The computer and the Internet have become indispensable to the lives of educated people. As a result, ways of obtaining information have greatly changed. The readership of the printed media appears to have been gradually decreasing, something that may also happen with dictionaries. It has for example been noted that three mediums for dictionaries – paper, electronic gadgets, and the Internet – are now about equally popular with students. Gone therefore are the days when paper dictionaries dominated the reference world. For example, more than 70% of students interviewed at Hong Kong Polytechnic University claim that they use e-dictionaries more often than the traditional bulky paper products: among them, the most ‘bookmarked’ is the online version of the Cambridge Advanced Learner’s Dictionary. Online dictionaries are now therefore the main force in word reference.

Introduction

In 1998, there were no fewer than 400 English online dictionaries on the world wide web, most of them regarded as lacking linguistic completeness (Li 1998:21). Technology at that time could make navigating difficult, especially during peak periods when the Information Superhighway turns into a SuperHYPEway – a term coined by Lavin. The introduction of broadband technology has however greatly reduced the pain of waiting on the Web and the improvement of online dictionaries has attracted more users to the world of cyber reference. An American telecompany, Sprint, set up a new record of data transmission via the Internet in June 2004, when 840 gigabytes of data were transmitted 16,346km in 27 minutes, averaging 4.23G per second. Presently, world language.com claims that ‘1521 dictionary products [are] now available in 161 languages’, and Onlook dictionary.com has indexed 992 dictionaries, compared to 188 in 1997. All of which has proved Carr’s prediction that ‘the internet will ultimately influence lexicography, along with all [other] fields of knowledge’ (1997:221).

Availability of serious dictionaries online

When online dictionaries first came into being, few were produced by major publishers or lexicographers and were not particularly reliable. However, the situation has changed greatly in the past few years. Nearly all major traditional dictionaries now have online versions, whether partial or full, paid or free: they simply cannot afford to lose this battlefield and have tried to develop leading roles in providing language reference products and services on the Internet. Detailed lexicographic information that is almost as good as in traditional hard copies of dictionaries are now available on screen, and it has become possible to copy their content to a file. Quality has improved and speed in finding what one wants has increased, making it possible to look up a word while working on one’s computer. See Table 1.

At the present time, the contents of online dictionaries can be as good as their traditional
<table>
<thead>
<tr>
<th>Title</th>
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<th>Features</th>
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<tr>
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<td><a href="http://www.askoxford.com/">http://www.askoxford.com/</a></td>
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</tr>
<tr>
<td>Cambridge Advanced Learner’s Dictionary</td>
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<td>With links to other CUP dictionaries, resources and learning activities, 66,408 words</td>
</tr>
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<td>Longman Dictionary of Contemporary English</td>
<td><a href="http://www.ldoceonline.com/">http://www.ldoceonline.com/</a></td>
<td>Second layer information</td>
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Table 1 Noteworthy dictionaries and their websites

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Fig 1. The result of a search for the word `account` from CALD <http://dictionary.cambridge.org>
paper equivalents. If a screen does not contain everything one wants, further lexicographic information can be obtained by clicking on a hyperlink. An online entry of Cambridge Advanced Learner’s Dictionary is as in Fig 1.

As the British lexicographer Michael Rundell has observed: ‘There has never been a more exciting time to produce a new dictionary. Everything is changing, diversifying, and expanding: the English language itself, the technology that helps us to describe it, and the needs and goals of people learning and teaching English’ (2002:x). There is no doubt that new technology has speeded up searches and reduced waiting time, worry, and waste, and the birth of the broadband service provided by Internet companies has enabled users to make the most of high-speed access to the Internet. The main reason for the popularity of online dictionaries, however, is the extent to which their contents have improved.

English dictionaries, whether used electronically, on-line or in print form, are meant to help users and learners expand their vocabulary for both reception and production and to help them communicate more effectively in English in many aspects of their lives. The role of an online dictionary is therefore, at heart, little different from its print predecessor, in terms of providing the meanings of words, their pronunciations, examples of use, usage notes, and the like. While paper dictionaries of necessity remain much the same size, their electronic counterparts are ‘stretching’ rapidly. Their microstructure can be enriched with many language-learning features which traditional lexicographers would never have dreamed of. The core vocabulary that students need most for writing and speaking English is also well illustrated in online dictionaries, through which users can have a detailed look at grammar, style, diction, word formation, gender, social groups and scientific forms, and now even etymological information, synonym paragraphs, and regional notes, exploring the language in both breadth and depth. Such changes in online dictionaries result from the convergence of the various traditions in both lexicography and ELT, leading to the integration of language learning activities, lexicon, concordancing and multimedia (Fig 2).

Many online dictionaries are now backed by corpora. Macmillan for example has claimed that ‘revolutionary new software has helped us to analyse over 200 million words of real spoken and written text to reveal fresh information about how and when words are used’. Because of the possibilities inherent in PCs and the Internet, some online dictionaries are now directly linked to language corpora. Examples of this can be found from the online dictionaries at the Virtual Language Centre and Business Lexicon (Figure 3), anchored at Hong Kong Polytechnic University. With corpus-driven dictionaries, users can benefit not only from both definitions and usage notes but also draw inferences from authentic language materials.

Most online dictionaries have a user-friendly interface in an accessible format with an invit-
ing and even elegant design. Some have full-colour photographs, drawings, and maps which make browsing more interesting and impressive. Many online dictionaries claim that their words are included on the basis of their usage and have distinguished themselves by offering clear and comprehensive usage guidance. Macmillan and Cambridge have for example embedded hundreds of new and updated usage notes in their texts in order to help users make informed decisions about the kind of usage questions they face every day. Hyper-support and hypertext that reflect the centrality of the user constitute an enormously popular practice in both computing and lexicographic circles.

Some online dictionaries allow the user to find the right synonym with a minimum of effort. Unlike traditional hard-to-use thesauruses, online easy-to-use references reach the target information directly with alphabetically arranged synonyms or antonyms with both brief definitions and usage information. In the online version of *Roget’s Thesauruses II*, each entry is divided into different senses, with definitions and a full list of synonyms for each sense, to ensure that the selected usage is the most appropriate. All special usages, such as slang terms, are labeled and grouped together at the end of each synonym list. Following each list is a cross-reference to a related entry in the thesaurus’s unique Category Index, which leads the reader from the starting word to dozens of others with related or opposite meanings.

Synthesized text-to-speech (TTS) technology has been used in some online dictionaries, converting machine-readable English text into audible speech. Scientists and engineers have made a significant effort to increase the naturalness of speech synthesis while maintaining intelligibility. Given the immense number of words in dictionaries, it cannot currently be guaranteed that all words are pronounced ‘perfectly’, but this service is still a great help to users, and especially EFL learners.

Online dictionaries can also show the differences between British English and American English in both writing and speaking. Users can listen to the pronunciation of every word in both British and American English, while a spellchecker facility can suggest alternative spellings when the user cannot find the word. In addition, the user can double click on any new word in the definition to read its appropriate entry.

The easy availability of online dictionaries also helps democratise the way lexicographers work. Unlike the rather passive traditional use of paper-and-print dictionaries, online users can in some instances contribute their own entries. Merriam-Webster’s website has for example a new *Real Time Words* feature, a live random sampling of words looked up in the *Merriam-Webster Online Dictionary*, displayed exactly as they have been entered by thousands

![Fig 3. A corpus-linked Business Lexicon](http://158.132.110.227/PolyLexicon/)

THE GROWING PROSPERITY OF ON-LINE DICTIONARIES 19
of visitors to the site. Comparably, Stephen Moss has reported in *The Guardian* that Collins launched in December 2004 an online *Living Dictionary* ‘which contains words and definitions by our users’. Interested netheads can suggest new words and argue over whether they should be added to the print version of the dictionary.

Such a completely new departure enables direct contact between the people who compile dictionaries and their end-users. One can for example log on to <www.collins.co.uk/wordexchange>, suggest a word, then wait for other logophiles to commend or berate us. The site was trialed after the launch day and there has already been hot debate over some words. However, since texts that have come directly from word-pickers are unedited, and not all the words seen will have traditional spellings – while some, in fact, may not even appear in the dictionary. But one thing is certain: constantly up-dated online dictionaries can provide a fascinating way to keep tabs on what words currently whet our curiosity. Some linguists also hope that such activity will do more to popularise their notion of studying the intricacy and charm of language as it really is, not as prescriptivists think it should be. The various dictionaries on line also give non-native users of English more opportunities to learn and appreciate the language.

But there is more to online dictionaries than work. Compilers also make good use of both capacity and multimedia facilities by building

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![Fig 4. The Foolish Dictionary](image-url)
in crossword puzzles, fun & games areas, and challenging new games like Phrase Invaders and Slide Solve. New puzzles are offered daily, but if you miss a day’s puzzle, you can visit the archive and play any game from the past thirty days. Other possibilities are the Foolish Dictionary <http://www.aaaugh.com/dictionary/a.html>, Fig 4, Strange and Unusual Dictionaries <http://www.bluegray.com/dictionary/> and Pseudo-dictionary <http://www.pseudodictionary.com/pseudoboard/>.

As has generally been noticed, rapid developments in personal computers have affected the ways in which people read and write, offering capabilities that were simply not previously possible. Information storage and retrieval is so easy that almost everyone can develop an e-library of their own. Through online dictionaries and thesauruses, users can use a word they did not know or understand before, and its definition can be checked again and again.

The strength of online dictionaries lie in their innovativeness: quick search, frequent updating, interactivity, and designer/user collaboration. Information retrieval by means of the computer’s search engine takes much less time than thumbing through the pages of an alphabetic dictionary, and so interrupting one’s reading can be kept to a minimum. However, without the stringent editing to which printed dictionaries are subjected, one may still be sceptical about online dictionaries. One of my students, engaged in a BA dissertation on ‘political correctness’, and curious about the use of the term waiter in a restaurant, found that the word is defined as neutral in an online Oxford dictionary.

Internet dictionaries present new possibilities and challenges. Their advantage over paper ancestors is to build in as much technological value as possible, and constantly improve them. They can be updated by allowing users to contribute new headwords, and can promote the self-learning process by providing users with a range of multi-media, multi-functional, multi-stipulating devices. However, the paradox of online dictionaries is that those we pay for will have limited hits while those that are free, especially if good, will be jammed with callers. Because of this, Collins had to withdraw its free Collins COBUILD Student’s Dictionary (CCSD Online) in April 2004 with the following announcement:

Due to excessive usage of the Collins COBUILD Student’s Dictionary (CCSD Online) we were forced to shut down this service temporarily. At the present time we have no resources to support the online version of the CCSD. We apologize for any inconvenience that the withdrawal of the free CCSD Online may cause you.

What then is the future of online dictionaries? They will probably thrive in line with modern lexicography and benefit from the on-going development of hi-tech. On the one hand, the next generation of wireless technology (beyond current 3G deployments) will probably entirely replace landline broadband. New techies will then make online dictionaries truly ‘cyber’. On the other hand, however, the central aim of cyberdictionaries is the management of large collections of information, together with better methods of retrieval and organisation for repositories of texts, images, sounds and other information. Equipped with phonetic, syntactic, pragmatic, and encyclopedic information, online dictionaries will become more valuable (and more preferred still over their paper equivalents) as a means of reference for students, writers, academics, and others concerned with language learning and use. They may not yet be perfect, but they will be better than good.

References
Li, Lan. 1998. ‘Cyberdictionaries,’ in English Today 54, 14:2, pp.21–24