

REVIEW ARTICLE

A VALENCY DICTIONARY OF ENGLISH

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Herbst, Thomas, David Heath, Ian F. Roe, Dieter Götz (eds.), *A Valency Dictionary of English: A Corpus-Based Analysis of the Complementation Patterns of English Verbs, Nouns and Adjectives*. Berlin, Mouton de Gruyter. 2004. xlii + 962 pages. ISBN 3-11-017194-5. [Price USD 277.20]

I. Introduction

A vast amount of person-hours per entry has gone into the production of the Herbst et al., *A Valence Dictionary of English (VDE)*. Covering 511 verbs, 274 nouns and 544 adjectives, *VDE* presents detailed distributional information for each lemma, accompanied by generous collections of examples taken (almost entirely) from the Bank of English corpus (www.collins.co.uk).

Most of the text on each page consists of blocks of example sentences, grouped and labeled according to the combinatory patterns observed for the lemma they were selected to illustrate. *VDE* uses a compact framework for classifying lexical complements in terms of phrase types (e.g. [to-INF], marked infinitive), and defines annotated composites of these for characterizing each of the full valency patterns available for a given word in a given sense (e.g. + N_P + to-INF, accusative-plus-infinitive pattern). This scheme is the product of more than a decade of work on the part of Herbst and his colleagues at the Lehrstuhl Anglistik of the University of Nürnberg-Erlangen¹.

The book is intended for advanced learners of English and for teachers or designers of programs for teaching English at an advanced level. We are told that the wordlist was selected 'on the criteria of frequency, complexity of valency structures and potential difficulty for the foreign learner' (p. xi). Concerning that last criterion, I offer some speculation below (Section 4.4) on how easy it might be for foreign learners to find what they need in the relevant entries offered in this book.

In this paper I describe the most important features of the notations and abbreviations used in the entries (Section 2), I offer extended examinations of selected entries: *intelligible*, *familiar*, *similar*, *likely*; *discuss*, *aim*, *risk*, *agree*; *risk*, *agreement* (Section 3), an evaluative discussion of the work as a whole (Section 4), and a comparison with the activities and accomplishments of the online version of a similarly motivated project, *FrameNet* (Section 5).

2. The presentation of lexicographic information in *VDE*

Ordinary users of ordinary dictionaries are known to be unwilling to pay close attention to the usual abbreviations, font changes, marginalia and related decorations found in complex dictionary entries (Atkins and Varantola 1998). A user of *VDE*—and hence this reviewer—cannot ignore the details of the notation; that is where the action is. The coding of the linguistic information that organizes and accompanies the examples that fill this book demands a seriously motivated reader and quite a bit of work. The reviewer has been through several cycles of discovery and rediscovery and still remains puzzled by a number of the designers' decisions, and some of the compilers' choices.

The full arsenal of symbolic devices used in *VDE* entries includes upper case and (parenthesized) lower case roman numerals, gray-shaded and unshaded text, subscripts and superscripts, numbered pattern labels of several distinct kinds, bracketed and unbracketed symbols, plain, italicized and bold fonts, lower-case and upper-case italics, slashes, pluses, bullets, two kinds of double-headed arrows (\leftrightarrow and \Leftrightarrow), and a very large number of abbreviations. A sample of *VDE*'s notational devices can be seen in the entry for *call*, presented in the Appendix.

The range of information encoded in the notations includes:

- sense groupings of polysemous words, identified by early-alphabet capital letters, used only for verbs (see the gray-shaded A–G in the *call* entry),
- key collocators (mnemonics that suggest the kinds of collocating words) preceded by three dots (e.g. ... meeting and ... police for two of the senses of *call*), or near-synonyms in single quotes (e.g. 'demand' and 'telephone' for two other senses of that word), for the initial tagging of senses for polysemous words,
- complement type formulas, bolded and bracketed, that identify the gross phrasal forms of complements (e.g. the **[for N to-INF]** in *call* sense F—*call* *[for sanctions to be maintained]*),
- indications of voice variability for a given sense of a verb (Active: 1/2 indicates that in the active voice the verb can occur with one explicit argument or two (*[they]'ll call soon* or *[I]'ll call [a friend]* in the telephoning sense; Active: 3/3 indicates that all three arguments are obligatory in the 'naming' sense (*[we] call [him] [Dan]*)),

- the ability of a phrase to occur as subject of an active sentence (subscripted _A) or of a passive sentence (subscripted _P),
- qualitative complement differences, only used for verbs (the gray-shaded upper-case roman numerals in the left margins of the top block of information, separating, but not naming or characterizing, semantic roles),
- further-specified qualitative differences where necessary (e.g. distinguishing *BEN/REC* from *ÆFFECTED*, the former indicating the benefactive or recipient meaning of a nominal, the latter indicating, as suggested by the *Æ* ligature, the ‘affected’ or ‘effected’ interpretation of a nominal complement),
- quantitative valency (the Z, M, D, T, Q in the margins of the example blocks for valences specifying zero, one, two, three, or more-than-three complements),
- valency patterns as bold-font phrase-type labels, marked off with pluses, for example the **+ on N_P + to-INF**—which shows two positions after the verb, a preposition phrase with *on* and a marked infinitive VP—to cover expressions of *calling [on someone] [to do something]* (see the T5 block in the appendix sample); the passive-subject subscript on the N_P shows the availability of this nominal as subject of a prepositional passive: *she can be called on to help*.
- alternative realization types for the highest-ranking verbal argument in a transitive verb (**[N]_A/[by N]** signaling the occurrence of the item so described as either the subject of a finite active clause or the *by*-phrase of a passive clause), and
- alternative orderings of complement sequences, indicated by single-shafted double-headed arrow, \leftrightarrow , as in **+ out \leftrightarrow N_P**, to mark the possibility of such alternations as *call [her name] [out]* and *call [out] [her name]*—for the sense of *call* glossed as ‘shout’.

Indicators of meaning are presented in four ways:

- the collocators and near-synonyms mentioned earlier that serve mainly as mnemonics to help keep the senses apart,
- parenthesized synonyms or paraphrases in the case of idiomatic expressions (see the phrasal verb section in the *call* entry),
- Cobuild-style ‘full-sentence-definition’ meaning explanations (Sinclair 1987, also Rundell 2006) after most entries,
- sentences that partially explain the use or meaning of a word while simultaneously exhibiting one of its typical distributional patterns.

3. Entry properties by part of speech

A detailed Guide to the Dictionary is found in pages vii–xxii of *VDE*. This dictionary sharply separates verbs from adjectives and nouns in

	intelligible	<i>adjective</i>
P1	attr	His mouth was too full to give me an <i>intelligible</i> answer.
P2	pred	The translation is utterly simple, fluid, <i>intelligible</i> at first hearing and natural.
P3	+ to N	The language of Darwin was <i>intelligible</i> to experts and non-experts alike.

Something that is intelligible to a person can be understood by them.

Figure 1: *VDE* entry for INTELLIGIBLE.

its lexicographic conventions, and we will occasionally find ourselves wondering why.

The full notational apparatus is used only for verbs. In this survey we begin with adjectives (3.1), because they have the simplest entries. I will point out, however, that there are features of adjectives that would welcome descriptions similar to what is needed for verbs. Discussion of verb entries will follow (section 3.2), and finally in an examination of *VDE* entries for nouns (section 3.3), I will point out that much of the descriptive apparatus *VDE* restricts to verbs would also be useful for nouns, in particular for nouns that have derivationally related verbs.

In what follows I introduce *VDE*'s notational practices piecemeal by examining the details of selected entries, adding an occasional appreciative or critical comment along the way.

3.1 Adjectives

Adjectives are described first according to their predicative vs. attributive functions, and then according to the complements they take when used predicatively.

3.1.1 *Intelligible*. The entry for *intelligible* is shown in Figure 1. The meaning of the numbered patterns, P1–P3, is explained in the bold-face abbreviations **attr** and **pred**, or the formula **+ to N** at the head of each block of examples: this adjective can be used attributively and predicatively, and in its predicative use it can take a *to*-phrase complement.

In the gray-shaded section at the end of the entry, the bolded portion of the text, in the manner of Cobuild-style meaning explanations, shows the predicative use with the prepositional complement, and the plain-font remainder completes the explanation: **Something that is intelligible to a person** can be understood by them. The posited existence of someone-who-understands is a necessary component of the meaning of the adjective, expressible as a *to*-phrase, pragmatically interpreted if unexpressed.

familiar *adjective*

- P1 **attr** The *familiar* story then unfolds in which Arthur gains Excalibur and the kingdom.
- P2 **pred** Why does that name sound *familiar*?
- P3 **+ as N** It is rather disconcerting to hear Kenneth Branagh, more *familiar* as Shakespeare's Henry V, affecting a Los Angeles drawl in *Dead Again*
- P4 **+ from N** The place is *familiar* from Norman Rockwell's paintings and countless black-and-white movies
- P5 **+ to N (frequent)** Drowsiness is a feeling *familiar* to most people. ...
- P6 **+ with N/V-ing (very frequent)** We are also *familiar* with the South Africa situation. ... This is because your brain is more *familiar* with sending messages to your hands than to your feet.
- Over the last few months I have built up a library of embarrassing anecdotes about him which I can ruthlessly employ if he's dominating a dinner party or becoming just a bit too *familiar* with Bella (=too friendly, taking liberties)
- P7 **+ to N + from N** Dreams may be illusory, but their nature is *familiar* to us from our understanding of the waking world.
- P8 **+ with N ↔ from N** Most people are *familiar* with astrology from the magazine sun-sign columns.

- (i) Someone or something can be **familiar to a person**, i.e. be known to them.
- (ii) A person can be **familiar with something**, i.e. know it.

Figure 2: *VDE* entry for FAMILIAR.

3.1.2 *Familiar*. The adjective *familiar* offers some complications. *VDE* does not assign semantic roles to the complements of adjectives but to understand the function of this adjective it is necessary to distinguish a cognizing participant or Experiencer (the being to whom something is familiar), and a Phenomenon or percept (that with which the Experiencer has had some acquaintance)². The two main predicative uses of the adjective distribute these entities between the subject and an oblique prepositional phrase in opposite ways:

a Phenomenon	is <i>familiar</i>	to an Experiencer
an Experiencer	is <i>familiar</i>	with a Phenomenon

The entry is given as Figure 2; excisions are indicated with '...'.

A feature of the organization of the examples blocks in *VDE* can be seen in this entry: those with no complements come first (P1–P2), those with one complement come next (P3–P6), those with two complements follow that (P7–P8), and so on, and within each of these the example sets are in alphabetical order by the first-mentioned syntactic complement.

The meaning explanation for this entry has two parts, labeled (i) and (ii); *VDE* reserves early-alphabet upper-case letters for important *senses*, but I will refer to the two parts of the meaning description here too as *senses*. The meaning difference is only hinted at in the paraphrases: in sense (i) a subject designates the Phenomenon; in sense (ii) a subject designates

the Experiencer. Examples in P1–P5 illustrate sense (i); examples in P6 illustrate sense (ii). The examples in P7, sense (i), and P8, sense (ii), show that a *from*-phrase indicating the source of the experience is compatible with each of the two meanings.

The entry does not point out that the Phenomenon is obligatorily expressed in all uses: in the attributive use it is the modified head; in predicative uses of sense (i) it is the subject; with sense (ii) it is the non-omissible *with*-phrase. That is, while in sense (i) the *to*-phrase can be omitted, in sense (ii), a *with*-phrase is obligatory.

The virgule in the valency pattern for P6 (**+ with N/V-ing**) indicates that the preposition *with* can introduce either a nominal complement or a gerundial complement (*familiar with [a language]*, *familiar with [sending messages]*). The tags (*frequent*) and (*very frequent*) marking P5 and P6 show that these are the most common uses, and that the version with the Experiencer as subject is the most frequent.

The bulleted example under P6 shows a third sense of the word, one that has a valency that meets part of the description of P6 but has a meaning that cannot be predicted from other senses of the word. That meaning is separately explained in the parenthetical gloss after the sentence.

Cases where a word can occur with two complements are shown by two separate symbol-groups beginning with the + sign, presented in the order in which they occur (P7's **+ to N + from N**, *familiar [to us] [from ...]*), or with a double-headed arrow between them to show that the order is not fixed. (P8's **+ with N ↔ from N**, *familiar [with astrology] [from sun-sign columns]*). No example with the *from*-phrase first is provided under P8, and it is not easy to think of one.

Meaning explanations in *VDE* are not intended to be full semantic analyses (*VDE* p. xxxviii). A variety of conventions are used, but in general *VDE* meaning explanations evoke the Cobuild-style of full-sentence definitions, though somewhat abbreviated, as can be seen in the entries for this adjective. Cobuild captures the idea that humans are involved in some eventuality in conditional sentences with the pronoun *you*: the pronoun stands for the Experiencer role when used with *know*, *recognize*, etc., but for the Agent role when used, as here, with *behave* and *treat*. Cobuild also provides richer information about the motivating context for the use of the word. The *VDE* and Cobuild definitions of the three senses of *familiar* are compared in Table 1. In *VDE* the full sentence style is not used in explaining idiomatic expressions, as in the third sense.

VDE and Cobuild agree in identifying the subject of *familiar* in sense (i) as 'someone or something': in *VDE* the only example chosen to illustrate a human subject is accompanied by a role-identifying *as*-phrase adjunct, where an actor is described as being *familiar [as Shakespeare's Henry V]*. It is in fact difficult to find examples of human subjects with this sense; one wonders

Table 1: *VDE* and Cobuild definitions of FAMILIAR

<i>VDE</i>	Cobuild (1987)
Someone or something can be familiar to a person, i.e. be known to them	If something or someone is familiar to you, you are able to recognize them or know them well because you have seen, heard, or experienced them before.
A person can be familiar with something, i.e. know it.	If you are familiar with something, you know or understand it well.
(=too friendly, taking liberties)	If you behave in a familiar way towards someone, you treat them in an informal way that is appropriate only between close friends, and so may be considered offensive by anyone who is not a close friend.

how rare a pattern needs to be to merit exclusion from a corpus-based dictionary.

3.1.3 Similar. Next, we look at the adjective *similar*, comparing it with its antonym *different*. One neglected feature of the behavior of this word would have been noticed if *VDE* applied to adjectives the concepts available for verbs, in particular the symmetry or reciprocity possibilities in words like *similar* and *different*. With these adjectives the two terms in a comparison can be represented separately (as subject and oblique complement—*[A] is similar [to B]*, *[A] is different[from B]*), or jointly (as a plural or conjoined nominal—*[A and B] are similar*, *[A and B] are different*). In the separate or disjoint representation the comparandum can be omitted, if it is understood in the context, so it follows that if the subject is plural, the predicative use with no following complement can be ambiguous. For example, *My children are quite similar* is usable when I want to say (i) that they are like each other, or (ii) that they as a group are like some other children who have just been mentioned. The *VDE* entries for both *similar* and *different* fail to highlight such possibilities. Figure 3 is the entry for *similar*.

The examples given for pattern P4 show without comment that an *in*-phrase in this context can have either of two functions: it can identify the populations being compared (*very similar [in adults]*) or the respect in which things are being compared (*similar [in size and composition]*). In the respect-indicating sense of *in*, apparent in P6, one might have expected the alternation marked by the double arrow \leftrightarrow to appear, allowing *similar [to the Earth] [in size and composition]* alongside of the example given in P6. Another common respect-indicating complement type, **+ in that-CL**, could have been

similar*adjective*

P1 **attr** Select potatoes of a *similar* size, peel and reserve in cold water. The death toll in Wednesday's earthquake has risen to nearly 29,000 with a *similar* number of people injured. Tim and I are very *similar* people.

P2 **pred** There are many methods of relaxation, nearly all of them quite *similar*.

P3 **+ for N** The results were *similar* for young people and people in households with incomes under 20,000 per year.

P4 **+ in N/V-ing** The symptoms are very *similar* in adults. All human beings are remarkably *similar* in their needs and desires. France and America are *similar* in being simultaneously enriched and troubled by cultural diversity.

P5 **+ to N/V-ing/to wh-CL (frequent)** This album is very *similar* to the last one. Displaying computer fonts is *similar* to showing a picture on screen. My feeling is very *similar* to how the children and teachers feel about the situation.

P6 **+ in N + to N** Venus is *similar* in size and composition to the Earth.

Something or someone can be similar to something or someone else in a particular respect, i.e. almost the same.

Figure 3: VDE entry for SIMILAR.

included in this entry (*the two diseases are similar [in that they both start with acute infection]*).

The just noted properties of *similar* are similar to the properties of *different* in that they both allow joint or disjoint representation of the entities being compared, and this distinction is not indicated in the entry. *Different* differs further from *similar* in that while *similar* offers only one preposition for marking the comparandum (*to*), *different* offers any of three: *to*, *from* and *than*. This fact was taken to be important enough to constitute the entire meaning note (Figure 4), denying the reader a sentential definition of *different* that might have been modelled after that for *similar*: **Something or someone can be different from something or someone else in a particular respect, i.e. not the same.**

It is worth considering the use of the disjunction **something or someone** in a Cobuild-style defining sentence, especially in cases where it occurs twice in the same definition. When we see this pair in a definition, one possibility is that the 'animacy' feature is simply irrelevant³. For example, Cobuild uses the conditional clause 'if someone or something falls' in setting up its definition of *fall*, and 'if you strike someone or something' for its definition of *strike*. This reflects the fact that what falls down or gets struck is indifferently a living being or a physical object. In the use of **something or someone (else)** in descriptions of *similar* and *different*, however, and a large number of expressions of exchange, symmetry or reciprocity, the two entities compared are likely to be of the same sort: *Arthur is similar to William*, *your plan is similar to mine*, *the letter 'E' is similar to 'F'*, and so on—someone paired with someone, something paired with something, or more specifically, something of a certain type paired with something of that same type. I have no suggestions on how such

There is very little difference between *different from*, *different to* and *different than*, although many speakers of British English would regard *different than* as Americanism.

Figure 4: Meaning note for DIFFERENT.

likely	<i>adjective</i>
P1 attr	Flooding, as the icecaps melt, is a <i>likely</i> consequence of global warming,
P2 pred	There are still major problems of verification to be overcome before a worldwide ban on chemical weapons is <i>likely</i> .
P3 + to-INF (>30%)	Some of the smaller parties are <i>likely</i> to gain votes from worries that the country might take a shift to the right. Part-time wages are <i>likely</i> to drop even lower after the imminent abolition of the Wages Councils.
P4 + [it] + (that)-CL	It is thought <i>likely</i> that the next government will be a coalition of the centre-left, possibly including the reformed Communists. It's <i>likely</i> that there will be pressure on the republics not only for political stability but for economic reform. If she went to bed before eleven, it was <i>likely</i> she would wake up during the night.

Likely means 'probable'.

Figure 5: *VDE* entry for LIKELY.

interdependencies can be perspicuously represented in a dictionary designed for human use, but there are researchers proposing to use *VDE* entries for automatic language processing and for them such information would surely be relevant. (Götz 2007, Spohr 2004).

3.1.4 Likely. The entry for the adjective *likely*, in Figure 5, offers verbal and clausal complements: the P3 pattern takes a regular subject and has the 'Raising' interpretation; the P4 pattern shows that a finite clause, with or without the marker *that*, occurs in the *it*-Extraposition pattern, as indicated by the + [it]. It is unfortunate that the pattern shown in P3 as having a high frequency of occurrence, indicated by >30%, is the one that does not match the meaning explanation.

For **adjectives**, then, we have noticed the distinction between predicative and attributive uses, the selection of single and multiple prepositional complements and their relative ordering, the presence of verbal and clausal complements, and the use of Cobuild-style sentential definitions.

3.2 Verbs

A complete verb entry consists of

- (1) a preamble that names the headword and its part of speech, identifies its voice characteristics, and presents an inventory of the complements,

- (2) the main collection of examples, sorted by valency patterns,
- (3) notes on meaning, and
- (4) where relevant, a list of idiomatic uses, typically phrasal verbs (eg the *call forth*, *call out*, *call up*, etc., in the *call* Appendix).

The example sentences are sorted by numbered pattern labels in the left margin. Instead of just having numbers on P (for ‘pattern’) as with adjectives and nouns, the verb entries are sorted first by their quantitative valency, using symbols taken from the set Z (=zerovalent, aivalent), M (=monovalent), D (=divalent), T (=trivalent) and Q (=tetravalent or beyond)⁴. Except for Z and M, which obviously have no post-verbal complements, the valency patterns are numbered as D1, D2, T1, T2 etc. The example sets illustrating each D, T, or Q pattern are preceded by a label or formula indicating the phrase types of the complements they exhibit, roughly the Chomskyan ‘subcategorisation frame’. Since the presence of a subject (in all but Z cases) is taken for granted, D patterns will display one complement, T will show two, and so on.

I will use the terms **semantic valent** to refer to the semantic role that a complement holds to its lexical governor, **syntactic valent** to refer to the syntactic realization of a semantic valent, **valent** alone to refer to the pairing of these, and **valency** to refer to any of the combination of valents associated with a lexical governor. In *VDE* verb entries, the preamble identifies the semantic valents, in the left margin, as gray-shaded upper-case roman numerals; and these are linked to (a) the syntactic valents through which they are lexico-syntactically realized, and (b) pointers to the example blocks that exhibit those phrase types. The semantic notes section at the end shows the word in one of its typical grammatical contexts, with superscripted large roman numerals at the ends of the segments of the defining sentence that stand for the semantic valents, and provides cross references to places in the examples where expressions with the relevant meanings are found. The entries thus include various kinds of cross-references: the preamble links semantic valents to appropriate example sets, and the meaning descriptions link components of the definitions to the semantic valents, while associating senses to example sets.

3.2.1 Discuss. A relatively simple verb example is *discuss*. The semantic valents, identified with gray-shaded capital roman numerals, represent (I) the Speaker, (II) Topic and (III) the Interlocutor in one sense, (I) the Speaker/Text and (II) Topic in another sense. (Again, these names are mine, not *VDE*’s.) I present the segments of this entry separately; Figure 6 is the ‘preamble’ alone.

In Figure 6 the reader is informed that the verb can have from one to three expressed arguments in either the active or the passive voice. (Active: 1/3 Passive: 1/3). The notation General: 0 indicates that the verb is judged as having a use with no arguments (as in some imagined sentence like *There was no time to discuss*), but the corpus apparently brought forth no such examples.

discuss		verb	
		Active: 1/3	Passive: 1/3 General: 0
I	[N] _A /[by N]		
II	[N] _P	D1	T
	[V-ing] _P	D2	T
	[wh-CL] _{P(it)}	D3	
	[wh to-INF] _{P(it)}	D4	
III	[with N]		T

Figure 6: Preamble to *VDE* entry for DISCUSS.

- (i) A person^I can discuss a matter^{II} with another person^{III}, i.e. talk about it.
(ii) A person or something written by a person such as a book or an article^I can discuss a matter^{II}, i.e. deal with that topic.

Figure 7: The meaning explanation for DISCUSS.

The valency information in the I row indicates that this first complement can appear either as the subject of an active sentence or as a *by*-phrase. The subscripting for the formulas under semantic valent II indicate that phrases of each of these types can appear either as the direct object or as a passive subject; the element ‘(it)’ added to the subscripting for the third and fourth lines under II shows the possibility of *it*-extraposition of either an interrogative clause ([**wh-CL**] (as in, say, *it was discussed where we should meet*) or an interrogative infinitive phrase ([**wh to-INF**] (*it was discussed what to do next*)). (No examples are provided, but web searches of ‘it was discussed why’ or ‘it was discussed what’ yield many examples of each type.) The symbols D1–D4 and T are cross-references to the example collection, where they stand for syntactic valency types; no example sets are identified for complement I since it is a part of every valency.

Postponing a look at the examples blocks, we can examine the meaning explanation in Figure 7. With the meaning description, the reader can see easily what the three semantic roles I, II and III stand for. The senses are distinguished with parenthesized small roman numerals, as seen with *familiar*: sense (i) uses three arguments, sense (ii) uses two. Valent I (for sense (i)) is a Speaker in a dialogic situation, that is, in conversation with another person, or for sense (ii) it can be either a Speaker in a monologic situation (as in a classroom lecture), or a Text or other medium of communication, where the only relation expressed is that between a Speaker or Text and a Topic. Valent II is the Topic, valent III is the Interlocutor. The dialogic sense (i) presupposes an Interlocutor (*I will discuss this with your father*); the monologic sense (ii) does not (*the next chapter will discuss our main results*).

We pass now to the examples, shown in Figure 8. With verbs, the ‘quantitative valency’ is indicated with capital letters, and numbers are used only when patterns with the same number of complements differ from each other. I will discuss examples one at a time. Some material has been omitted.

M	The deputies seem to have nothing to do. They don't <i>discuss</i> properly in groups.
D1	+ N_P These visits provide an opportunity to <i>discuss</i> a whole range of topics "... "All these matters will be <i>discussed</i> in depth in later chapters and in Appendix A.
D2	+ V-ing_P They learned that their children had already been <i>discussing</i> moving out of the area.
D3	+ wh-CL_{P(it)} (<i>frequent</i>) <i>Discuss</i> how you could work together to find out more
D4	+ wh to-INF_{P(it)} The two of us have <i>discussed</i> how to tell Christopher.
T	+ N_P/V-ing_P + with N He'll still want to <i>discuss</i> it with you. Did you <i>discuss</i> making that call with your partner?

Figure 8: Examples from *VDE* entry for DISCUSS.

The unusual M example has no mention of Topic or Interlocutor. A simple nominal complement in D1 is shown as capable of being either the direct object of an active sentence or the subject of a passive sentence (symbolically, **+ N_P**), and both types are present in the examples. D2 shows a gerundial example.

D3 and D4 show two kinds of interrogative complements. In most contexts the same lexical predicate can take either an interrogative clause or an interrogative infinitive (*I don't know [what he said]*, *I don't know [what to do]*), and *VDE* usually represents this situation with a slash symbol showing the alternation possibilities, using the formula **+ wh-CL/wh to-INF**⁵. In the *discuss* entry, however, they are listed as two separate patterns, presumably to make it possible to mark only the clausal version as *frequent*. The T examples illustrate both a nominal and a gerundial object, followed by a *with*-phrase.

By comparing the D4 and T examples we can notice a contrast between the joint or the separate instantiation of multiple participants in a discussing event. In *The two of us have discussed how to tell Christopher* (D4) it seems clear that 'the two of us' talked to each other but both participants are introduced in a plural subject; in *He'll still want to discuss it with you* (T), the two discussants are mentioned separately, one as subject and one with *with*. The *VDE* means of treating such a contrast elsewhere are dealt with in the *agree* entry, discussed below.

3.2.2 Aim. The use differences for *discuss* were marked with small roman numerals; in cases where the meanings appear to be more clearly distinct, separate sub-entries are given, and the senses are labeled with early-alphabet capital letters. The entry for *aim* recognizes two separate senses and assigns separate complementation patterns to them.

Figure 9 shows both the preamble for *aim* and the meaning explanation, where an A sense and a B sense are recognized, tagged by the collocators '... weapon' and '... objective' (aiming a weapon versus aiming to achieve a particular objective). This entry unintentionally illustrates how difficult it must have been to keep track of what the notations were supposed to show. The numbering (i.e., the I, II, III) of the semantic valents for these two senses and

aim	<i>verb</i>
A	... weapon Active: 1/3 Passive: 1/3 General: 0
I	[N] _A /[by N]
II	[at N] _P D2 T1
	[ADV] T2
III	[N] _P T1-2
B	... objective Active: 2/3 Passive: 1/3 General: 0
I	[N] _A /[by N]
II	[N] _P T1
III	[to-INF] _P D1
	[at N/V-ing] _P D2 T1
	[for N] _P D
A	Someone or something ^I can aim at someone or something ^{II} , i.e. direct a camera or a weapon towards them → M D2 T1 T2
B	A person or an institution ^I can aim (i) at achieving something (ii) for something they want to have ^{II} (iii) to do something ^{II} , i.e. set themselves an objective. → D1 D2 D3 T1

Figure 9: Preamble for AIM, with two senses.

the way they are picked up in the definition have this reader confused. Both of these senses allow for mention of

[someone: X aiming something: Y at something/someone: Z]

but in the preamble the A or ‘... weapon’ sense associates the Y of my formula with semantic valent II and the Z with III, and in the B or ‘... objective’ sense it is the other way around. However, in the meaning explanations in Figure 9 valent III is not mentioned at all for either sense, and the ‘target’ of the aiming event is given as II. An example of the A sense is *She aimed a kick at the snarling ball of dogs*. Here *a kick* has to be III and the *at*-phrase has to be II. An example of the B sense is *It’s not aimed at one particular party, but at politicians as a breed*. Here, reversing the voice, *it* has to be II and the *at*-phrase has to be III—according to the line-up in the preamble, but not according to the descriptions in the meaning explanation. I would rather think that this is a mistake than that I have greatly misunderstood the purposes of the notation.

3.2.3 Risk. Because of an earlier interest of mine (Fillmore and Atkins 1992, 1994) I wanted to see how *VDE* treated *risk*. The preamble and the meaning section (omitting the examples block) are given as Figure 10, showing exactly the three senses that one would want: the II valent can be an Act,

risk	verb		
A	'accept danger'		
	Active 2/2	Passive 2/2	General 0
I	[N] _A /[by N]		
II obl	[N] _P	D1	
	[V-ing] _P	D2	
B	... defeat		
	Active 2/2	Passive 1/2	
I	[N] _A /[by N]		
II obl	[N] _P	D1	
	[V-ing] _P	D2	
	[N V-ing] _P	D3	
C	... one's life		
	Active 2/3	Passive 1/3	
I	[N] _A /[by N]		
II obl	[N] _P	D1	T1-2
	[by V-ing]		T1
	[in V-ing]		T2
A	A person or organisation ^I can risk doing something ^{II} , i.e. do although it might be dangerous → D1 D2		
B	A person or organisation ^I can risk some negative or unwanted effect or situation ^{II} , i.e. act in a certain way although this might result in this unwanted effect or situation → D1 D2 D3		
C	A person ^I can risk somebody or something ^{II} , i.e. expose them to risk → D1 T1 T2		

Figure 10: Preamble and meaning sections of the *VDE* entry for RISK (v.).

i.e., something ventured (sense A), a Danger, i.e., a feared happening (sense B), or an Asset of the Protagonist, i.e., a valued asset (sense C). For all three senses we are told redundantly that the verb cannot be used intransitively (the voice symbol Active 2/2 means that there is no use with subject only) and that the II valent is obligatory (the symbol II obl).

A greatly abbreviated version of the examples section is given in Figure 11, showing only the verb-headed phrase from the examples. The display shows clearly that an Asset is best represented as a nominal (sense C shows up in D1, D4 and D5, all containing an N_P), that an Act is representable as a nominal or a gerund (sense A in D1 and D2), and that a Danger can be expressed as a nominal, a gerund, or a clause (sense B in D1, D2 and D3).

Without a method of showing family relations among the three senses assigned to this verb, there is no natural way to suggest that the semantic valent expressed in *by*-phrases and *in*-phrases in D4 and D5 have the same status as the ventured Act recognized in sense A.

3.2.4 Agree. The verb *agree* offers a number of new properties, among them the important possibility of representing the complements in expressions of

- D1 + N_P**
 (A) *risk an ocean journey*
 (B) *risk expulsion, risk defeat and disappointment*
 (C) *risk one's neck, risk one's life, risk one's political future*
- D2 + V-ing (frequent)**
 (A) *risk leaving him*
 (B) *risk getting a parking ticket*
- D3 + N V-ing**
 (B) *risk Mr Gorbachov leaving London empty-handed*
- D4 + N_P + by V-ing**
 (C) *risk everything by leaving a secure position at Wolseley*
- D5 + N_P + in V-ing (rare)**
 (C) *risk lives in attacking an enemy whose army was likely to disintegrate in any case*

Figure 11: Reduced sample of examples section for RISK (v.).

reciprocal action. The two sides of a reciprocal action verb can be represented disjointly, with valent I as subject and valent II as a *with*-phrase (*[I] agree [with you]*), or jointly, as a plural subject, represented in the qualitative valency column as I + II (*[you and I] agree*).

The examples just mentioned belong to sense A of *agree*, tagged 'be of the same opinion'. Other senses are B 'consent' (*I agreed to take them to the circus*), C 'be the same' (*our estimates don't agree*), D 'come to a common conclusion' (*they couldn't agree on what course to take*), and a sense E tagged by '... food, etc.' (*tomatoes don't agree with me*). Here I will concentrate on sense A, presented as Figure 12. (The examples are omitted.)

The joint representation of the Protagonists specifies both subject and passive oblique for the 'I + II' valent, assigning plural or group nominals and conjoined nominals as syntactic valents (*[John and Tom]^{I+II} do not agree*). The disjoint representation of the agreement participants are Valent I and Valent II (*I think [Marcus]^I is much more likely to agree [with you]^{II} on church matters than he is with me*). Valent III represents the Content of the agreement, expressed either as a *that*-clause or as a quoted utterance (*['That would be pleasant, ']^{III} Jeanne agreed*); valent IV identifies the Topic of an agreement, introduced by the prepositions *about*, *on*, or *upon* (*All appear to agree [on this machine being value for the money]^{IV}*).

It has been noted that the reciprocity property recognized for the 'be of the same opinion' sense of *agree* should probably have been recognized for adjectives (the discussion of *similar* and *different* in section 3.1.3) as well as nouns; it has not been recognized in *VDE* for all relevant verb meanings either. *Discuss* has this property (*[I]ll discuss this later [with your father]*; *[your father and I] will discuss this later*) as does one of the other senses of *agree*—the one tagged 'be the same' (*[our estimates] don't agree*; *[your estimates] don't agree [with mine]*).

agree		verb			
A	'be of the same opinion'				
	Active: 1/3	Passive: 1/3	General: 0		
I	[N _A]/[by N]	M	D3,6	T2-4	
I+II	[N _{pl/group}] _A /[by N _{pl/group}]				
	[N and N] _A				
	[by N and N]	M			
II	[with N] _P		D10	T2-4	
III	[that-CL] _{P:it}		D3	T2	
	[Q/S]		D6		
IV	[about X] _P		D7	T3	
	[on X] _P		D8	T4	
	[upon X] _P		D8		
A	Agree can mean 'be of the same opinion'				
	(i) People ^{I-II} can agree on or about a particular topic or issue ^{IV}				
	(ii) A person ^I can agree with another person ^{II} on or about a particular topic or issue ^{IV}				
	(iii) A person ^I can agree that something is the case ^{III}				

Figure 12: Preamble and Meaning Section for AGREE.

Oddly, the *discuss* entry in *VDE* recognizes only the disjoint pattern while the ‘be the same’ sense of *agree* recognizes only the joint (I + II) pattern. Examples that support each of the unrecognized patterns can easily be found.

The features of **verbs** encoded in *VDE* go far beyond those recognized for adjectives. They include partial indication of semantic roles (the ‘qualitative’ valents symbolized by capital roman numerals and exhibited in the sentences cited in the meaning descriptions); quantitative valency expressing the number of explicit syntactic valents in specific valency patterns (the M, Z, D, etc., serving as the base of numbered subtypes, like the D1–D5 in Figure 11); indications of passivizability and the option of *it*-extraposition; and, importantly, the possibility of showing the relationship between the joint versus distributed presentation of multiple participants for verbs involving reciprocity, symmetry and exchange (the co-existence of I and II with I–II in the qualitative valents). Verbs that have both transitive and intransitive uses in the same meaning are simply included in different patterns; those that do not permit object omission have the objects marked as obligatory, as with all three senses of *risk* in Figure 10.

3.3 Nouns

VDE does not contain many instances of morphologically paired verbs and nouns, but *risk*, verb and noun, are found, as are *agree* and *agreement*, and so the points I would like to make about the description of nouns will concentrate on these, comparing them with what has been noticed about the related verbs.

3.3.1 Risk. As with adjectives, noun entries are limited to the pattern-sorted examples block and the meaning description. The noun entry for *risk*, with some truncations of the examples, is given as Figure 13.

If the notions available for describing nouns and verbs were not kept so distinct, then it would be possible for the various syntactic valents to be identified across word-class categories. The *that*-clause of P2 is clearly the Danger: *the risk that goods go astray*. The *for*-phrases of P3 can introduce the Protagonist (*a risk for the investor*) or the Danger (*at risk for developing alcoholism*). The *in* + gerund phrase of P5 reflects the risky Act (*the risk in flying south for the spring*), the *of*-phrases of P6 represent the Danger (*at risk of losing their jobs*), and the *to*-phrase in P7 can introduce either the Protagonists (*a risk to backseat passengers*) or the Asset, (*a risk to our health*). The examples in P4 represent something new, when compared with the description of the verb: *the health risk from pets*, and the other examples there, which point to a Source of risk. One might wish to assign that same role to the subject of a sentence like *You are a risk to the company*, *Nile virus is a risk you can do something about*.

Some of our interest in the entries for nouns will relate to properties of the associated verb, but there are also many facts that are only relevant for nouns (Fillmore 1994), and some of these will be discussed Section 4.2. Nouns, for example, allow a count/non-count distinction, and among the count nouns, a singular/plural distinction. While a phrase like *there's a risk of abortion* is likely to suggest that abortion is the Danger to be feared, the plural noun in *the risks of abortion* is likely to refer to the dangers that could follow from abortion taken as the risky Act.

3.3.2 Agreement. The entry for *agreement* contains the examples block, with *twenty* valency patterns—many of them challengingly complex. The display in Figure 14 includes only the examples for patterns P1–P3.

The careful reader of the full entry would notice that there are nine instances of existential presentation: *there is an agreement*, *there has been no agreement*, etc. There are nine instances of collocation with the verb *reach* and one of *come to*; the reader who notices this might be alerted to recognize other spatial metaphors with this same word. Alongside of *reach an agreement* and *come to an agreement* there can also be *arrive at an agreement*, *approach an agreement*, and *enter into an agreement*. Instances of *sign an agreement* are clear indicators of sense (b) in the meaning block. The meaning description gives the impression that it concerns the difference between the bare and the determined use of the noun, but the first two examples above show both *reached agreement* and *reached an agreement*.

The entry for the **verb** *agree* recognized among its semantic valents two ways of organizing the protagonists, valent I capable of co-occurring with a *with*-marked valent II, and both (or all) sides represented jointly, valent I + II.

risk	<i>noun</i>
P1	The objective is always to maximise the benefits and minimise the <i>risks</i> . I don't want to be taking any <i>risks</i> .
P2	+ that-CL There is always the <i>risk</i> that goods go astray. ...
P3	+ for N[at] + for N/V-ing Capital shares offer high rewards at the price of higher <i>risk</i> for the investor. The <i>risks</i> for British cyclists are between seven and ten times higher than those facing Danish, Swedish or Dutch cyclists. ... attempts to find and vaccinate adults most at <i>risk</i> for the disease ... at <i>risk</i> for developing alcoholism.
P4	+ from N/V-ing The health <i>risk</i> from pets ... at <i>risk</i> from infection <i>risks</i> from genetically engineered organisms ... at <i>risk</i> from sharing needles
P5	+ in N/V-ing The <i>risk</i> in heaping scorn on Baring ... the <i>risk</i> in flying south for the spring
P6	+ of N/V-ing/of N V-ing (frequent) ... the <i>risk</i> of side effects ... the greatest <i>risk</i> of a cyclone is in January ... the <i>risk</i> of crashing and sustaining serious injury ... those most at <i>risk</i> of losing their jobs ... At the <i>risk</i> of appearing a philistine ... reduced the <i>risk</i> of a patient rejecting a new organ or cells ...
P7	+ to N the <i>risk</i> to backseat passengers ... poses a <i>risk</i> to our health
P8	+ for N + to-INF ... It was a <i>risk</i> for Piccolo to accept Alderson's proposal.

A risk is 'a chance of something dangerous or unpleasant happening'

(a) **There can be a risk**

(i) **that something will happen**

(ii) **from a situation already present**, i.e. that a further danger may develop

(iii) **of something, such as fire, floods, etc.**, i.e. that is what may happen

(iv) **in something that is a general source of danger**

(b) **Someone can**

(i) **be at risk of, also: for, something**, i.e. what may happen.

(ii) **act at the risk of doing something**, i.e. that is the danger that may follow from the action.

Figure 13: VDE entry for RISK (n.).

A number of the patterns shown for the noun have a *with*-phrase as one of the members of a valency pattern (Protagonist-2), and these are reflections of the disjoint pattern; a number of the others have *among(st)* and *between* as the main markers of a valent (Protagonists), and they reflect the joint pattern. A complement of the verb could be a *that*-clause, indicating the Content of an agreement, and the same holds with the noun. The Topic of an agreement is generally introduced with *about* or *on*, and that holds for both the verb and the noun. In the case of the verb the identity of the Protagonist-1, or the Protagonists, appeared as the subject of the active sentence or *by*-phrase of

agreement	<i>noun</i>
P1	The East German factions reached an <i>agreement</i> and on August 31 the treaty was signed by representatives of both Germanies.
P2	+ to-INF United Biscuits has reached <i>agreement</i> to sell its US Salty Snack business to private investors for 48m cash. Greece and the Soviet Union have signed an <i>agreement</i> to build a pipeline from the Bulgarian border which will supply the major Greek cities with Soviet natural gas.
P3	+ that-CL There was a majority agreement that there should be negotiations with the EU.

(a) *agreement* is 'a situation in which two or more people have the same views on a topic, especially on a future course of action'

(b) an *agreement* is 'a formal statement between businesses, countries, etc. on the matters on which they agree'.

Figure 14: Truncated entry for AGREEMENT.

the passive, and with the noun they could show up in an *of*-phrase or a *by*-phrase.

In fact, those valents that do not represent the protagonists in an agreement situation can be divided into three types, symbolizable by TO, THAT or ON (short for *on*, *upon* and *about*): TO-plus-Act, THAT-plus-Content and ON-plus-Topic. Roughly, the complex-looking valency patterns can show TO, THAT, or ON after the noun, or any of those preceded by an indicator of the protagonists: either the secondary protagonist marked with *with* or the joint protagonists introduced with *among* or *between*. The most complex patterns reflect the various ways in which the protagonists can be represented (group NP, plural NP, and conjoined NP) and the various ways in which the topic can be expressed (*on* vs. *about* followed by N, V-ing, N V-ing, wh-CL or wh to-INF). Instructions to pick-one-from-each-column in Table 2 will produce almost everything possible.

The interpretation of the slash or 'or' symbols in some of these formulas requires a certain amount of cooperation: briefly, a slash between two subscripted symbols shows an alternation between two symbols with different subscripts; in front of a preposition it requires re-entry into the set of alternatives; elsewhere a slash shows the alternation of the symbol sequences it separates. Figure 15 offers the reader a chance to practice with the *VDE* pattern formulas. As a hint, know that P13 represents eight different possibilities, namely **between N_{pl} on N**, **between N_{pl} on V-ing**, **between N and N on N**, **between N and N on V-ing**, **between N_{pl} on wh-CL**, **between N_{pl} on wh to-INF**, **between N and N on wh-CL**, and **between N and N on wh to-Inf**.

Certain real or apparent limitations suggested by the pick-and-choose Table 2 seem more relevant to the description of *between* and *among* than to the description of *agreement*, but faithfulness to the corpus seems to have required separate patterns showing that Protagonists attestations were found for *among* with plural and group nouns, but not conjunctions, and for *between* with plural

Table 2: Summarizing valency features of AGREEMENT.

agreement by the committee (by N _{group})	to execute the decision (to-INF)
by Bob and Patrick (by N and N)	that change was necessary (that-CL)
by the men (by N _{pl})	about the new policy (about N)
among the members (among N _{pl})	on changing the policy (on V-ing)
between the parties (between N _{pl})	on what to do (on wh to-INF)
between you and me (between N and N)	on what should be done (on wh-CL)
with Patrick (with N)	

- P4 **+ about N/V-ing/about wh-CL/wh to-INF**
P10 **+ on N/V-ing/on wh-CL/wh to-INF**
P13 **+ between N_{pl}/N and N + on N/V-ing/
between N_{pl}/N and N + on wh-CL/wh to-
INF**
P20 **+ with N + on N/V-ing/with N + on wh-
CL/wh to-INF**

Figure 15: A Disabbreviation Exercise.

nouns and conjunctions but not group nouns; and that when an *among*-marked Protagonists valent was followed by a Topic valent, only *on* was attested. Surely this last limitation has to be accidental. The observed patterns are P5 (**+ among(st) N_{pl/group}**), P6 (**+ between N_{pl}/N and N**), and P12 (**+ among(st) N_{pl/group} + on N**).

Nouns are described in essentially the same manner as adjectives, even for nouns whose combinatory properties share much with the verbs to which they are morphologically related. Some of the apparent complexity in the valency patterns is because some semantic roles can be expressed with a variety of prepositions (*on*, *upon*, and *about* for topic in the case of agreement; *by*, *of*, *between* and *among* for the role that could have appeared as subject in the case of the verb, and so on).

4. Evaluations

The generous amount of information provided in *VDE* is obviously much greater than any ordinary commercial dictionary could have afforded to include, so suggestions that there could have been much more cannot be welcome. The book is already very expensive, so asking for even more information would be pointless. Yet it is impossible not to think about what might have been.

4.1 *Alternative locations for valent realization*

The tasks to which the compilers seem to have committed themselves can be informally described as that of identifying the semantically relevant elements that occur *to the right of the head word*—more technically, the complements that appear *inside the phrasal projection* of the lexical item. The subjects or prime complements are mentioned in the case of verbs (valent I, as represented in both active and passive sentences), but there is no way to mention them directly in adjective or noun entries, except in the meaning descriptions. An ability to refer to all valents, subjects as well as non-subjects, could have made it possible to express the valency differences in two uses of *familiar* (with the alternating Experiencer and Phenomenon, Section 3.1.2) and in the different realization of the entities compared in phrases in construction with *similar* and *different* (Section 3.1.3). In the case of nouns *VDE* misses the opportunity to indicate how valents of the noun can be realized elsewhere than in the noun's phrasal projection.

Valents of noun frames can be expressed in possessive determiners: *my discussion yesterday with your parents* (showing disjoint realization of the discussants, where *my* is I and the *with* phrase is II), *our discussion about your behavior* (showing joint representation, where *our* is I + II and the *about* phrase is III), and similarly with *my plan's similarity to yours*, *our plans' similarity* (i.e., to each other). (The semantic valent assignments are those that *VDE* would have given if the editors had noticed the possibilities for *discuss* and *similar*.)

Giving equal weight to both prenominal and postnominal valent realizations would enable the recognition of such alternations between, say, *the committee's agreement* versus *the agreement by the committee*, *at the queen's bequest* versus *at the bequest of the queen*, etc. With nouns based on transitive verbs it would be possible to show the ability of the genitive determiner to realize either of the the verb's (main) two valents, as with such parade examples as: *the enemy's destruction of the city*, *the city's total destruction*.

Another valent-resolving position is that of a modifier in a compound: the first nouns in *fire risk* and *health risk* identify semantic roles associated with the noun (Danger and Asset respectively), and these could be seen as equivalent to their postnominal versions *risk of fire* and *risk to one's health*. Similarly, the noun modifier in *cease-fire agreement* and the relational adjective modifier in *monetary agreement* can be seen as satisfying the Content and Topic valents respectively—assuming that a *cease-fire agreement* is an agreement that there should be a cease-fire, and that a *monetary agreement* is an agreement about monetary issues.

There are numerous cases where a verb standing in construction with a valency-bearing noun provides syntactic positions (the verb's subject or object) relevant to the semantic structure of the noun (Alonso Ramos 2003, 2007, Mel'čuk 1996, 1998). For example, the Protagonist of a risk situation can be

the subject of the verb phrase *take a risk* or *run a risk*. Among such ‘argument-sharing’ verbs are the various kinds of *support verbs*. Among these, the so-called *light verbs* make no contribution to the meaning of the phrase besides enabling the expression of tense, aspect and modality: *taking a bath* is *bathing*; *having an argument* is *arguing*; *making an announcement* is *announcing*; *giving someone advice* is *advising them*; and so on. Some support verbs add registrational information (*register a complaint*, *issue a decree*, *wreak vengeance*, *exact retribution*), and some distinguish ‘perspectives’ (*perform an operation* vs. *undergo an operation*; *inflict injury* vs. *sustain injuries*). Other verbs though not strictly support verbs also identify the fillers of semantic roles of their associated nouns, as in *reach an agreement*. In addition to support verbs there are also other kinds of support constructions, among them *prepositional supports*: someone who is described as being *at risk* is clearly the Protagonist in a risky situation. There are verb-plus-noun constructions that presuppose an event of the time understood with the noun but do not simply propose that such an event took place. If *I took your advice*, it can be known that there was a prior event in which *you advised me*; if *I broke my promise*, there had to be an earlier event in which *I promised something*; if *I failed an examination*, there was a preliminary event in which *someone examined me*.

4.2 Valency differences across parts of speech in derivationally related words

When *VDE* contains both a verb or adjective and its derived noun, it could have pointed out the places where the prepositional or other marking of the valents is shared between the two, such as in *agree with* and *agreement with*, both of which introduce the secondary participant, or *agree on/about* and *agreement on/about*, both introducing the topic. There are also cases where a dictionary should point out discrepancies in such marking, as for example between *fond of kittens* versus *fondness for kittens*, *proud of my children* versus *pride in my children*. It would also have been useful to show which sense of *agree* corresponds to which valencies of *agreement*, as well as which senses are not represented in the noun: for example, none of the examples in the noun entry correspond to the sense of the verb that has *food* or *the climate* agreeing with me, or me agreeing to take the children to the circus. And the examples that accompany the noun make it difficult for me to accept a clear separation between the ‘be of the same opinion’ and ‘come to a common conclusion’ senses that *VDE* questionably separates in the case of the verb.

Nouns participate in grammatical contrasts that go beyond valence (Fillmore 1994), and a dictionary ought to present such information in a systematic way—perhaps especially a dictionary directed toward the needs of advanced language learners. Nouns can have count or non-count status, as we can see in both *risk* and *agreement*, and their selection is context-bound. *There are risks in*

doing this, there is a risk in doing this and *there is risk involved* are all found; *you took a risk* is possible, but **you took risk* (non-count, singular) is not.

4.3 Omitted valents

When a given word shows variation in quantitative valency, it is sometimes relevant to understand why what is missing is missing. A frequent example-accompanying notation in *VDE* is ‘if clear in context’, indicating that one of the unexpressed valents should be taken as contextually understood. In other cases something can be missing even if it is not contextually given. These generally correspond to what Allerton (1982) refers to as *indefinite omission* and *definite omission*, and since these possibilities are frequently tied to individual lexical items, or definable classes of lexical items, it would be useful for a dictionary to point this out. The adjectives *similar* and *different* allow anaphoric omission of the second comparand, in the disjoint presentation of the valents, but *VDE* contains no examples of the kind in the case of *similar* (e.g., *my plan is similar* = ‘similar to something contextually given’); an example is given under *different* but without the contextual note (*That sort of thing would be different*).

The verb *win* is correctly described as taking as its object valent either a competition or a prize, yet it is only the competition that can be omitted when understood in the context. Normal is *I left before the game ended and I don’t know who won*; unacceptable is **I had my eyes on the gold vase during the raffle; I wonder who won*. The *VDE* entry for *win* contains the example *The Christian Democrat-led government of Chancellor Helmut Kohl—who came to power in West Germany eight years ago—is widely expected to win*, but with no indication of the nature of the omitted object. In the entry for *agree*, however, we do find this notation: ‘*When I introduce the film this evening you must say a few words too,*’ *I said, and he agreed. (only if clear from context)*. Unfortunately in these situations *VDE* does not systematically indicate *what* needs to be clear from context.

In the case of the verb *depend*, in what *VDE* classifies as its ‘be affected’ sense (maybe a name like ‘contingency’ would be more transparent) there is a monovalent instance of *it depends*: the full example is *I can’t say at the moment. I really don’t know. It depends*. The learner needs to know that the omissibility of an indication of the contingency with this verb is possible (I believe) only with *it* or *that* as subject. That is, while intending *it depends on how many people pay*, it is possible to say *it depends*; but intending *success depends on how many people pay* cannot be expressed as **success depends*.

4.4 The learner’s challenge

Since this dictionary is advertised as serving the needs of the foreign language learner, it is worth considering how and whether information that the language

learner might need is made available in *VDE*'s entries. In several recent observations I have had to rely on the asterisk to introduce sentences that I considered ungrammatical, and it is regrettable that a resource that should offer help to language learners restricts its ability to compare acceptable from unacceptable constructions.

I would like to consider three common characteristics of 'continental English'—or 'EC-speak'—that depart from standard English, and to ask how readers of *VDE* could have their attention drawn to these usages. Most native speakers of English, on encountering the following utterances, would reject *accept to V* in favor of something like *allow oneself to V*, would reject *discuss about N* in favor of simply *discuss N*, and would prefer *permits one to V* or *permits us to V* over *permits to V*.

ACCEPT TO

We should not be tolerant of museums that *accept to* exhibit stolen art.
I told them I would no longer *accept to* kill innocent civilians.

DISCUSS ABOUT

We can *discuss about* this issue at a later date.
The ministers of defence *discussed about* EU-led operations and military capabilities.

PERMIT TO

This measure *permits to* gain more complete access to the information we need.
This *permits to* simplify the process.

Of course the tens of thousands of speakers of international English who use these locutions are likely to have acquired complete fluency in the language and will have no reason to suspect that anything is wrong. They are also not likely to look up the words *accept*, *discuss*, or *permit* to find out if they have somehow failed to attain complete control of these words. So we should limit ourselves to the needs of teachers who want their students to avoid these mistakes, or essayists who write complaint pieces about language and want some kind of lexicographic authority to back up their judgments.

By being corpus-based and therefore non-prescriptive, *VDE* has no way to introduce negative evidence, and the entries are not set up to include warnings about mistakes. The *permit* entry correctly lacks a valency pattern that would license *permits to-V* and the *discuss* entry correctly omits the pattern that would license *discuss about N*. But how would a user come to trust the completeness of an entry enough to believe that what is not attested in *VDE* does not occur in

the version of English they seek to reproduce in themselves? And even then how could they file through all of the uses of these words in their personal mental lexicons to notice that one of them is not supported by the dictionary? The *accept* entry, in the meaning glossed as ‘take’, does alas have a **+ to-INF** valency supported by the example *I would be delighted if you would accept to come with me*. I myself, as an American, would not accept to say that, and since the complaints I’ve heard about this mistake have come from British speakers, I would question the inclusion of this item.

There are other questions about how a learner could profit from this dictionary. The entries are more or less set up to be read in their entirety, rather than to reveal individual facts. We observed earlier that the *agreement* entry had numerous collocational and colligational details that would require reading the whole entry to notice. In an ideal world it should be possible to highlight such a situation in some way.

5. A Proposal

A Valency Dictionary of English is a valuable resource, and if there is somewhere a large collection of materials that didn’t make it into the final compilation, I would like to get my hands on it. It is difficult for me to imagine that *VDE* has a future, *as a book*, even if the kinds of inconsistencies I’ve pointed out get corrected, but since some researchers are already using an electronic version of the data behind the book for language engineering purposes (Heid 2007), I would hope that the data can be integrated in some way with other lexical resources such as the combinatory dictionary research of Igor Mel’čuk and his colleagues (see Alonso Ramos 2003, 2007 and Mel’čuk 1998), and the Berkeley FrameNet Project (<http://framenet.icsi.berkeley.edu>).

The reviewer is the director of a computational lexicography project called FrameNet (framenet.icsi.berkeley.edu) whose goals are remarkably similar to those of the compilers of *VDE* (Atkins et al. 2003, Fillmore 2007). FrameNet’s corpus is the British National Corpus (www.natcorp.ox.ac.uk), *VDE*’s is the much larger Bank of English. We too are interested in basing conclusions about meaning and usage on corpus evidence, and we too are aiming to document all the major valency patterns for each lemma, while trying to give richer and more specific interpretations of the semantic roles (in *VDE*, the I, II, III, etc. for verbs).

A central difference between the two is that in FrameNet, the words are grouped into semantic frames, so that in general groups of words are described with reference to the *frames*, the situation types that they all evoke; the *semantic roles* (called *frame elements*, *FEs*) are defined in frame-specific terms rather than verb by verb, and rather than in more general or abstract terms along the lines of deep cases of Fillmore (1968) or the thematic relations of Frawley (1992). (The names I’ve been using for semantic valents in the preceding

discussion—Danger, Content, etc.—have been modeled on the names of frame elements.) In our case the valents—the FEs and their realization—are identified in all possible contexts grammatically connected to instances of the head word, not just those following the head word. This makes it possible to recognize, in the case of frame-bearing nouns, patterns that involve both prenominal valents realized in modifiers or in the possessive determiner and postnominal dependents, and to clarify the functions of support constructions.

In FrameNet work, large numbers of examples of each valency type are assembled and annotated; the mapping between syntactic and semantic valents is made explicit in the annotations by showing in separate layers both the FEs and the syntactic types of the relevant phrases. Lexical entries are generated from the annotations that summarize, analogously to *VDE*, (a) the manner in which individual FEs are mapped onto syntactic types, and (b) the patterns or combinations of FEs together with the manner in which they are syntactically realized.

FrameNet is like *VDE* in another respect, making it not directly usable for pedagogical purposes. Its work is to document what it finds. There is no way of knowing whether unrepresented patterns are not in the corpus, are in the corpus but were not included in the database, or are simply not in the language. Because of the way FrameNet is set up, where the reports are generated from annotations of discovered examples, there is no way to distinguish accidental from systematic gaps in the data. That is, there is no place in either FrameNet or *VDE* for asterisked sentences contrasting what is possible in the language with what is impossible. Decisions about appropriate usage and grammaticality are outside of the scope of corpus-bound lexicography, but perhaps the people who make such decisions will find these databases useful.

By covering all the words that we can assign to the same frame, and using the same descriptive framework for all parts of speech, the similarities in valency patterns across derivationally related words can be made clear, perhaps not directly but with the help of a FrameNet browser created by Hiroaki Sato of Senshu University in Tokyo [sato.fm.senshu-u.ac.jp/fn2_13/notes/index.html].)

Figure 16 represents the top of the lexical entry for the noun *agreement*. (Omitted is the list of valency patterns.) The noun is described as belonging to the *Make_agreement* frame; a definition from the *Concise Oxford Dictionary* is entered (used with permission from Oxford University Press); and a list of discovered support verbs is given (*make, reach, secure*) as well as a prominent collocate *terminate*.

The FE names are given as Party-1 and Party-2 covering the disjoint presentation of the parties to an agreement, and Parties for the joint presentation, following a FrameNet practice that covers frames involving reciprocal relations of all kinds. Obligation stands for the commitment that parties to an agreement undertake, and Topic is the topic. Just to take the most regular cases, we can see that Party-1 tends to be realized as subject (here ‘Ext’)

agreement.n**Frame:** Make_agreement**Definition**

COD: a negotiated and typically legally binding arrangement.

Supports: make , reach , secure**Governors:** terminate**Frame Elements and Their Syntactic Realizations**

The Frame elements for this word sense are (with realizations):

Frame Element	Number Annotated	Realizations(s)
Obligation	(30)	DNI.-- (13) INI.-- (1) N.Dep (4) VPto.Dep (10) PP[for].Dep (3)
Parties	(22)	CNI.-- (1) DNI.-- (6) NP.Ext (6) PP[between].Dep (6) Poss.Gen (1) AJP.Dep (1) INI.-- (1)
Party 1	(16)	NP.Ext (8) Poss.Gen (3) CNI.-- (2) DNI.-- (2) N.Dep (1)
Party 2	(18)	PP[with].Dep (13) DNI.-- (3) N.Dep (1) N.Ext (1)
Topic	(9)	N.Dep (3) PP[about].Dep (2) PP[on].Dep (2) AJP.Dep (1) PP[over].Dep (1)

Figure 16: A proposal for AGREEMENT.

of a support verb or as a possessive determiner, Party-2 shows up most frequently in a *with*-phrase, Parties is realized as a subject, a genitive, or a postnominal *between*-phrase, the Obligation is typically a marked infinitive or DNI ('when understood in context' as in *he agreed*), and the fairly rare Topic is marked with prepositions *on* or *about*. FEs labeled CNI (for constructionally

null instantiation) are missing because of grammatical constructions that license its omission, while DNI (for definite null instantiation or zero anaphora) stands for the missing FEs that are interpretable in context. The valency patterns in FrameNet for *agreement* appear to be as complex as those we have seen in *VDE* and will not be reviewed here.

My proposal, then, is that the researchers in the project that produced *VDE* should collaborate with other builders of linguistic resources for English to produce a large and publicly available electronic lexicon that would combine the insights and achievements of them all. If such a project were generously funded (why not dream?) efforts could even be made to unify notations and terminology; but at the least it should be possible for each group to take steps to enable some kind of alignment. It would be a brave publisher indeed who would be willing to convert the data compiled for a print dictionary into an online lexical service that could be widely useful for both pedagogical and engineering purposes, and an imaginative publisher who would be able to fund collaborative efforts to supplement such data with information provided by non-profit institutions, but that is what I think should be done.

Notes

¹ A detailed summary of the relevant ideas, in a somewhat earlier version, can be seen in Herbst's web publication *English Valency Structures—A First Sketch*, at www.uni-erfurt.de/eestudies/eese/artic99/herbst/main1.html.

² The ad hoc names given to semantic roles here and elsewhere are the reviewer's and not *VDE*'s.

³ 'Animacy' because the intended distinction can't be using the property of English *what* vs. *who* and *someone* vs. *something* that leaves out non-human animals

⁴ The quantitative valence symbols, M, D, T, etc., refer to the number of argument complements actually expressed in the sentence, thus failing to distinguish true intransitive verbs from transitive verbs 'used intransitively': *they vanished* is simply intransitive; *they objected* is missing an understood *to*-complement; *they lost* is missing an understood competition. A parenthesized comment '(only if clear from context)' is added to examples where what is missing is contextually given, as with *if resources permit*, *I objected*, etc.

⁵ The categories of phrase types provided in *VDE* seem to be complete (compare Fillmore and Atkins 1992, 1994), but we note that no distinction is recognized for the difference between interrogative clauses and 'headless relatives', that is, the contrast seen in *I know what you ate* and *I ate what you ate*, the contrast that makes *I know what you know* ambiguous.

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Appendix

T5 + N_p + on N

A The figures are *calculated* on a measure of spending power which is not directly affected by the recent devaluation of sterling.

A A person or machine^I can calculate a result, scores, statistics etc.^{II} from certain measurements, numbers or statistics^{VII}, i.e. work them out by counting together all the relevant numbers. They^I can also calculate something^{II} on or using a certain scale or standard^{VII}. → M D1 D2 D3 D4 D6 T2 T3 T4 T5

B A person^I can calculate a development, a problem or a situation^{II} or calculate that something is a certain way^{II}, i.e. try to build up an opinion about it by considering all the available information. → M D2 D3

C If a person^I calculates on somebody or something being in a certain state or some occurrence having a particular effect^{IV}, they make all their future planning depend on that consideration. If a person^I calculates for something^{III}, they expect it to happen or appear and take it into account. → D5 D6 D7

D An action or a way of behaviour^{II} can be calculated to do or effect something^{III}, i.e. be consciously arranged to have this particular effect. → T1

call verb

A	'telephone'			
	Active: 1/2	Passive: 1/2	General: 0	
I	[N] _A / [by N]			
II	[N] _P		D1	
B	'visit'			
	Active: 1/2	Passive: 1/2		
I	[N] _A / [by N]			
II	[at N] _P		D3	
	[on N] _P		D5	
C	... police			
	Active: 2/3	Passive: 1/3		
I	[N] _A / [by N]			
II obl	[N] _{P-2} <i>AFFECTED</i>		D1	T1.4
	[for N] _P		D4	
III	[N] ₁ <i>BEN/REC</i>		T1	
IV	[ADV]		T4	
D	... meeting			
	Active: 2/2	Passive: 1/2		
I	[N] _A / [by N]			
II obl	[N] _P		D1	
E	'shout'			
	Active: 2/3	Passive: 1/3	General: 0	
I	[N] _A / [by N]			
II	[Q/S]		D2	T6
III	[to N] _P		D6	T6

M **A** I expect him to *call* pretty soon.

D1 + N_p

A If I have a legal problem I can *call* an old school friend who is now a lawyer.

C In Peterborough and other provincial towns troops were *called* to quell disturbances.

D Why don't you *call* a meeting in Birmingham. * A possible outcome is that the president may *call* a general election.

D2 QUOTE/SENTENCE

E "Is there anybody there?" *called* the young man.

F 'demand'				
Active: 2/3		Passive: 1/3		
I	[N] _A / [by N]			
	[V-ing] _A		D4	
	[to-INF] _A		D4	
	[for N to-INF]		D4	
II	[for X] _P		D4	
III	[on N] _P			T5
IV	[to-INF]			T5
G 'name'				
Active: 3/3		Passive: 2/3		
I	[N] _A / [by N]			
II obl	[N] _{P-1}		T1-3	
	[it + pattern of III] _{P(it)}		T1-2	
III	[N] ₂		T1	
	[ADJ]		T2	
IV	[by N]		T3	

D3 + at N_p

B Whether your business is at the planning stage or up and running, *call* at any Midland branch for guidance. * A car would *call* at his Savonlinna hotel to provide transport for him and his companion-guide.

D4 + for N_p (frequent)

C Go down and knock Sergeant Wardle up, get him to *call* for a squad car and an ambulance.

+ for N_p/V-ing/for N to-INF

F Mr Bush also *called* for a summit meeting of NATO countries in late June. * Doesn't the case

	<i>call</i> for someone a bit sharper? • Any marketing plan which might <i>call</i> for greater centralization, or for entering the retail sector of the textile industry, would stand a very good chance of being rejected by management. • Mr Mandela is expected to <i>call</i> for sanctions to be maintained.	T3	+ N_p + by N: name G Marijuana, grass, pot or cannabis, to <i>call</i> it by its other names, is an illegal drug in this country.
D5	+ on N_p B Who are you going to <i>call</i> on this afternoon?	T4	+ N_p + ADV_{es} C He had <i>called</i> him into his office on Tuesday. • We've had to <i>call</i> the doctor out this morning.
D6	+ to N_p E I just <i>call</i> to them and they come running down the field.	T5	+ on N_p + to-INF F We do, however, often <i>call</i> on our reporters to add analysis to interviews where only one side's viewpoint is represented and that was our intent there. • Grayswood School governors <i>called</i> on the county council to suspend its plans. • Terry Rooney, the Labour candidate, acknowledged the psychological importance of a decisive victory and <i>called</i> on Labour voters to turn out in strength.
T1	+ N_p + N/it + N-pattern_{P(II)} G Give her another year and I reckon Olivia will be able to <i>call</i> you a cab as well as any doorman in Britain. G I'll <i>call</i> you Den. • I wasn't really what you'd <i>call</i> a public schoolboy – I wasn't from the same social strata as the other kids. • I <i>call</i> it a fundamental need to be loved and accepted.	T6	+ to N ↔ QUOTE/to N ↔ SENTENCE E I <i>call</i> to him, "Governor". He looks up at me.
T2	+ N_p + ADJ/it + ADJ-pattern_{P(II)} G We <i>call</i> American Indians 'primitive', yet they knew what foods to eat to stay healthy. • They <i>called</i> it foolish to turn away instructional help when the district has to lay off teachers.		

- A *Call* can mean 'telephone'. → M D1 also in phrasal verbs: call up
 B A person^I can call on another person or at a place^{II}, i.e. pay a short visit (often to deliver or pick up something). Something such as a bus, train or ship^I can call at a place^{II}, i.e. be scheduled to stop there. → D3 D5 also in phrasal verbs: call in; call round
 C A person^I can call another person or a service such as the police, the fire brigade etc.^{II} or call for them^{II}, i.e. attract their attention and ask them to come. (compare also note A) → D1 D4 T1 T4
 D If a person^I calls something such as a meeting, a rehearsal or an election^{II}, they arrange for that event to take place. → D1
 E A person^I can call something^{II} or to someone^{III}, i.e. say something with a loud voice. → D2 D6 T6 also in phrasal verbs: call out
 F *Call* can mean 'demand' or 'require'. → D4 T5
 G *Call* can mean 'give a name or attribute a certain quality to someone or something.' → T1 T2 T3

Idiomatic phrasal verbs

- + forth ↔ N** Government leadership has to *call forth* cooperation and commitment from the wider society. (= incite)
+ in (+ ADV: esp. at N) I'd be grateful if you could *call in* at my office. (= pay me a visit) • *Call in* at your local Bradford & Bingley branch or send off the coupon below. (= pay a visit)
+ in ↔ N_p The minister said he plans to *call in* people known to have been agents for the secret police. (= involve) • Governments do, however, have a vital catalytic role in persuading banks not to *call in* loans (= ask for them to be returned)
+ off ↔ N_p He also demanded that Nivelle agree to *call off* this attack if he was not immediately successful. (= break off; stop)
+ out He was about to *call out* when he held himself back. (= shout)
+ out ↔ N_p He *called out* her name and waved from a shop doorway. (= shouted)
+ out QUOTE/SENTENCE She *called out*, 'Watch it, Buster!' (= shouted)
+ round (+ to N) All I can suggest is that someone should *call round* to his house. (= go to)
+ up Why don't you *call up* so that I can hear what you're thinking. (= telephone)
+ up ↔ N_p I was going to *call you up* and tell you. (= telephone) • Would you *call up* your mom? (= telephone) • France might unilaterally disarm and *call up* only 90,000 men per annum. (= take into armed forces)