

Collateral Adjectives and English Lexicography

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Abstract

Collateral adjectives (CAs) pose serious problems in English lexicography because (a) in semasiological dictionaries, the link between CAs and their base nouns (BNs) are broken and (b) in onomasiological dictionaries, users are usually left uninformed of grammatical and stylistic information about particular CAs. In this article, reasonable proposals for their lexicographical treatment are provided after conducting a survey of how CAs are treated in both onomasiological and semasiological English dictionaries. It is shown that their systematic listing in the microstructures of BNs with appropriate cross-referencing provides a good solution for ensuring the link between CAs and their BNs. The significance of lexicographical contribution to the dissociated nature of English lexis is also discussed.

1. Introduction

The aim of this article is to provide reasonable proposals for the lexicographical treatment of collateral adjectives (CAs) in English after conducting a survey of how they are treated in actual dictionaries. As to the basic lexicographic terminology, Hausmann and Wiegand's (1989) is adopted.¹ The structure of this article is as follows: In section 2, the term CA is introduced together with its dissociated nature and its special grammatical properties. Section 3 introduces general lexicographical problems related to CAs. In section 4, lexicographic surveys are conducted to show the actual lexicographic treatments of CAs. Then, in section 5, how CAs should be treated in onomasiological and semasiological dictionaries is discussed. Finally, section 6 summarises the discussions given in this article and discusses implications of the present study.

2. CAs in English

2.1. CAs and their lexicographic problem

CAs are adjectives of classical origin, used ‘dissociatively’ in English.² ‘Dissociation’ is Leisi’s (1974: 58) term, meaning morphological isolation. To the best of my knowledge, the first appearance of the term CA in the literature can be traced back to the late 1960s. Pyles and Algeo (1968: 129) use this term to mean ‘[adjectives] which are closely related in meaning but quite different in form from their corresponding nouns, like *equine* and *horse*.’ In the following, CAs are paired with their base nouns (BNs):³

- (1) vernal (~ spring), paternal (~ father), ecclesiastical (~ church), canine (~ dog), feline (~ cat), cardiac (~ heart), brachial (~ arm), mural (~ wall), maternal (~ mother), seismic (~ earthquake), etc.

Some scholars such as Melčuk (1994) and Levi (1978) admit the ‘suppletive’ nature of CAs; the relationship between CAs and their BNs can be likened to such well-known suppletive inflectional relations as *go–went*, *good/well–better–best*, among others. So far as the CAs in (1) are concerned, note that any attempt to connect CAs and BNs phonologically results in complete failure. Given this situation, then, the problem CAs pose in English lexicography is obvious; namely, how can we relate CAs and their BNs beyond their morphologically suppletive nature, since they are placed separately from BNs in semasiological dictionaries? If the word in question were an adjective like *friendly* or *queenly*, one might want to resort to a run-on in the microstructure of the noun **friend** or **queen**, respectively. However, in the case of *vernal*, we cannot resort to such a solution because if we listed it in the microstructure of **spring**, that would be a serious violation of the alphabetical principle. How should we treat these CAs? To my knowledge, this sort of lexicographic problem has received little attention so far.

2.2. CAs and Ullmann’s scale of morphological motivation

Ullmann (1962: chapter 4) is one of the first scholars who have noted CAs’

significance. His consideration is based on the Saussurean typology between 'lexicological' and 'grammatical' languages. According to Saussure, 'lexicological' languages prefer the opaque, conventional word, whereas 'grammatical' languages favour the transparent, motivated type. Ullmann compares compounds and derivatives of English, French and German, and concludes that 'French inclines very markedly towards opaqueness in word-structure whereas German prefers just as clearly the motivated type.' (109) As to English, he observes that it 'oscillates between the two solutions but is on the whole closer to the French pattern.' (109)⁴

(2) Compounds

<u>German</u>	<u>English</u>	<u>French</u>
Schlittschuh ('sledge-shoe')	skate	patin
Schnittlauch ('cut-leek')	chive	cive
Fingerhut ('finger-hut')	thimble	dé
Handschuh ('hand-shoe')	glove	gant
Erdteil ('earth-part')	continent	continent
Wasserleitung ('water-conduit')	aqueduct	aqueduc
Kehlkopf ('throat-head')	larynx	larynx
Nilpferd ('Nile-horse')	hippopotamus	hippopotame

Ullmann (1962: 106-107)

(3) Derivation

<u>German</u>	<u>English</u>	<u>French</u>
Gesetz – gesetzlich	law – legal	loi – légal
Kirche – kirchlich	church – ecclesiastical	église – ecclésiastique
Bischof – bischöflich	bishop – episcopal	évêque – épiscopal
Stadt – städtisch	town – urban	ville – urbain
Mund – mündlich	tmouth – oral	bouche – oral
Sprache – sprachlich	language – linguistic	langue – linguistique

Ullmann (1962: 109)

Although Ullmann places French lower than English in its morphological motivation, the mixed nature of the vocabularies is surely the cause of English's

'oscillation', as is witnessed by *father–paternal/fatherly*, *church–ecclesiastical/churchy*, among others.⁵ Indeed, this causes the 'dissociated' nature of English vocabularies in general, which we shall see in the next section.

2.3. *Dissociation and the English lexis*

Leisi (1974: 58) assumes that semantically related words constitute a sort of word-family; and any morphological unconnectedness in this word-family results in 'asocial', in other words, 'dissociated' words.

Die Wörter *oral* und *tripod* gehören also nicht einer etymologischen (laut- und sinnverwandten) Familie an, sondern sie stehen allein, gleichsam asozial da. Eine Entwicklung, die in der Richtung geht, die Wörter asozial zu machen, sowie den durch sie erreichten Zustand nennen wir im folgenden Dissoziation. Leisi (1974: 58)

CAs are a paradigm of dissociation. His own examples include such CAs as *filial* (~ son), *buccal/oral* (~ mouth), *reticulate* (~ net), among others.

According to Leisi, dissociation has produced many 'hard words' in English, which sometimes becomes the source of malapropisms. In Ullmann's (1962: 114) words, malapropism is 'endemic in English and must have been so long before Sheridan's Mrs. Malaprop'. Leisi goes so far as to point out that because of this dissociated nature of the English lexis, learning classical languages plays a far more important role in the formation of the mother tongue in the English-speaking world than in the German-speaking world. Actually, a simple demonstration of the truth of this remark is to go to a bookshop, where one can find many books on the market whose objective is for readers to build vocabulary through learning morphemes of classical origin. See Ayers (1986), Denning and Leben (1995), Stockwell and Minkova (2001), among others.

Leisi continues to show how dissociation has influenced the English language. To make amends for this proliferation of hard words, English has shifted from a word-formation-based language to a word-combination-based language. What this means is that because of dissociation, the importance has

gradually shifted from using large ‘contentful’ lexical units with large amount of lexical information to using combinations of small ‘grammatical’ lexical units with rather small amount of lexical information.⁶

Leisi also observes that this increase of hard words has brought about the reorganisation of the whole lexis of English. His examples include instances of proper names used as common nouns—witness *Hoover* (for *vacuum cleaner*), *bedlam* (for *lunatic asylum*;⁷ originally, from [*Hospital of*] *St. Mary of Bethlehem*), among others; and the semantic enlargement of simple lexemes (e.g. *fish* in *starfish*, *jellyfish*, *crayfish*, etc.). In present-day English, the verbs *think* and *do*; the adjective *good*; and the nouns *job*, *glass*, and *set* are what he lists as the words which have undergone tremendous semantic enlargement.⁸

Interestingly, Leisi already points out this special characteristic of English by which CAs are dissociated from nouns. Explaining why BNs were not replaced by corresponding nouns of classical origin, he suggests that such notions as *mouth*, *people*, *son*, *carry*, *take*, *set* were so basic and so deeply rooted in the people’s culture that they have not been replaced by those nouns of classical origin. (61)

2.4. CAs’ grammatical properties

CAs are often described as highly ‘noun-like’. Besides their ‘attributive-only’ characteristic (**their disease is bovine*, **that equinox was vernal*), they display various noun-like characteristics. It is well known that except for the identifying adjectives (e.g. *the very person*, *the same student*), intensifying adjectives (e.g. *a true scholar*, *a complete fool*), and adjectives related to adverbs (e.g. *an occasional visitor*, *a big eater*), adjectives are classified either as relational adjectives (RAdjs) or as qualitative adjectives (QAdjs).⁹ RAdjs differ from QAdjs in that the former are not subject to (a) comparison (**the most bovine disease*), (b) predication (see above), (c) degree modification (**very bovine disease*), (d) adverbialisation (**to eat bovinely*), and (e) lexical nominalisation (**the bovineness of the disease*). Note that CAs constitute a proper subset of RAdjs. Many scholars have pointed out that RAdjs are a paradigm of so-called morphology-semantics mismatches. They have adjectival

morphology, but they also have nominal semantics. In my opinion, RAdjs' noun-like characteristics can be ascribed to the fact that they all have certain referentiality which derives from their BNs. As Giegerich (2005: 576-577) asserts, '[...] it is only in the non-head position that the categorical ambiguity of the adjective does not damage the categorical integrity of the construction.' Indeed, we see many cases where RAdjs and the first elements of noun+noun combinations (NNs) behave identically, which attracts some scholars' attention. Levi (1978), for example, introduces the term Complex Nominals to cover both NNs and RAdj + noun combinations.

3. Lexicographic problems

3.1. *Semasiological vs. onomasiological dictionaries*

Knowing the meaning(s) of words is of the greatest concern for most dictionary users.¹⁰ Alphabetical semasiological dictionaries primarily serve this purpose. However, in semasiological dictionaries, although words are easy to search for, semantic relations between words of different spellings are difficult to capture. Actually, the importance of lexical relations has already been noticed by at least some lexicographers in the onomasiological tradition. Especially interesting from our point of view is the development of such onomasiological dictionaries as thesauri.

According to Kojima (1999: 233-234), there are two problems for these onomasiological dictionaries. Firstly, it is difficult to get universal agreement to which section of the class a given notion belongs. This is because notions or concepts are intricately intertwined with each other. Kojima's example of *beautiful* is a case in point; we are never sure whether this word belongs to the Class 'Affections', or the Class 'Form', or the Class 'Intellect'.

Secondly, the relations between words are so complicated that it is often difficult to pin them down to particular semantic types. The relations can be hyponymic (e.g. *money-coin*), contiguous (e.g. *coin-bill-note*), or meronymic (e.g. *knob-door*), as well as synonymic (e.g. *bucket-pail*), or antonymic (e.g. *hot-cold*). Sometimes, they cannot be expressed in a simple two-dimensional, linear scale, as is shown by the following antonymous relations pointed out by

Mel'čuk (1994: 401): *anti-darwinist: Darwinist* ≠ *salt+less* : *salty* ≠ *un + lawful: lawful* ≠ *dis+honest: honest* ≠

However, the most serious problem lies in the fact that users cannot easily get access to lemmata without knowing their meanings. In order to alleviate this problem, onomasiological dictionaries often have another separate alphabetical access structure typically placed after the word list. Alternatively, as we shall see in 3.3, we adopt the alphabetical principle in the main access structure of thesauri. Such dictionaries are referred to as 'alphabetical thesauri'.

3.2. Onomasiological component in semasiological dictionaries

As we have seen, dissociation is an important lexical characteristic of English and any native speaker of English has at least some knowledge of this dissociated nature of CAs and their BNs. Therefore, it is reasonable to conclude that if onomasiological information is contained in semasiological dictionaries, it will be of greater benefit to dictionary users.

As to CAs, there have been mainly two methods adopted. One is to list CAs explicitly marked as such in the microstructures of their BNs, which method was once adopted in series of dictionaries published by Funk and Wagnalls. Of all the contemporary dictionaries, CED8 adopts this method up to now. The other method is to list them under the general heading of 'related words' or something similar in the microstructures of their BNs. The latter is adopted in Readers2 and POD5.¹¹ In both methods, CAs listed in their BNs' microstructures are cross-referred to their independent macrostructures. However, we must note that since Funk and Wagnalls' dictionaries are no longer available and POD from the sixth edition onwards has stopped listing CAs, CED8 (and several related dictionaries published by HarperCollins Publishers), to my knowledge, Readers2, and Chu-Eiwa7 are probably the only three semasiological dictionaries available on the present market which treat CAs in their BNs' microstructures.

3.3. The significance of 'alphabetical thesauri'

When the alphabetical principle is adopted in the main access structure of

thesauri, we call them 'alphabetical thesauri'. According to Hausmann (1990: 1094), this type is called 'le dictionnaire analogique' in French, whereas in the U.S.A., it is referred to as 'thesaurus dictionary'.¹² At present, given the impoverished nature of onomasiological information in semasiological dictionaries, alphabetical thesauri are probably the most effective type of dictionaries treating CAs. However, they list them simply under the heading of 'related words', or '(related) adjectives' and normally, the term CA is not adopted. In my opinion, though the term CA itself is not necessary, some sort of explanation is at least necessary to provoke users' special attention to these adjectives because they all share particular grammatical properties shown in 2.4.

4. Treatment of CAs in English lexicography

4. 1. *Treatment of CAs in alphabetical thesauri*

4.1.1. *ORD1*. According to its Introduction, ORD1 is designed to help users to 'coax back into consciousness' the words we all have 'on the tip of our tongue'. The lemmata alphabetically ordered in ORD1 are metalinguistic 'key concepts', rather than actual words.

ORD1 observes that it lists 'adjectives related to the article headword [i.e. lemmata] in meaning but not in appearance (for example, *dental* at *tooth*), or whose formation may present other difficulties if imperfectly remembered'. (Introduction) This means that the adjectives listed in this dictionary ('ORD1-As', for short) include non-CAs as well. According to my own survey, ORD1-As are listed in the microstructures of 496 key concepts which function as their BNs. The following words are indicative of ORD1-As under A and B together with their parenthesised headwords:

- (4) abbatial (**abbot**); coeliac, ventral (**abdomen**); Aberdonian (**Aberdeen**); histrionic (**actor**); postmeridian (**afternoon**); formic (**ant**); anal (**anus**); simian (**ape**); apical (**apex**); orectic (**appetite**); arbitral (**arbitrator**); archidiaconal (**archdeacon**); toxophilite (**archery**); architectonic (**architect**); eristic (**argument**); brachial (**arm**); military (**armed forces**); heraldic (**arms**); military (**army**); cinerary, cinerous (**ash**); asthmatic (**asthma**);

infantile (**baby**); dorsal (**back**); spinal, myeloid (**backbone**); equilibrious (**balance**); balneal (**bath**); littoral (**beach**); leguminous (**bean**); ursine (**bear**); bestial, animal, feral (**beast**); apian (**bee**); coleopterous (**beetle**); embryonic, incipient, inceptive, inchoate, initial, nascent (**beginning**); avian, ornithic (**bird**); natal (**birth**); episcopal, pontifical (**bishop**); cystic, vesical (**bladder**); haemal, haematic, sanguineous (**blood**); vascular, venous (**blood vessel**); azure, cyanic (**blue**); erubescens (**blush**); corporal, corporeal, personal, somatic (**body**); osseous, osteal (**bone**); myeloid (**bone marrow**); municipal (**borough**); cerebral, encephalic (**brain**); ramose (**branch**); mammary, mamillary, pectoral (**breast**); respiratory (**breath**); setaceous (**bristle**); fraternal (**brother**); architectural (**building**); bulbous, tumescent (**bulge**); taurine (**bull**); fascicular, fasciculate (**bundle**); onerous (**burden**); funerary, sepulchral (**burial**)

Of all the ORD1-As in (4), non-CAs are either of the following three types: (a) those which are dissociated but not Latinate (e.g. *dairy* (**milk**); *rank* (**smell**)), or (b) those which are Latinate but not dissociated (e.g. *asthmatic* (**asthma**); *dietary*, *dietetic* (**diet**)), or (c) those having transparent BNs which are not commonly used (e.g. *abbatial* (**abbot**) (probably, *abbacy* is the motivated BN)).

4.1.2. *OTE2*. *OTE2* lists CAs in the microstructure of their BNs, under the heading of WORD LINKS. By my own count, there are 342 CAs in *OTE2*, all of which are preceded by the semantic description 'relating to ...'. Some of them have additional semantic description such as 'relating to seven years' (for *septennial* at **seven**), 'relating to the sense of smell' (for *olfactory* at **smell**), and the like. As to the WORD LINKS, *OTE2* says that they 'supply words which are not actual synonyms but which have a different kind of relation to the headword.' (x) Of course, CAs can be accommodated here because being RADjs, they all have the same transparent semantic relations (i.e. 'relating to ...') to their BNs. The following are CAs which appear in the lemmata starting with the letters A and B in *OTE2*:

- (5) abbatial (**abbey, abbot**); abdominal, ventral, coeliac (**abdomen**); histrionic, theatrical, thespian (**actor, actress**); agrarian (**agriculture**); aerial (**air**); faunal, zoological (**animal**); formic (**ant**); simian (**ape**); apical (**apex**); archiepiscopal (**archbishop**); architectonic (**architecture**); military, martial (**army**); cinerary (**ash**); auctorial (**author**); infantile (**baby**); dorsal, lumbar (**back**); spinal, vertebral (**backbone**); riparian, riverine (relating to a river bank) (**bank**); balneal, balneary (**bath**); ursine (**bear**); apian (**bee**); coleopteran, coleopterous (**beetle**); inceptive, initial (relating to a beginning) (**begin**); avian (**bird**); natal (relating to one's birth) (**birth**); episcopal (**bishop**); cystic, vesical (**bladder**); haemal, haemic, haematic; archaic sanguineous (**blood**); corporal, corporeal, somatic (**body**); arcuate (relating to archer's bows (*rare*)) (**bow**); cerebral, encephalic (**brain**); respiratory (**breath**); pontine (**bridge**); fraternal (**brother**); tectonic (**building**); taurine (**bull**); fascicular (**bundle**); funerary, sepulchral (**burial**); lepidopteran (**butterfly**); natal (**buttocks**)

Contrary to ORD1, OTE2's lemmata are actual words, rather than 'key concepts'. Interestingly, labels are attached in several cases—*arcuate* (rare) at **arch**, *sanguineous* (archaic) at **blood**, *ictal* (medicine) at **seizure**; and four lemmata are found to be not nouns—**begin** (*inceptive, initial*), **preach** (*homiletic*), **purify** (*lustral*) and **old** (*gerontic* (age), *geriatric* (people)).

4.1.3. *MOD*. *MOD* is a list of those adjectives which are not 'created by the addition of a suffix' and which undergo 'a somewhat more drastic change in the base word'. (vii) By my own count, the number of the lemmata under A and B is 480 (246 and 234 lemmata under A and B, respectively). In terms of its number of listed CAs, *MOD* is definitely one of the largest. It contains those which are too special to be used generally—for example, *haliotoid* (~ abalone), *farcical* (~ absurdity).

However, *MOD* also contains many dubious cases such as *Disneyesque* at **animation**, *familiar* at **acquaintance**, and the like. We must also note that *MOD* contains those whose RAdj-hood is dubious—witness *achievable* at

accomplishment, *invective* at **accusation**, which have their own evaluative meanings, rather than simple relational ones.

The following shows the microstructure of **bird**:

- (6) **bird**, avian; ornithic; ornithologic, ornithological; volucrine; (~ eater) avicolous; (~ egg) oologic, oological; (~ lover) ornithophilous; (~ nest) caliological, nidological; (observation of ~s) ornithomantic; (wading ~s) grallatorial; (young ~) neossological.

(6) clearly shows that except for the first five adjectives, MOD's lemmata are better to be understood as key concepts or guide words. Of all the adjectives in (6), *avicolous*, *oologic*, *caliological*, *nidological*, *ornithomantic*, and *neossological* are not treated in Readers2, which clearly shows that they are not the kinds of adjectives ordinary speakers of English know. *Nidological* and *neossological* are not even treated in OED, which testifies to the fact that even lexicographers or specialists do not know them.

4.2. *Treatment of CAs in semasiological dictionaries*

Semasiological dictionaries which treat CAs in the microstructures of their BNs are in the minority and in the present monolingual lexicographical market, CED8 is the only dictionary to my knowledge which treats CAs in the microstructures of their BNs.

One thing should be noted. In semasiological dictionaries, CAs are usually listed immediately after the relevant sense of the BNs. This is because the notion of derivation has to be applied on a meaning basis, rather than on a form basis. When we hear a certain word ending in suffix *-ly*, for example, we are prone to think that the meaning expressed by *-ly* can be added to the whole range of meanings of the base form to which this suffix is attached. However, not all of the meanings of adjective *fit* can be inherited to the adverb *fitly*, as is clearly shown by the simple fact that the adverb *fitly* does not have the meaning 'healthily'. This seems to suggest that in terms of accuracy in treating derivation, the strict monosemous principle should be adopted in lexicography. Two Cantabrigian student's dictionaries, CIDE and to a lesser

degree CALD1, adopt this principle. However, such a principle causes serious problems concerning accessibility, as Akasu et al. (1996) and Akasu et al. (2005) point out in their papers. As a matter of fact, many of CALD1's improvements—especially such as loosening CIDE's strict 'one word, one core meaning' policy, replacing CIDE's Phrase Index with the Idiom Finder, and splitting CIDE's lengthy definitions into numbered independent definitions—turn out to be related to the increase of users' accessibility to the items they want to know.

4.2.1. *SCD*. *SCD* was one of the dictionaries published by Funk and Wagnalls in 1966. Thomas Pyles, one of the originators of the term CA, was a member of its advisory board. In *THE PLAN OF THE DICTIONARY*, the following explanation is given:

Because of extensive borrowing in English from Norman French and Medieval Latin, we find a good many English nouns which have adjectives closely connected with them in meaning, but not in form, such as *arm* and *brachial*, *horse* and *equine*, *neck* and *cervical*, *winter* and *hibernal*, *day* and *diurnal*, etc. These functionally related adjectives are defined in this dictionary in their alphabetic place, but as an added convenience many of them are also shown with their associated nouns. Collateral Adjectives follow the sense or senses of the noun to which they apply, and are introduced with a diamond symbol ... (*SCD*: xxi)

By my own count, there are 144 lemmata in *SCD* having CAs in their microstructures. Three lemmata under A contain CAs—*eleemosynary* at **alms**, *stibial* at **antimony**, and *brachial* at **arm** (definition 1) and twelve lemmata under B contain CAs—*dorsal* at **back** (definition 1), *tonsonial* at **barber**, *balneal* at **bath** (definition 1), *ursine* at **bear**² (definition 1), *baccate* at **berry** (definition 1), *avian* at **bird** (definition 1), *vesical* at **bladder** (definition 1), *hemal* at **blood** (definition 1), *osseous* and *osteal* at **bone** (definition 1), *taurine* at **bull** (definition 1), *fascicular* at **bundle** (definition 4), and *gluteal* at **buttock** (definition 1). In spite of its announcement that *SCD* contains CAs,

its coverage remains rather narrow in comparison with the other dictionaries dealt with in this section. Besides, it is unfortunate that those treated in SCD include such ‘hard word’ adjectives as *elemosynary* at **alms**, *pulicene* at **flea** (definition 1), *quercine* at **oak** (definition 1), *zibeline* at **sable** (definition 1), among others.

4.2.2. *Readers2*. *Readers2* is an upper-level English-Japanese dictionary. Since its target users are upper-level general readers of English, it gives special importance to the selection of lemmata. Note that it contains encyclopaedic information as well as linguistic information.

In *Readers2*, CAs are listed either immediately after the relevant definition of the BNs in double parentheses (e.g. ((cf. AQUEOUS a [i.e. adjective])) in the definition 2 a of **water**), or listed after the star symbol (e.g. ★ “dog for hunting” *hound*; “wild dog” *cur*; “child dog” *puppy*; ... its adjective is *canine* [translation mine]’ at the end of the definition 1 a of **dog**). The latter is reminiscent of POD’s method up to its sixth edition in that CAs are listed together with other words semantically related to the lemma.

My own survey reveals that of the 496 lemmata having their adjectives listed in ORD1, *Readers2* have 115 lemmata with adjective forms.

4.2.3. *CED8*. Since its first edition, *CED* has consistently listed CAs in their BNs’ microstructures. Until its seventh edition, Laurence Urdang, who edited *MOD*, was one of the editors. In its *Guide to the Use of the Dictionary*, the following explanation can be found:

Certain nouns, especially of Germanic origin, have related adjectives that are derived from Latin or French. For example, **mural** (from Latin) is an adjective related in meaning to **wall**. Such adjectives are shown in a number of cases after the sense (or part-of-speech block) to which they are related.

wall (wɔ:l) *n* 1 a a vertical construction made of stone, brick, wood, etc ... Related adj: **mural** ... (CED8: xi)

We should note that CED8's 'related adjectives' include adjectives other than what we refer to as CAs—as is witnessed by *brazen* (~ brass). This example shows that native adjectives which cannot be easily connected to their BNs are also listed in the microstructure of their BNs, just as in ORD1.

By my own count, there are eighty-four lemmata in the first 500 pages of CED8 having related adjectives in their microstructures. (I will call such adjectives 'CED8-As'.) The following are are CED8-As which appear in the lemmata starting with the letters A and B:

- (7) abbatial (**abbot**); geoponic (**agriculture**); aerial (after sense **2** of **air**), amygdaline, amygdaloid (after sense **3** of **almond**); succinic (after sense **1 b** of **amber**); Angevin (**Anjou**); formic (after sense **1** of **ant**); anal (**anus**); brachial (after sense **1** of **arm**); axillary (after sense **1** of **armpit**); sagittal (after sense **1** of **arrow**); cinereous (after the noun block of **ash**¹); asinine (after sense **1** of **ass**¹); auctorial (after sense **1** of **author**); dorsal (after sense **1** of **back**); balneal (after sense **1** of **bath**); littoral (after sense **1** of **beach**); ursine (after the noun block of **bear**²); apian (after sense **1** of **bee**); coleopteran (after sense **1** of **beetle**); ventral (after sense **1** of **belly**); bicipital (**biceps**); avian, ornithic (after sense **1** of **bird**); natal (after sense **1** of **birth**); episcopal (after sense of **bishop**); vesical (after sense **1** of **bladder**); haemal, haematic, sanguineous (after sense **1** of **blood**); cyanic (after sense **1** of **blue**); corporeal, physical (after sense **1 a** of **body**); osseous, osteal (after sense **2** of **bone**); Bordelais (after the noun block of **Bordeaux**); cerebral, encephalic (after sense **1** of **brain**); furfuraceous (after sense **2** of **bran**); brazen (after sense **10** of **brass**); mammary (after sense **2** of **breast**); fraternal (after sense **5** of **brother**); boubaline (after the noun block of **buffalo**); taurine (after sense **1** of **bull**¹); fascicular (after sense **1** of **bundle**); onerous (after sense **2** of **burden**); butyraceous (after sense **1 b** of **butter**); lepidopteran (after sense **1** of **butterfly**); gluteal, natal (after sense **1** of **buttock**)

On the whole, CED8 is more than willing to contain onomasiological

information in its lemmata's microstructures, which makes it distinct from other dictionaries. This is shown by CED8's frequent use of cross-references with the cross-referred lemmata shown in boldface preceded by such phrases as 'a variant of ...', 'another name for ...', 'Compare ...', to mention a few.

5. Considerations

The above surveys clearly show the general reluctance of semasiological dictionaries to treat CAs, which is reasonable because, as we have noted, alphabetically arranged semasiological dictionaries destroy the link between words having related meanings. In contrast, onomasiological dictionaries tend to contain too many of them, some of which are too technical to be used. For example, the chance is rather remote for ordinary speakers of English to use such CAs as *dasydid*, *edentate*, *loricate*, *xenarthral* (~ armadillo) (MOD); *arcuate* (~ bow) (OTE2); *tonsonial* (~ hairdressing) (ORD1) without recourse to any dictionary at all. What seems to me interesting with regard to onomasiological dictionaries in general is the following observation made by Marengo (1990: 1084): '[...] most thoroughly organised thesauri seem often to forget their readers' needs, as if their authors were enchanted by the idea of putting world and words in order or of revealing the hidden order of nature.' ORD1, OTE2, and MOD have more or less fallen into this pitfall.

As to semasiological dictionaries, I am of the opinion that if they are upper-level ones, they should contain at least a certain amount of onomasiological information concerning CAs because the dissociation involved displays a crucial characteristic in the lexis of English. In that sense, one can safely conclude that CED8, Readers2, and Chu-Eiwa7 are lexicographically significant.

However, editors should not attempt to accommodate too many CAs as they do with MOD. With regard to the selection of the CAs worth treating in their BNs' microstructures, the following are reasonable guidelines: (a) Select those CAs which are frequently used, (b) Select those CAs whose BNs are basic in nature, and (c) Exclude those CAs which have undergone some sort of semantic or stylistic anomalies. As to (a) and (b), it is necessary for the

selection itself to be based on certain reliable linguistic corpora. Indeed, one way to achieve this is to use some reliable corpora or some corpus-based dictionaries as a filter to select appropriate CAs after collecting them by using onomasiological dictionaries. Indeed, such a selection method is taken in selecting CAs in *Chu-Eiwa7*.¹³ As to (c), we should be careful to treat only those stylistically neutral adjectives which have the meaning 'of, or pertaining to ...'. Thus, for example, I do not think that *rational* should be treated in the microstructure of **reason** because it is now used mainly to mean 'using reason or logic to think out a problem' (CED8), rather than to mean 'of, pertaining to reason'. Nor do I think that *Terpsichorean* should be treated in the microstructure of **dance** because of its special stylistic effect.¹⁴

The previous section has revealed that CAs have not been well treated in the history of English lexicography. I think that this unfortunate ill treatment can be ascribed to the following two factors: Firstly, there is a general reluctance to treat formally unsupported phenomena in linguistics. CAs are a case in point. This reluctance has been all the more enhanced by the rise of lexicalism in linguistics since the early 1970s.

Secondly, CAs constitute a gap in lexicographic treatment because they are either too difficult for beginners or already taken for granted by upper-level users. For example, many CAs are beyond the understanding of learners of English, which explains why they are not treated in bilingual students' dictionaries. In contrast, upper-level monolingual dictionary users have already had acquired a good knowledge of CAs, which explains that those upper-level monolingual dictionaries which treat CAs in their BNs' microstructures tend to contain CAs which are too special to be used generally. Since the relative importance of CAs is considered to increase in the future as we are living in a gap-widening society intellectually as well as materially, the tack taken by CED8, *Readers2*, and *Chu-Eiwa7* concerning CAs can be regarded as a significant step towards users' better understanding of them.

Before closing this section, I would like to point out that onomasiological dictionaries have their own deficiencies. Firstly, they cannot provide enough information about individual CAs' grammatical properties. Usually, onomasiological dictionaries are just lists of semantically related words without any

grammatical descriptions given. As RAdjs, CAs are attributive-only adjectives, but onomasiological dictionaries have no space for explaining this fact.

Secondly, CAs often undergo semantic shifts and become QAdjs – witness *bovine* which is used to mean ‘slow and slightly stupid’ as in *Those students looked rather bovine*.¹⁵ Note that they are rather difficult to treat in onomasiological dictionaries because many of them simply list related words without any grammatical or usage explanations. Not only onomasiological dictionaries but also semasiological ones, however, sometimes fail to capture such a shift in their microstructures. For example, *orthogonal* (~ right angle) is frequently found to mean ‘irrelevant’ and to have predicative usage (as in [...] *these distinctions are orthogonal to the matter of scope*).¹⁶ However, I know of no dictionaries on the market now containing this shifted meaning of *orthogonal*.

Indeed, information concerning these semantic shifts is of great importance because it is not always easy for speakers of English to reach the shifted meanings. This is especially so in upper-level bilingual dictionaries because such a semantic speculation is more difficult when the user is a non-native speaker of English – witness the expression *bovine students* often interpreted by some Japanese students erroneously as ‘brave students’.

6. Summary and further implications

The discussion so far has revealed the following:

- Given the dissociated nature of CAs, alphabetically arranged semasiological dictionaries destroy the link between CAs and their BNs.
- It is necessary for upper-level semasiological dictionaries to contain onomasiological information concerning CAs. The best way is to treat them in the microstructures of their BNs, preferably with some appropriate cross-referencing device. Of all the present dictionaries on the market, CED8, Readers2, and Chu-Eiwa7 take such an approach.

- There are several onomasiological dictionaries which list CAs; however, their lists often tend to contain a great number of technical words not applicable for ordinary usage.
- The selection of information should be based on some reliable linguistic corpora and semantic/stylistic considerations, so that only a reasonable number of technical CAs are included.
- Information concerning CAs, such as the one related to attributive-onlyness, or semantic shifts, is difficult to present in onomasiological dictionaries. Thus, the microstructure of semasiological dictionaries should be appropriately revised to accommodate such information.

Indeed, the knowledge of CAs in English is likened to that of Chinese characters (*kanji*) in Japanese, many of which have both Sino-Japanese readings (*on-yomi*) and native Japanese readings (*kun-yomi*). In the case of Japanese, the learning of Chinese characters is so deeply embedded in mother language education that after twelve years of one's compulsory education, one can automatically combine the two different kinds of readings by the time one finishes it. In the case of English, on the other hand, it is mainly up to speakers whether or not to acquire them, which leaves the knowledge of dissociation itself functioning as 'the language bar' (Grove 1949). Such a bar should be overcome somehow in the event of speakers' language acquisition. Given the predominant reluctance to treat formally unsupported phenomena in linguistics, I am certain that this is precisely the realm to which lexicography can contribute greatly.

Notes

1. However, some dictionaries have their own 'parochial' usage. For example, ORD1 uses 'headword' to mean lemmata.
2. The term 'collateral' here means '[d]escended from the same stock, but in a different line; pertaining to those so descended. Opposed to *lineal*.' (OED) I would like to extend this term to include such adjectives as *vernal*, *canine*, *brachial*, among others which cannot be etymologically connected to their BNs, which are *spring*, *dog*, *arm*, respectively. For general problems CAs pose, see Koshiishi (2002).
3. Parenthesised words preceded by the tilde are the BNs.
4. In spite of Weinreich's (1954) criticism to the effect that Ullmann's conclusion is not statistically well supported, I think that Ullmann is basically on the right track.
5. Note that just as Ullmann (1962: 108, fn. 2) points out, the latter native adjectives 'have specialized meanings and overtones whereas the learned terms [i.e. CAs] are purely descriptive and closely parallel to the noun.'
6. This shift is likened to a process of factorising syntagmatic (i.e. chain-like) functional elements from paradigmatic (i.e. choice-like) argumental elements in simple mathematical terms, the essence of which is often referred to as grammaticalisation. In that sense, Leisi (1974) can be regarded as one of the embryonic attempts to discuss how grammaticalisation occurs in English.
7. *Bedlam* is now used to mean 'a noisy lack of order' (CALD1).
8. As to verbs, the grammaticalised type of composite predicates—those consisting of 'light' verbs such as *make*, *have*, *take*, *give*, and *do*—can be regarded as a by-product of dissociation. See Brinton and Akimoto (eds.) (1999) for further information about composite predicates.
9. See Beard (1994), Giegerich (2005), Yasui et al. (1974) for the distinction between RADjs and QADjs.
10. According to Barnhart (1967), university freshmen mainly consult dictionaries for the meanings as well as the spellings of words.
11. Until its sixth edition, some animal nouns (typically, pet or domestic animal nouns) in POD have their related nouns, verbs, and adjectives listed in parenthesised forms.
12. Hausmann (1989: 1094) wrongly observes: '[E]n Grande-Bretagne et en Allemagne, le type [i.e. alphabetical thesaurus] est inexistant.' There are OTE2, ORD1 in Britain, to mention a few.
13. I owe this piece of information to Nobuyuki Higashi, one of the editors of *Chu-Eiwa7*.
14. OALD7 gives the label '*formal or humorous*' for *Terpsichorean*. Note that CED8 does treat *Terpsichorean* in the microstructure of **dance**.
15. See Farsi (1968), Yasui et al. (1974), Warren (1984) for detailed studies on the semantic shift of CAs.
16. This example is taken from Beard (1994: 198).

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