Lexicography: Overview

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Introduction

Lexicography is the art or craft of writing dictionaries. In contrast to lexicology (see Lexicology), which is the theoretical study of words, their use, and their meaning, lexicography is a practical activity that involves compiling an inventory of the words in a language (or some particular subset of them) and saving something about each of them. Lexicographers were described by Trench (1858) as “the inventory clerks of language.” Their primary duty is to collect an inventory of all the words in the language (or a selected subset), and to say something about each of them. There are many different kinds of dictionaries, giving many different kinds of information about words. The main ones are: (1) scholarly dictionaries of record; (2) practical dictionaries for everyday use; (3) pedagogical dictionaries; (4) dictionaries of linguistic phenomena such as slang or idiom; and (5) special-subject dictionaries. All the foregoing kinds are monolingual. To these we must add: (6) bilingual dictionaries; (7) onomasiological dictionaries (thesauri, synonym dictionaries); and (8) term banks. There are also hybrid dictionaries, for example, monolingual dictionaries for second-language learners with marginal glosses in a relevant foreign language.

Four issues of general principle that must be considered for all serious types of dictionaries in any language are: (1) breadth, not depth; (2) consistency; (3) descriptive versus prescriptive approach to the language; and (4) historical versus synchronic approach. The third of these, in particular, is controversial: there are many circumstances in which a dictionary, rightly or wrongly, is expected to play a prescriptive role in a language.

General procedures for many kinds of lexicography include collecting, “tokenizing,” and “lemmatizing” words. Having established a draft word list, the lexicographer must decide what to say about each word. This includes decisions about (1) orthography of both the headword and (related forms; (2) guidance on pronunciation; (3) word-class classification (part of speech); (4) definition writing; (5) examples; (6) phraseology; (7) disputed points of usage; and (8) etymology and word histories.

Brief History of Lexicography

Lexicography had its beginnings in the ancient civilizations of the Middle East (see Bilingual Lexicography) and ancient Chinese civilization (see Chinese Lexicography). In ancient Greece there were already dictionaries in the fifth century B.C. These were compiled to explain words used by Homer and other writers from the Archaic period, which had become rare or obsolete by the Classical period. Classical Greek lexicography was exclusively monolingual until quite a late period (see Greek Lexicography, Classical). It was left to the Romans to introduce bilingual lexicography (Latin—Greek, Greek—Latin), from the first century B.C. onward.

In many of the languages of Europe, the origins of lexicography can be traced back to interlinear glosses in medieval manuscripts (see, for example, English Lexicography, German Lexicography). Monks noted the vernacular equivalents of unfamiliar Latin words on the manuscripts as an aid to understanding the text. In some monasteries, the glosses were subsequently collected and arranged roughly in alphabetical order in a separate manuscript. The development of European dictionaries as we understand them today, however, had to await the invention of printing technology in Germany by Johannes Gutenberg in 1450. Printed dictionaries became practical tools that could be mass-produced by the hundreds and thousands, enabling identical information about words to be disseminated extremely rapidly throughout a community. A major milestone in the development of European lexicography was the publication in Paris in 1531 of the Dictionarium, seu Latine linguae thesaurus by the great Renaissance scholar and printer Robert Estienne (Robertus Stephanus). In 1538 he followed this with a Latin—French dictionary and in 1539 a French—Latin dictionary. These magnificent works remained unchallenged as authorities for over two hundred years and were the source of innumerable derivatives and revisions. Bilingual dictionaries played a major part in the revival of learning (Latin and Greek) during the Renaissance and an equally important part, first in the spread of Italian and French culture into northern Europe, and subsequently in the interplay of languages that was characteristic of Europe from the 15th century to the late 20th century, at which time, once again, an international lingua franca (English this time, not Latin) was to emerge. European dictionaries of the 15th and 16th centuries were of two kinds: those that played a role in the learning of Latin and those that were
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designed to explain the words of one vernacular in terms of another. Many of these early printed dictionaries displayed great energy, learning, and sophistication, although an examination of them also provides a reminder of the important part played by the linguistic philosophy of the Enlightenment (17th and 18th centuries) in developing lexicographical methods of accuracy and consistency. Sixteenth-century dictionaries were full of information, but much of it was anecdotal and discursive. Balance and consistency were not among the lexicographical virtues of Renaissance dictionaries. Multilingual dictionaries were also popular during the Renaissance; valiant attempts were made to represent the meaning of words in one language by equivalents in several others. Only gradually did people come to realize how difficult it is to represent one language in terms of another. Languages do not map easily onto one another, and trying to map three or more languages onto each other is an impossibility, except in the case of superficial equivalents such as terms for artifacts in a technology that is shared by many linguistic cultures.

During the 18th century, some dictionaries were compiled in all the languages of Europe that were not the tongue of an oppressed minority. Academies were established with the aim of preserving the purity of various national languages. Academies: Dictionaries and Standards: Great advances were made in data collection. The aim was to collect and define all the words of a language, not just the ‘hard words.’ Scientific standards of definition writing were pursued. Some 18th-century lexicographers strove strenuously to implement the ‘substitution principle’, a notion that can be traced back to Leibniz’s dictum that two things are the same if one can be substituted for the other without affecting the truth value (sativa vestitae). The idea was – and is – that a definition should be substitutable in any context for the word being defined (the definition). The substitution principle, coupled with unthinking reductionism (according to which every sense of every word is defined as an independent linguistic entity, rather than as part of a phrasological whole) is responsible for some of the convolutions still to be found in present-day dictionaries, for example in the definitions of English reciprocal verbs:

meet (sense 2): to come into or be in conjunction or contact with (something or someone else or each other).

This definition may be convoluted, but at least it is an attempt to capture the reciprocal syntactic potential of the verb, as in examples 1–5 below. Some other English dictionaries present these as separate senses, while others ignore the syntax completely or indicate only ‘transitive’ and ‘intransitive.’

1. John met Sally.
2. Sally met John.
3. John and Sally met.
4. John and Sally met each other.
5. John and Sally met with each other.

Eighteenth-century dictionaries saw their role not only as recorders of the words of a language, but also as enforcers of ‘correct’ usage, to warn against barbarisms. Thus, Johnson (1755) included citations from “the best authorities” to show how English words are used, and included comments on words that he disapproved of (e.g., “clever: a low word”). During the 19th century, a shift from such prescriptive attitudes to scientific descriptive principles occurred in many important European lexicography projects.

The proposal by Sir William Jones in 1786 that Sanskrit, Greek, Latin, and other languages were “sprung from some common source which, perhaps, no longer exists” had a profound effect on scholarly lexicography. Although the American lexicographer Noah Webster (see American Lexicography) rejected the Indo-European hypothesis, preferring to believe that English words were derived from ‘Chaldee,’ scholarly lexicography in Europe throughout the 19th century devoted much energy to discovering the Indo-European roots of everyday words and establishing cognate relationships among words in different languages. Etymology, which in the 18th century had been a matter of wild guesswork, became a painstaking scientific discipline and came to dominate lexicography (see Etymology). The task of the scholarly lexicographer in all the leading languages of Europe was seen partially, if not primarily, as a historical one: not only to define the meaning of words but also to trace their origins. In 1864 Webster’s successor Noah Porter and his etymologist C. A. F. Mahn quietly dropped ‘Chaldee’ and brought the leading American English dictionary into line with the rest of Western scholarship.

The establishment of lexicography as a scholarly discipline on historical principles led to the establishment of scholarly dictionaries of record for many languages. Also in the 19th and 20th centuries, large scholarly dictionaries of ancient and medieval languages began to be compiled, presenting a detailed account of the recorded vocabulary of major languages at earlier historical periods. Some of these great scholarly projects continued for many decades. The culmination of historical and in particular Indo-European lexicographical scholarship is still being worked out. In 1949 Carl Darling Buck published A dictionary of selected synonyms in the principal Indo-European languages. At the University of Leiden, a major project is currently underway with the goal of creating an Indo-European etymological database on the Internet and, eventually, compiling a new Indo-European etymological dictionary, designed to supersede Julius Pokorny’s Indogermanisches etymologisches Wörterbuch (1939).

In the 20th century another school of lexicography grew up, the purpose of which was to explain the meaning and use of words in the contemporary language, relegating etymology and obsolete senses to a subsidiary role. Historical principles were superseded in these dictionaries by synchronic principles, more suitable for practical everyday works. The first work to make this distinction explicitly was Funk and Wagnalls’s Standard dictionary of the English language (1893). Some but not all American dictionaries followed Funk and Wagnall’s lead, for example the American College dictionary (1949), its successor the Random House dictionary (1964), and the American Heritage dictionary (1969). Others, including the Merriam-Webster dictionaries, clung to the more traditional historical principles. Among British and Australian one-volume dictionaries, it is now standard to follow synchronic principles rather than historical principles. One-volume dictionaries of the English language (both historical and synchronic) characteristically focus on explaining meaning, with comparatively few examples. In other languages, for example German and Greek, the focus of one-volume dictionaries may be more on phrasology and usage, with many more examples of usage that are found in one-volume English dictionaries and comparatively less space devoted to definitions. In Russian and other Slavic languages, etymology was associated with important developments in linguistic theory (see Russian Lexicography), for example the meaning = text theory (see Mel’čuk, Igor Aleksandrovic (b.1932)).

Beginning in the late 1980s, lexicography began to respond to the opportunities offered by computer technology, in particular the use of computers to collect and process evidence of word use on a very large scale (see Corpus Lexicography).

Typology of Dictionaries

There are innumerable works calling themselves ‘dictionaries’ in almost every language in the world that has a literature. Indeed, modern lexicography also plays a major part in recording the vocabulary of and establishing written norms for languages that do not have a dictionary in the strict sense of the word. The typology presented below is purely descriptive and is not intended to be complete or comprehensive. The typology is not intended to be complete or comprehensive. However, it is structured to include as many types of dictionaries as are known to the author.

Scholarly Dictionaries of Record

The 19th and 20th centuries saw an explosion of scholarly lexicographical activity. Every language in the world that has an established literary tradition now has (or will soon have) a major dictionary of record, recording the vocabulary and structure of its language and usually but not always organized on historical principles, with plentiful citations illustrating usage and supporting the definitions. Classic examples of great historical dictionaries are the Oxford English dictionary (OED) (discussed in English Lexicography), the Trésor de la langue française (see French Lexicography), and the Deutsches Wörterbuch of the brothers Grimm (see German Lexicography).

The present encyclopedia includes articles on the history and current state of the art of lexicography in all the world’s major languages. There are also articles on major areas of historical lexicographical scholarship (see Old English Dictionaries, Middle English Dictionaries, and Old French Dictionaries) and on the history of specific historical dictionaries.

In general, a dictionary of a specific language is based on a collection of meanings of words and expressions in that language. However, the term ‘dictionary’ is also used to refer to a collection of words and expressions from different languages, usually in alphabetical order. This type of dictionary is called a bilingual dictionary, and is used to facilitate communication between speakers of different languages. Examples include the Oxford English Dictionary, which contains English words along with their Latin and Greek etymologies, and the International Dictionary of the Languages of Europe, which contains translations of words and phrases from all major European languages.

Another type of dictionary is the etymological dictionary, which is used to trace the origins of words and their meanings. Examples include the Oxford English Dictionary, which contains English words along with their Latin and Greek etymologies, and the International Dictionary of the Languages of Europe, which contains translations of words and phrases from all major European languages.

The Oxford English Dictionary is the most comprehensive and widely used English dictionary in the world. It contains over 600,000 entries and over 1.5 million words. The dictionary is divided into 24 volumes, with each volume covering a different set of words. The dictionary is updated regularly, with new editions published every few years. The dictionary is available in print, as well as online.

The International Dictionary of the Languages of Europe is a comprehensive collection of translations of words and phrases from all major European languages. The dictionary is divided into 26 volumes, with each volume covering a different set of languages. The dictionary is updated regularly, with new editions published every few years. The dictionary is available in print, as well as online.

The Urban Dictionary is an online dictionary that is used to create a dictionary of slang words and phrases. The dictionary is updated regularly, with new entries added every day. The dictionary is available online at UrbanDictionary.com.

Practical Dictionaries for Everyday Use

Despite the high cost of compiling a complete dictionary, most languages offer a range of choices of one-volume dictionaries, varying greatly in size and scope. In size, they range from small pocket books giving simple definitions by synonym and spelling dictionaries listing only word forms (together with occasional comments on points of orthographical difficulty), to large and ambitious works that give detailed information about many aspects of word meaning and word use, as well as facts about the world, such as famous people and places or the distribution and habitat of a plant or its New Latin name. The emphasis in practical dictionaries nowadays is often on presenting a wealth of complex facts about words in a way that is as accessible as possible for users. Lexicographers of an earlier generation appear to have been less concerned with user-friendliness. For example, the first edition of the Concise Oxford dictionary (1911) seems very dense and hard to use when compared with the 10th edition (1999), where a great deal of careful planning went into the page design and layout, as well as the selection of information. The compilers of such dictionaries are faced with choices at each step of the work, to which the answer is not always obvious. For example, should a practical dictionary record rare and obsolete words? Some dictionary publishers take the view that this is the raison d’être of a practical dictionary. No user, it is argued, will look up a very ordinary, familiar word, so as little space as possible should be wasted on such words. The likelihood that a word will be unfamiliar and therefore looked up in a dictionary (if encountered by a reader in some text) increases with its rarity, until the point is reached where the word is so rare that no one will ever encounter it. Another decision concerns the presentation of grammatical information. Facts about such matters as complementation patterns, countability, and selectional preferences are often given in small pocket-dictionary style, but the practical lexicographer has to bear in mind that many ordinary users are not trained linguists and (especially in the English-speaking world) may actually be hostile to grammar. A judgment must be made whether anything at all should be said about each grammatical point concerning each word, and, if the answer is yes, how to present it. Often, exemplification, on the basis of which a user can make analogies, is considered to be a more effective explanatory technique than an abstract metalanguage.

Pedagogical Dictionaries

There are two main kinds of pedagogical dictionaries those compiled for foreign learners of a language and those compiled for schoolchildren who are native speakers. Dictionaries for foreign learners are often formidable works of scholarship, with a much greater emphasis on syntax and usage than is usual in dictionaries for native speakers (see Learners’ Dictionaries). Here, the pedagogical lexicographer has to decide whether the emphasis should be on helping the user to ‘encode’ or ‘decode’ the language. Many foreign learners use dictionaries to help with language encoding—i.e., to write naturally and idiomatically in the foreign language. A dictionary designed for emphasis on encoding typically has a smaller word list and many more examples of usage than one for decoding use. An encoding dictionary rigorously eschews eccentrics or fanciful usage and is sensitive to selectional preferences.

Dictionaries for schoolchildren are often nothing more than simplified versions of small dictionaries for adults. However, there are also simple dictionaries that are their pedagogical function seriously, not only explaining the meanings of words in suitable terms and focusing on ‘hard words’ but also presenting facts about grammar selected for the appropriate age group (see, for example, English Lexicography).

Dictionaries of Slang, Idioms, Etc.

Good slang dictionaries (see Slang Dictionaries, English) in many ways resemble the great scholarly dictionaries. Great efforts are made to collect citations from a vast variety of sources, many of them ephemeral, and a selection of the citations is presented in the dictionary itself, often with bibliographical information. The definitions and examples in slang dictionaries are of the greatest importance, because (unlike general dictionaries) many of the headwords are quite unfamiliar to users.

Dictionaries of idioms (see Idiom Dictionaries) are more often aimed at foreign learners than at native speakers. They are classified here with slang dictionaries because their aim is to collect and explain a specific subset of the vocabulary, rather than the whole language. The same is true of dictionaries of phrasal verbs.

There are several other kinds of dictionary that focus on subsets of the vocabulary of a language, for example dictionaries of loanwords such as the Dictionary of European Anglicisms (2001).

Special-Sbject Dictionaries

The number of subjects of which dictionaries have been made is vast, ranging from huge dictionaries of medicine and law to quite small dictionaries of particular sports or games. Typically, special-subject dictionaries differ from general dictionaries in that they give more detailed and discursive encyclopedic information about each term, rather than merely a definition, while at the same time including little or no linguistic information. The focus is on objects and concepts, rather than on usage and linguistic behavior.

Bilingual Dictionaries

Bilingual dictionaries are typically practical tools for interlingual communication and learning, rather than scholarly studies (see Bilingual Lexicography and Dictionaries).

Onomasiological Lexicography

A distinction can be made between onomasiological and etymological dictionaries. Onomasiological dictionaries consist of an alphabetical list leading the user from the word to its meaning(s), which is the primary function of the dictionary types discussed up to now in this article. By contrast, the idea behind an onomasiological dictionary is to help the user to find the appropriate word for a particular meaning or concept. Various techniques are used in the attempt to achieve this aim. The classic example of an onomasiological dictionary is Roget’s Thesaurus, in which words are arranged in hierarchies under more general terms (hyponyms, also called superordinates). Thus, the terms sofa and settee may be found listed under furniture (see Thesauruses). Another technique is to provide lists of synonyms and antonyms for a headword, in the hope that one of them may be the term that the user is looking for. An example of an onomasiological dictionary that helps users to discriminate between near synonyms is McArthur’s Longman lexicon (1981). Another kind of onomasiological lexicography is the compilation of terminological databases (see Terminology and Terminological Databases). In a world of increasingly complex engineering and technology in a multinational environment, vast on-line terminological databases serve vital needs for standardization of terminology for many specialist communities.

Dictionaries of Rare and Endangered Languages

The need for a lexical inventory is also felt by languages that have no large literary tradition. A great deal of lexicographical work is currently being done on rare and endangered languages. Lexicographical tools for field linguists to use in compiling dictionaries and corpora of rare languages are available, for example, SILS Toolbox. The motivation for such dictionaries is various: sometimes, the lexicographer is trying to establish a written standard for a language that previously was not written down. Sometimes, in the case of severely endangered languages, the motivation is simply to record the lexicon and phraseology of the language before it is lost forever. Much more often, however, the motivation for such a dictionary allies scholarship to practical needs: providing access for speakers of a rare language to the wider world and to modern facilities, markets, and technology; plus the more traditional motivation of providing mission-aries with a tool to help them to do good works, translate the Bible, and preach the word of God to speakers of a minority language. Such dictionaries are inevitably bilingual, with varying degrees of emphasis on the source language and the target language, depending on the local circumstances. Simpson (1993) discussed the objectives and methods for dictionaries of Australian Aboriginal languages. The target language of such dictionaries is typically English, although in certain geographical locations it may be Russian, Spanish, or Portuguese (see Bilingual Lexicography; Endangered Languages for further discussion).

Principles of Lexicography

The needs, problems, and opportunities presented by the lexicon of each language differ, and where appropriate these are discussed in the articles devoted to the lexicography of each language. Four general issues of principle, applicable to most or all types of dictionary in most or all languages, may be dis- cerned. These are: (1) breadth, not depth; (2) consis- tency of descriptive vocabulary; (3) descriptive versus prescriptive approach to the language; and (4) historical versus synchronic approach.

Breadth, Not Depth

Unlike other kinds of scholarship, lexicography generally aims at breadth rather than depth. A dictionary does not say everything that could possibly be said about a particular word or linguistic phenomenon.
Instead, it tries to present a reasonably comprehensive inventory of the vocabulary and to state just those facts that are most salient or most relevant about each word. This inventory may be a list of all the words of the language that are in common use, all the words that a learner needs to know, all the words relevant to a particular subject, or all the words recorded in a particular dictionary. But as far as the entries themselves are concerned, it is necessary for dictionaries to idealize — and often simplify — word meaning and word use. To attempt to account in detail for all possible uses of words would be to attempt the impossible, for usage is open-ended and shades of meaning are determined by context. Furthermore, if a dictionary presents too much information about a particular word, there is a danger that the user may not be able to see the woods for the trees. There are principles as well as practical reasons for dictionaries to be economical with space.

**Consistency**

Having collected the inventory, the lexicographer must say something about everything in it and must aim at consistency of coverage and presentation or whatever the lexicographer is entitled to expect. The agreement that all differences in the presentation represent some differences in the language, i.e., stylistic variation for its own sake is avoided. For this reason, unlike other kinds of writers, lexicographers aim to repeat the same forms of words (in definitions and etymologies) wherever possible, so that only real differences in meaning or use are reflected in the wording. It is no good saying "of or pertaining to X" at one entry and "relating to Y" at another entry, if "of or pertaining to" and "relating to" are intended to convey the same message. More seriously, consistency of coverage is always the goal in modern dictionary making. All this is the principle of 'consistency of sets': the selection of entries and the definitions of a set of related items should be worded, as far as possible, consistently. A modern dictionary will include entries for all chemical elements, even rare ones, on the principle of consistency of sets. On the other hand, it would be quite impossible to include entries for all possible chemical compounds, so some additional principle — e.g., common usage — must be invoked. Computer technology is a great help here: it enables the chief editor of a new dictionary to divide up the work by topic rather than in alphabetical order and to assign the work to relevant specialists, so that, for example, the chemistry editor can make a reasonable selection of terms denoting compounds; the medical editor can define all the bones of the body, all the organs, all the physiological processes, all the diseases; and so on in accordance with a systematic plan, without being hampered by the need to work in an alphabetical order (or to use cumbersome card indexes), as was the case before computer text processing became common-place.

Consistency of treatment is all very well, but there is also a danger that consistency may become a false god, forcing the members of a lexicographical team to distort subtle linguistic differences in the name of consistency. The lexicographical apparatus available to the members of a lexicographic team must be powerful enough to reflect subtle differences in linguistic facts, and team members must know how to use it. For example, in an English dictionary, for the sake of economy of space, the word *lexicographical* may be listed as a rare variant of *lexicographic*. No separate entry is necessary. But the same treatment certainly cannot be accorded to *historical* and *historic* or *economic* and *economical* or *economic*. So much is obvious. However, other cases may be more difficult to decide. What, for example, is to be done about *evangelical*? Should it be treated simply as a rare variant of *evangelistic*, or is there a subtle difference of meaning, requiring separate entry? Careful scrutiny of the evidence is required, rather than application of a rule by rote in the name of 'consistency'.

**Descriptive or Prescriptive?**

Most modern lexicographers agree that their job is to describe the language, not to legislate about right and wrong. Those few who have, from time to time, set themselves up as pundits and pontificators have had remarkably little success in halting the endless process of language change. Some changes in language may be a matter for regret, while others may be welcome. However, the lexicographer can only hope to describe what is going on in the language, not to change it. This is a very different principle from the principles that motivated 17th- and 18th-century European lexicographers, for example, the Académie Française (see Académie: Dictionaries and Standards). The lexicographers of the Enlightenment had explicit goals to 'fix' the language, to set standards of correct usage, and to combat any decline in those standards. It fell to Samuel Johnson to abandon his original commission to 'fix' the English language and to draw attention to the impossibility of such a goal:

> When we see men grow old and die at a certain time one after another, from century to century, we laugh at the old that promises to prolong life to a thousand years and with equal justice may the lexicographer be desired, who being able to produce no example of a nation that has professed to fix words and phrases from mutability, shall imagine that his dictionary can embalm his language, and secure it from corruption or decay. With this hope, however, academies have been instituted, to guard the averses of their language, to retain fugitives, and repel intruders; but their vigilance and activity have been too belated; vain soundings too volatile and suitable for legal restraint; to enchain syllables, and to lash the wind, are equally the undertakings of pride, unwilling to measure its desires by its strength. (English dictionaries, 1755, Preface)

Nevertheless, no matter how vehemently the lexicographer may agree with Johnson and protest, with Claremont Barmhart in the General Introduction to the American College dictionary (1949), that "it is not the function of the dictionary-maker to tell you how to speak, any more than it is the function of the mapmaker to move rivers or rearrange mountains or fill in lakes," it must be acknowledged that many users will inevitably treat a dictionary as if it were a prescriptive tool, looking to it for guidance on good usage. As Jesi Stein wrote in the preface to the first edition of the Random House dictionary (1966):

> Since language is a social institution, the lexicographer must be aware of the social dynamics of language. The acceptance of a new word or phrase is an indication of the strength of society toward particular words or expression, whether he regards those attitudes as linguistically sound or not.

Various expedients have been devised to deal with this problem, of which the most successful is to comment explicitly on disputed points of usage, discussing the evidence in a usage note (see later section on The Internal Structure of Dictionary Entries).

**Historical Principles or Synchronic Description?**

As a general rule, scholarly dictionaries of record are compiled on historical principles — that is to say, they first record the etymology of each word in the language (see Etymology), then define the earliest sense of the word, and then go on to outline the word's semantic and grammatical development from that point on. Large dictionaries of record also give archaic and obsolete spellings. Because languages are unstable, i.e., word forms, conventions of usage, and meanings change over time, many entries in the great scholarly dictionaries of literary languages start with a sense that is now obsolete. Current senses are sometimes buried in the middle of an article or near the end. To take a simple example, the word camera in English is now used almost exclusively to denote an apparatus for taking photographs, but formerly it meant 'a small room' (the sense of the Latin word that was taken into English in the 17th century) or 'a legislative chamber' and, more specifically, 'the treasury department of the papal curia.' Placing these three senses first in the entry for the English word camera raises interesting theoretical questions about the nature of literal word meaning. The methodology of historical principles is elaborated in Burchfield (1989).

'Synchronic principles' — placement of the modern meaning of each word first — may seem to be no more than a matter of common sense, but in some cases it turns out not to be easy to decide what is 'the modern meaning.' For example, it is not clear whether the 'modern meaning' of the English word *oasis* is (1) a haven of calm in a big city or other hectic place or situation, or (2) a fertile spot in a desert. (1) seems to be at least as common as (2). For practical purposes, it might be thought desirable to place (1) first, since few English speakers live in a desert. Appeals to etymology are often made, but if etymology were a good guide to the literal meaning of modern words, then the first meaning of *camera* would be 'a small room' and the first meaning of *dope* would be 'a thick varnish.' To decide which meaning to place first, the synchronic lexicographer needs to take a principled view about what counts as indication of the attitude of society toward particular words or expression, whether he regards those attitudes as linguistically sound or not.

Rather than continually common and then to arrange the other senses in some sort of coherent order thereafter. Dictionaries entries have a discourse structure of their own. Different senses of a word are not merely mutually exclusive alternatives. Rather, the entry for a polysemous word is to be read as a whole, in which senses (2) and (3) are influenced by and influence each other and by the entry for what has been stated at sense (1). Thus, it is easier to explain and understand reference to an *oasis* of calm in a big city if it can be read as a secondary sense, a conventionalized metaphor expounding a primary definition that describes an oasis as a tranquil green location in a desert.

**Lexicographical Procedures**

**Collecting the Evidence**

As already mentioned, it is now widely accepted that the central part of the lexicographer's task is to
Identifying Words: Tokenization, Lemmatization

Once words have been identified, their usage and meaning can be studied. But what is a word? To readers of English, Spanish, or French, it seems obvious that a word is a string of letters, bounded by a space or a punctuation mark. It is easy to overlook how reliant on an artificial cultural convention this notion of word boundaries is. Establishing word boundaries is a problem for computers in German and many other languages written alphabetically, not to mention languages such as Chinese and Japanese, which have other writing systems. Two examples of the problem may be given from German. On the one hand, German prints as a single ‘word’ some items that in English require at least four ‘words’ – for example, Büchner'sche 'drive away' is found in finite contexts such as Er fährt langsam ab 'he drove slowly away'; thus a single ‘word’ is printed as two ‘words’ at opposite ends of the sentence. Such conventions present interesting challenges, especially for an English dictionary entry is made when the meaning is not recoverable from analysis of the parts. There is no point in putting a frequent collocation into a dictionary if it is perfectly obvious what it means, i.e., if the normal relationship of modifier + noun applies, no matter how frequent the expression may be. The purpose of including a multoword expression in a dictionary is to explain something that needs to be explained. Having said that, it must be acknowledged that there are many multiword expressions with special meanings that are ignored by dictionaries. For example, in English, forest and wood are synonymous, so it ought to follow that forest fire and wood fire are synonyms. But they are not. A forest fire occurs only in the wild – it is dangerous and out of control; a wood fire implies deliberately burning wood in a hearth, under human control, to generate heat. Innumerable similar examples could be cited. Multoword expressions remain a challenge for lexicography. Can a lexicographical project correct the reductionist expectations that would equate fire with forest fire, and if so, how can it be done?

Names in Dictionaries

The traditional criterion for distinguishing names from words is not entirely satisfactory. Common sense suggests that the name 'Samuel Courtauld' denotes a single individual. But in fact there are (have been) several Samuel Courtzults in the history of the world, only one of whom founded the Courtauld Institute of Art in London. Is Courtauld a word of English? And then what about all the other Samuel Courtzults? The term Courtauld has no particular semantic function; in most, it has a series of denotations, separately picking out all the individuals who bear and bore this surname. Is Courtauld a word of English? It is undesirably a type in a corpus. And then, what about the names of all the billions of other people, past and present, in the rest of the world, whether English-speaking or not? There is no difficulty in regarding them as types, because a type is just a processing notion, without reference to meaning. But it would be absurd to call them 'words of English' or put them in a dictionary. However, lexicons for computer use are a different matter. Some of these lexicons contain very large lists of conventional names as an aid to 'named entity recognition.' Some writers consider that the lexicon is a "cultural system of reference," a criterion that would justify including in a dictionary names that have collective cultural reference, such as London, Washington, Shakespeare, and Courtauld. Many larger dictionaries such as the American Heritage Dictionary and the New Oxford dictionary of English (NODE) include names that are part of the cultural reference system. Other dictionaries do not, with occasionally bizarre results, for example when Jesus gets an entry as an oath (a general word of the language), but not as the name of the founder of the Christian religion. In dictionaries that make this distinction, English gets it (presumably, it is a word), but English does not (it is a name).

Names of products raise other problems. The term Mars Bar is generally considered a name rather than a word, but why? A class of names has a plural inflection, and behaves in other respects like an ordinary English count noun. Yet it is not ignored by dictionaries. Mars may be adopted as a triumph for common sense but not for systematics. As a type (or rather, a collocation of two types), Mars Bar qualifies for entry in large electronic lexicons for computer use. The process of English effectively by computer without being able to process Mars Bar. And for many applications, knowing that a Mars Bar is candy and not a steel girder is important knowledge, and the fact that needs to be encapsulated in a computational lexicon. Bilingual dictionaries, too, include names, but typically only place names for which different language equivalents exist, for example German München English Munich. There is, however, an increasing
fashion in the modern world to use the local form of place names, so that, for example, Leghorn (the former English name for Livorno) or Rottweil (Regensburg) must be labeled as archaic if they are included in a dictionary at all.

Foreign Borrowings

Languages and cultures borrow from one another. For example, speakers and writers freely use French, German, Italian, Spanish, and other expressions in an English-speaking context. The converse is even more true: English is the source of very many foreign borrowings in all the languages of the world. This raises problems for the inventor.

Is tete-a-tete an English word? There are at least three uses of it as a perfectly normal word of English in the British National Corpus. The French form (tete-a-tete) is, of course, spelled with accents, but in English it can equally well be written without accents. Many similar examples could be given.

Expletives

Are the English expletives er, um, oh, uh-huh, pshoah, etc., words? Should they be in a dictionary? (The same question applies to expletives in any language.) They occur as types in careful transcriptions of spoken English. To that extent, they may be regarded as words, and indeed, nowadays they often make an appearance in dictionaries.

Technical Terminology

Are the coinages of chemists words of English, e.g., 2,3,7,8-tetrachlorodibenzo-p-dioxin? Most dictionaries take the view that highly artificial domain-specific terminology of this kind should be classified quite separately from the general vocabulary. Such terms are not words at all, it is said — no more than are the symbols used by logicians and mathematicians.

The problem of terminology is not restricted to the sciences. Sports, too, for example, have an increasing rich and rarefied range of domain-specific terms. To take an example from cricket: should silence mid-off be classified as a "word"? It makes perfectly good sense in a cricketing context, but is not part of general English. The term has a space in it, which in English normally counts as a boundary between types, but we have already said this is not an infallible guide to identification of word types for a dictionary. Some tokenizers treat the hyphen, too, as a boundary between types, which would make this expression three types. There is no sense (except etymologically) in which it counts as a head noun (mid-off) modified by the adjective sily. Such an analysis would be a further example of misplaced syntactic reductionism.

Many other examples could be given of the difficulties of processing the evidence of words in text to produce the abstraction that is a dictionary headword list. The fact that there are traditional solutions to such problems, many of them unchallenged, should not blind us to their existence. In the age of computational text processing, lexicographers may need to revisit their most basic assumptions about what a word is.

The Internal Structure of Dictionary Entries

Once the evidence has been collected and organized into alphabetical order or some other order, the lexicographer must start writing the entry. In practice, especially in dictionaries involving large teams of lexicographers, the two components of the work go hand in hand. There is considerable overlap.

Collection of evidence — especially evidence for new and "trendy" words beloved of publishers' marketing departments — normally continues until the last possible moment before publication. Dictionaries are among the most highly structured texts known to humans. They consist of hundreds of thousands of little bits of information, carefully pieced together in an ordered pattern. An entry in a large dictionary typically contains at least the following information types: orthography, pronunciation, grammar, definitions, examples of usage, synonyms, etymology, descriptive comments and usage notes, and a word history.

Orthography

The single most common use of practical dictionaries in English and other languages is to check spelling. English spelling, though eccentric, is settled (with very few exceptions) and inflections are few, so it would be easy for an English lexicographer to look up the contents of the dictionary and in the orthography in other languages, for example, Irish Gaelic, for which a complete new orthography was developed for the language in the 20th century, or German, which undergoes periodic bouts of spelling reform. In non-European languages it is sometimes necessary for a lexicographer to make a principled decision about which dialect should be represented as the lexicographical standard or how many variants should be shown. Great historical dictionaries, such as the OED, typically list the variant spellings that were in use at different periods in history.

The orthography of inflected forms, too, must be represented. Again, English is at an advantage in that it has comparatively few inflections and those that exist are mostly regular. It is no great burden to list the inflected forms of the few strong verbs that exist and each noun has a set of inflectional markers that are countable nouns and inflected forms of strong verbs must be indicated. In highly inflected languages such as Czech, inflections can generally be represented by reference to tables of declensions and conjugations. However, there are often variants and irregularities, all of which must be represented somehow. The lexicographer must also decide systematically which inflected forms must be represented and which can safely be ignored (either because they are regular or because they are rare or obsolete).

Pronunciation

Many dictionaries offer a guide to pronunciation of the headwords (and in some languages also of inflected forms), especially dictionaries of languages such as English, where the relationship between orthography and phonetics is not entirely regular. It is de rigueur for dictionaries to provide some pronunciation, and that is an important feature that does not arise in relation to dictionaries whether the representation should be of the word as it is normally pronounced in coherent speech or whether it should be a "reading-list pronunciation." Dictionaries deal with words in isolation, so they can only offer a reading-list pronunciation, which is a kind of abstract idealization.

Electronic dictionaries can, in principle, offer a choice between a written transcription and an audio representation. As long ago as 1969, Webster's New World dictionary pioneered the practice of accompanying the printed text of a dictionary with an audio representation of the pronunciation of words. Other dictionary publishers have followed suit from time to time, and now several have taken advantage of the potential of electronic technology in this respect. The audio representation may be taken from a list of words read by a human being, a text-to-speech synthesis, or both. In either case, a decision has to be made about which accent should be represented. As electronic dictionaries in hypertext form become better established, it may be expected that more detailed lexicographical attention can be given to the pronunciation of words in different accents. Which accent to represent? This is a tricky question. The dictionary must either choose one accent as being standard and representative, or it must attempt a representation of several different standards, which can sometimes be done by using symbols that have an "archetypal" value, i.e., each symbol can have a different value for each different accent. Of course, this only works insofar as the relationship between accents is regular; otherwise, alternative transcriptions must be offered.

Even in languages where one accent is generally recognized as standard, problems can arise. For British English, the representation of pronunciation is usually in a standard accent, which Daniel Jones called "received pronunciation" (RP), defining it in the 1926 edition of his English pronouncing dictionary as the accent of English "which is the everyday speech of families of Southern English persons whose menfolk have been educated at the great public boarding schools." Thus, it is not only a regional accent but also a class accent. At the very least, and years thereafter, English learners and many non-RP speakers aimed at RP in formal contexts, with varying degrees of success. In the intervening 80 years, however, since Jones wrote those words, RP itself has changed, although guides to English pronunciation, by and large, have not. In the Oxford dictionary of English pronunciation (OEDP, 2001), Clive Upton commented that the accent represented by Jones's model had become "the possession of a small minority restricted in terms of age, class, and region." The ODEP offered "a younger, unmarked RP." The differences are mainly in terms of vowel quality. The ODEP also offered guidance on American pronunciation. Upton's co-author, William Kratzschmar, commented that "English in the United States has no obvious standard spoken English," but that there was a "trend among educated speakers, especially those of the younger generation, toward limitation of the use of marked regional features while speaking in formal settings." As far as Australian English is concerned, the Macquarie dictionary offers a transcription of English words in a standard Australian accent, and several other dictionaries of national varieties of English likewise offer a representation of a local standard accent. Languages that have a rich variety of dialectal pronunciations, no one of which can be regarded as standard, tend to avoid giving guidance in dictionaries on pronunciation of words, since to do so risks raising more problems than it solves.
Which transcription system to use? The obvious scholarly choice for many dictionaries is the International Phonetic Alphabet (IPA) (see International Phonetic Association and Phonetic Transcription: Analysis). This, however, has its disadvantages. The symbols of IPA have an absolute value, so that even a broad transcription is accent-specific. Moreover, since accents change over time, an IPA transcription becomes out of date more rapidly than the alternative (a spelling-rewrite system). Perhaps these are among the reasons why almost all American English dictionaries prefer a spelling-rewrite system (borrowing only the schwa symbol, /ə/, from IPA).

**Grammar**

The presentation of grammar in dictionaries (as distinct from part-of-speech labels) is, for English at least, a controversial subject. There are many things that must be included—e.g., that the verb *put* requires not only a direct object, but also an adverbial of place—but the public are said to be resistant to too much grammar. Inclusion of detailed grammatical information about word usage is not a popular selling point. There are two ways in which dictionaries deal with this problem. One is employed by NODJE in 1998, to replace the *echo* emphasis on *grammatical development* and *conditioning* and to present in unabridged English words and phrases such as "with an example of place." The second is to devise a notational system that refers to an appendix on syntactic patterns of word use. The first edition of Longman's dictionary of contemporary English (LDOCE, 1978) devised such a system. It is very detailed and has the merit of taking up very little space, but it is not self-explanatory and only the most hardened seekers of grammatical truth seek out the appendixes and unpack all the grammatical information relevant to each word.

**Definitions**

In the English-speaking world, definition writing is one of the key parts of the lexicographical task. The project leader of a large lexicographic project keeps a set of compilers' instructions and tries to ensure that all members of the team are writing in roughly the same style and in a consistent way. Some of the principal issues in definition writing are discussed elsewhere in this encyclopedia (see Definition). A dictionary that sets out to record the whole vocabulary of a language must use separate styles for explaining function words and for discourse markers, sentence adverbs, and other "pragmatically" expressions, as well as many kinds of nonlexical information, such as the New Latin terms for species of plants and animals or the formulae of chemical compounds.

**Examples of Words in Use**

For many European dictionaries, the selection of examples of usage is seen as a central activity. By contrast, exemplifying usage is a neglected aspect of some older one-volume English dictionaries.

In scholarly historical dictionaries such as OED, examples of words in use are cited from literature, with date, author, and other bibliographical details. It is this, and not only the size of the word list itself or the richness of definition, that contributes principally to the volume-wide bulk of such dictionaries.

One-volume dictionaries make a selection of examples, showing how different senses of words are ordinarily used. Nowadays, with the easy availability of machine-readable corpus evidence, such examples are usually chosen from authentic texts rather than invented by the lexicographer, but still careful selection is needed to avoid the risk of giving examples that are taken from eccentric or high-flown literary usage. Despite the efforts of linguists in recent decades, selective preferences are still not well understood. The text of a dictionary should be as straightforward as possible, and the lexicographer should use authentic examples rather than invented ones. Many learners' dictionaries and textbooks of the 1970s contain examples of usage concocted by writers which (presumably unconsciously) violate selective preferences. On the other hand, authenticity alone is not enough: authentic texts are full of colorful and eccentric language. The lexicographer who wishes to help a user encode the language is under an obligation to choose examples that show words in their most central and typical usage. One might almost say that such examples should be chosen for their dullness.

**Phraseology**

Brief mention must also be made of phraseology in dictionaries. Entire dictionaries are concerned with idioms and idiomatic expressions (see Idiom Dictionaries). Common idioms are also explained in general dictionaries, typically at the end of the entry for one of the key words in the idiom. Bilingual dictionaries give a great deal of information about phraseological equivalents in different languages, seeking to help the user overcome the problem that many expressions cannot be translated word for word.

Large monolingual dictionaries of some European languages, such as German and modern Greek, devote more space to listing common phraseology, showing how words are used, than to explanations of meanings.

Prescriptive Comments and Usage Notes

As stated above, users often expect guidance from a dictionary on matters of 'correct' and 'incorrect' usage, paying no heed to the lexicographers' protestations that their task is merely descriptive. Some prescriptive works do exist, for example, H. W. Fowler's Modern English usage (1926), revised and updated by R. W. Burchfield in 1983, which is much admired for its robust and sometimes humorous advice on various aspects of English style. Perennially popular, too, are more basic practical works, such as The Oxford guide to style (2002) (a successor to Hart's rules for composers and readers at the Oxford University Press) and Judith Butler's Copy-editing: The Cambridge handbook for editors, authors, and publishers, which concern themselves with such matters as hyphenation, punctuation, italicization of foreign words and phrases, and consistency of spelling.

Large practical dictionaries deal with the problem of the demarcation of what writers for prescriptive instructions about word usage either by ignoring them or by including a commentary on controversial issues, such as the use (in English) of split infinitives, competing pairs such as disinterested versus uninterested, and the use of taboo words. These comments may be no more substantial than register labels such as ' slang ' or ' taboo ' (see Register: Dictionaries), or they may be fairly substantial essays. NODJE made a concerted attempt in its longer usage notes to bring corpus evidence to bear, comparing what writers actually write with what the pundits say they ought to write. The American Heritage dictionary contains usage notes, edited by Geoffrey Nunberg, in which the opinions of a panel of pundits (173 of them in the 1992 edition) are summarized on different issues, e.g., whether it is correct to use impact as a verb: "84 percent of the Usage Panel disapproves of the construction to impact on, as in the phrase social pathologies, common in the inner city, that impact on such a construction." The use of impact as a transitive verb in the sentence Companies have used disposable techniques that have a potential for impacting our health ...".

**Word Histories**

Bilingual dictionaries and dictionaries for foreign learners do not normally say anything about etymologies, word histories, or obsolete senses. However, most larger dictionaries for native speakers see it as an essential part of the lexicographical task to explain not only the meaning but also the history and semantic development of a word, or at least of the main root words. The meaning of a word can often be illuminated by knowledge of its etymology, for example, that the English verb conciliate is ultimately derived from the Latin noun catena 'chain' or that the modern German verb leisten (a word for which there is no English equivalent, the translation varying according to context: Gehorsam leisten 'to obey', Hilfe leisten 'to help', Arbeiten leisten 'to do work', sein Eid leisten 'to swear an oath') is derived from an ancient Germanic verb meaning 'to follow in the footsteps of (a feudal superior)' . Etymologies tell a culturally uniting story about the interactions between languages and cultures. In a hybrid language such as English, even something as simple as an indication that a word is of Germanic or Latin origin, as the case may be, is illuminating information included in many small dictionaries, including dictionaries for schoolchildren.

A dictionary on historical principles places the etymologies first in the explanations, immediately following the headword and pronunciation. Etymologies in great scholarly dictionaries such as the third edition of OED, now in progress, can be quite extensive and amount almost to scholarly articles in their own right. Practical dictionaries on synchronic principles take a slightly different view of word histories. First, there is less emphasis on etymology as a result of OED, there is less emphasis on morphological developments and, third, information about important obsolete senses (which in a dictionary on historical principles usually appears first among the definitions) may be placed in the etymology or 'word history.'

A primary concern of dictionaries on historical principles is with dating. Many practical synchronic dictionaries of English give information about the earliest date at which a word was recorded in the language. Since this can rarely be done with absolute precision, the date is generally given in terms of a spread of dates; Collins gives the century in which the word was first recorded, relying largely on the historical evidence of OEDs; the Random House dictionary of the English language (2nd edn., 1987) generally indicates the decade (or some other spread of years) in which the word was first recorded and seems to be similarly indebted to OED.

**The Future of Lexicography**

The Challenge of Corpus Evidence

The inventory of the words of well-known languages like English, Spanish, French, Italian, Russian, and German is well established (within certain conventional limits). Increasingly sophisticated efforts have been devoted to recording the words of these
languages for over three centuries. They are widely spoken and have a vast literature, and the main task of the lexicographer has traditionally been to record new words and phrases, and new senses of words as they develop. In other words, the task of the lexicographer is (or was) to maintain an existing dictionary or add to the existing dictionary, including adding the words and new senses as they arise. This is still the case in the United States. However, this conservative notion has been shaken somewhat since the mid-1980s with the development of language-readable corpora of languages (see Corpus Linguistics). Fashionable linguistic theories of the 1970s and 1980s required a language to consist of a 'lexicon' (a fixed inventory of lexical items) and a 'grammar' (a fixed set of rules), but corpus analysis has shown that the lexicon consists not only of a large number of regular words, but also of an unbounded number of words that have occurred only once, even in very large corpora, and that may never occur again—words such as graphophone, which occurred once in a Associated Press news item for 1968 and has never been seen since—while even quite common words are sometimes used in a way that is not satisfactorily accounted for by received grammatical rules and 'selectional restrictions' (a term that must be contrasted with 'selectional preferences'). In other words, the lexicon itself is dynamic. New words are coined all the time, both by recombination of existing morphemes by productive use of the phonological system of the language. Moreover, the meaning of a word in (particular the everyday words of a language, as opposed to technical terms such as mammal, which have scientifically stipulated definitions, is to a large extent dependent on the context in which they are used. For example, the verb treat denotes attitude or behavior if it is used with an adverbial of manner, but is more likely to denote the sequence of events if there is no adverbial. The sentence “I hazarded various Stuart-sesque destinations like Florida, Baltimore, and Western Turkey” (British National Corpus) can only be explained as a dynamic exploitation of a normal use of the verb hazard, involving the use of ellipsis (“I hazarded a guess at various Stuart-sesque destinations . . .”). In addition, the word Stuart-sesque is not regular in English; it must be explained in terms of the personal name Stuart and the bound morpheme -esque. Corpora offer many such challenges to lexicographers; on the other hand, they can equally well be used as a pool in which to fish for examples that support existing hypotheses.

Monolingual lexicography is only just beginning to come to terms with the challenge of corpus evidence. English dictionaries that have devised corpus-driven procedures for the description of the lexis from the outset are Cobuild (1st edn., 1987), the Cambridge international dictionary of English (1995), NODE (1998), and the Macmillan English dictionary (2002). Older established dictionaries (including the Oxford Advanced Learner’s dictionary) and NOCE, have revised their entries systematically in the light of corpus evidence but have not radically revised their general framework. All except NOCE are dictionaries for foreign learners of English. There are other dictionaries whose publishers claim or imply a corpus connection, even though the text remains virtually unchanged from earlier editions, compiled before electronic corpora were available. In other languages, the situation is similar. For example, the Duden dictionaries contain some recent updates of entries that appear to be beholden to the evidence of the corpus of the Institut für deutsche Sprache, but a systematic new corpus-based analysis of the German lexicon has still to appear. Ironically, it is dictionaries of languages with smaller populations, such as Irish Gaelic and Korean, that seem to be taking the lead in exploiting the new opportunities afforded by corpora.

Online Lexical Resources

The Internet is tailor-made for lexicographical projects. The constraints of the printed page (two-dimensional, limited space, printed in expensive multivolume format, etc.) do not apply, although this opens the door to possible faults, such as prolixity and excessive ingenuity.

At the present time, however, these faults are not a major preoccupation. Online dictionaries have not yet taken full advantage in any language of the potential of computer technology. This may in part be due to the great expense of setting up something such as a hypertext dictionary for a whole language and the lack of a clear business model. The economics of dictionary publishing in book form, though sometimes nerve-racking, have the merit of being well understood. The economics of online publishing are as yet somewhat unpredictable; there is little evidence of the poten-

dictionary and even more reluctant to fund new editions of existing resources. Major academic research projects on the lexis in recent years, such as WordNet and FrameNet, point to the way that is in fact to what is possible, but they are only a beginning. A full multimedia account of the lexis of a language in a hypertext form is at present no more than a pipe dream.

Information Sources, Conferences, and Associations

The leading journals for lexicography are The International Journal of Lexicography, published quarterly, and Dictionaries: The Journal of the Dictionary Society of North America, published annually. The former contains articles not only in English but also in French and German. It takes a global view of lexicography, with articles on dictionaries of all languages, although the chief focus is, not surprisingly, on dictionaries of the major European languages—monolingual and bilingual, synchronic and diachronic, pedagogical and encyclopedic.

Conferences and workshops on lexicography are regularly organized by lexicography associations in every continent in the world. Chief among these are the Eureflex (biennial conferences since 1983 plus other workshops), Australex (biennial conferences since 1990), Afrellex (annual conferences since 1996 plus other workshops; see African Lexicography), Asianlex (biennial conferences since 1997), and the Dictionary Society of North America (annual conferences since 1975). A regular conference on computational lexicography, Complex, has been hosted each year since 1992 by the Linguistics Institute of the Hungarian Academy of Sciences in Budapest.

A seminal conference was held as long ago as June 1972 under the auspices of the New York Academy of Sciences, the proceedings of which appeared in 1973, edited by McDowell and Duckett and including papers by Bolinger, Gzusta, McIntosh, Quirk, Burchfield, Lakoff, McCawley, Malcol, Quine, Urding, and others. Although the title of the collection is Lexicogra-

phography in English, some of the papers touch on issues that are of general relevance to lexicography in all languages.

Reliable and informative discussions of lexicography as a discipline include those by Lindau (2001), Jackson (2002), and Svenon (1993), and the papers collected by Hartmann (2003). An important refer-


See also: Academies; Dictionaries and Standards; Ancient Lexicography; American Lexicography; Bilingual Lexi-
cography; Chinese Lexicography; Computational Lexicography; Computational Dictionaries and Lexiconaries; Computational Lexicons and Dictionaries; Computer in Lexicography; Corpus Linguis-
tica; Corpus Lexicography; Dictionary; Dictionary and Encyclopedias; Relationship; Dictionaries; Dutch and Flemish Lexicography; English Lexicography; Ety-

mology; French Lexicography; German Lexicography; Greek Lexicography; Classical; Eponym Dictionaries; Inter-
national Phonetic Association; Jones, William, Sir (1746– 1794); Learners’ Dictionaries; Lexicology; Middle English Dictionaries; Old English Dictionaries; Old French Dictionary;

Phonetic Transcription; Analysis; Register; Diction-
aries; Slane Dictionaries; English; Terminology and Terminological Databases; Thesauruses; also articles on lexicography in particular languages, under the name of the relevant language.

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