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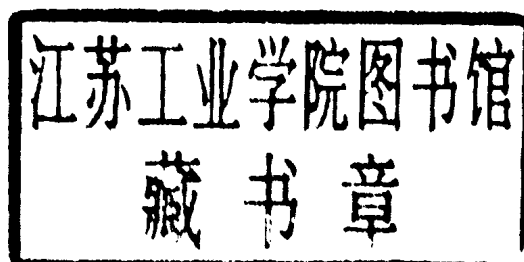
LINGUISTICS

SECOND EDITION

INTERNATIONAL ENCYCLOPEDIA

OF

LINGUISTICS

SECOND EDITION

WILLIAM J. FRAWLEY

Editor in Chief

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INTRODUCTION TO THE SECOND EDITION

The best way to understand this introduction to the second edition of *International Encyclopedia of Linguistics* (*IEL*) is to read William Bright's introduction to the first edition. The approach to and structure of this new edition are much the same as those of the previous one. My goal was to cover the entire discipline through cogent articles written by experts in language accessible to everyone, with the entries organized to reflect the conceptual dependencies of the field, thoroughly cross-referenced, easily searched and user friendly, while vigilantly preserving theoretical balance and neutrality.

Knowing that in linguistics, no error or bad choice, however minor, goes unreviewed, I nonetheless signed on to the same impossible task as Bright. But my job was much easier because I had Bright's extensive, careful work as a base. Those of us who have toiled in the reference industry know how essential a solid first edition is to future versions of a reference work. I know that I speak for the whole field in acknowledging Bill Bright's important role as originator of *International Encyclopedia of Linguistics* and, more generally, as patient overseer of the discipline.

Because of the substantial overlap between editions in organization and motivation, this introduction can be most useful by charting the divergences between the organization of these new volumes and Bright's. How does this edition compare with the first?

Coverage. The second edition of *IEL* contains 957 articles and about half as many more headwords and subheadwords, given an increase in blind entries (placeholder entries that point to others for their content). All the articles from the first edition are updated in some way, with most ranging from 40 percent revision to complete rewriting. About 15 percent of the articles are new and about 3 percent of the first-edition entries were eliminated from the second. The extensive updating of a ten-year-old reference work slated to endure at least another decade led to the addition of some theories and subfields, the elimination of others, expanded treatment of some existing concepts because of their rising importance, and reduced treatment of others because of their increasingly limited role in the field. Decisions about these matters were made with every attempt to keep to the high ground and to follow two reasonable dictates: first, not only include the core of the field and ideas of current influence, but also try to anticipate what will be current in the years to come; second, try to avoid pet theories and personal exposés. The first edition was especially strong on languages of the world and social and anthropological approaches to language. The second edition has maintained these strengths and given attention to new directions in the field, such as Optimality Theory, the Minimalist Program, the widening influence of functional and typological linguistics, the spreading impact of discourse analysis on subfields outside discourse proper (applied linguistics, computational linguistics, semantics), increasing detail in findings in formal linguistics, marked changes in applied linguistics (perhaps the most extensively revised topic area), and advances in computational and mathematical linguistics.

In the decade since the first edition appeared, linguistics has moved closer and closer to psychological and neurobiological inquiry, and so this edition has coverage of the various cognitive and evolutionary approaches to language, including neurolinguistics and brain imaging, cognitive science, critical periods of acquisition, linguistic relativity, learnability, and language disorders. Many subfields and concepts have been "unpacked," with their constituent ideas given explicit treatment: for example, there is a separate composite entry on phonological processes, with full treatment of assimilation, dissimilation, and so on. There are also major additions to the

coverage of languages, with new articles on Zulu, Wolof, Khoisan, American Sign Language, world Englishes, and artificial languages. In the end, the guiding idea for coverage in *IEL* was to maximize information ("less is bore!") while preserving readability.

Entries and organization. Choices about what entries to include and the structure of the Encyclopedia were guided by three main principles:

1. *Choose entries that are neither too general nor too specific.* Which of the following terms should be a headword in the Encyclopedia: *sound, phoneme,* or *delayed release*? The natural response is that *IEL* should include all of them, but if it does, the volumes immediately begin to grow in length exponentially, thus sacrificing usability for coverage. The second edition tries to reach a middle ground between concepts that are highly abstract and those that are narrow and often theory specific, no matter how important any of them might be: *phoneme* is included, but *sound* is too general and *delayed release* too specific. In most cases, narrow concepts are embedded in articles and so can be found through the index. But the user will not find entries for *language, structure, speech,* or *linguistics;* "Grammar" and "Meaning" are blind entries, that is, placeholders that point to other entries for exposition. There are no separate entries for *INFL, regime,* or *garden path,* for example, influential concepts to be sure, but concepts that can be found under entries in the subfields in which these concepts occur (in these cases, "Phrase Structure," "Optimality Theory," and "Parsing").

2. *Organize entries to reflect the conceptual structure of the field.* On the whole, the second edition is more complex in organization than the first edition. Much effort was put into renaming entries ("Natural Language Processing" has become "Computational Linguistics"), inserting new entries for balance ("Morpheme" requires "Phoneme"), and reorganizing entries to reflect the way the concepts in the field relate to and depend on one another ("Neurolinguistics" has changed from a blind entry to a composite entry; "Discourse Markers" is a separate entry because it is an influential concept in its own right; "Applied Linguistics" is significantly less complex than might be expected because its potential subentries are all independent notions). There is significantly more nesting (entry with subentry and subsubentry). For example, "Language Change" is a new composite entry

subsuming all the approaches thereto; "Pragmatics and Contextual Semantics" has been split, and split again, to give explicit treatment of *implicature, presupposition,* and related notions; "Semantics," "Philosophy of Language," "Institutional Linguistics," and "Linguistics and Literature" are highly complex entries, subsuming various approaches and concepts given independent treatment in the first edition. Overall, the goal with this "complexification" of the Encyclopedia was to promote one-stop shopping, so that a user might find not only what he or she is looking for at an entry, but more of what the field itself sees as related to the notion under search.

3. *Ensure that entry choice and organization promote ease of use.* Nothing makes a user of a reference work more frustrated than to have a term or concept in mind, but never to be able to locate that term in the reference work—or to have to struggle so much to locate the term or concept that it might be more advisable to abandon the search altogether rather than come away from the search successful, but dazed. How to avoid these pitfalls? The second edition applies a number of heuristics to meet this challenge. The first edition limited entries at *L* and *S*, concerned with what lexicographers affectionately think of as the *clumping problem,* clusters of entries at particular headwords. An encyclopedia of linguistics would seem to have clumping at *L* and *S*: *language, linguistics, speech,* and so on. The second edition allowed *L*- and *S*- entries, and without much consequence. There are many more *C-, P-,* and *S-* entries anyway, whatever the policy for *L* and *S*. What this means is that entries in the first edition that had been modified to avoid *L* or *S* now appear at those letters: "Language Attitudes," rather than "Attitudes to Language," "Speech Perception" rather than "Perception of Speech." "Language Acquisition" is a blind entry, pointing to "Acquisition of Language." This was a deliberate choice because it was thought that users would have both *language* and *acquisition* in mind when searching for information on language development.

One peculiarly technical issue arose in considerations of headword choice. There are many terms in linguistics that are ambiguous across subfields: *free* and *bound* are technical concepts in both morphology and the syntax and semantics of anaphora; *case* is a term in both formal syntax and semantics; *feature* has different meanings in

phonology, syntax, and semantics; *local, locality*, and *localization* mean certain things in semantics or grammatical theory, and quite other things in neurolinguistics; *declarative* has one meaning in syntax and a different one in computational linguistics. Every attempt was made in the second edition to make these ambiguities explicit and to point the user to the appropriate entries for these different meanings.

Finally, the entry list includes a number of new symbols and abbreviations: "AAVE," "OT," "LF," "GPSG," and "TAG." Notation has a significant place in linguistics, and a user of the Encyclopedia would no doubt have occasion to search the volumes with these nonlexical and nonphrasal entries in mind.

Blind entries. There are many more blind entries in the second edition than in the first in order to capture what was thought to be the search procedures of an intelligent user. But this again raises a selection issue: how to decide which terms should be blind entries? The second edition contains three major kinds of blind entries:

1. *Truly empty terms whose content is found elsewhere.* An example of this kind of blind entry is "AAVE," which directs the reader to a full entry for "African American Vernacular English." Other examples are "Assessment" pointing to "Language Testing" and "Onomatopoeia" pointing to "Sound Symbolism."

2. *Mid-level concepts that evoke higher-order terms (their full and partial superordinates) but do not merit separate treatment as discrete entries.* These are by far the largest class and the most complicated to justify. An example is "Agent," a core concept within semantics and grammatical theory and one that is included as a blind entry pointing to "Case" and "Thematic Roles." The editorial concern here was whether such terms—for example, *isogloss, perlocutionary act,* and *usage*—ought to be free standing. In the end this was a judgment call and the rule of thumb was to include as blind entries concepts that might be independently searched for but that do not stand entirely on their own conceptually and that make better sense for exposition in the entries on their superordinates. Thus, "Tiers" is a blind entry because it has semi-independent status in the field but is understood principally through "Autosegmental Phonology." The term *tiers* contrasts with a term like *tableau*, which the *IEL* user is likely to search for already knowing that it is part of "Optimality Theory" and so intrinsically bound to its superordinate concept.

3. *Concepts that, for epistemological or socio-political reasons intrinsic to the field at the moment, are too complicated to include as separate entries, despite their importance and status as a likely target of independent search.* A classical example of this type is "Syntax," an entry that gives no particular definition but points the reader to subfields and theories, where fuller, independent treatments can be found. Other examples are "Clinical Linguistics," "Competence," "Modularity," and "Representation."

Blind entries are signaled by *See*, and perhaps the best way to appreciate the three major classes of them is to think about what *See* means for each of these types. Category 1 construes *See* as *equals*: "LF" equals "Logical Form." Category 2 construes *See* as *is a part of* or *is best located under the larger concept of*: "Perlocutionary Act" is best located under the larger concept of "Pragmatics and Contextual Semantics." Category 3 construes *See* as *is best understood in the convergence of the concepts aggregated under*: "Transformational Grammar" is best understood in the convergence of the concepts aggregated under "Formal Grammar," "Principles and Parameters," "Minimalist Program," and "Transformations."

Blind entries were one area of editorial decision that could not be settled beforehand, but had to be managed as the volumes unfolded. Many of these choices depended on what authors were saying about terms and concepts and could not be predetermined from some bird's eye view of the field. But generally, the strategy was to avoid idiosyncrasy: the pointers in a blind entry should point somewhere useful. There is nothing more alienating than, for example, to seek the definition of *hirsute* in a dictionary and find it as a blind entry pointing to *nonglabrous*. Now what?

Format. The second edition differs from the first in several substantial ways with respect to presentation of material. Latinate signals to cross-references (*q.v.*) were replaced by *See* (a direct instruction to the user to consult another term; *See also* sends the user to related or alternate technical material), and all cross-references were grouped and located at natural breaking points in entries. Cross-references among language lists are indicated by small capitals in the opening paragraphs. Descriptive headnotes to composite entries in the first edition ("This article is concerned with . . .") were trimmed markedly to schematic tables of contents. Italics, small capitals, boldface, and other typographical distinctions were simplified to reliance on italics only for citation and

emphasis. These changes were made to promote ease of access and recognizability.

Personnel and procedures. All Topic Editors from the first edition were invited to oversee revision of their areas. Almost all agreed, and the reconstituted group was renamed Consulting Editors. All Editorial Advisers of the first edition were also invited to participate again, with most agreeing, and this reconstituted group was renamed Senior International Advisers. William Bright served as Senior Consulting Editor.

Consulting Editors were charged with determining a revision plan for their areas, which was discussed in detail via e-mail, telephone, and personal visits with the Editor in Chief. This plan had to estimate extent of revisions and recommend additions or deletions. Consulting Editors also contacted all authors and oversaw the submission of articles from contract to final editing. Articles by deceased authors had to be revised by new authors, and authors who had left the field had to be contacted to determine their role in the second edition. These personnel matters were labor intensive and time consuming, and the Consulting Editors rose admirably to the challenge.

Senior International Advisers offered commentary on the overall structure and coverage of the Encyclopedia. The Senior Consulting Editor planned the revision with the Editor in Chief in a series of meetings over several years and served as periodic troubleshooter throughout the emergence of the work.

Revision plans, procedures for revising articles or submitting new ones, and various notices about policies were posted on the Encyclopedia website, which was located on a server at the University of Delaware, the Editor in Chief's previous institution (http://www.udel.edu/billf/iel.html). The Internet proved invaluable in this project since it allowed not only rapid transmittal of large amounts of information in various formats, but also remote, asynchronous access to a variety of materials for all contributors.

Illustrative material. The Encyclopedia is a complicated work, with a wide range of material illustrating and exemplifying issues and arguments. All this material was extensively revised. New formal notation was added and maps were redrawn. The boundaries of polities have changed markedly since 1992, as have the locales of languages within and across those polities. It is December 2002 as this introduction is being written: imagine how Central Asia looked in 1992! Color images of brain functioning were added. Tree diagrams of both linguistic structure and language families were edited. Diagrams of theoretical models were emended, as were orthographies. Linguistics, it turns out, is a heavily visual discipline.

Languages. Articles on language families are followed by lists of languages. *IEL* has a range of articles on languages, from extensive treatments of particular languages ("Zulu") to long expositions on major language families ("Germanic Languages"). There are also paragraph-length articles on intermediate-level language families (for example, "East Fijian Languages"), which were written by Bernard Comrie from Barbara Grimes's data and are included only if they appear as nodes in the *Ethnologue* database. These lists were compiled by Barbara Grimes—not by authors of the articles—using the *Ethnologue* and databases of SIL International (formerly the Summer Institute of Linguistics). These lists also include updated information on the demographics of the speakers. There remain great controversies in the field over which languages belong to which families, and, indeed, some of the groupings in the lists are at odds with the positions of the authors of the articles. The goal of including the lists was not to resolve controversies—or promote them!—but to ensure that the user has maximum information.

Biographies. Many more short biographies of figures in the history of linguistics were added to the new edition for the sake of comprehensiveness. So biographical entries now appear for figures from Aristotle and Joseph Justus Scaliger to Lev Vygotsky and Ken Hale. The motivation behind expanding these biographies was to offer the user a kind of dramatis personae of the field and so make the Encyclopedia more like a handbook. Most of the biographies were adapted from *The Concise Oxford Dictionary of Linguistics*, edited by P. H. Matthews, and are reprinted here courtesy of Oxford University Press.

Backmatter. The glossary that appeared in the first edition was eliminated and replaced by a more detailed index, supplemented by careful attention to definition of key terms at points where these terms initially appear in articles. It was thought that an extensively revised glossary, coordinated with the text of the volumes, would lead to duplication. Backmatter also includes a new systematic outline and a directory of contributors.

Acknowledgments. I must thank Bill Bright and Oxford University Press for giving me the opportunity to oversee this work. I know I drove Oxford's editorial staff to exasperation with some of my worries and insistence, but I hope not to fatal lengths. Their patience and dili-

gence, as well as Bill's, are models to us all. The Consulting Editors put up with my polite reminders and incessant hectoring. Stephanie Baker, my very capable research assistant, read almost the entire work to check for ease of exposition and to ensure definition of terms. Bill Idsardi often gave me excellent advice on technical matters.

As the Encyclopedia was coming to the final phase of production, I left the University of Delaware, where I had been for twenty-three years, to become Dean of Arts and Sciences at George Washington University. This change, of course, was equivalent to adding on six or seven more encyclopedias to be completed at the same time! I thank my colleagues and staff at UD for their help and my new staff at GWU for seeing me through these trying times.

As always my wife, Maria, my children, Christopher and Emma, and our array of cats (Chloe, Pierre, Jasper, Lionel, Zeke, and Maisie) provided unyielding comfort and stability. Eternal thanks to them.

WILLIAM FRAWLEY, *Editor in Chief*

INTRODUCTION TO THE FIRST EDITION

The intention of the *International Encyclopedia of Linguistics (IEL)* is to provide a comprehensive source of up-to-date information on all branches of linguistics, aimed primarily at an audience of students and professional scholars in linguistics and adjacent fields. The publisher, Oxford University Press, has given me the fullest support in my effort to produce a reference work oriented toward the broadest possible view of linguistics, toward the importance of interdisciplinary studies, and toward open-minded attitudes toward theoretical controversies.

This work is designed to embrace the full range of linguistics, including descriptive, historical, comparative, typological, functionalist, and formalist specialties. Special attention is given to interrelations within branches of linguistics—with articles on the interface of, e.g., syntax and semantics—and to relations of linguistics with other disciplines. Areas of intersection with the social and behavioral sciences (such as ethnolinguistics, sociolinguistics, and psycholinguistics) receive major coverage, as does interdiscplinary work in language and literature, language and philosophy, mathematical linguistics, computational linguistics, and applied linguistics, in particular as concerned with language education.

The work is alphabetically, rather than topically, ordered. We have nevertheless attempted to preserve topical cohesion through three devices: (a) extensive cross-references between related articles; (b) a detailed index, including topical labels, technical terms, personal names, and geographical names; and (c) the organization of some articles in terms of composite entries—e.g. entries with subentries, as in 'Acquisition of Language', which is discussed with reference to first-language development under the headings (a) 'Meanings and Forms' and (b) 'Phonology', and then with reference to (c) 'Second-language Acquisition'. Note that such subentries are ordered alphabetically except under 'History of Linguistics', where they are arranged chronologically.

The longer articles consist of signed essays of up to five thousand words in length, surveying large fields of study—e.g. phonetics, formal grammar, or anthropological linguistics. Shorter essays (also signed) deal with more specific topics within those fields; or with particular languages and language families which have been topics of extensive linguistic research; or with important scholars in the history of linguistics. A category of unsigned articles provides information on less-studied language families. Appended to both types of article on language families are 'language lists', which as a group give specific information on all the living languages of the world. The work concludes with a glossary and an extensive index.

The primary audience is seen as academic and professional, but interdisciplinary; thus articles are designed to be intelligible and useful to people in related disciplines, including teachers and advanced students in computer science, mathematics, philosophy, the social and behavioral sciences, and literary studies. It is hoped that readers will find the *IEL* to be unique in its comprehensive and authoritative coverage of all significant topics and viewpoints in linguistics, with attention both to 'accumulated wisdom' and to current research findings, at the professional academic level.

Some articles in this encyclopedia contain new research findings, not yet published elsewhere in comparable form. Most of them, however, are intended as research tools, serving to bring together timely information on the diverse subject matter and interdisciplinary connections which characterize the study of human language and languages. Because of the rapid development of linguistics, few individuals can control the current scholarly literature in all branches of the field; the goal

of the *IEL*, then, is to give summaries of research, with detailed cross-references and bibliographies, to provide convenient access to the broadest possible spectrum of specialties.

Details on various aspects of the *IEL*'s background, policies, and practices are given in the following paragraphs.

Models and motivations. In many ways, a model for the present work was provided by the *International Encyclopedia of the Social Sciences* (ed. by David L. Sills, 1968). That work featured important coverage of linguistic topics, in particular as related to cultural anthropology. I was a contributor to it, and I have frequently consulted it for my research in anthropological linguistics and sociolinguistics. Some twenty years later, it seemed to me that linguistics had arrived at a stage of maturity and complexity to justify an encyclopedic reference work of its own, incorporating many features of the *IESS*.

Another factor in the planning of this encyclopedia has been my personal experience as an editor in the linguistic field. From 1966 to 1988, I served as editor of *Language*, the journal of the Linguistic Society of America; before and during that period, I also edited several books. In my editorial capacity, I dealt with scholars from all over the world, working in every subfield and school of linguistics, and I exercised the responsibility of holding their work to high standards of validity, originality, and clarity. As an officer of a major international scholarly organization, I also took pains to avoid partisanship, and I strove to give full consideration to quality research of all theoretical orientations. Finally, as a linguist having strong links with the social and behavioral sciences, I maintained a broad interdisciplinary outlook as to what could properly be considered as 'linguistics'. With this background, my goals for the *IEL* have been to maintain the same academic standards and interdisciplinary breadth, while nevertheless focusing the work toward the needs of reference users.

Until recently, no publication of encyclopedic scope has existed for the field of linguistics. However, such works clearly constitute 'an idea whose time has come'. During the period that the *IEL* has been in preparation, two such publications have appeared—and the scholars responsible for both are, in fact, also valued contributors to the *IEL!* One is *The Cambridge Encyclopedia of Language*, a one-volume work written by a single author (David Crystal, 1987) and aimed at a general audience; the other is *Linguistics: The Cambridge Survey* (ed. by F. J. Newmeyer, 1987), a four-volume collection of 'state

of the art' papers, written for professionals and emphasizing formal approaches to language. Still other publications have been announced: another one-volume, topically arranged work (but aimed at a more specialized audience than Crystal's); a work focusing primarily on language teaching; and a very ambitious, multivolume compendium on an advanced scholarly level.

It is clear that a rich choice will be available to the reading public. Nevertheless, I believe that the *IEL* makes a contribution not duplicated by any other work. Shorter encyclopedias are less expensive, and are easy to handle, but are limited not only in their subject coverage but in their diversity of viewpoint. Larger works overcome those defects; however, apart from their bulk and expense, the greater period required for their preparation increases the risk that their contents will become outdated during that time—especially in a field which changes as rapidly as modern linguistics. A work which is organized topically, rather than alphabetically, can give a more unified view of individual subfields; nevertheless, the *IEL*'s use of composite entries and extensive cross-references allows readers to integrate subfields, and at the same time preserves the convenience of alphabetical reference. More specialized works of reference will serve specialist audiences; however, I believe that the distinctive qualities of the *IEL* will meet the needs of a large core of students and scholars, in linguistics and adjacent disciplines, who are interested in the diversity of subfields and approaches which characterize the present-day study of language.

Goals. The aim of the *IEL*, and of individual articles within it, is not to say everything about any topic, but rather to give readers an appropriate orientation. For this reason, cross-references are used extensively, to avoid excessive repetition between articles. In addition, authors were asked to provide key bibliographical references for their articles, which will enable readers to pursue topics of interest as far as they desire.

It has been considered important that articles should be open to alternative viewpoints, and that they should avoid dogmatism. We have thought it especially desirable to maintain an even-handed approach in the *IEL*—considering the diverse intended readership, and considering too how rapidly orthodoxies can change in linguistics. Authors and topic editors (and indeed, the editor in chief) all have very definite opinions on particular matters of theory and methodology; but we have taken seriously our responsibility to let readers know what major viewpoints exist, and what the values of each may be. When topics involve a history of dispute, our desideratum has

been that the relevant articles should reflect current consensus or its lack, whichever the case may be. We have felt that an encyclopedia is a place to explain unresolved issues, not to debate them.

How well have the *IEL*'s goals been achieved? What might have been done differently? As we go to press, I feel satisfied that we have met the goals of being wide-ranging, of representing a fair diversity of opinions, and of being as up-to-date as publication schedules will allow. My main autocriticism is that, although our articles on particular languages or language families contain abundant examples, I wish I had asked the authors of the other articles to put more emphasis on concrete exemplification. But reviewers and readers will have their own opinions; I hope they will let me know about them, in as much detail as possible.

Personnel and procedures. The board of editorial advisers, broad-based and international in scope, has provided top-level counsel both to the publisher and to myself as editor in chief. Its members have worked closely with me to determine the contents of the *IEL,* and to determine what individuals should serve as topic editors and as authors of articles. A number of these scholars have also agreed to serve as topic editors.

The topic editors, twenty-five in number, were appointed by me; each one has taken responsibility for a major subject area. I consulted them in order to determine the articles to be commissioned, the projected length of each, and the scholars who should be requested to write them. The topic editors then provided editorial supervision of the articles as they were written, and approved the manuscripts before sending them to me for final coordination and copyediting; I also continued to rely on their advice with regard to problems which arose during copyediting and proofreading. In some cases, topic editors nominated themselves to write specific articles in their areas of responsibility.

The authors, over four hundred in number, were chosen from around the world, on the basis of their reputation and expertise as known both to the topic editors and to me. Efforts were made to recruit authors who were not only recognized authorities on their subjects but who could also be relied on for clarity and definitiveness of statement.

After all bibliographical references were checked, copyediting of the articles was carried out by me and my assistants. Clarifications were sought, as necessary, through correspondence with authors—during the copyediting process, into the stage of reading galley

proofs, and in some cases even beyond, to the stage of revised proofs.

Entry terms. Keeping in mind that the *IEL* will be consulted by readers who have some sophistication in linguistics but who nevertheless come from varying backgrounds, we have made an effort to choose entry terms (article titles) based on specific but relatively established concepts, and the articles themselves are organized with consideration for those concepts. We avoid entry terms beginning with the word 'Language' or 'Linguistics'; rather, we use terms such as 'Law and Language' (instead of 'Language of the Law'). Access to topics not chosen as entry terms is, of course, made possible through the index.

Spelling and alphabets. For consistency, American standard spellings have been used (e.g. *color, recognize*). Phonetic transcriptions follow either the International Phonetic Alphabet or conventional 'American usage', following authors' preference (see Pullum & Ladusaw 1986). Material from languages written in non-Latin alphabets is, in general, transliterated in the systems most used by international scholars of those languages; e.g., Cyrillic is transcribed with *š ž č j,* rather than *sh zh ch y.* Greek is also transliterated. Mandarin Chinese is written in pinyin spellings with tone marks.

Illustrative material. Care has been taken to make the content of articles as useful as possible through the inclusion of two types of illustrative material. One type consists of linguistic examples: words, phrases, and sentences in a wide range of natural languages. We follow the general practice of scholarly literature in linguistics by setting these off from the main text, for improved readability, and by numbering them for cross-reference. In complex examples, we give interlinear glosses for each morpheme or word, in addition to a freer translation.

The second type of illustrative material consists of graphic aids of several kinds, including hierarchical outlines, paradigmatic tables, graphs, sound spectrograms, and charts of writing systems, as well as maps to show the geographical distributions of dialects, languages, or language families. In complex illustrations, especially in the maps, the basic material was provided by authors in the form of informal sketches; these have then been reworked by professional graphic artists and cartographers, and checked by the authors and editors.

Biographies. Short biographical articles are included for a limited number of major linguists now deceased. The scholars for whom such articles have been written are ones who made contributions 'across the board' in

linguistics, e.g. Edward Sapir and Roman Jakobson. Information on the work of other scholars, past and present, can be found in entries relating to their specialties or their schools of thought; e.g., contributions made to the field by J. R. Firth and by Noam Chomsky, respectively, are discussed under 'History of Linguistics' (in the article on 'The London School') and under 'Generative Grammar'.

Bibliography. Since an encyclopedia article cannot possibly say everything that is relevant about a topic, an important function of each essay is to direct readers to sources. All essays therefore end with a bibliographical listing of works cited, alphabetically arranged; typically, these include not only citations relevant to particular points but also works useful for general reference on a topic. Preference is given (other things being equal) to books rather than articles; to works in western European languages, especially English, rather than others; and to easily available rather than hard-to-find works such as unpublished dissertations. It is realized that linguistic research has progressed so rapidly in recent years that authors must often make reference to work which was not scheduled for publication at the time the articles were written; in such cases, however, acknowledgment is made by in-text reference, rather than by bibliographical citation of unpublished research.

In cases where publications are more accessible in reprinted form, we give information on the original publication first, because of its historical relevance, and then data on later and more available versions.

Language lists. Appended to the articles on language families are 'language lists' which represent an attempt to provide geographical, statistical, nomenclatural, and sociolinguistic information, to the extent that data are available for all living languages of the world, as well as for a selection of extinct languages. (Language names not used as headwords in these lists can be accessed through the index.) These lists have been prepared by Joseph and Barbara Grimes, based on the computerized files of the Summer Institute of Linguistics, with the permission of that organization (see also Grimes 1988). Additional information and corrections have been obtained from the authors of articles and from other reference sources, but the final form of the lists is my own responsibility. Readers should appreciate that the nomen-

clature and classification of languages are often controversial, and that data from different sources vary greatly in reliability; suggestions for further improvements will be welcome.

Glossary. A list of technical linguistic terms, prepared by David Crystal, is found at the end of this work. It is based both on definitions of technical terms given by *IEL* authors, in their respective articles, and on the files prepared by Crystal for his 1985 *Dictionary of Linguistics and Phonetics.*

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ABBREVIATIONS AND SYMBOLS

A adjective; agent; argument
A any syntactic category (in A-binding, A-over-A Principle)
AA Afroasiatic; Austro-Asiatic
abbr. abbreviation
abl. ablative
abs. absolutive
acc. accusative
ACH Association for Computers and the Humanities
ACL Association for Computational Linguistics
act. active; actor
AD Alzheimer's dementia
adess. adessive
adj. adjective
ADJP adjective phrase
adv. adverb(ial)
ADVP adverbial phrase
AE Achaemenid Elamite
AGR agreement
agt. agent(ive)
AI Artificial Intelligence
ALLC Association for Literary and Linguistic Computing
AM Ancient Mongolian
AMR Allomorphic Morphological Rule
AN Austronesian
an. animate
aor. aorist
AP adjective phrase
APG Arc Pair Grammar
API Association Phonétique Internationale
A-position argument position
AR Arumanian
Ar. Arabic
Arm. Armenian
ART article
ASL American Sign Language
ASP aspect
ASR Automatic Speech Recognition

ATN Augmented Transition Network
ATR advanced tongue root
AUX auxiliary
Av. Avestan
BCE Before Common Era (= B.C.)
BEAM Brain Electrical Activity Mapping
BI Bahasa Indonesia
BM Bahasa Melayu; Bokmål
BP bound pronoun; Brazilian Portuguese
B.P. Before Present
BS Balto-Slavic
BVC bound verb complement
C complement; complementizer; consonant
c. century
CA Classical Arabic; Componential Analysis; Contrastive Analysis; Conversational Analysis
ca. *circa*, approximately
CAP Control Agreement Principle
CAT Computerized Axial Tomography
caus. causative
c-command constituent command
CD Communicative Dynamism; Conceptual Dependency
CE Common Era (= A.D.)
CED Condition on Extraction Domain
CF Context-Free
CFG Context-Free Grammar
CFL Context-Free Language
chap. chapter
Ch.Sl. Church Slavic
CHO chômeur (in Relational Grammar)
CL Classical Latin; compensatory lengthening
clf. classifier
col. column
COMP complementizer
comp. comparative; complement
conj. conjunction; conjunctive

cont. continuative
cop. copula
CP Complementizer Phrase; Cooperative Principle
CR Comparative Reconstruction
CS Context-Sensitive
CSR Contemporary Standard Russian
c-structure constituent structure
CV cardinal vowel; consonant-vowel (syllable structure)
D dative; derivational; determiner; diacritic feature; dictionary
d. died
Da. Danish
DA Discourse Analysis
DAF delayed auditory feedback
dat. dative
dat.-acc. dative-accusative
DCG Definite-Clause Grammar
DD developmental dysphasia
decl. declension
def. definite
dem. demonstrative
deriv. derivative
desid. desiderative
DET determiner
dim. diminutive
dir. direction(al)
DM discourse marker
DO direct object
DP Determiner Phrase
DR Daco-Rumanian; discourse representation
DRS Discourse Representation Structure
DS marking Different Subject marking
D-structure an alternative conception to 'deep structure'
DTC Derivational Theory of Complexity
DTW Dynamic Time Warping

du.   dual
DV   dynamic verb
e   empty category
E   externalized
EA   Eskimo-Aleut
ECP   Empty Category Principle
emph.   emphatic
encl.   enclitic
Eng.   English
ENHG   Early New High German
EP   European Portuguese
EQUI   Equi-NP Deletion
erg.   ergative
EST   Extended Standard Theory
etc.   et cetera
ex.   example
exx.   examples
F   fall; formant
f.   feminine; and following
F-R   fall-rise
f-structure   functional structure
F₀   fundamental frequency
Fa.   Faliscan
fact.   factive
FCR   Feature Cooccurrence Restriction
fem.   feminine
ff.   and following (plural)
fig.   figure
fl.   *floruit,* flourished, lived
FLRP   Fixed Language Recognition Problem
FN   first name
foc.   focus
Fr.   French
FSD   Feature Specification Default
FSP   Functional Sentence Perspective
fut.   future
G   gender; glide
Gael.   Gaelic
GB   Government/Binding
G/D   genitive/dative
gen.   genitive
Ger.   German
ger.   gerund
Gk.   Greek
Gmc.   Germanic
Go.   Gothic
GPC   grapheme-phoneme conversion
GPSG   Generalized Phrase Structure Grammar
GR   Grammatical Relation
GS   Generative Semantics
Guj.   Gujarati
H   hearer; high; hold (ASL)
habit.   habitual
Hitt.   Hittite
HM   Hmong-Mien
hon.   honorific

HPSG   Head Driven Phrase Structure Grammar
HR   high rise
Hz   Hertz (cycles per second)
I   inflection; internalized
IA   Indo-Aryan; Item-and-Arrangement
IC   Immediate Constituent; Inherent Complement
ICA   Initial Consonant Alternation
ICM   Idealized Cognitive Model
ID   Immediate Dominance
IE   Indo-European
iff   if and only if
IG   intonation group
II   Indo-Iranian
IL   Intensional Logic
ill.   illative
imper.   imperative
impers.   impersonal
impf.   imperfect(ive)
inan.   inanimate
incl.   including, inclusive
ind.   independent
indef.   indefinite
indic.   indicative
inf.   infinitive
INFL   inflection
inst.   instrumental
interj.   interjection
intrans.   intransitive
invol.   involuntary
IO   indirect object
IP   Inflection Phrase; Item-and-Process
IPA   International Phonetic Association or Alphabet
IR   Internal Reconstruction
Ir.   Iranian
irreg.   irregular
IS   Interactional Sociolinguistics
Ital.   Italian
KA   Krama Andhap (= Middle Javanese)
KI   Krama Inggil (= High Javanese)
km   kilometer(s)
L   language; location (ASL); low
L1   first language
L2   second language
LA   Latin America; linguistic area
La.   Latin; Latvian
LAD   Language Acquisition Device
LBH   Late Biblical Hebrew
LF   Lexical Function; Logical Form
LFG   Lexical-Functional Grammar
LGA   Local Government Area
LH   left hemisphere
Lh.   Lhasa
Li.   Lithuanian
LIC   lower incisor cavity

LIPOC   language-independent preferred order of constituents
lit.   literally
Lith.   Lithuanian
LM   Literary Mongolian
l-marking   marking a lexical category
LN   last name
loc.   locative
LP   Language Planning; Linear Precedence
LPC   Linear Prediction Coefficient
LR   low rise
LSA   Linguistic Society of America
LSP   Language for Specific Purposes
LU   lexical unit
Lyc.   Lycian
M   mid; movement (in ASL); modal; mot (in Metrical Phonology)
m.   masculine
MA   Meso-American
masc.   masculine
m-command   maximal command
MCS   Mildly Context-Sensitive
MDP   Minimal Distance Principle
ME   Middle English
MG   Montague Grammar
MH   Middle/Mishnaic Hebrew
MHG   Middle High German
MIA   Middle Indo-Aryan
mid.   middle
MIT   Massachusetts Institute of Technology
MK   Mon-Khmer
MLU   mean length of utterance
MM   Middle Mongolian
Mod.   modern
Mod.E.   Modern English
MOP   Maximal Onset Principle
MP   Malayo-Polynesian; Middle Persian
MPR   Mongolian People's Republic; morphophonological rule
ms   millisecond
ms.   manuscript
MSA   Modern Standard Arabic
MSC   Morpheme Structure Constraint
MSK   Modern Standard Khmer
mss.   manuscripts
MST   Modern Standard Telugu
MT   Machine Translation
N   noun; number
n.   note
NA   North America; Northern Athabaskan
N/A   nominative/accusative
NC   Niger-Congo
NCC   North Central Caucasian
n.d.   no date