to structure grammatical sentences could be specified either in the lexicon or in the syntax of a speaker’s grammar. In just which of these components particular information actually resides remains unclear in many instances. Like traditional grammatical analyses, recent theory favors placing a greater burden on the lexicon, with a consequent reduction in the complexity of the syntactic component. This theoretical shift has made morphology and morphosyntax major subfields of grammar.

Generative Syntax. For the past three decades, the most influential way of characterizing sentences structurally has employed a "generative" approach, whereby a lexicon and a set of rules for organizing its elements into the sentences of a language can be specified explicitly (i.e., mechanically, computationally, autonomously—without reference to contingent facts about the world or the particular situations of use). Although phonological, syntactic, and semantic components of generative grammars have been recognized for some time, each component has been viewed as part of a unified, integrated system. Thus, the syntactic component generates a structure that receives an interpretation for meaning by the operation of the semantic component and in interpretation for pronunciation by the operations of the phonological component. In this standard generative model, the syntactic component is the centerpole that determines a sentence which is then subjected to the semantic and phonological operations that predict the form and a set of phrase-structure rules of the general form S → NP VP (i.e., a syntactic consists of a noun phrase followed by a verb phrase). Phrase-structure rules generate deep (or underlying) structures known as "phrase markers" (the familiar "tree diagrams," illustrated in fig. 1). Figure 2 shows that phrase markers specify a linear order of constituent elements (determiner precedes noun) as well as a hierarchical order (prepositional phrase has two constituent parts, preposition and noun phrase).
In the generative-transactional grammar of the 1960s and early 1970s, operations called transformations restructured deep-phrase markers into "surface" phrase markers (the structure of actual spoken and written sentences). Transformations were applied to sentences that were grammatical (i.e., those that pass the French relative clause, since transformations were required for grammaticality; others were optional, since grammatical sentences satisfied whether or not the transformations operated. Possession was an optional transformation: both "he's eaten his first novel" and "his first novel was eaten by the critic" are grammatical. Reflexivization was obligatory: "Larry pinned himself" (on which the reflexive transformation has operated) is grammatical, but "Larry pinned Larry" (so which it has not) is ungrammatical (where Larry and Larry have identical referents). Transformations accounted for much stylistic variation in both prose and poetry, and linguistic style could be described by reference to an author's preferences among optional transformations. Within a view of style asessentially as the dress of thought, a characteristic fondness for particular modes of expression could be identified with particular authors (see the essays in Freeman).

Besides having distinct levels such as phonology and syntax, recent generative models (e.g., government-binding theory) have conceptually distinct modules that operate independently but interactively within a level. The interaction of the modules produces what in earlier models was generated by a set of procedures unified as a transformation (e.g., the passive transformation). As in earlier models, these modules operate at sufficiently abstract levels to be applicable across languages, and their interaction with one another creates the syntactic patterns of sentences. In this view, what makes one language different from another is a relatively small number of "parameters" in each module whose values are set by exposure to a particular language during the process of acquisition. Thus, a child's principal grammatical task is simply to set these parameters to reflect the structures of the language being acquired; the parameters and the range of values are pre-set, but the child must discover which set is correct, and it will go a long way toward explaining the breathtaking accomplishment represented by every child's first-language acquisition.

Generative grammarians using the government-binding model have proposed a set of modules as alternatives to the unified system of rules and transformations of standard transformational grammar. One module treats case assignment (not the morphological cases familiar to students of Indo-European languages like German, Russian, or Latin but a highly abstract case system); another module assigns semantic roles to nouns; a third handles government. For example, the earlier English passive transformation, as Chomsky later decomposed it (Lasers), consists of four procedures: moving the object noun phrase following the verb to the subject position preceding it, moving the initial subject noun phrase to a position after the verb and making it the object of the added preposition-by, altering the verb to a past participle, and inserting an appropriate form of the auxiliary verb to be.

Serious problems occur with such a transformation, however. For one thing, as formulated, the English passive is unrelated to passive constructions in other languages. More important, permitting such specific transformations would license other similar transformations in the modularized system specific to the language, thereby creating extraordinary power and freedom. Because acquiring a language is easier when fewer options are available to the child acquiring it, generative theorists favor the most limited grammar compatible with the facts. Space restrictions here preclude a description of how passive would be treated in current generative models, but the English-specific points in the transformation above have been rephrased to individual lexical items and are no longer handled by the syntax. Significantly, too, passive structures are not generated by specific movement and insertion procedures, as in the standard transformational analysis. Instead, various general principles applicable to all languages operate independently of one another to "license" certain structures, and the confidence of various modules can produce passive structures (see Nagy).

The modular approach to grammar arose partly because early transformational grammar was largely English-based, and it is assumed that what held true of English would, mutatis mutandis, hold true of all languages. But as grammarians turned to French, Spanish, Italian, Dutch, Japanese, Chinese, and other languages, much of the putative generality of English-based analyses crumbled, and many middle-level generalizations fell (including the notion of structure-specific and language-specific transformations) and were replaced by general principles of wider applicability. As a result of these theoretical realignments, current grammatical descriptions are declarative rather than procedural, and they rely heavily on the features of individual verbs and nouns as specified in the mental lexicon.

Typology. Related to the subject of linguistic generality is typology, and a few words about typological approaches may be useful. Typologists are interested in shared patterns of structural features that are independent of language contact
and of genetic relatedness among languages. If, say, English, German, Dutch, Danish, Norwegian, and Swedish exhibit certain characteristics that don't ap-
ppear in other languages (e.g., dental suffixes to mark the past tense, as in English dented and German diente), these features may (in this case) be inherited from a common ancestor language and, as such, be germane to genetic relat-
redness but not necessarily to typology. Likewise, in the Baltic sprachbund men-
tioned earlier, Greek, Romanian, Albanian, and Bulgarian share a number of
structural features, although they belong to different branches of Indo-European, whose member languages do not generally possess those features. One such feature is the loss of the infinitive such that, instead of expressions like "give me to drink," these languages have the equivalent of "give me that drink." Greek ἄνω σε το ποτό," Albanian "-s-me të pi," Bulgarian "дай mi da pija," and
Romanian "dă mi-l să bea" (examples from Comrie, Word's 10). Romanian does not share this feature with the other Romance languages, nor does Bulgarian share it with the other Slavonic languages, nor Greek with Ancient Greek. Instead, the similarities arise from mutual contact among neighboring languages, and therefore they are not of direct interest to typologists.

Even independently of contact and genetic relatedness, significant correla-
tions among structures exist across languages—for example, between the order
of objects and verbs, on the one hand, and of other constituents such as nouns and
adjectives, on the other. In languages where the verb follows the object
(OV languages, such as Japanese and Persian), there is a strong tendency for
adjectives, genitives, and relative clauses to precede nouns and for prepositions
to follow them (in which case they are called "postpositions"). In languages which match the complementary pattern in which objects follow verbs (VO languages, such as Welsh, Irish, and Classical Arabic), nouns tend to precede adjectives,
genitives, and relative clauses, and there are prepositions. Japanese is a canonical
OV language with all the expected patterns adjectives and relative clauses
preceding nouns (omotado は an "interesting book"); avata كاتا は the
book you bought); genitives preceding nouns (Taro と omotado と);
and postpositions (Toko に to Tokyo). Other languages are less canonical.

English is mixed, with relative clauses following their head nouns and with prepositions, as expected for VO languages, but with adjectives generally preceding nouns ("subjective order"), a characteristic of OV languages, while genitives can precede or follow ("Athena's apologies" and "the modernity of Emerson"). The relations among such word-order patterns, universal grammar, and the parameters of individual languages constitutes a central puzzle for syntactic typology.

Functional Syntax. Before leaving syntax and typology, I return briefly to
functional grammar, which highlights certain fundamental empirical and
philosophical issues remaining unsettled in linguistics today. One fundamental
empirical question that suggests the depth of the disagreement is the concept of
sentence. As axiomatic as the idea seems to most current (and traditional)
grammars (compare the phrase marker of fig. 1), some fundamental grammarians
would reject it out of the sentence. As a consequence of different focuses and subfields, preferred sources of linguistic data also differ. Field work involving elicitation seminars with bilingual or monolingual speakers of the language being analysed is a classic source of data for grammatical, lexical, and phonological data. Supported by gestures and simple
STANDARDS AND STYLES, REGISTERS AND DIALECTS

Standard languages and dialects are familiar notions to readers of this volume. From a historical point of view, standard languages are simply dialects that have undergone certain processes of standardization, whereby a disindented dialect is elaborated in form to meet an expanded range of functions and is then codified in dictionaries and grammars. The standardized variety is used in the legal, medical, educational, and other professional affairs of a nation, as well as in the mass media. Linguists reject the folk view that nonstandard dialects are corruptions of the standard variety and instead view all dialects of a language (including the standard variety) as descendents of a single ancestor tongue, the standard simply being the variety selected—for political, social, economic, and other nonlinguistic reasons—for development as a vehicle of wider communication, especially in writing.

The concept of register is less familiar than that of dialect, and it can be introduced by considering multilingual speech communities, where linguistic repertoires comprise varieties drawn from several languages. In multilingual communities, particular languages tend to serve particular domains of use: one

language in the home, another in business or education, a third in religious ceremonies (e.g., Yiddish, English, and Hebrew among New York City Jewish families; Spanish, English, and Latin among Latinos in Los Angeles thirty years ago). Thus, within multilingual communities marked linguistic variation can exist from situation to situation. The same is true in monolingual communities, which also mark different communicative situations with different varieties. The term registers refers to language varieties characterized of particular situations or use, and the linguistic features of those registers reflect the communicative, situational, and social circumstances surrounding them, at least, a change of topic (e.g., from the national pastime to the national debt) will necessitate a change in vocabulary, but registers can differ from one another

in as many ways as languages differ, enough less strikingly, of course. Registers are less studied by linguists than dialects are (and they are often less clearly spoken), although some registers (e.g., motherese, legalese, conversation, and advertising) have been thoroughly analyzed (see Ferguson; Crystal and Davy; Levi and Walker; Ghadessy).

Linguists' registers are akin to literary analysts' genres, but the two are not altogether equivalent. Although the genres of literary language, from a linguistic point of view, are not different in principle from other registers, literary language has received special attention from linguists (see Freeman; Jakobson; Kiparovsky; Leech and Short; Pratt; and Sebbon; see also Culler in this volume). Approaches differ, some linguists analyze prose fiction, others poetry verse; some treat syntax, others meter; and so forth. One recent approach to English prose style tracks functionally related sets of linguistic features in fiction, essays, and letters over the past four centuries and finds parallel evolution in all three registers (Faber and Finegan). For example, just as first-person and second-person pronouns, interrogative sentences, contractions, hedges (e.g., sort of, kind of), and several other linguistic features characterize conversation and tend to co-occur frequently in that register but not in, say, typical academic articles, so other sets of linguistic features co-occur with regularity in other registers (see Faber for details). Three such feature sets have been associated with literature versus oral styles, where literary means characteristic of typical written styles but does not necessarily entail writing (e.g., scholarly monographs and lectures) and oral means characteristic of spoken styles but does not necessarily entail speech (e.g., conversations and personal letters).

The linguistic features of each set share communicative and conventional functions that account for their co-occurrence in particular kinds of text. For example, frequent nouns and prepositions, longer words, and lexical variety typically characterize language that is informative in nature. Frequent relative clauses and a marked absence of time and place adverbs (now and yesterday, here and above) typify relatively context-independent discourse. Personal involvement is signaled by first-person and second-person pronouns and by various devices such as contractions and ellipsis that condense expression. Sometimes two feature sets represent opposite poles of a single situational dimension, for

pros, elicitation sessions consist basically of questions and answers, and they produce phrases, clauses, and sentences, rather than discourse, as data. For some linguists, introspective and other natural-language data from historical records to transcribed conversations, serve as data. Narratives, an important source of discourse data, are available in many forms. For naturally occurring speech, portable audio and video recorders make it possible to gather data anywhere, from African villages and Native American reservations to urban street corners and suburban shopping malls, and it can be collected by formal or subtle interview techniques or by participant observation. Psycholinguists, especially those interested in sentence processing, construct experimental situations in which consultants (sometimes unwittingly) perform linguistic tasks that provide special data. To investigate language acquisition, some linguists engage in lengthy and detailed tapping and transcription of children's discourse, while others use little more than introspection and logic. Thus linguists take as data any form of written, spoken, or signed language, whether naturally occurring or elicited; and some linguists, especially those in the generative framework, take intuitions and judgments of grammaticality as data. Linguists working with various sources of data have been called field linguists, but they are linguists, armchair linguists, street linguists, and so on. Because particular sources of data are naturally skewed in one direction or another, each source needs to be supplemented by others, for only when complementary sources of data produce compatible findings can investigators be confident about the validity of their analyses, as William Labov has noted.
example, with respect to infrastructural versus involved purposes, texts typically show relatively frequent use of one of defining features or the other but not both. In the historical study of English fiction, essays, and letters mentioned above, the linguistic features representing three dimensions were tracked: infrastructural versus involved purposes, explicit reference versus content dependent, and abstract versus concrete style.

Because the frequencies of the defining features of a dimension determine a characterization of each text along that dimension, texts of not period and any register can be compared with those of other periods and registers. The past four centuries have witnessed a drift of English fiction, essays, and letters from relatively explicit, or "elaborated," to relatively more context dependent, or "situated," reference, as shown in Figure 2 (where solid lines show average values for each period and the length of the vertical bar represents the range of texts).

This drift reflects, among other things, a decrease in the number of relative clauses and naturalizations (e.g., establishment, since) and an increase in the number of time and place adverbs that characterize texts of these registers. Note in Figure 2, however, that the eighteenth century bucks the trend and exhibits more explicit referencing strategies (i.e., more elaborated) than the seventeenth century does. While some eighteenth-century writers advanced the trend toward more situated forms of reference in fiction and letters, others (some neoclassicists like Samuel Johnson) wrote prose works with higher levels of elaborated reference than writers of the preceding or the two following centuries did. The other two dimensions, which are not illustrated here, display the same overall pattern: prose moved from relatively more information to relatively more involved and from relatively abstract to relatively specific. In sum, the patterns along all three dimensions indicate that English prose has become increasingly "oral" since the seventeenth century, although eighteenth-century prose was on average exceptionally "literary."

THE FUTURE OF LINGUISTICS

Linguistic analysis has thrived on dichotomies, oppositions, contrasts; the field has exhibited a tendency to see things in black and white, as "either/or" rather than "more or less." But the dichotomies of the past are proving inadequate to accommodate the depth and range of observations confronting linguists now, and a recent trend has been to analyze language more in terms of "scales," of tendencies instead of structures, and to view language forms along parameters of continuous variation. Tightly constrained models (e.g., dichotomies between grammatical and ungrammatical structures or between speech and writing) fail to accommodate observations of actual language use. In this connection, the use of computers has had two notable effects on linguistic analysis. On the one hand, computers show clearly how inadequately many rules of grammatical syntax are when programmed into a completely obedient and perfectly dumb computer. The output of such rules is quite barren compared with natural discourse and is often ungrammatical. On the other hand, when large bodies of text are analyzed by computational techniques, the continuous variability of language along multiple simplicolocative dimensions becomes more comprehensible, the patterns behind the data less opaque.

To return to a question raised earlier in this essay, we can ask whether linguistic analysis should be undertaken from essentially social or essentially psychological perspectives. To some extent, of course, this is an empirical question: Are the shapes of sentences and of discourse determined solely by psychological factors or solely by social factors? But if we assume, as many linguists do, that both psychological and social factors are critical to valid language analysis, the contest between these points of view can be seen as partly political. What are the implications of limiting language to the study of language (with a
capital L), of discounting differences among languages and dialects and ignoring the contingent, historical, and cultural evolution of linguistic practice. It is what wine author Petroc Tappin calls "the muddling of language," and what other authors have referred to as the "neutralization of language meaning." Alternatively, what are the implications of giving prominence to contingent factors, to existing and potential social structures, to promising discourse as empowering or disempowering? Do we need to think more about the social nature of language and shout aside questions of social justice and of epistemology, grant the role of language as an instrument of social construction and shared knowledge, further, autonomous views of grammar clearly to ignore verbal art and leave it with an impoverished linguistic foundation.

This essay expresses the viewpoint that language is essentially social and essentially psychological and that neither languages nor Language can be understood without attention to both. The grammatical representations that underlie language use reside in the brain and will one day be given a neurological account. Just as surely, the neurology of language has taken form under the influence of the structures and functions of social intercourse. Presumably, some would say ("obviously") communication and social interaction have helped Language evolve into its current shape in the brain, languages and dialects evolve into their myriad forms across speech communities, and require develop to meet the peculiar challenges of an endless array of communicative situations. For today's linguistics to focus exclusively on either one or the other of these fundamentally important aspects of language would certainly limit progress in the field as a whole. For any branch of linguistic studies to attempt to define the others out of court would be shortsighted, if not foolhardy.

SUGGESTIONS FOR FURTHER READING

The World's Major Languages, by Bernard Comrie, is a useful reference work, containing chapters on forty languages, including Spanish, French, Portuguese, Italian, German, Dutch, English, Russian, Japanese, Chinese, and Arabic; each chapter provides useful information about the structure of the language and its writing system, as well as historical and social setting. Comrie has separately collected those chapters treating the major languages of Western Europe, while Martin Harris and Nigel Vincent have collected and augmented the chapters on the Romance languages. Peter Tappin's Language in the British Isles covers English in various aspects and the Celtic languages (which are not covered in Comrie), as well as The North American Indian lan-

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mages (which are not treated by Comrie). New World Spanish; other languages used in the United States, including German and French; and the registers of law, medicine, and education. Geoffrey Leech and Michael H. Short take a quite different approach to stylistics than that of Douglas Biber and Edward Finegan illustrated in this. Fugue, in an essay on stylistic analysis of social language, gives a useful introduction to stylistic themes, while Michael Toolan, analyzing Faulkner's Go Down, Moses, also includes informative chapters on the current state of stylistics. Referring to a 1958 symposium at which Roman Jakobson delivered his paper, Style in Language presents a classic collection of essays, while Donald C. Freed's Language offers a collection of original articles on rhythm and meter.

Gardiner E. K. C. is a brief review of critical discourse analysis; the works of both Roger Attenborough and Diane Macdonald exemplify critical language analysis at greater length. Tony烟草 applies critical techniques to the notion of bilingualism, is especially good on bilingualism. Deborah Tannen's Linguistics in Context is a wide-ranging and accessible collection of lectures on modern linguistic approaches by the Linguistic Society of America, Teachers of English to Speakers of Other Languages, and the National Endowment for the Humanities. The excitement of the debate between autonomous grammars and functionalists in palaeography is captured in The Palaeography of Linguistics, Frederick J. Newmeyer, and in the collection of essays, The Palaeography of Linguistics, edited by Harris and Taylor. In Tensee Moore and Christine Carling are critical. Also critical is Claude Hambourg's Specimen, a best-seller in France, now available in English.

McKee's Languaging and Languaging in Context is a special issue of Language and Communication (ed. Harris and Taylor). In the same, the works for the world by Deborah Schiffrin, Michael Snell, and Terri van Dijk are all useful. John Haiman's collection records the proceedings of a 1963 symposium on icology in syntax.

Several introductory linguistics texts are available, including one by Elisabeth A. Strodtz and Mary Louise Prats expounds for students of literature; some are geared to literary interests, as do William O'Grady et al. David Crystal's good coverage for a range of more popular language topics, while Sidney and James's Dictionary of English is a suitable book for coffee-table book styles, and as well as something of Norden's hand.

Exceptional breadth and currency is provided in the 750 entries of the International Encyclopedia of Linguistics, edited by William Bird in four volumes; it contains articles on hundreds of languages and language families, as well as on specialized linguistic topics (government-binding theory), topics of literary interest (stylistics, poetics, ethnolinguistics), and a few individual scholars (Jakob Grimm, Roman Jakobson). Comrie's Language Universals and Linguistic Typology is an accessible treatment of that