Mélanges CRAPEL n°28

THE INTERNET, AUTONOMY, AND LEXICOGRAPHY: A CONVERGENCE?

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Résumé

L'Internet est un phénomène international qui influence tous les aspects de la vie courante et qui fait partie de plus en plus de la pratique éducative. Cet article aborde tout d'abord brièvement l'origine le développement de l'internet. Sont ensuite considérées les approches en acquisition des langues qui s'appuient sur la notion d'apprentissage auto-dirigé. Une attention particulière est donnée à la place accordée au dictionnaire dans ces approches. Cette discussion est suivie d'un bref aperçu de l'histoire de la lexicographie. Des résultats de la recherche sur l'utilisation du dictionnaire et les principes de la lexicographie pédagogique sont présentés. Les liens entre l'Internet, l'autonomie, et la lexicographie mettent en évidence l'apport des nouvelles technologies pour l'étude des langues. Ces options doivent être optimisées pour un accès facilité aux dictionnaires pédagogiques.

Abstract

The internet is an international phenomenon that is influencing all aspects of current life and is increasingly a part of educational practice. This paper begins by briefly outlining the internet's origin and rise to prominence. Next, the approaches to language acquisition which stress learner autonomy are considered. Special attention is given to the place of the dictionary in the autonomy and self-access literature. This discussion is followed by a short survey of the history of lexicography. Findings from research on dictionary use and tenets of pedagogical lexicography are then presented. The paper's strands of internet, autonomy, and lexicography are tied together to demonstrate that new technologies offer potent resources for the self-directed study of languages. It is argued that these learning options will be optimized when the power of computing is used to enhance the access to extant learner's dictionaries of high quality.

Introduction

The TAAAL conference[1] brought together language pedagogues for the purpose of assessing the educational uses, current and imagined, of internet technologies. Many gatherings on this topic have been held around the globe in the past decade and a half. The unique contribution of the TAAAL meeting was that the sponsoring centers, CRAPEL and GIAPEL, have had a longstanding commitment to the notion of learner autonomy. This methodological persuasion was shared by most participants. Hence the use of the word "first" in the full title of TAAAL was warranted.

This paper begins with an examination of the social phenomenon of the internet. It then considers the origin of the approaches to language acquisition which stress learner autonomy. Special attention will be given to the place of the dictionary in the autonomy and self-access literature. A brief survey of the history of lexicography will be included. Key insights from pedagogical lexicography and studies of dictionary usage will be presented. A deliberate historical approach is taken in this paper in an effort to counter what the author feels is an overly contemporary and futuristic orientation of much of the writing on educational technology. It will be argued that current practice should be rooted in the experience of the language teaching profession and augmented by traditional language learning tools such as dictionaries. This experience and these resources are not rendered obsolete by emerging technologies, but in fact revitalized and extended.

1. The internet and telecommunications

It is truistic to note that the internet is a part of the daily life of many people in the industrialized world. We use it in both our professional and pastime activities**.** With it we communicate with colleagues, access online databases, receive training, set meetings, make purchases, book work-related travel, etc. It is a convenient source for news reports and weather forecasts. We also use the internet to unwind after a day of work with gaming, leisure reading, shopping, listening to music, pursuing a hobby, blogging, etc. For many the internet is an important means of conducting their social life. They regularly read and post to listservs, frequent chatrooms, seek dates and even mates. They feel a sense of membership in one or more virtual communities. Thus, the internet is simultaneously a tool, a toy, and a tie.

I care to think that I am like most people as regards my computer usage. My morning routine involves getting the day's headlines from Yahoo®. I also check my email immediately upon arrival at my office. My invitation to present at the TAAAL conference came in a message which I almost deleted before reading it because I am bothered by many bogus offers. Some invite me to become a rich man via get-rich-quick schemes. Others urge me to become more of a man through virility enhancement products. So I have become wary of any email with the word "invitation" in the subject line. I attempt to filter my incoming messages to separate the valid from the invalid.

[1] This article is a revision of a plenary address entitled "Mining the riches of lexicographic traditions for the building of electronic learning spaces" presented at the TAAAL conference, May 28, 2004, Universitat Jaume I, Castellón, Spain.

The internet is vast and ever growing. The proliferation of wireless devices and services is making it ubiquitous. We can stay connected between our homes and places of work while we drive our cars or are on public transport. Household appliances, such as refrigerators, are being connected to the internet for the purposes of monitoring and control. These are called “smart devices” and they are rapidly proliferating. The merging of telephony, computing, and photography technology has produced a gadget that we can carry with us everywhere: it allows us to make calls, send and receive email, leave ourselves written or audio notes, compile lists of contacts, and snap pictures.

We appreciate having all these functions in the palms of our hands. We also value the wealth of information we can easily access on the world wide web from our offices and homes (in my case, in a rural part of the world). But there is a downside. As noted above, we are also inconvenienced by the amount of unwanted solicitations, spam, that we receive daily. In our electronic surfing we continually must close pop-up windows which contain offers that do not interest us. Yet if we are honest with ourselves we will confess that we are indeed tempted by the supposed ease of online shopping. Upon a bit more reflection, we are at the same time worried about the security of electronic transactions and fearful of being vulnerable to fraud and even identity theft.

This last point touches on the downside of the internet, the danger that lurks in it. The TAAAL conference took place in Spain which only two and a half months before was rocked by the terrorist attacks on the subway in Madrid. Mobile phones were used as the triggering device in the bombs. Hackers regularly unleash computer viruses that wreak havoc with networks and cause businesses and governments to lose money because of disrupted operations. A huge volume of child pornography is trafficked online. So the internet, and the wireless technologies that are merging with it, are being not only commercialized, but indeed criminalized.

The commonality of the internet lulls us into taking it for granted. But as academics we should examine everything; we ought to question all. We dare not uncritically accept phenomena just because they are hyped. The potential benefits of the internet for learning, and the attendant dangers it presents, further spur us to reflection. As we consider the educational uses of the internet, we should begin with a look at its history in order to know its origin and perhaps understand its rapid rise to notoriety.

2. The internet—a brief chronology [2]

The physical ancestor of the now ubiquitous internet was a four-computer network set up in 1969. It linked the University of California at Los Angeles, the University of California at Santa Barbara, the University of Utah, and the Stanford Research Institute. It was called ARPANET and was funded by the US Department of Defense. The first email program for this primitive network appeared in 1972. By this time there were 23 host machines. The year 1974 saw the coining of the term internet. By 1976 there were 111 hosts linked not only by ARPANET backbone, but

[2] This section relies largely on Kristula, 2001.

also by radio and satellite technology. 1979 was an important year because of two developments: a decentralized news network, USENET, and an email and listserv network, BITNET. IBM created the latter and this is indicative of some early interest in network computing by non-governmental entities. In 1981 there were 213 hosts and some were to be found outside of the United States. It only took a couple more years for the number of hosts to more than double. A momentum had been built up which has not stopped yet.

1992 was a decisive year because it was then that the World Wide Web was launched. After a slow start in the first two years, it boomed. It is estimated that there are now over 15,000,000 WWW hosts around the globe. The number of internet sites they house is many times that figure. No other development, be it in hardware or software, has done more to spread the usage of the internet than the WWW. It convinced any lingering skeptics of the power of large-scale networked computing. The WWW also broadened the range of internet content: images and audiovisual media added texture and a human feel to what had been a flat, textual medium. What is the secret of the WWW's fecundity? Perhaps its egalitarian nature. It is a democratic medium. It does not take expensive hardware or highly technical programming to put up a web site. Whatever its true genius is, its phenomenal rise and its near universality leave us educators with no choice but to be interested in its pedagogical potential.

3. Learner autonomy in language learning

In the discussion above of the rise of the internet, it was noted that 1979 was an important year. This date is also important in the consideration of the school of pedagogical thought which stresses the decisive role of the learner in determining the purposes, purview, and procedures of language study. The word "autonomy" is often associated with this approach. The seminal work which launched it was Henri Holec's Autonomy and Foreign Language Learning (more widely cited in its 1981 issue by Pergamon). This 49-page monograph was inspired by the skepticism towards "the establishment" and accompanying urges for self-direction which came out of the social upheavals of the 1960s. Holec's work adapted these notions to foreign language learning. It triggered a spate of other publications and a host of conferences. An indication of the former is the over 1000-item bibliography on autonomy which is available on the WWW (http://ec.hku.hk/autonomy/) thanks to the generosity of good people at the University of Hong Kong (P. Benson, 2003). The concept of "self-access" is similar to, but not entirely synonymous with, autonomy. Not surprisingly, there is some overlap in the literature between the two terms.[3]

Because the current paper is especially concerned with how online

[3] The following generalizations will be hazarded to distinguish autonomy from self-access. Writers who use autonomy tend to emphasize the sovereignty of the learner over the learning process from start to finish. They favor authentic materials to commercially-produced resources such as textbooks. They are motivated by philosophical convictions. Those who write about self-access are interested in creating facilities (eg laboratories and resource rooms) and furnishing them with materials which facilitate the independent study of languages. They are motivated by practical concerns. People can be a member of both "camps", but differences of emphasis one way or the other can be detected between any two authors. Neither group should be seen as advocating exclusively solitary language study.

lexicographic resources can promote language learner autonomy, Holec's treatment of dictionaries will be related. In a section on "the new role of the learner" he stated that they need "to learn to use tools such as dictionaries and grammar books, to assemble and analyze a corpus" (H. Holec, 1981: 22). Under a following section "new objectives in teaching", he said language instructors should:

> *help the learner… assemble learning corpora and analyze them… supplying information on the possible sources of learning materials (authentic and/or didactic) and preparation for the techniques of describing and classifying linguistic information (composing card-indexes, glossaries, etc).* (H. Holec, 1981: 24)

Holec called for learners to behave like lexicographers: they were to consult bodies of target language text and analyze them systematically. The extracting of items from the corpora and the gathering of them into glossaries certainly qualifies as lexicographic work as well. Heretofore, in "traditional" (eg Grammar-Translation) language pedagogy, learners had a receptive, not active, relationship to lexicographic works. They were consumers of dictionaries, not compilers of them.

Although Holec was not cited, the "new" roles for learners and teachers he advocated were soon echoed, and fleshed out in some detail, by Richard Rossner (1985). Rossner cited Interlanguage[4] theory as support for this inductive approach. He pointed out that what learners produce—lists of lexical items and hypotheses about how they are to be used in other contexts—are actually in some ways better than published works.

> *In spite of learners' inadequate preparation for the task… we can, I think, be confident that the learner's home-made… lexicon is superior to the average dictionary in several ways. First, it does not have that spurious air of authority and finality but remains fluid, open to change and correction at any moment (as long as the learner is ready for it). Second, it contains no information that is redundant or uninteresting to the user: there is no waste. Third, it combines look-up and thesaurus capabilities effortlessly.* (R. Rossner, 1985: 97)

Rossner also acknowledged the shortcomings of learner's lexicographical products. He was not arguing in favor of either, but urging the use of both what learners make and what is commercially available. The two stand in complementary relation.

Rossner did not claim any allegiance to the autonomy approach which was still emerging when he wrote in 1985. Rather, he stands in the tradition of pedagogical lexicography which will be considered later in this paper. How did the avowed advocates of autonomy view Holec's suggestions concerning the place of learner lexicographic work and the consulting of published dictionaries and other items in the lexicographic genre? Did they follow his lead and discuss how learners might get the most out of dictionaries in their language study?

As noted above, the amount of literature on autonomy is enormous.[5] Space

[4] The concept of Interlanguage, an intermediate stage or stages in a learner's competence between ignorance and mastery of a target language, emerged in language teaching circles in the late 1960s. The term was coined in 1972 (Ellis, 1994).

[5] Not all who use the word autonomy in language pedagogy can be considered members of the autonomy paradigm. For example, Leo Van Lier, a scholar trained in Great Britain who has spent most

does not permit a complete listing of every mention of lexicographic resources in it. So samples must be chosen and analyzed. Four book-length treatments, two on autonomy and two on self-access, have been selected. A book is useful because it normally contain references to the broader body of writings—articles and conference papers. And a book normally contains an index which facilitates subject searches. The books, in alphabetic order, are Benson and Voller (1997), Cotterall and Crabbe (1999), Dickinson (1987), and Gardner and Miller (1999).

Three of the four books have no entry for dictionaries in their index. The other book has no index, so this author looked at each page for references to dictionaries. Despite their absence in the index, there are 18 references to dictionaries in the 865 total pages. This works out to be about one entry every 48 pages. Most of the references are made in passing; that is, dictionaries are mentioned when discussing some other topic (eg vocabulary). Most importantly, there is no extended treatment of the dictionary in its own right, and there are no statements as to the value of dictionaries. To the contrary, one citation is strongly anti-dictionary and actually discourages learners from using them.

What can we conclude from the analysis of this sample of the literature? Dictionaries are not entirely absent, but neither are they prominent in the writings on autonomy and self-access.[6] It would appear that some scholars view them as incidental. However, we must be careful not to make an argument from silence. By looking deeper we may find that we have missed something. For example, this literature, and these four books, are replete with references to “materials” and “resources.” Dictionaries may be implied in at least some of these instances. Perhaps the writers take it for granted that learners will use dictionaries and see no need to discuss the matter at length. This would be the best-case scenario: dictionaries are assumed to be a part of autonomous language study. The worst case is that dictionaries are seen as antithetical to it.

To resolve the question of the status of the dictionary in the autonomy paradigm, additional evidence must be gathered. Some is readily available. First of all, there are other indications that dictionaries have not loomed large in autonomy circles. Only one of the 81 break-out sessions at the TAAAL conference was devoted to dictionaries. Even more telling is the fact that the 1000+ Hong Kong autonomy bibliography has only one entry that contains the word dictionary. On the other hand, an early book on self-access contains the following quote:

> *Of all the study skills… effective dictionary use is particularly important for language learning and deserves extensive and detailed treatment… few students know how to unlock the key to the wealth of information on grammar, pronunciation, and usage contained in a good student’s dictionary… This is a great pity as a good dictionary is not only an indispensable aid to self-access work, it is something that students can use… to enable them to continue learning.* (S. Sheerin, 1989: 37)

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of his career in the United States, has the word autonomy in the title of one of his books (L. Van Lier, 1996), yet he does not cite Henri Holec or any of Holec’s associates at CRAPEL (University of Nancy). Neither does Van Lier cite David Little of Trinity College (Dublin) or any of the authors (Benson, Crabbe, Cotterall, Dickinson, Gardner, Miller, Sheerin, and Voller) of books examined in the section of this paper on autonomy.

[6] Prominent French pedagogues such as Robert Galisson and Jean Pruvost demonstrate that interests in learner autonomy and dictionaries are completely compatible.

These comments not only manifest an appreciation of dictionaries, but also signal the need for learner training on how to use them in order to draw out the riches contained therein. Surely this latter point will resonate with the desire of autonomy proponents to equip learners for successful self-study. And yet the critics of dictionaries can still be found within the autonomy ranks:

> *In line with proponents of data-driven learning, it is argued that concordancers are superior to traditional grammar books, dictionaries and coursebooks, because they allow easy access to huge amounts of 'real' language in use, foster the learners' analytical awareness, and support the development of learner autonomy.* (S. Gabel, 2001: 269)

Perhaps now the tepidity towards dictionaries is explained. No one will deny that they contain much linguistic information. But why spend time training learners in their use when something much better, in this case, concordancers, are available thanks to computers and banks of linguistic data? There have been many technological advances since 1989 when Sheerin wrote her book. It may well be high time to abandon paper volumes and turn learners loose in vast electronic corpora equipped with software that allows them to make sense of all the data. By doing so they will not only learn the target language, but will develop cognitively, and not be dependent on instructors and institutions. It must be acknowledged that there is a subtle undercurrent of suspicion towards educational authorities within the autonomy tradition. Moreover, there is a desire on the part of its leaders to help learners avoid being held captive to the marketplace. Print dictionaries are in some sense guilty by association with commercial entities and other products. After all, the major publishers all issue grammars, dictionaries, and textbooks.

The mention of computers, and by implication the internet, in conjunction with autonomy relates to the theme of the TAAAL conference. The mention of corpora recalls Holec's inclusion of them in his pioneering work on autonomy. A review of the literature will show that those working within the autonomy framework have shown, and are increasingly showing, some enthusiasm for corpora. This is surely because corpora are in fact authentic texts. A hallmark of the autonomy approach has been the use of authentic materials. It is a conviction that learners should be exposed to instances of "real" language rather than be spoon-fed canned samples as are found in textbooks. So it would be appropriate for the remainder of the paper to treat corpora and concordancers as electronic resources that are consonant with notions of learner autonomy. But it must be recalled that Holec also did mention dictionaries. In 1979 when he penned his words he must have been thinking of paper volumes because the only computer dictionaries at the time were prototypes on mainframes. Can we legitimately dismiss his comments by pointing to developments in hardware, software, and networking that he can be forgiven for not foreseeing? Since the times have changed, perhaps we should just make the necessary adjustments. This author submits that to do so would be unwise at best and possibly even detrimental. The reasons for this contention follow.

4. A survey of lexicography

Dictionaries are household items, and they are fixtures in schools, universities, and faculty offices. Because they are so ubiquitous, we tend to take them for granted.

But our familiarity with dictionaries does not mean that we have nothing to learn about them:

> *Il n'est pas inutile d'apprendre à mieux connaître un instrument de travail respecté, souvent invoqué et qui reste pourtant méconnu: le dictionnaire.* (N. Gueunier, 1974: 140)

Dictionaries are indeed respected by the general populace, to the point of being likened to the Bible (R. Quirk, 1974). They are viewed as the supreme authority as to what is in the language and what is not. For example, in American English, school-age children are told "Ain't ain't in the dictionary." To question dictionaries appears almost sacrilegious. Academics are aware of these widespread views, but know that dictionaries did not come down from a holy mountain. But just how did they arise? To better understand dictionaries, and to maintain the historical approach of this paper, we will consider their origins.[7]

There is no single work that can be pointed to as the first dictionary ever produced. No doubt shortly after there were writings that were removed in time and/or location from their place of authoring, there must have been some kind of explanatory word lists which followed on their footsteps. Thus, the forerunners of what we know as dictionaries must be nearly as old as writing itself. As far as Europe is concerned, it is in the Middle Ages that the volume of these proto-dictionaries is sufficient to have a record to study.

> *The beginning of English lexicography, and indeed of the lexicography of other European languages, lies in glosses which have been preserved in quite considerable numbers from the eighth century onwards. As is well known, such glosses are scribblings, sometimes only scratched without the use of ink, between the lines or in the margins of codices, giving explanations with reference to a word or a phrase of the text which had obviously been found difficult to understand by its reader(s). Such explanations are either Latin or Old English synonyms to the vocabulary of the text, and/or comments of an encyclopaedic nature or applying to grammatical points.* (W. Hüllen, 1989: 101)

There are several things to note in this quote. First of all, glosses were text-specific. Second, they were attached to difficult words. In fact, their name is from the Greek *glossa*, meaning "hard word." Third, the information was not only semantic; it could be factual or grammatical. This last point will prove to be crucial in the consideration of online dictionaries and will be revisited later in the paper. For now we will say that these early glosses contained word, world, and rule information.

How can these localized annotations be considered the ancestors of dictionaries?

> *Throughout the Middle Ages, glossae collectae began to appear, semi-formal lists that teachers and students could use to point up difficult expressions worth remembering. Many were ordered only in the sense that they were listed as they were lifted from the annotated texts; some, however, were re-cast alphabetically in terms of the first letter only.* (T. McArthur, 1986: 76)

[7] Readers interested in a full treatment of the origin of dictionaries should consult Hüllen (1999) English Dictionaries 800-1700, Oxford, Clarendon Press. Its title is misleading because the scope of this work is broader than just the English-speaking part of Europe. For a history of French dictionaries, see Matoré (1968).

It is important to note that the *glossae collectae* represent a crucial development. No longer were the "hard" words and their explanations tied intimately to their source texts. They were extractions and compilations. They thus gained an independent identity and started to circulate. In fact, a slew of works appeared, especially from the 12th century. The following list is presented alphabetically.

- *Abecedarium*
- *Alvearium* – beehive/honey-store
- *Dictionarius/dictionarium* – a book of *dictiones*
- *Glossarium* – a collection of *glossae*
- *Hortus deliciarum* – garden of delights
- *Hortus vocabularum* – garden of words
- *Liber floridus* – flowery book
- *Li Livres dou tresor* – treasure books
- *Lexicon* – a collection of *lexes,* words
- *Manipulus* – a handful
- *Medulla* – kernel or marrow of the matter
- *Nomenclators* – topical word lists
- *Promptuarium/Promptorium* – store-house
- *Speculum* – mirror
- *Thesaurus* – treasury or treasure-house
- *Vocabularium*
- *Vulgaria* – common things (T. McArthur, 1986: 78-79)

One is struck by the variety and colorfulness of these titles. In some the purported great value of the contents is highlighted (*treasure* and *store-house*). Others lure readers by an appeal to the senses (*honey-store* and *garden*). On the other hand, there are some humble designations (*handful*, *vulgaria*). Some are still in use today (*glossarium* / *glossary* and *lexicon*). For some reason it is *dictionaries* / *dictionarium*, one of the unpretentious designations, which has prevailed in usage.

How are today's dictionaries different from their gloss-derived forbears? Nowadays, lexicographers feel compelled to include citations to justify their definitions. That is, in order to elucidate words they must restore some of the contextual information that is inevitably lost when words are extracted from their source texts. Totally disembodied definitions are of limited utility. Yet quotes inflate the entries and length becomes an issue. So a middle ground is sought, and limited use of quotes is made. Another difference between glossaries and current dictionaries is that the latter include many ordinary words, not just the "hard" ones. In the case of unabridged dictionaries, an attempt is made to list and define every word in a language. Modern dictionaries are comprehensive works, not just commentaries on problem points. Glossaries and dictionaries are similar in the amount of factual knowledge that they include. Neither contains anywhere near the detail that is found in encyclopedias, which will be dealt with in the upcoming section. Too much information makes volumes unwieldy. As will be shown later, this space constraint is essentially removed in online works.

5. Dictionaries and their kin

Dictionaries and encyclopedias are related as "sisters" (T. McArthur, 1986: 74) or "cousins" (J. Green, 1996: 54; H. Jackson, 2002: 21). There is no need to quibble

over the exact degree of relation. The genealogy of dictionaries has been sketched above. Collison (1964) has documented the long pedigree of encyclopedias stretching back to antiquity. The common ancestry between these relatives can be established by comparing the physical traits of both. It will be recalled that the early medieval interlinear glosses contained both lexical and encyclopedic information. An item, *speculum*, from the preceding list of late medieval works that can be considered proto-dictionaries, can also be counted as an encyclopedia.

> *Speculum, a Latin word for mirror, was widely used in the Middle Ages to give titles to encyclopedic surveys of human knowledge. The book was like a mirror which "reflected" (that is, bent back the rays of) any particular science. Thus reading the Speculum Historiale meant looking at the "Mirror of History"; the Speculum Naturale was the "Mirror of Nature"; Speculum Meditantis, the edifying mirror of a man thinking.* (M. Schlauch, 1955: 90)

This quote shows that the resemblance between the "Word" branch of the family tree and the "World" branch was so strong as to make it difficult to tell the sisters/cousins apart in the Middle Ages. Is this still the case? A contemporary writer on lexicography thinks so: "The distinction between dictionary and encyclopedia is not always easy to draw, and there are often elements of one in the other" (H. Jackson, 2002: 21). In fact, as will be demonstrated, there is a long-standing confusion, or, in a positive perspective, fusion, of terminology in the naming of reference works.

In his chronology of encyclopedias Collison (1964: xiv), who also wrote a history of dictionaries (1955), lists as "the first indigenous French encyclopaedia," Estienne's 1553 Dictionarium! It was six years later that the word 'encyclopaedia' is first used: Paul Schalich's Encyclopaedia, seu Orbis Disciplinarum (1559). Variations of the two words continue to appear. In 1728 Ephraim Chambers published Cyclopedia, Or, An Universal Dictionary of Arts and Sciences. The same century contains the masterpiece of the French Enlightenment, known popularly by the first word of its title, Encyclopédie, but whose full name is Encyclopédie ou Dictionnaire Raisonné des Sciences, des Arts et des Métiers par une Société de Gens des Lettres, by Diderot and D'Alembert (1751).

What can one conclude from this glance at the history of dictionaries and encyclopedias? The two have entwined origins and interchangeable names. A fuller treatment of their history would show that they started to diverge in the late 1600s. What to include/exclude became an issue in dictionary compilation as demand appeared for what we would call today pocket versions. This was especially the case with bilingual dictionaries for travelers. So can the two be clearly distinguished nowadays?

> *The distinction between a dictionary and an encyclopaedia is one that can easily be made by most people, even if the encyclopaedia happens to be a one-volume affair or the dictionary has spread to several volumes; even, if an encyclopaedia is called a 'dictionary', or a 'dictionary' is called an 'encyclopaedia'.* (R. Collison, 1964: 4)

Collison's comments reflect the popular view; dictionaries are normally single books and encyclopedias are a set of tomes. Yet this is not an absolute rule. So the essences of "dictionariness" and "encyclopedianess" must lie elsewhere. It has to do with what this author is calling word and world information. Dictionaries are perceived

as “word books.” The chief reason we consult them is to look up meanings and spellings (R. Quirk, 1974; S. Greenbaum et al, 1984; B. Kipfer, 1987). We pick up an encyclopedia when we need information on a subject. Another difference can be seen in the physical arrangements of the two genres. Dictionaries are overwhelmingly organized alphabetically, whereas encyclopedias admit topical orderings. Again, the border between the two is porous and there are recognized hybrids known as encyclopedic dictionaries (eg Chambers Encyclopedic English Dictionary and the Oxford Advanced Learner’s Encyclopedic Dictionary).

What conclusions can we draw from this brief survey of dictionaries and encyclopedias? Specifically, what can be learned from it which will contribute to the successful use of these traditional reference works in the 21st century? The foremost observation is that the diverging of dictionaries and encyclopedias from common origins will probably prove to be temporary. It is likely that there will be a reunion in electronic forms. Although there still are publishing expenses with online works, the constraints of space are essentially removed. There is no limit to the quantity of information that can be stored electronically. Granted, computer screens are not infinite, but they are dynamic. That is, they permit the reordering and re-presentation of information. Online dictionaries and encyclopedias can be conceived of as databases. The user chooses how to query the database and can call for a variety of “reports.” Multiple displays are readily available and they can include moving media, not just text and images.

Another insight from this history has potential political benefit. The politics in this case are not national, but professional. Those who promote the use of technology in foreign language instruction sometimes confront attitudes among their colleagues which range from skepticism to outright hostility. Technology requires significant investment in equipment and personnel. There are competing demands for resources within all institutions, so faculty must naturally debate priorities and make choices. If forced to choose, which is better, software upgrades or more books for the library? Administrators demand accountability for the use of funds. Another contentious issue is professional recognition. Tenure, promotion, and merit pay (for those schools which have it) depend on productivity. How is involvement with technology, in both teaching and research, to be evaluated? Foreign language professionals have customarily been trained in literature, and people with such a background still predominate in many places. What this brief survey has done is point out the literary history of dictionaries and encyclopedias. They did not spring from nowhere. Therefore, language pedagogues who have educational and research interests in these reference works are laboring in a genre that is established, and yet evolving in this age of the internet.

6. Empirical L2 lexicography

Dictionaries and their relatives, encyclopedias, have a long history. However, the systematic study of how language learners actually use them is short, being only about twenty years old. This may come as surprise. How can it be that so much energy has been put into compiling and publishing dictionaries without an accompanying effort to gauge how they are employed? Was dictionary design done in a vacuum? No, that would be too strong of a statement. In fact, lexicographers

have always garnered information from users in formal and informal ways. After all, dictionaries are commercial products and in the marketplace consumers hold sway. What has not been present, at least in a structured way, is research by the pedagogical community as to the effect of dictionary usage on language learning. However, that lack did not keep some methodologists from pronouncing on the proper place of the dictionary. For example, some (R. Yorkey, 1970) discouraged the use of bilingual dictionaries because he thought that they fostered an attitude among learners that there is a one-to-one correspondence between the native language and the target one. An argument in favor of monolingual dictionaries was that they benefited the learner by forcing him or her to use the target language in order to learn it.

One famous American pedagogue, in a textbook for training foreign language teachers, was adamant in his opposition to bilingual dictionaries:

> *Students also need to be given suggestions with regard to looking up words. The most common, and the most harmful, practice is for the students to look up the meaning of an unknown word in a bilingual dictionary and immediately write the native-language equivalent of the foreign-language word directly above it in the text. The problem with this whole process is that the next time the material is read, the foreign-language word fails to register. The eyes, taking the path of least resistance, glide jerkily in a roller coaster fashion along the known track, thereby unintentionally avoiding the problem of learning new words in the foreign language. Some students even go to the point of writing complete translations above the line. These copies, especially those of the better students, have been known to command premium prices in the market place.* (K. Chastain, 1971: 188)

In his tirade against bilingual dictionaries, Chastain included interlinear glosses! He evidently did not know of their ancient pedigree. However, his concern was entirely legitimate. He wanted students to truly learn new words. But in coming against an age-old practice, was he reasonable? Could anything so time-honored be so detrimental? The question begs for research.

Things started to change in the early 1980s. Some in the profession came to the recognition that dictionary usage behavior behooved attention, that it was wrong to criticize what students did or did not do with dictionaries without systematic observation and measurement of learning:

> *It is frustrating how little we know objectively about why and how, how often and how successfully or unsuccessfully dictionaries are used in the process of acquiring another language.* (R. Hartmann, 1983: 196)

Hartmann was soon seconded by Ilson (1985), Lantolf et al (1985), and Brumfit who added that “much teacher education passes over the use of the dictionary in embarrassed silence” (1985: v). The same year that Hartmann made his lament, the European Association for Lexicography (EURALEX) was founded. It held its first conference in 1984 and has continued to have meetings every two years. The organization is concerned with all aspects of dictionaries, but of special note is the dictionary use project that it initiated in 1984 in conjunction with the Association Internationale de Linguistique Appliquée (AILA). This project ran until 1995 and has been summarized in Atkins (1998). The number of studies conducted worldwide exceeds 400. Interested readers can consult an annotated bibliography (F. Dolezal & D. McCreary, 1999) and the monograph by Tono (2001). The latter is of special

interest because it is very readable and provides access to the important work being done in Japan. Batia Laufer has collaborated with several others on a number of tightly-controlled studies of computer dictionary usage (see Hill and Laufer, 2003, for a partial list).

It is evident from the above that the glaring lack of dictionary use studies has been addressed. Space does not permit a summary of the findings of these studies. Suffice it to say that the research clearly indicates that learners need training in order to profit from the vast amount of information in dictionaries. The dictionary is an excellent tool in the hands of a skilled learner. An unskilled user wastes time and comes away frustrated from dictionary consultations. He or she might even draw erroneous conclusions. For example, it is often observed that dictionary novices seize upon the first sense of a word and do not consider the other possibilities in long entries. The reason this section of empirical lexicography has been included in the present paper is to identify a body of literature that might have a bearing on the design of emerging and future online dictionaries.

Another reason that the findings from dictionary use studies will not be included is that they are unfortunately meager to date. In a critical review of the volume edited by Atkins (1998), veteran lexicographer Robert Ilson lists the major findings and says that they "do not strike me as surprising" (2001: 81). For example, it is not news to even a novice language teacher that learners tend to prefer bilingual dictionaries to monolingual ones. In defense of Atkins and her contributors, it should be stated that they do not make grandiose claims. They are all aware of the difficulty of the phenomenon they are studying, and hence the enormity of the task they have set for themselves.

> *Dictionary consultation is highly complex… more… experiments are needed before lexicographers have enough information to allow them to make reasoned changes in dictionary design and before those teaching dictionary skills know enough about their students' attitudes and habits to guide them through the decision-making steps of the dictionary look-up.* (B. Atkins, 1998: 5)

If pedagogical lexicography has not yet produced results readily applicable to the creation of new dictionaries, that does not mean that it will not. It is a young field and must be given the time to mature. Paradoxically, there are insights from some of the first dictionary user questionnaires that clearly connect with the purposes of this paper and they will therefore be presented.

Tomaszczyk is recognized as the first to query foreign language learners about their dictionary uses, preferences, and wishes. The reader will note the coincidence of the year, 1979. This was the same year that saw a leap in the size and sophistication of the internet, and it was then that Holec's monograph on autonomy appeared. Tomaszczyk's 449 Polish respondents included students, instructors, and professional translators.

> *A vast majority of the subjects… would like their dictionaries to give much more extensive treatment to every type of information… and the endless list of suggestions for appendices shows that quite a proportion of them would like to have an omnibus dictionary which would cover everything anyone has ever thought of including in dictionaries and encyclopedias.* (1979: 115)

Kipfer (1987) found the same desire for encyclopedic information in the American students she questioned about English dictionaries. It would seem that users, in both L1 and L2 contexts, do not appreciate the dictionary-encyclopedia divide. Perhaps the divergence should be reversed. This is not surprising when one remembers that glosses, those ancestors of dictionaries that users created on their own impulse, contained both word and world information.

From Robert Galisson come observations that bear on several of the points already raised in this paper:

> *Compte tenu du peu de crédit que les méthodes de langue accordent en ce moment au dictionnaire, on peut être étonné de trouver l'apprentissage classé au premier rang des fonctions dictionnairiques… On y trouve également confirmation de l'intérêt que les étudiants interrogés portent à un objet de référence qui les libère de la tutelle de l'enseignant et les autonomise par rapport à l'institution. Le dictionnaire n'est donc pas seulement perçu comme un outil de dépannage, mais aussi comme un moyen pour apprendre la langue.* (1983: 72)

First of all, Galisson follows Brumfit (1985) in bemoaning the inattention to the dictionary in the language pedagogy of the day. He found that learners see the dictionary not as a quick fix, but as a language learning tool which not only freed them from dependency on their teachers and school, but in fact empowered them. This point is dear to the heart of those who advocate learner autonomy. Galisson also noted the great respect that learners (in his case American university students) had for dictionaries:

> *le dictionnaire est ainsi… un objet mythique, qui renferme une somme d'informations dépassant de très loin l'entendement de l'honnête homme… Ce trésor, ils éprouvent le besoin de se l'approprier, parce que, ce faisant, ils croient acquérir un fabuleux pouvoir de pénétration (Sésame, ouvre-toi!) dans le monde des mots, des idées, des choses.* (1983: 84-85)

A mythical, magical book is almost sacred. This confirms Quirk's (1974) observation of the Biblical image of the dictionary. That it is seen as a treasure recalls the words *thesaurus* and *tresor* from the titles of medieval glossaries. That they were seen as allowing access to both word and world information is again an echo of glosses.

So when serious dictionary users from two different countries in this century are asked how they view dictionaries and what they want in them, they provide answers that hearken back to the origin of lexicography over ten centuries ago. Perhaps the language learning task is universal and essentially unchanging. Is there any reason to believe that future learners will have a different attitude toward electronic dictionaries or expect anything less of them?

7. Lexicography in the electronic age

This paper has dwelt on the past, both distant and recent. History is interesting and ideally helpful. But we live and work in the present and must prepare for the future. Now is the time to consider how the lessons of the past might address the problems of our day and inform our plans.

Tono, an authority on paper dictionary usage, foresees how machine-readable dictionaries might be helpful:

> *Electronic dictionaries have great potential for adjusting the user interface to users' skill level so that learners with different needs and skills can access information in a different way.* (Y. Tono, 2001: 216)

This quote assures us that at least some of the scholarly committee who have invested their careers in paper dictionaries are willing to consider electronic options. However, there is not a uniform level of interest among pedagogical lexicographers as to the possibilities of the online medium. One of Ilson's criticisms of the Atkins volume on user studies was that "the internet seems to be mentioned only in passing" (2001: 81). At the other end of the spectrum is de Schryver (2003). He has written a masterful article which incorporates almost every speculation ever made about electronic dictionaries (EDs). He lists 118 "lexicographers' dreams." Much of the information is summarized in tables which makes the reading easy. His piece is the one that this author most highly recommends to his audience.

De Schryver notes that "The 1970s and 1980s seem to have been a breeding ground for many prophecies lexicographic" (2003: 162). This statement should not surprise any of the readers who recall the development of the internet as outlined above. The synchronous development of pedagogical lexicography fortuitously made for a an environment that was conducive to both lexicographic reflection and technological speculation. De Schryver goes on to maintain that:

> *nearly everyone involved in present-day dictionary making is enthusiastic about the potential of the electronic medium. ED dreams are indeed not without a solid basis. Given this knowledge, we can now look into some of those dreams in more detail without laughing them away as mere science fiction.* (2003: 162)

Despite his own enthusiasm for what electronic dictionaries might become, de Schryver felt compelled to include a section in his article on "the unbeatable paper dictionary." He gives eight points which merit serious consideration. A paper dictionary:

- *Makes language palpable*
- *Can be admired in a library*
- *Is easy to browse and read recreationally*
- *Does not stress the eyes as much as computer displays*
- *Are easy to annotate*
- *Is durable*
- *Does not require electricity*
- *Does not have a potentially obsolete interface* (G. de Schryver, 2003: 152-153)

Each of these features is accompanied by references from the lexicographic literature. That is, these are not de Schryver's original observations, but ones that are in circulation already. It is not contrary to the development of electronic dictionaries to point out that for all of their wonders, they will in some ways be inferior to their paper forbears. Technology is cumulative; the coming of television did not mean the cessation of radio. Each found their niche and paper and electronic dictionaries can be expected to do so as well. They will co-exist in complementary fashion. It is not a matter of either-or.

De Schryver's piece is optimistic about the future of electronic dictionaries. However, not all lexicographers share this stance: "advocacy of electric dictionaries threatens to be less an advance than a retreat into vagueness from the hard work of investigating what information should be offered… and how to display it best" (R. Ilson, 2001: 82). This is from someone who has spent a career in dictionary compilation. He contends that the essential ingredient in any dictionary is "fleshware: the human mind of the human lexicographer" (R. Ilson, 2001: 82). Sophisticated software and huge hardware cannot guarantee the quality of an electronic dictionary. The human element is still crucial.

Lexicographers have long wrestled with what to include and exclude from dictionaries and how to best present what has been chosen. This long tradition must inform the design of electronic dictionaries. Although the "dreams" of lexicographers for ready access to vast amounts of linguistic data are now realizable thanks to computers, some interface is needed. It is said that "you can't drink from a fire hose." Good online dictionaries will be equipped with "spigots" that allow users to draw manageable amounts of information. Otherwise learners will drown in a sea of data. Information must be internalized for it to be considered knowledge.

Conclusion

The technical term for a dictionary entry is *lemma*, which is Greek for "plucking." This article has plucked facts and notions from three sources: the history of the internet, the literature on learner autonomy in language learning, and the field of lexicography. It has attempted to tie these strands together in order to inform the intelligent use of vast online language resources. "No student is *eo ipso* autonomous, no learner knows automatically how to get the best out of the internet and its associated phenomena" (M. Mozzon-McPherson & R. Vismans, 2001: 2). This quote is from a book on language advising, an emerging field which incorporates many notions of learner autonomy. Advising can be provided by people or virtually. In a discussion of machine-readable dictionaries for language learners, Sobkowiak provides helpful details about how the application of artificial intelligence can create software that senses users' needs and thus cooperates with them by providing suggestions. He states that "maximum customization with quasi-intelligent computer assistance is one method of promoting learner autonomy" (2002). When there is a cross-fertilization of ideas between paradigms, much can be accomplished.

Online analogues to interlinear glosses are easy to create. By all means the glossing impulse that language learners have always had should be encouraged. Moreover, learners should be urged to share their glosses. The risk of misinformation is small compared to the social (be it face-to-face or virtual) benefit that comes with the co-construction of knowledge. Learners should see themselves as lexicographers. Language pedagogues should recall that the dictionary is a *speculum*, a mirror that reflects the language. It has no agenda of its own. It is a cultural artifact, not merely a commercial product.

The title of the conference paper from which this article is derived contained the phrase "electronic learning spaces." Spatial metaphors are appropriate to the consideration of the internet. It is a vast, virtual, neon-lit space. But not all that glitters

is gold. The dictionary can be a touchstone. L2 learners are venturing into terra incognita and they need a map. Dictionaries can be guides because they "potentially intersect with every text of the language: in a sense all texts lead to the dictionary" (D. Nathan, 1998). Learners can make forays into cyberspace with an electronic dictionary as a navigational vademecum. And in real space, one can expect to see portable, wireless dictionaries that will both allow physical mobility and afford internet access.

Envoi

This paper has sought to show the relevance of the past to present concerns. Much attention has been given to a feature of medieval study, the gloss. But the reader should not think that the interlinear, handwritten glosses are entirely a thing of the past. These excerpts from an article by Carlson (2004) relate a current use of them.

> *Eminent scholars glide into the dark, wood-paneled room, dressed in academic regalia. Students, in black robes and sitting around a large wooden table, stop chattering and rise to greet their teachers. "Salve, magister," the students say in unison. "Salvete, discipuli," says Phil Adamo, an assistant professor of history at Augsburg College, as he sets an hourglass down on the table. With those words, he ushers them on a journey from the 21st century to the 13th.*
>
> *…the Codex lindellensis, the course's one and only textbook… is chained to a desk in the college's Lindell Library, as books were once chained to library desks in medieval Europe. During the week, students come to the library in their robes, read the week's assignment, and write their comments in the margins, as medieval scholars would. These notes, or glosses, are counted toward their grades in the course.*
>
> *Mr. Adamo and his colleagues wondered if students would do the weekly readings with only one textbook available. But he says the codex has forced the students to get out of their dorms, form study groups, and read the text to one another.*
>
> *Community was built because you got to read what other people thought about certain issues. We fed off each other's glosses.*

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