

2 The contribution of lexicography

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2.1 Introduction

One of the major resources in the task of building a large-scale lexicon for a natural-language system is the machine-readable dictionary. Serious flaws (for the user-computer) have already been documented in dictionaries being used as machine-readable dictionaries in natural language processing, including a lack of systematicity in the lexicographers' treatment of linguistic facts; recurrent omission of explicit statements of essential facts; and variations in lexicographical decisions which, together with ambiguities within entries, militate against successful mapping of one dictionary onto another and hence against optimal extraction of linguistic facts.

Large-scale electronic corpora now allow us to evaluate a dictionary entry realistically by comparing it with evidence of how the word is used in the real world. For various lexical items, an attempt is made to compare the view of word meaning that a corpus offers with the way in which this is presented in the definitions of five dictionaries at present available in machine-readable form and being used in natural language processing (NLP) research; corpus evidence is shown to support apparently incompatible semantic descriptions. Suggestions are offered for the construction of a lexical database entry to facilitate the mapping of such apparently incompatible dictionary entries and the consequent maximization of useful facts extracted from these.

2.2 How 'reliable' are dictionary definitions?

Writing a dictionary is a salutary and humbling experience. It makes you very aware of the extent of your ignorance in almost every field of human experience. It fills your working day with a series of monotonous, humdrum, fascinating, exasperating, frustrating, rewarding, and impossible tasks. It goes on for years and years longer than you ever thought it (or you) could. And when it is all over, the fruits of this labor are enshrined forever in a form that allows other people to take it (and you) apart, in print, publicly and permanently. Lexicographers should, therefore, be even more enthusiastic than the rest of the linguistic world

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at the prospect of large-scale lexicons for natural-language systems being built by semi-automatic means. Yet I approach this ambition of the world of computational linguistics with a deep reserve, which is focused on the central position of the machine-readable dictionary (MRD) in this process.

Machine-readable or not machine-readable, a dictionary is a dictionary. Most machine-readable dictionaries were person-readable dictionaries first. As every lexicographer will confirm, systematicity is high on our list of priorities: but higher still comes user-friendliness. If we had a choice between being completely consistent throughout a 2,000 page (18 million-character) dictionary – were it even possible – and making one line of one entry totally intelligible to the least motivated user, the user would win. Again, consider the time scale: such a dictionary will take at least five years, and can take fifteen to write. No lexicographical task is ever quite the same as the one just completed. There may be twenty, thirty, or forty (or more) lexicographers in the compiling team. However complex the editor's instructions and however conscientious the compilers, the entries in *A* and *B* will differ from those in *X*, *Y*, and *Z* by much more than their place in the alphabet. And this is, in human terms, just as it should be. A dictionary is a human artifact, designed to be used by human users. Until the advent of the computer, people took dictionaries in their stride. Their human brains compensated for a lack of systematicity throughout the work. They knew, albeit vaguely sometimes, more or less what words could – and did – do.

In the computer, however, we have the ultimate learner, and one with a terrifying capacity for homing in on inconsistencies invisible to the naked eye. Serious flaws (for the user-computer) have already been documented in 'hand-held' dictionaries – indeed, in the very dictionaries at present available and being used in machine-readable form. These include the omission of explicit statements of essential linguistic facts (Atkins, Kegl, & Levin, 1986); lack of systematicity in the compiling in one single dictionary, ambiguities within entries, and incompatible compiling across dictionaries (Atkins & Levin, 1991). However, these are in the main sins of omission rather than commission; they make it more difficult to extract information from the MRD but ultimately detract very little from the value of the information extracted.

The question at issue now is more fundamental: how much semantic information accurate enough to be useful in a computational lexicon is contained in a dictionary definition written for the human user, who often unconsciously supplements and corrects what is being read? Is it indeed possible to write dictionary definitions that encapsulate the essential facts about the senses of a word? Can the meaning of a word be divided into discrete senses without distorting it beyond reason? Large text corpora allow a detailed study of how a word is used, thus enabling us to evaluate the accuracy of dictionary entries much more objectively than before. Lexicographers who have worked with such corpora, and examined hundreds of individual citations minutely in an attempt to find objective evidence for the existence of dictionary senses, report that in many cases

such objective evidence simply is not there (Moon, 1987, 1988; Stock, 1984; Atkins, 1987).

In this chapter I shall compare the view of word meaning that a corpus offers for a number of words (*admire, acknowledge, admit, safety, danger, reel*) with the way in which this is presented in the definitions of five dictionaries at present available in machine-readable form and used in NLP research, though not always in these precise editions. These are: *Collins English Dictionary* (1986) (CED); *Webster's New World Dictionary* (1988) (WNWD); *Oxford Advanced Learner's Dictionary* (1989) (OALD); *Longman Dictionary of Contemporary English* (1987) (LDOCE); and *Collins Cobuild English Language Dictionary* (1987) (CCELD).¹ I shall show how corpus citations may be found to support very diverging descriptions of the sense of the same lexical item, suggest some reasons for this, and make some proposals about how the 'ultimate' machine-readable entry could be structured to allow the reconciliation of anisomorphic sense differentiations in MRDs.

2.3 The problem of lumping versus splitting: the case of *safety*

An examination of the way in which meaning is handled in dictionaries immediately raises the specter of homonymy versus polysemy in the lexicographers' approach to word meaning. As Lyons (1969) points out, the choice of one polysemous entry or two or more homonymous entries (which may or may not themselves be polysemous) "is, the last resort, indeterminate and arbitrary . . . it rests upon the lexicographer's judgement . . . the arbitrariness of the distinction between homonymy and multiple meaning is reflected in the discrepancies in classification between different dictionaries". A glance at the entries for *reel* in the various dictionaries under consideration (see 29 below) confirms this: what is treated in a single entry in CCELD is given three entries in the other works. However, although homonymy versus polysemy is an eternal debating point in lexicography, it is really irrelevant to the business in hand, that of trying to evaluate sense assignment in MRDs and the concept of dictionary senses per se.

Is there any reason – other than tradition or pious optimism – to believe that a dictionary entry gives a true account of what a native speaker knows about the semantic properties of a word? The word meaning is often divided into discrete senses (and sometimes subsenses), which are then analyzed and recorded as though they had a life of their own, with little to link them except the coincidence of their being expressed by the same string of characters pronounced in the same

¹CED and the WNWD are both collegiate dictionaries for native speakers, advertising 170,000 'references' (CED) or 'entries' (WNWD). The other three are learners' dictionaries advertising 67,100 'words and phrases' (OALD), 55,000 'words and phrases' (LDOCE), and 70,000 'references' (CCELD). One must assume that in this context 'references' 'entries,' and 'words and phrases' are probably synonymous.

way. One's own reactions to such distinctions often suggest that other interpretations are equally possible: but subjective evidence is rightly suspect. With the advent of electronic corpora it is at last possible to scrutinize enough examples of a word in normal use to allow a more objective evaluation of the accuracy of this approach.

Let us look first at the word *safety*. We find in the corpus² the following:

- (1) worries concerning the safety of your gas supply
the Center for Auto Safety
serious problems connected with nuclear safety

These citations suggest that one meaning of the word *safety* is (roughly speaking) 'the quality of not being dangerous'. However, we also find in the corpus:

- (2) he did something to jeopardize my safety
to ensure the safety and well-being of mother and child
it's for your own safety.

Since the 'safety of mother and child' clearly does not refer to potential damage that mother and child may wreak on an innocent bystander, we may propose a second meaning, namely 'the condition of not being in danger'. Thus we have the following initial sense differentiation for *safety*:

- (3) 1. the quality of not being dangerous.
2. the condition of not being in danger.

The word *safe* parallels these two senses: (1.) 'not dangerous' ("the gas supply is safe"), and (2.) 'not in danger' ("the child is safe"). In the CED entry for this word, four of its six senses are roughly paraphrasable by 'not dangerous': if we assume that meaning in the first definition of 3 below, we find that a semantic description corresponding to the corpus citations grouped in 1 and 2 is indeed to be found in the CED entry for *safety*:

- (4)
CED 1. the quality of being safe.
2. freedom from danger or risk of injury.

This agreement between corpus and dictionary suggests that by dividing the meaning of the word *safety* into two distinct senses, the entry records a verifiable truth about this word. So far so good. Doubt begins to creep in when another

²The citations in this chapter come from the Cobuild Corpus, held at the University of Birmingham, England, and jointly owned by that university, and by Collins Publishers Ltd. This corpus contains 7.3 million words (tokens) and includes approximately 3.1 m words of non-fiction, 2 m words of fiction, 1 m words of journalism, and 1.2 m words of spoken English (conversations, unscripted broadcasts, lectures); 5 m words are British English and 2 m are American English, the remaining 0.3 m coming from other regions.

dictionary (of virtually the same size and coverage) is consulted and its first definition is found to combine both the CED senses:

(5)

WNWD the quality or condition of being safe; freedom from danger, injury, or damage: security.

Both LDOCE and OALD show the same technique of ‘lumping’ the semantic description into one broad general sense rather than ‘splitting’ it into narrower senses:

(6)

LDOCE [U] the condition of being safe; freedom from danger, harm, or risk: . . . *the safety of the climbers* . . . *safety checks on industrial machinery* . . . *road safety*.

(7)

OALD being safe; not being dangerous or in danger: . . . *the safety of the children* . . . *the safety of the product* . . . *road safety*.

In the definitions in 5, 6, and 7, we again find the ambiguous *safe*, but here it allows the inclusion in one single definition of both CED 1 (‘the safety of the product’) and ED 2 (‘the safety of the children’). It is tempting to conclude that this is simply a case of lexicographer error, as indeed it would be if it were true that the CED entry reflected a canonical truth about the meaning of the word. However, the same corpus that showed two distinct senses of *safety* also supports the single-sense view:

(8) regulations on planning, safety, and public health; an energetic campaigner in the cause of road safety.

As regards the two senses of *safety* given in 3 above, ‘road safety’ might equally well be described in terms of ‘road users not being in danger’ (sense 2, i.e., their safety on the roads) or ‘road users not being dangerous to others’ (sense 1, i.e., the safety of the roads); indeed the meaning of *safety* in this context encompasses both senses. A similar dual interpretation is possible in the case of the first citation. Therefore, if we compare the citations grouped in 1, 2, and 8, we find the corpus evidence supporting two contradictory descriptions of the sense of *safety*: on the one hand, ‘split’ into two senses, and on the other, ‘lumped’ into one.

The last of the dictionaries, the CCELD, differs from both of these approaches:

(9)

CCELD 1. Safety is . . .

1.1. the state of being safe. E.g., *He was assured of his daughter’s safety*.

- 1.2. *the possibility of your being harmed in a particular situation.*
E.g., *many worried about the safety of their children.*
- 1.3. *a place where you are safe from a particular danger.*
E.g., *They were busy helping survivors to safety . . . They swam to the safety of a small, rocky island.*
2. *if you are concerned about the safety of a product, a course of action, etc, you are concerned that it might be harmful or dangerous.* E.g., *People worry about the safety of nuclear energy.*
3. *Safety features, safety measures, etc., are intended to make something less dangerous.* E.g., *Every car will come with built-in safety features . . . Heating was by oil stoves without proper safety measures.*

In the case of 1.2 the presence in the context of 'worried' seems to have given rise to the interpretation of *safety* in terms of its opposite *harm*. This reflects the point made in Cruse (1986) that "the meaning of any word form is in some sense different in every distinct context in which it occurs"; but, as Cruse rightly adds, "that does not mean that the 'word-form-in context' is the appropriate unit for lexicological purposes." Setting aside 1.2, then, we find that the CCELD entry actually combines the contradictory approaches of the other dictionaries. CCELD's 1.1 ('his daughter's safety') parallels CED's 'freedom from danger' sense 2; CCELD's sense 2 ('safety of nuclear energy') matches CED's first sense; CCELD's sense 3, with its examples of *safety* used as a noun modifier, reflects the 'two sense in one' definitions of WNWD, LDOCE, and OALD.

However, sense 1.3 in CCELD introduces a new concept: in it, *safety* is defined as 'a *place* where you are safe from a particular danger'. Once again, corpus evidence may be found to support his interpretation, which is possible when the word is the object of certain prepositions such as *to* and *from*:³

- (10) the wounded could be dragged to safety
 only tens of miles from safety
 the bridge that led to safety.

Taking into account all these entries, the lexicographers' options in analyzing into dictionary senses the semantics of *safety* may be summarized thus:

- | | | |
|------|---------------|------------------------------|
| (11) | NOT IN DANGER | 'the safety of the children' |
| | NOT DANGEROUS | 'the safety of the product' |
| | AMBIGUOUS | 'road safety' |
| | PLACE | 'jumped to safety' |

The few dictionaries studied show three very different selections from these options in their descriptions of the meaning of the noun *safety*, as may be seen

³This is a feature of many lexical items denoting an emotion or condition, of 'fled from poverty', 'escaped to happiness', etc.

from the following table, where 'x' signifies the presence of the dictionary sense in question, and '—' its absence:

| (12) | | NOT IN DANGER | NOT DANGEROUS | AMBIGUOUS | PLACE |
|------|-------|------------------|------------------|-----------|-------|
| 1. | CED | x | — | x | — |
| | WNWD | x | — | x | — |
| | LDOCE | x | — | x | — |
| 2. | OALD | x | x | x | — |
| 3. | CCELD | x | x | — | x |

Corpus evidence seems to confirm each of these contradictory views in turn. It is appropriate to wonder whether this is an isolated phenomenon. Experience suggests that it is not.

2.4 Similar sense overlaps: *danger* and *risk*

Very similar sense-defining problems occur with *danger* and *risk*, two words with close semantic links with *safety*. The case of *danger* is documented in Atkins (1987), where out of 404 citations, 122 (30%) were noted as capable of being assigned to two of the three 'dictionary senses' identified for this word. In a study of 192 KWIC concordance lines for the noun *risk* from the Cobuild corpus (excluding the phrases 'take/run a risk'), 29 (15%) were ambiguous vis-à-vis two dictionary senses, and the word fared no better when sentence-length citations from another corpus were scrutinized (Fillmore & Atkins, in press: b).

It might, however, be argued that such fuzziness in sense boundaries is a function of the semantic content shared by the words *safety*, *danger*, and *risk*. I believe this to be a forlorn hope, in that very many other words – perhaps eventually the majority of the word stock of the language – show the same symptoms on close examination. Take, for example, the behavior of words that have in their semantics a 'communication' component.

2.5 Ambiguity of the communication component: *acknowledge*, *admit*, etc.

One set of words that systematically shows the same blurring of the sense boundaries is the group of verbs meaning (1.) 'accept the fact that . . .' and/or (2.) 'communicate one's acceptance of the fact that . . .', which for brevity's sake could be summarized as (1.) KNOW and (2.) COMMUNICATE. The presence or absence of the COMMUNICATE component is very often unclear in the way we use these words and in the way they are interpreted, as is shown by the fact that 'You'll never get him to acknowledge it' could equally well be followed by '... even to himself' (—COMMUNICATE) as by '... to his children'

(+COMMUNICATE). The same is true if *admit* or *recognize* (among others) is substituted for *acknowledge* in that sentence. The Cobuild corpus supplies many examples of such ambiguity:

- (13) It took me some time to acknowledge that ordinary daily events could be political.
 He might be more interesting than we acknowledge.
 Few of us are prepared to admit to being happy.
 They had to admit that the Colonel knew his railways.

The words 'to myself' (or 'to ourselves' etc.) and 'to others' fit equally easily in any of the above. Sometimes, however, this aspect of the meaning is made explicit by the addition of such a phrase, as in the following citations, where the absence of the COMMUNICATE component is explicit (my emphasis in the following excerpts):

- (14) Mankind does not readily acknowledge even *to itself*, far less discuss . . .
 She was candid enough to admit it *to herself*.
 He does not want to admit it *to himself* even now.

As well as by the selection of explicit 'to' prepositional phrases, the absence of the COMMUNICATE component may be unambiguously signaled by the choice of lexical content:

- (15) There was a bond between them, *privately* acknowledged but unspoken.
 I *consciously* acknowledge that for me sneering upper lips were . . .

Similarly the context may reveal an implicit +COMMUNICATE component:

- (16) He would not *publicly* acknowledge that he was finding . . .
 They *came forward to* acknowledge their debts.
 He was obliged to admit *officially* what had long been common gossip.
 "Yes, I do," Calderwood *admitted*.

None of the dictionaries under review records this blurring of the sense boundaries in these verbs; indeed, none explicitly records the dimension of communication at all. The lack of clarity here is compounded by the use in definitions of other equally polysemous members of this set:

- (17) Definitions of *Acknowledge*
 CCELD If you acknowledge a fact or a situation, you *accept* or *admit* that it is true or that it exists . . .
 CED to *recognize* or *admit* the existence, truth, or reality of.
 LDOCE (as) to *accept* or *admit* (as); *recognize* the fact or existence (of) . . .

OALD *accept* the truth of (sth); *admit* (sth) . . .
WNWD to *admit* to be true or as stated; confess.

The defining options for lexicographers might be summarized thus:

- (18) KNOW = accept that something is the case
 COMMUNICATE = say that one accepts this
 KNOW+COMMUNICATE = use a polysemous genus term covering both

Despite this, the dictionaries all handle the word in the same way, all obscuring the distinctive options within its meaning:

- | (19) | KNOW +
COMMUNICATE | KNOW | COMMUNICATE |
|-------|-----------------------|------|-------------|
| CCELD | x | — | — |
| CED | x | — | — |
| LDOCE | x | — | — |
| OALD | x | — | — |
| WNWD | x | — | — |

2.6 Polysemy in *admire*

The verbs belonging to the *admit-acknowledge* group have been shown to contain in their meaning the component 'know' together with the optional 'and communicate it'. Another word with an optional communication component is the verb *admire*, where the basic sense is a hyponym of *feel* rather than *know*. Here again, it is very often impossible to discern from the context whether the admiration is communicated or not, as in the following:

- (20) Everyone admires her.
At the very moment when we were admiring the Monet . . .
The more she is admired . . . the more . . .

Sometimes, however, the context makes it quite clear that the admiration is being communicated:

- (21) . . . the first price a Persian quotes to you when you admire a rug. Another child is more polite. He admires the baby for a couple of days without enthusiasm . . .

At other times it is equally clear that the admiration is felt but not spoken:

- (22) It must be her wit that our master admires – if indeed he does.
He found himself admiring whiting, in a sneaky way.

However, the verb *admire* is doubly complex, for the basic 'feel' component operates with a second optional extra: that of 'look at something'. In the follow-

ing citations, the ‘+LOOK’ component is quite evident (it is for instance impossible to add ‘with his/her/my eyes shut’ after them):

- (23) He held the clothes to his body and admired himself.
 She supported her sketchbook on it the better to admire her drawing.
 I wandered round the dewy garden, admiring the velvety dark phlox.

Equally clear, in the next group of citations, is the absence of a LOOK component:

- (24) You have to admire his recuperative powers.
 I admire the sentiments of Marx.
 I came to admire the skepticism of the press.

In this instance, there are few ambiguous citations, principally because the presence of a concrete inanimate noun in object position tends to force a +LOOK reading, while an abstract noun forces a –LOOK interpretation. An animate noun leaves scope for ambiguity, it seems, as in:

- (25) She used to secretly admire the famous young actor.

However, in the full citation the context forces a +LOOK reading:

- (26) She used to secretly admire the famous young actor as he ate sundaes
 in . . .

Thus we have, for the verb *admire*, a basic sense of ‘feel admiration for’ which only in very rare cases indeed may be missing (there is no example of such an omission in the Cobuild corpus, but one might conceive of a situation where someone says, “don’t forget to admire the baby, even if it’s awful”). As well as this basic +FEEL sense there is sometimes an indisputable +COMMUNICATE component, and sometimes an equally indisputable +LOOK component. In this shadowy tangle of sense it is no surprise to find that the dictionaries do not agree in their description of the meaning of this word, and here again the selection by CED and OALD of a polysemous genus term (*regard*, which can mean both ‘look’ and ‘think of’) merely compounds the difficulty:

- (27)
- a. CCEDLD If you admire someone or something . . .
 - 1. you like, respect, and approve of them. E.g., *I admire cleverness – courage too . . .*
 - 2. look with pleasure at them. E.g., *He went back along the lane, admiring the autumn crocuses.*
 - b. CED
 - 1. to *regard* with esteem, respect, approval, or pleased surprise . . .
 - c. LDOCE (for) to think of or look at with pleasure or respect.
I admire (her for) the way she handles her staff . . .
He’s always looking in the mirror, admiring himself!

- d. OALD 1. –sb/sth (for sth): *regard* sb/sth with respect, pleasure, satisfaction, etc. *They admired our garden. I admire him for his success in business.*
 2. communicate admiration of (sb/sth). *Aren't you going to admire my new hat?*
- e. WNWD 1. to *regard* with wonder, delight, and pleased approval.
 2. to have a high regard for.

All the dictionaries record the 'feel admiration' sense and (giving CED and OALD the benefit of the doubt about the polysemous *regard*) all of them include +LOOK as well. However, this receives the status of a full sense only in CCEDLD and WNWD, where the second definition forces us to interpret *regard* in the first as 'look at'; LDOCE, although mentioning 'look' specifically, combines it with 'feel' into one sense; and CED and OALD rely on the polysemy of *regard* to cover both senses. The +COMMUNICATE sense is noted by only one of the dictionaries, OALD.

The way the dictionaries analyze the semantics of *admire* may be summarized thus:

| | | | | | |
|-------|------|------|------|------|-------------|
| (28) | | | FEEL | FEEL | COMMUNICATE |
| | | | – | + | |
| | FEEL | LOOK | LOOK | LOOK | |
| CCELD | x | x | – | – | – |
| WNWD | x | x | – | – | – |
| CED | – | – | x | – | – |
| OALD | – | – | x | – | x |
| LDOCE | – | – | – | x | – |

2.7 More fuzzy sense boundaries: the case of *reel*

Lest it be thought that arbitrary or semi-arbitrary sense distinctions are the prerogative of verbs and abstract nouns, it is worth looking briefly at at least one concrete noun. *Reel* is not a lexicographically complex word, although all the dictionaries under consideration here except for CCELD treat the device and the dance in two distinct headword entries.

(29) Entries for *reel*:

a. CCELD reel

1. A reel is
 - 1.1 a cylindrical object which is used to hold long things such as thread or cinema film. The thread or film is wrapped round the reel so that it can be kept neatly together. E.g., *She took up some scissors and a reel of white string . . . Reels of magnetic tape were piled high on his desk.*

- 1.2 all the scenes and events that you see on cinema screen when the cinema film on one reel is shown. E.g., *Saigon looked like the final reel of 'On the Beach'*.
 - 1.3 a round device with a handle, attached to a fishing rod. One end of the fishing line is wrapped round the reel, and when you catch the fish, you can pull it toward you by turning the handle.
 2. If you reel . . .
 3. If you say your *mind is reeling* . . . etc.
 4. A reel is also a type of fast Scottish dance.
- b. CED reel¹ n
1. any of various cylindrical objects . . . onto which film, magnetic tape, paper tape, wire, thread, etc. may be wound. U.S. equivalent: spool.
 2. (Angling) a device for winding, casting etc., consisting of a revolving spool with a handle, attached to a fishing rod.
 3. a roll of celluloid exhibiting a sequence of photographs to be projected. . . . vb . . . etc.
- reel² v . . .
- reel³ n
1. any of various lively Scottish dances, such as the *ightsome reel* and *foursome reel*, for a fixed number of couples who combine in square and circular formations.
 2. a piece of music having eight quavers to the bar composed for or in the rhythm of this dance.
- c. LDCOCE reel¹ n
1. a round object on which a length of sewing thread, wire, cinema film, fishing line, recording tape, etc. . . . can be wound – compare BOBBIN.
 2. (of) the amount that any of these will hold: *two whole reels of cotton*.
 3. one of several parts of a cinema film contained on a reel: *They get married at the end of the eighth reel*.
- reel² v . . . etc.
- reel³ v . . . etc.
- reel⁴ n (the music for) a quick cheerful Scottish or Irish dance.
- d. OALD reel¹ n
1. cylinder, roller, or similarly shaped object on which thread, wire, fishing line, photographic film, magnetic tape, etc. is wound: *a cotton reel, a cable reel*.
 2. quantity of thread, etc. wound on such a cylinder, roller, etc.: *a six-reel film, a reel* v . . . etc.

reel² n (music for) a lively Scottish or Irish dance, usu. for two or four couples.

e. WNWD reel¹ n v . . . etc.

reel² n

1. a) a lively Scottish dance.
b) short for *Virginia reel*.
2. music for either of these.

reel³ n

1. a frame or spool, on which thread, wire, tape, film, a net etc. is wound.
2. such a frame set on the handle of a fishing rod, to wind up or let out the line.
3. the quantity of wire, thread, tape etc. usually wound on one reel.
4. in some lawn mowers, a set of spiral steel blades rotating on a horizontal bar set between wheels.

—v . . . etc.

It will be seen from the above that for the compilers of these dictionaries the options for the ‘device’ sense of *reel* lay within the following range:

| | | |
|------|-------------|---|
| (30) | GENERAL | a device for holding tape etc. (no further specific indication of types of reels or what they hold) |
| | QUANTITY | measurement of the quantity of tape etc. on a reel |
| | FISHING | device as an attachment on a rod |
| | CINEMA-FILM | the film held on one reel |
| | CINEMA-SHOW | the showing of film on reel. |

In recording the choices made by various lexicographers (no two dictionaries are the same), a combinatory title GEN-FISH-C/DEV is also required, to cover definitions which, though general in import, also specifically mention fishing rods and movie films:

| | | | | | | | |
|------|-------|-------|-------|------|--------|--------|----------------|
| (31) | | GEN'L | QUANT | FISH | C/FILM | C/SHOW | GEN-FISH-C/DEV |
| | CCELD | — | — | x | — | x | x |
| | WNWD | x | — | x | x | — | — |
| | CED | — | x | — | x | — | x |
| | OALD | — | x | — | — | — | x |
| | LDOCE | x | x | x | — | — | — |

Instead of allowing us to identify which of these is the ‘true’ description, the corpus seems to support all these interpretations:

- (32) GENERAL: e.g., A fine wire trails from a reel attached to the missile.
 QUANTITY: e.g., the advantages of putting that much information
 onto several reels of video tape
 FISHING: e.g., . . . to turn the crank to reel in the fish, but the reel
 did not respond.
 CINEMA-FILM: e.g., a twelve-reel epic entitled . . .
 CINEMA-SHOW: e.g., His girlfriend, who walked out on him in reel
 one . . .

Here again, as with *safety*, *acknowledge*, and *admire*, we have the case of a word with a fairly general sense used in contexts that allow for a more specific definition.

2.8 Systematizing approaches to sense differentiation in the MRD

Semanticists⁴ (without whose skills lexicographers may never achieve a semantic description accurate enough to be of any real use in NLP) will undoubtedly identify many known factors contributing to these fuzzy sense boundaries found in existing dictionaries. I will confine myself to mentioning one that appears to be operating in these examples, and that could certainly be handled in a more systematic way, if lexicographers knew how to do it and had the space to carry it out.

This phenomenon has been termed *modulation* by Cruse (1986), who describes it in his discussion of “the ways in which the effective semantic contribution of a word may vary under the influence of different contexts”; he makes the point that “a single sense can be modified in an unlimited number of ways by different contexts, each context emphasizing certain semantic traits, and obscuring or suppressing others”. My own experience and that of many other lexicographers seems to support this contention, which is exemplified by *acknowledge* in 13–16 above, where the +COMMUNICATE component seems to be switched on or off by specific contexts. In the citations in 13, the ‘neutral’ context results in ambiguity regarding this component; ‘to itself’ in 14 and ‘privately’ in 15 modulate the sense to show explicitly that in these citations *acknowledge* does not include COMMUNICATE; ‘publicly’ in 16, on the other hand, modulates the sense of *acknowledge* so as to include +COMMUNICATE quite specifically.

Another aspect of meaning that certainly contributes to lack of systematicity in

⁴Work particularly relevant to practical lexicography includes Apresjan (1973) and Levin (this volume): all equally relevant in the realm of systematicity, though less specific, is the work of George Lakoff and his colleagues Lakoff & Johnson (1980) and Lakoff (1987); the ideas in these theoretical works are directly applicable to dictionary-making. On a different level, the focusing of the linguist’s microscope on various types of word meanings and on the behavior of individual lexical items has much to offer the training of lexicographers for NLP: here the work of Charles Fillmore and Paul Kay and their colleagues (see references) is highly relevant to these scholars.

dictionary sense differentiation is the operation of *regular polysemy* (of Apresjan, 1973); the same phenomenon is included in the *lexical rules* described in Leech (1981) and Cruse (1986), among others. It is linked to but distinct from sense modulation by context, and has been more extensively studied. Lexicographers are of course aware of this phenomenon, but I know of no comprehensive description that could be systematically applied during dictionary compilation.

In the case of *reel*, two instances of regular polysemy operate, both of which instantiate ‘semantic transfer rules’, to use Leech’s term; they could be roughly formulated thus:

(33)

1. A lexical item that means ‘a container’ can also be used to mean ‘the quantity of a certain object that that container holds’
 e.g., “wind the tape on the reel” (= container)
 “I’ve used a whole reel of tape” (= contents)
 cf. *bottle, box, bucket, plate* . . .
2. A lexical item that means ‘a dance’ can also be used to mean ‘a piece of music designed to accompany that dance’
 e.g., “they danced a reel” (= dance)
 “the band played a reel” (= music)
 cf. *waltz, tango, can-can* . . .

It is not clear to me whether it would be possible to systematize a description of the lexical items of the language in such a way as to take account of all known instances of regular polysemy, far less of the operation of modulation (or indeed whether Cruse is justified in his use of ‘unlimited’ here).⁵ What is clear is that to attempt such a task on the scale required, even with the most sophisticated of lexical tools, would demand a program of intensive and long-term research, funded at national or international levels and involving representatives from many disciplines – theoretical linguistics, artificial intelligence, and other branches of cognitive science, computer science, and lexicography among them.

In the meantime, the process of lexical acquisition depends very heavily on the quality of the lexical entries in the MRD’s – entries compiled for the most part by lexicographers who, faced with a fairly general word sense found in contexts allowing for a more specific definition, handled the ‘modulation’ dimension of word meaning in varying and idiosyncratic ways. On the basis of their individual analysis of the word’s potential, sometimes – but not always – supplemented by examples of usage from a citation file or an electronic corpus, some of them tended to ‘lump’ the more specific senses into a loose general sense, whereas

⁵If Pustejovsky (of Pustejovsky, 1990) is right about the generative lexicon, then one may expect certain limits to exist; the postulated generative devices, operating in a system that is recursive and large enough, could generate what would appear to be an infinite number of novel senses from a finite number of core devices.

others more often ‘split’ off each specific meaning into a dictionary sense of its own. In none of the dictionaries under review at the moment is there any evidence of an attempt to deal with this aspect of word meaning in a principled way.

2.9 The assignment of lexicographical sense in the MRD

When corpus lexicography began, the lexicographer’s (admittedly rather naive) initial reaction was one of relief: at last, certainty was on the horizon. All that had to be done was to set up a ‘starter pack’ of possible senses for the word to be analyzed, using both one’s own knowledge of the language and insights from existing dictionaries, then work through the citations (sometimes thousands) dealing them out like playing cards into the correct dictionary sense (of Atkins, 1987). At the end of this process they would all be snugly packed away where they belonged, and the meaning of the word would be definitively analyzed and recorded. Disillusion followed promptly. In the case of many – if not most – lexical items, this proved impossible. A first ‘deal’ might leave a group of citations stranded with none of the prepared senses able to receive them. This was predictable, of course, and the analysis must then be worked over again, to take care of the unplaced citations. Thus for example, in the case of *safety*, having started with the two senses ‘condition of not being in danger’ and ‘quality of not being dangerous’, one might be forced to reduce these to a single sense in order to find a unique lexicographical home for ‘road safety’ (see 8 above). This solution, although removing the original set of outstanding problem citations by clustering them under the umbrella sense of ‘state of being safe’, produces in its turn a different problem. The usages of *safety* in ‘the safety of the children’ and ‘the safety of the product’ are clearly capable of more specific, and distinct, definitions: this distinction is irritatingly lost when the broader sense is the only one to be held.

Safety, danger, risk, acknowledge, admit, admire, reel . . . these are not isolated phenomena for lexicographers: Moon (1987, 1988) discusses similar problems in relation to *mouth, keep, light, and time*: Stock (1984) records the same situation with *culture*, and points out that “not all citational evidence can be clearly disambiguated in terms of lexicographic senses”. And therein, I believe, lies the heart of the matter. The traditional dictionary entry is trying to do what the languages imply will not allow. Word meaning cannot be sliced up into distinct bundles, labeled (however carefully) and packaged into a dictionary entry that will tell the truth, the whole truth, and nothing but the truth about the word. This of course is not news: but it did not matter so much when the only user of the dictionary was a human being, with a human being’s innate knowledge of the way language works, of its secret passages from one sense to the next or one word to another, the ebbing and flowing of its word meanings, its flitting associations and known-but-not-known relationships. The advent of the machine-readable dictionary and the user-computer changes all that.

2.10 Reconciliation of varying lexicographical approaches to word meaning analysis

In the process of building a large-scale lexicon, the MRD is systematically trawled to supply facts needed to fill the lexical database (LDB) or lexical knowledge base (LKB). The parsed dictionary is minutely examined (Boguraev & Briscoe, 1989a; Byrd et al., 1987), clues are identified and followed up, and morphological (Byrd, 1983) and syntactic (Boguraev & Briscoe, 1989b) facts are found in abundance. The useful semantic information that may be extracted at present is more restricted in scope, and virtually limited to the construction of semantic taxonomies (Chodorow et al., 1985; Calzolari, 1983, 1984), the recording of semantic coding on the arguments of verbs (Klavans, 1990) and the recording of real-world knowledge gleaned from the definition structure of related lexical items (Amsler, 1980; Calzolari & Picchi, 1988).

The comparison of entries for the same word in different MRDs has highlighted discrepancies both in content and in defining technique. Some account of the difficulties posed by these discrepancies is given in Atkins and Levin (1991), and illustrated by an attempted manual mapping of the entry for *whistle* (not a lexicographically complex entry) in two comparable dictionaries. We suggested then that, rather than attempt to map one dictionary entry onto another, a more fruitful technique might consist of designing an 'ideal' LDB entry for the type of lexical item in question, and extracting facts to fill this entry from various MRDs. Levin (in press, this volume) discusses this approach to the verbs of sound.

I am not concerned here with the way in which semantic information is eventually structured as part of an LKB, but simply with ways of facilitating its extraction from existing MRDs. The divergences in lexicographical approach noted for *safety*, *danger*, *acknowledge*, etc., and the fact that none of these descriptions actually reflects the complexity of the word in use will greatly reduce the value of mapping dictionary entries as a part of a technique of building LDBs. There is perhaps an interim stage in the process: the construction of the ultimate MRD, an extremely detailed dictionary with many different types of 'ideal' entry structure designed to meet the demands of many different types of lexical item. (The identification of these demands and the design of the custom-made entry structures would of course be the responsibility of the theoretical linguist.) Such a database, 'knowing' what it needed to record for each type of lexical entry, would form an integral part of the lexical tools needed to carry out successfully mapping procedures such as those described in Byrd (1989). With the development of more robust and sophisticated parsers to handle raw text, this database would greatly contribute to the development of tools capable of extracting facts not only from existing non-compatible MRDs (where the idiosyncrasies and blind spots of the lexicographer inevitably detract from the quality of the data) but also from raw text corpora, from which a more objective description of language use may eventually be derived.

2.11 Intermediate lexicographical level between commercial MRDs and the LKB

The first stage in preparing the MRD material semi-automatically would seem to be the construction of a very general or 'major' sense (or more commonly a series of 'major' senses) for each headword entry, by comparing treatment of that headword within each of the MRDs being used, and also across all of them. Techniques (of Byrd, 1989) would be devised to identify items to be recorded at this 'major sense' level. An example of such a major sense for the word *reel* (see 29), would be 'device' whereas another would be 'dance'. This is, in fact, reflected in the dictionaries: CCELD holds the 'device' senses together under sense 1 while the 'dance' sense is numbered 4; the other works divide the material into homonymic headwords. Within these major senses, however, none of the dictionaries is able to show a hierarchical difference in status between the 'general' sense (see 30) on the one hand, and that of the more specific extensions of that sense (quantity, fishing, film, and film-show). Similarly, in CED and WNWD, where the dance and the music for that dance are given distinct definitions of equal status, no hierarchy is possible. The two-dimensional flat structure of the traditional dictionary entry will not allow the recording of any more subtle relationships.

It should be noted here in parentheses that the macrostructure of some existing dictionaries does in fact allow for such a hierarchical approach to the description of word meaning (and indeed, of the dictionaries being studied here, CCELD's *reel* entry would do this if it allowed a definition at the '1' level). An example of a general sense with more specific meanings linked hierarchically to it may be found in sense 1 of *Webster's Ninth New Collegiate Dictionary* (1983) (MW9) entry for ¹reel n:

(34)

1. a revolvable device on which something flexible is wound: as
 - a. a small windlass at the butt of a fishing rod for the line.
 - b. (chiefly Brit.) a spool or bobbin for sewing thread
 - c. a flanged spool for photographic film; esp. one for motion pictures.
2. a quantity of something wound on a reel.
3. a frame for drying clothes usu. having radial arms on a vertical pole.

This hierarchical approach is not, however, implemented systematically throughout the wordlist of the book, as may be seen from the following MW9 entry for *rod*:

(35)

- 1.a. (1) a straight slender stick growing on or cut from a tree or bush
- (2) OSIER
- (3) a stick or bundle of twigs used to punish;
also: PUNISHMENT

- (4) a shepherd's cudgel
- (5) a pole with a line and usu. a reel attached for fishing
- b. (1) a slender bar (as of wood or metal)
- (2) a bar or a staff for measuring . . .

If this *rod* entry were to be made structurally consistent with the *reel* entry, the content would have to be presented in a format that moves the 'major' senses (1a and 1b in 35) to a higher level in the description, so that they become 1 and 2 respectively:

(36)

- 1. a straight slender stick growing on or cut from a tree or bush: more specifically:
 - a. OSIER
 - b. a stick or bundles of twigs used to punish:
also: PUNISHMENT
 - c. a shepherd's cudgel
 - d. a pole with a line and usu. a reel attached for fishing
- 2. a slender bar (as of wood or metal); more specifically:
 - a. a bar or a staff for measuring . . .

In terms of the actual *rod* entry, shown in 35 above, the amended version in 36 supplies the missing nodes 1a ("a straight slender stick growing . . .") and 1b ("a slender bar (as of wood or metal)"). These correspond to node 1 ("a revolvable device . . .") in the *reel* entry from the same dictionary, shown in 34. These 'major' senses are then subdivided into more specific senses, such as – for the first sense of *rod* – 'OSIER', "a stick or bundle of twigs . . .", "a shepherd's cudgel" and a "pole with a line . . ."

Although I do not believe that any tree structure can ever do justice to lexical meaning, the one described above, if implemented consistently throughout the vocabulary, would certainly make it easier to map dictionary entries onto one another and extract from them the maximum information for an LDB. Without a hierarchical structure that allows the 'general' or 'major' sense to be stated and defined and more specific usages attached to it to be recorded in a subsidiary numbering system, dictionary entries will never be able to handle either the operation of semantic transfer rules or the phenomenon of sense modulation by context.

2.12 'Ideal' MRD entry structure to be filled semi-automatically from MRDs⁶

The following (37) shows part of a possible entry in a detailed MRD for the noun *reel*: the hierarchical structure of attributes relevant to this lexical item would be

⁶The foundation of the work described here was laid during discussions with Beth Levin, although she is not responsible for this draft partial entry nor for this commentary on it.

generated by an automatic interpretation of the contents of the various MRDs being processed, and the values supplied as far as possible by the same process, as briefly outlined in 38 below.

This must be a hierarchically structured entry, potentially able to contain many specific 'levels' of description, representing predictable extensions of meaning (defined by lexical rules such as those shown in 33 above) and able to instantiate simultaneously more than one such level. The category numbering system must record relationships between these levels; thus the first level of decimal points (e.g., 1.1, 1.2 . . . and 2.1, 2.2, etc.) might indicate the operation of some specific lexical rule (semantic transfers, say, or transitivity alternations: see Levin [this volume]), while the first level of lower-case letters (e.g., 1.a, 1.b . . . and 2.a, 2.b, etc.) might indicate the modulation of sense by domain-specific vocabulary in the surrounding context, and so on. A category such as d or e in 37 below shows by its number that it instantiates two types of systematic meaning extensions.

(37) Part of a hierarchically structured MRD entry for noun *reel*:

- | | | |
|----|-------------------|---|
| a. | CATEGORY: | 1 |
| | GENUS: | device / container / object / cylinder / roller / frame / spool |
| | DIFF-1: STATUS | autonomous |
| | DIFF-2: USE | contain / hold / wind |
| | DIFF-3: FORM | cylindrical / round |
| | DIFF-4: CONTAINED | thread / film / cinema film / string / magnetic tape / paper tape / wire / sewing thread / fishing line / recording tape / cotton / photographic film / cable / net / |
| b. | CATEGORY: | 1.a |
| | LINK-RULE: | modulation domain |
| | EXTENSION: | domain-specific |
| | GENUS: | device |
| | DIFF-1: DOMAIN | angling |
| | DIFF-2: STATUS | part-of |
| | DIFF-3: PART-OF | fishing rod |
| | DIFF-4: CONTAINED | fishing line |
| | DIFF-5: USE | wrap / wind / cast |
| | DIFF-6: FORM | cylindrical / round |
| c. | CATEGORY: | 1.1 |
| | LINK-RULE: | container contents |
| | EXTENSION: | contained-quantity |
| | GENUS: | quantity / amount |
| d. | CATEGORY: | 1.1.b |
| | LINK-RULE-1: | container contents |

| | | |
|----|---------------------|---------------------------------|
| | LINK-RULE-2: | modulation domain |
| | EXTENSION-1: | contained-content |
| | EXTENSION-2: | domain-specific |
| | GENUS: | film / roll of celluloid (etc.) |
| | DIFF-2: DOMAIN | cinema |
| e. | CATEGORY: | 1.2.b |
| | LINK-RULE-1: | activity time-period |
| | LINK-RULE-2: | modulation domain |
| | EXTENSION-1: | time period |
| | EXTENSION-2: | domain-specific |
| | GENUS: | period of time |
| | DIFF-1: DOMAIN | cinema |
| f. | CATEGORY: | 2 |
| | GENUS: | dance |
| | DIFF-1: TYPE | group |
| | DIFF-2: NUMBER | 2-couple / 4-couple |
| | DIFF-3: NATIONALITY | Scottish / Irish |
| | DIFF-4: SPEED | fast |
| g. | CATEGORY | 2.1 |
| | LINK-RULE: | dance music |
| | EXTENSION: | music |
| | GENUS: | piece of music |
| | DIFF-1: NATIONALITY | Scottish / Irish |
| | DIFF-2: SPEED | fast |

An entry of this nature would be constructed semi-automatically as an intermediary between existing MRDs and the LDB proper, and filled – as far as possible automatically (of Byrd, 1989) – from the various relevant entries in these MRDs, given in 29 above. This assumes a theoretical basis that will offer an appropriate structure for each lexical item; such an entry structure will be generated for each lexical item as part of the process of building the lexical database; it will be designed to hold the facts relevant to that type of item and be flexible enough to respond to the contents of the entries of the MRDs. The generation and ‘population’ (filling) of these entries should as far as possible be accomplished by semi-automatic methods such as those sketched in the following explanation of the sample part-entry for *reel*:

- (38) GENUS 37a,b ‘Device’ is selected automatically as the genus term on the basis of “object used for”, “object . . . on which . . . is wound” in the parsed dictionary entries; similarly ‘container’ is generated by “used to hold” in the CCELD entry (a previous analysis of lexicographical defining conven-

| | |
|--------------|--|
| 37f | tions is assumed). ‘Cylinder’, ‘roller’, ‘frame’, and ‘spool’ are picked up from the OALD and WNED definitions. |
| LINK-RULE | ‘Dance’ is picked up from every dictionary. |
| 37b,c,d,e,g | This refers to various types of relevant semantic transfer lexical rules, activated by the specific type of lexical item to which – on the basis of the genus term – the headword is identified as belonging. |
| 37c | The value ‘container contents’ is generated by the value ‘container’ at GENUS (see immediately above). |
| 37b,d | The value ‘modulation domain’ is trickier to generate automatically. It would have to be done by a clever combination of factors, such as the presence in three of the parsed MRD entries (CCELD 1.3, CED 2 and WNWD 2) of what are clearly domain-specific senses, and the presence in the lexicon of markers for the same domain (Fishing) against lexical items that appear within the first ‘object, device’ sense of two other MRD entries (LDOCE 1 and OALD 1). See below at DIFF:DOMAIN for the marking of domains against items in the lexicon. ⁷ |
| DIFF:STATUS | This attribute is generated by the input GENUS value ‘device’ (see above at GENUS). Is the device freestanding (as in 37a) or does it stand in some metonymous relationship to another term (as in 37b)? The value ‘autonomous’ in 37a is assigned on the basis of the absence of ‘part of’ or a similar phrase in the relevant definitions in the MRDs. The value ‘part-of’ in 37b is assigned on the basis of definition wording such as ‘attached to’ in CCELD section 1.3 and in CED section 2 (see full entries at 29 above). |
| 37a,b | |
| DIFF:PART-OF | This differentia is generated by input STATUS value ‘part-of’ (see immediately |
| 37b | |

⁷It is not clear where this information is to come from; ideally, of course, it would be computed on the basis of the frequency/distribution ratio of each item in a very large and comprehensive text corpus.

| | |
|--------------------------|--|
| | above); 'fishing rod', the related term, is picked up from parsed CCELD and CED entries (of "attached to a fishing rod"). |
| DIFF:USE 37a,b | This differentia is generated by the input GENUS value 'device' (see above at GENUS). What use is this device intended for? The items, 'hold' and 'wind' (in 37a) and 'wrap', 'wind', and 'cast' (in 37b) are picked up from the parsed CCELD entry ("used to hold") or the others ("on which . . . is wound"). |
| DIFF:FORM 37a,b | This attribute is generated by the input GENUS value 'device' (see above at GENUS); a device is routinely identified as a concrete object. |
| 37a | The value 'cylindrical' is picked up from "cylinder" in OALD, via the morphological component, and from "cylindrical" in the parsed CCELD and CED entries; "round" in LDOCE produces the value 'round'. |
| DIFF:CONTAINED | This attribute is generated by the input GENUS value 'container' (see above at GENUS). |
| 37a | The lexical items ('thread', 'film', etc.) listed here have been picked up from the various parsed dictionary entries. |
| EXTENSION 37b,c,d,e,g | This attribute is generated automatically (every LINK-RULE must have its own EXTENSION sense) for any decimal-point category, in order to relate it to the 'major' sense in a structured way. In, for instance, the entry for <i>safety</i> , one value might be 'place', which would be in category 1.3, following upon and generated by the 'state or condition' GENUS of category 1, "the state or condition of no danger". |
| DIFF:DOMAIN 37b,d,e | This is generated by the input EXTENSION item 'domain-specific'. All legitimate domains will be stored in a closed-set list and marked (as far as possible automatically, from the contents of the MRDs) on lexical items in the computer's lexicon. |
| 37d,e | This DOMAIN value ('cinema') is assigned |

| | |
|----------------------------------|--|
| DIFF:TYPE 37f | on the basis of the presence in the definition of several lexical items marked in the lexicon as 'DOMAIN – cinema'. Other DOMAIN values are assigned in the same way. This differentia is generated by the input GENUS value 'dance'; other TYPE values might be 'partner', 'solo', etc. |
| DIFF:NUMBER DIFF:SPEED 37F | These differentiae are also generated by input GENUS value 'dance'. Options here would include 'slow', 'moderate', 'unspecified', etc. |
| DIFF:NATIONALITY 37f,g | This is generated by the input GENUS value 'dance' together with input TYPE value 'group'. |
| 37f | The items 'Scottish' and 'Irish' are picked up from definitions in the parsed MRD entries. |
| 37g | Here, 'Scottish' and 'Irish' are automatically inherited from DIFF-NATIONALITY in 37f. |

2.13 "I am speaking of that which words are insufficient to explain"

So wrote Samuel Johnson, in 1755, when discussing word meaning and the ordering of senses in the *Preface* to his great Dictionary. None of the problems of today's lexicographers – as far as I can see – was unknown to him. Of course the idea of setting out the meaning of words in numbered sections is as doomed to failure in the twentieth century (computers or no computers) as it was in the eighteenth. It is instructive to consider the difference in attitude to the task of describing word meaning in his *Plan of a Dictionary*, in 1747, at the start of the enterprise, and the painstaking telling-it-like-it-was that is to be found in the 1755 *Preface* to the published work.

When the dictionary was still at the design stage, Johnson wrote: "The great labour is yet to come, the labour of interpreting these words and phrases with brevity, fulness and perspicuity; a task of which the extent and intricacy is sufficiently shewn by the miscarriage of those who have generally attempted it. This difficulty is increased by the necessity of explaining the words in the same language, for there is often only one word for one idea; and though it be easy to translate the words *bright*, *sweet*, *salt*, *bitter*, into another language, it is not easy to explain them". At that point, the wording of definitions was clearly seen as the most difficult aspect of handling word meaning. Johnson appeared to foresee few problems in analyzing the meaning of a word into distinct senses and in ordering these. Indeed, he goes on to write quite confidently: "In explaining the general

and popular language, it seems necessary to sort the several senses of each word, and to exhibit first its natural and primitive signification . . . then to give its consequential meaning . . . then its metaphorical sense . . .” and so on.

In 1755, the picture had changed. (“But these were the dreams of a poet, doomed at last to wake a lexicographer.”) I leave the last word to Johnson, who spoke for many succeeding generations of lexicographers when he wrote:

In every word of extensive use, it was requisite to mark the progress of its meaning, and show by what gradations of intermediate sense it has passed from its primitive to its remote and accidental signification; so that every foregoing explanation should tend to that which follows, and the series be regularly concatenated from the first notion to the last.

This is specious,⁸ but not always practicable; kindred senses may be so interwoven, that the perplexity cannot be disentangled, nor any reason be assigned why one should be ranged before the other. When the radical idea branches out into parallel ramifications, how can a consecutive series be formed of sense in their nature collateral? The shades of meaning sometimes pass imperceptibly into each other, so that though on one side they apparently differ, yet it is impossible to mark the point of contact. Ideas of the same race, though not exactly alike, are sometimes so little different, that no words can express the dissimilitude, though the mind easily perceives it, when they are exhibited together; and sometimes there is such a confusion of acceptations, that discernment is wearied, and distinction puzzled, and perseverance herself hurries to an end, by crowding together what she cannot separate.

Appendix

Acknowledge

Collins Cobuild English Language Dictionary (1987)

acknowledge /ə'knɒlɪdʒ/, **acknowledges**, **acknowledging**, **acknowledged**. 1

If you acknowledge a fact or a situation, you accept or admit that it is true or that it exists. EG *The state acknowledged the justice of their cause... Most people will now acknowledge that there is a crisis.*

2 If people or their status, qualities, or achievements are **acknowledged** by other people, they are widely known about and admired. EG *Edwin Lawrence Godkin was acknowledged as America's finest editorial writer... ...a woman of acknowledged charm and personality.*

3 If you **acknowledge** someone, for example, with a nod or a smile, you show that you have seen and recognized them. EG *I took care not to acknowledge Janet with more than a nod... He never even bothered to acknowledge her presence.*

4 If you **acknowledge** a message, letter, or parcel, you tell the person who sent it that you have received it. EG *The Colonel heard his Operations Officer acknowledge the message... You have to sign here and acknowledge receipt.*

5 If you **acknowledge** applause, compliments, or something which is done for you, you show your gratitude for it or your appreciation of it. EG *The president stood up to acknowledge the cheers of the crowd... I pushed a drink toward him; he acknowledged it, but continued talking.*

⁸Snowy; pleasing to the view (S. Johnson, *A Dictionary of the English Language*).

Collins English Dictionary (1986)

acknowledge (ək'nolihdʒ) *vb.* (*tr.*) **1.** (*may take a clause as object*) to recognize or admit the existence, truth, or reality of. **2.** to indicate recognition or awareness of, as by a greeting, glance, etc. **3.** to express appreciation or thanks for: *to acknowledge a gift.* **4.** to make the receipt of known to the sender: *to acknowledge a letter.* **5.** to recognize, esp. in legal form, the authority, rights, or claims of. [C]5: probably from earlier knowledge, on the model of Old English *oncnāwan*, Middle English *aknowen* to confess, recognize] —**ac'knowledgeable** *adj.* —**ac'knowledge** *n.*

Longman Dictionary of Contemporary English (1987)

ac·knowl·edge /ək'nolihdʒ|-'nɑ:-/ *v* [T] **1** [(as)] to accept or admit (as); recognize the fact or existence (of): *When the results of the vote were announced the Prime Minister acknowledged defeat.* | *The terrorists refused to acknowledge the court.* | *She is acknowledged as an expert on the subject.* | *an acknowledged expert* [+ *v-ing/that*] *He grudgingly acknowledged having made a mistake/that he had made a mistake.* [+ *obj + to-v*] *He is generally acknowledged to have the finest collection of Dutch paintings in private hands.* [+*obj + adj*] *She acknowledged herself puzzled.* **2** to show that one is grateful for: *The producer wishes to acknowledge the assistance of the Los Angeles Police Department in the making of this film.* **3** to state that one has received (something): *We must acknowledge his letter/acknowledge receipt of his letter.* **4** to show that one recognizes (someone) by smiling, waving, etc.: *She walked right past me without even acknowledging me.*

Oxford Advanced Learner's Dictionary (1989)

ac·know·ledge /ək'olihdʒ/ *v* **1** [Tn, Tf, Tw, Cn·a, Cn·t] accept the truth of (sth); admit (sth): *acknowledge the need for reform* ○ *a generally acknowledged fact* ○ *He acknowledged it to be true/that it was true.* ○ *They refused to acknowledge defeat/that they were defeated/themselves beaten.* **2** [Tn] report that one has received (sth):

acknowledge (receipt of) a letter. **3** [Tn] express thanks for (sth): *acknowledge help* ○ *His services to the country were never officially acknowledged.* **4** [Tn] show that one has noticed or recognized (sb) by a smile, nod of the head, greeting, etc: *I was standing right next to her, but she didn't even acknowledge me/my presence.* **5** (a) [Cn·n/a, Cn·t] ~ sb (as sth) accept sb (as sth): *Stephen acknowledged Henry as (ie recognized his claim to be) his heir.* ○ *He was generally acknowledged to be the finest poet in the land.* (b) [Tn] accept or recognize (sth): *The country acknowledged his claim to the throne.*

Webster's New World Dictionary (1988)

ac·knowl·edge (ak nāl'ij, ək-) *vt.* **-edged, -edg-ing** [earlier *aknowledge* < ME *knowlechen* < *knowleche* (see KNOWLEDGE): infl. by ME *aknowen* < OE *oncnāwan*, to understand, know, with Latinized prefix] **1** to admit to be true or as stated; confess **2** to recognize the authority or claims of **3** to recognize and answer (a greeting or greeter, an introduction, etc.) **4** to express thanks for **5** to state that one has received (a letter, gift, favor, payment, etc.) **6** *Law* to admit or affirm as genuine; certify in legal form [*to acknowledge a deed*] —**ac·knowl'edge-able** *adj.*

SYN. —**acknowledge** implies the reluctant disclosure of something one might have kept secret [*he acknowledged the child as his*]; **admit** describes assent that has been elicited by persuasion and implies a conceding of a fact, etc. [*I'll admit*

you're right]; **own** denotes an informal acknowledgment of something in connection with oneself [to *own* to a liking for turnips]; **avow** implies an open, emphatic declaration, often as an act of affirmation; **confess** is applied to a formal acknowledgment of a sin, crime, etc., but in a weakened sense is used interchangeably with *admit* in making simple declarations [I'll *confess* I don't like him] —*ANT.* *deny*

ack·nowl·edged (-i:jd) *adj.* commonly recognized or accepted [the *acknowledged* leader of the group]

Admire

Collins Cobuild English Language Dictionary (1987)

admire /əd'maɪə/, **admires**, **admiring**, **admired**. If you admire someone or something, you **1** like, respect, and approve of them. ○ *I admire cleverness-and courage too... They had been admired for their discipline.* **2** look with pleasure at them. EG *He went back along the lane admiring the autumn crocuses.*

Collins English Dictionary (1986)

admire (əd'maɪə) *vb.* (tr.) **1.** to regard with esteem, respect, approval, or pleased surprise. **2.** *Archaic.* to wonder at. [C16: from Latin *admirari* to wonder at, from *ad-* to, al + *mirari* to wonder, from *mirus* wonderful] —**ad'mirer** *n.* —**ad'miringly** *adv.*

Longman Dictionary of Contemporary English (1987)

ad·mire /əd'maɪə/ *v* [T (for)] to think of or look at with pleasure and respect: *I admire (her for) the way she handles her staff.* | *You may not like him, but you've got to admire his persistence.* | *He gave her an admiring look.* | *He's always looking in the mirror, admiring himself!* —see **WONDER** (USAGE)

Oxford Advanced Learner's Dictionary (1989)

ad·mire /əd'maɪə(r)/ *v* **1** [Tn, Tn-pr, Tsg] ~ sb/sth (for sth) regard sb/sth with respect, pleasure, satisfaction, etc: *They admired our garden.* ○ *I admire him for his success in business.* **2** [Tn] express admiration of (sb/sth): *Aren't you going to admire my new hat?*

▷ **ad·mirer** *n* (a) person who admires sb/sth: *I am not a great admirer of her work.* (b) man who admires and is attracted to a woman: *She has many admirers.*

ad·mir·ing *adj* showing or feeling admiration: *give/sb/receive admiring glances* ○ *be welcomed by admiring fans.* **ad·mir·ingly** *adv.*

Webster's New World Dictionary (1988)

ad·mire (ad mir', ed-) *vt.* **-mired', -mir'ing** [OFr *admirer* < L *admirari* < *ad-*, at + *mirari*, to wonder: see **MIRACLE**] **1** to regard with wonder, delight, and pleased approval **2** to have high regard for ★**3** [Dial.] to like or wish (to do something) **4** [Archaic] to marvel at —*SYN.* **REGARD** —**ad·mir'er** *n.* —**ad·mir'ingly** *adv.*

Admit*Collins Cobuild English Language Dictionary (1987)*

admit /ə'dmɪt/, **admits**, **admitting**, **admitted**. **1** If you **admit** something you **1.1** agree, often reluctantly, that it is true. EG *I must admit I had my doubts... It is not, I admit, a good way of selling newspapers...* 'I don't know,' he **admitted**. **1.2** agree or confess that you have done something that you should not have done. EG *The Vice President admitted taking bribes*. **2** If you **admit** defeat, you accept that you cannot do something which you have started. EG *Her imagination failed her: she had to admit defeat*. **3** To **admit** someone or something to a place means to allow them to enter it. EG *The Sovereign has never been admitted to the House of Commons... This ticket admits two... The door was opened, admitting a shaft of daylight*. **4** If someone is **admitted** to hospital, they are taken there because they are ill and stay there for one or more nights. EG *He was admitted to hospital with an ulcerated leg*. **5** If you **admit** someone to an organization or group, you allow them to join it or become part of it. EG *He was admitted to full membership of the academy... Soon afterwards he was admitted to British citizenship*. **6** If a room or building **admits** a particular number of people, it has room for that number; a formal use. EG *The new theatre will admit 400 people*. **7** If an event or situation **admits** of something, it makes it possible for that thing to happen or be true; a formal use. EG *The relevant statute admitted of one interpretation only*.

Collins English Dictionary (1986)

admit (əd'mɪt) *vb.* **-mits, -mitting, -mitted.** (*mainly tr.*) **1.** (*may take a clause as object*) to confess or acknowledge (a crime, mistake, etc.). **2.** (*may take a clause as object*) to concede (the truth or validity of something). **3.** to allow to enter; let in. **4.** (*foll. by to*) to allow participation (in) or the right to be part (of): *to admit to the profession*. **5.** (*when intr., foll. by of*) to allow (of); leave room (for). **6.** (*intr.*) to give access: *the door admits onto the lawn*. [C14: from Latin *admittere* to let come or go to, from *ad-* to + *mittere* to send]

Longman Dictionary of Contemporary English (1987)

ad·mit /əd'mɪt/ *v* **-tt-** **1** [I (to), T] to state or agree to the truth of (usu. something bad); CONFESS: *He admitted his guilt/admitted to the murder*. [+ *v-ing*] *She admitted stealing the bicycle/admitted having stolen the bicycle*. [+ (that)] *She admitted that she had stolen the bicycle*. | *I must admit, it's more difficult than I thought it would be*. [+ *obj* + *to-v*] *A fuel leak is now admitted to have been the cause of the trouble*. —compare DENY (1) **2** [T (into, to)] to permit to enter, let in: *he was admitted to hospital suffering from burns*. **3** [I + *of*; T] *fm*l to leave a chance for being possible; allow: *The facts admit (of) no other explanation*.

Oxford Advanced Learner's Dictionary (1989)

ad·mit /əd'mɪt/ *v* **(-tt-)** **1** [Tn, Tn-pr] ~ sb/sth (into/to sth) (a) allow sb/sth to enter: *That man is not to be admitted*. ○ *Each ticket admits two people to the party*. ○ *The small window admitted very little light*. (b) accept sb into a hospital as a patient, or into a school, etc as a pupil: *The school admits sixty new boys and girls every year*. ○ *He was admitted to hospital with minor burns*. **2** [Tn] (of an enclosed space) have room for (sb/sth): *The theatre admits only 250 people*.

3 [Ipr, Tn, Tf, Tnt, Tg] ~ to sth/doing sth recognize or acknowledge sth as true, often reluctantly; confess sth: *George would never admit to being wrong.* ○ *The prisoner has admitted his guilt.* ○ *I admit my mistake/that I was wrong.* ○ *I admit (that) you have a point.* ○ *He admitted having stolen the car.* ○ *It is now generally admitted to have been* (ie Most people agree and accept that it was) *a mistake.* **4** [Ipr] ~ of sth (*fml*) allow the possibility of sth; leave room for sth: *His conduct admits of no excuse.* ○ *The plan does not admit of improvement,* ie cannot be improved. **5** (idm) be **admitted** to sb's presence (*fml*) be allowed to enter the room, etc where sb (esp sb important) is.

Webster's New World Dictionary (1988)

ad·mit (ad mit', əd'-) *vt.* **-mit'ted, -mit'ting** [ME *admitten* < L *admittere* < *ad-*, to + *mittere*, to send; see MISSION] **1** to permit to enter or use; let in **2** to entitle to enter [this ticket *admits* two] **3** to allow; leave room for **4** to have room for; hold [the hall *admits* 2,500 people] **5** to concede or grant **6** to acknowledge or confess **7** to permit to practice certain functions [he was *admitted* to the bar] —*vi.* **1** to give entrance (*to* a place) **2** to allow or warrant: with **of** **3** to confess or own (*to*) —*SYN.* ACKNOWLEDGE, RECEIVE

Danger

Collins Cobuild English Language Dictionary (1987)

danger money is extra money that is paid to someone for doing dangerous work.
EG *He deserves to get danger money for that job.*

danger /deɪndʒə/, **dangers.** **1** Danger is the possibility that someone may be harmed or killed. EG *The child is too young to understand danger...* *There was widespread danger of disease...* *My friends were round me. I was in no danger...* *Danger! Keep away!*

2 A danger is something or someone that can hurt or harm you. EG *Cigarette smoking is a danger to health...* *They warned us of the dangers of making assumptions.*

3 If someone is on the danger list, they are extremely ill, and may die.

4 If someone is out of danger, they are still ill but are not expected to die.

5 If there is a danger that something unpleasant will happen, it is possible that that thing will happen. EG *There was a danger that she might marry the wrong man...* *There is a danger of war and holocaust.*

6 If you say 'There's no danger of that', you mean that you do not think that the thing referred to will happen.

Collins English Dictionary (1986)

danger ('deɪndʒə) *n.* **1.** the state of being vulnerable to injury, loss, or evil; risk.

2. a person or thing that may cause injury, pain, etc. **3.** *Obsolete.* power. **4.** in **danger of.** liable to. **5.** on the **danger** list. critically ill in hospital. [C13 *daunger* power, hence power to inflict injury, from Old French *dongier* (from Latin *dominium* ownership) blended with Old French *dam* injury, from Latin *damnum*] —'dangerless *adj.*

danger money *n.* extra money paid to compensate for the risks involved in certain dangerous jobs.

dangerous ('deɪndʒərəs) *adj.* causing danger; perilous —'dangerously *adv.* —'dangerousness *n.*

Longman Dictionary of Contemporary English (1987)

dan·ger /'deɪndʒə/ *n* 1 [U (of, to)] the possibility of harm or loss: *The red flag means "Danger!"* | *a danger signal* | *a place where children can play without danger* | *The patient's life is in danger.* | *The operation was a success and she is now out of danger.* | *He is in (great/real) danger of losing his job.* | *Climbing mountains is fraught with (= full of) danger.* 2 [C (of, to)] a case or cause of danger: *the dangers of smoking* | *This narrow bridge is a danger to traffic.* | *Violent criminals like that are a danger to society.*
danger mon·ey /'... , -/ *n* [U] additional pay for dangerous work

Oxford Advanced Learner's Dictionary (1989)

dan·ger /'deɪndʒə(r)/ *n* 1 [U] ~ (of sth) chance of suffering damage, loss, injury, etc; risk: *There's a lot of danger in rock climbing.* ○ *Danger—thin ice!* ○ *In war, a soldier's life is full of danger.* ○ *Is there any danger of fire?* ○ *She was very ill, but is now out of danger,* ie not likely to die. ○ *Ships out in this storm are in great danger,* ie very liable to suffer damage, etc. ○ *His life was in danger.* 2 [C] ~ (to sb/sth) person or thing that may cause damage, injury, pain, etc; hazard: *be afraid of hidden dangers* ○ *Smoking is a danger to health* ○ *That woman is a danger to society.* 3 (idm) on the danger list (*infml*) very ill and near to death: *She was on the danger list, but is much better now.*
 □ 'danger money extra pay for dangerous work.
dan·ger·ous /'deɪndʒərəs/ *adj* ~ (for sb/sth) likely to cause danger or be a danger: *a dangerous bridge, journey, illness* ○ *The river is dangerous for swimmers.* ○ *This machine is dangerous: the wiring is faulty.* ▷ **dan·ger·ously** *adv*: *driving dangerously* ○ *dangerously ill,* ie so ill that one might die.

Webster's New World Dictionary (1988)

dan·ger (dān'jər) *n.* [ME *daunger*, power, domination, arrogance < OFr *danger*, absolute power of an overlord < VL **dominarium* < L *dominium*, lordship < *dominus*, a master: see DOMINATE] 1 liability to injury, damage, loss or pain; peril 2 a thing that may cause injury, pain, etc. 3 [Obs.] power of a lord, esp. to harm
 SYN. —**danger** is the general term for liability to injury or evil, of whatever degree or likelihood of occurrence [the *danger* of falling on icy walks]; **peril** suggests great and imminent danger [the burning house put them in *peril* of death]; **jeopardy** emphasizes exposure to extreme danger [liberty is in *jeopardy* under tyrants]; **hazard** implies a foreseeable but uncontrollable possibility of danger, but stresses the element of chance [the *hazards* of hunting big game]; **risk** implies the voluntary taking of a dangerous chance [he jumped at the *risk* of his life] —ANT. **safety, security**

Reel*Collins Cobuild English Language Dictionary (1987)*

reel /ri:l/, **reels, reeling, reeled** 1 A reel is 1.1 a cylindrical object which is used to hold long things such as thread or cinema film. The thread or film is wrapped round the reel so that it can be kept neatly together. EG *She took up some scissors and a reel of white string...* *Reels of magnetic tape were piled high on his desk.* 1.2 all the scenes and events that you see on a cinema screen when the

cinema film on one reel is shown. EG *Saigon looked like the final reel of 'On the Beach'*. **1.3** a round device with a handle, attached to a fishing-rod. One end of the fishing line is wrapped round the reel, and when you catch a fish, you can pull it towards you by turning the handle.

2 If you reel **2.1** you move about unsteadily and jerkily as if you are going to fall. EG *I reeled back into the room... She gave him a smack in the face that sent him reeling off the pavement*. **2.2** you are very upset by an unpleasant experience. EG *We reeled from the shock of discovering that our own father was a liar*.

3 If you say that your brain or mind is reeling, you mean that you are feeling very confused because you have too many things which you need to think about. EG *My brain reeled with all my plans for my new house... His mind was dazed and reeling with all that he had seen and heard*.

4 A reel is also a type of fast Scottish dance.

reel in. If you reel in a fish, you pull it towards you by winding the line onto the reel of the your fishing rod. EG *You could throw a bare hook in the water and reel it in, and more often than not you'd catch a fish*.

reel off. If you reel off information, you repeat it from memory quickly and easily. EG *He could reel off the names of all the capitals of Europe*.

Collins English Dictionary (1986)

reel¹ (ri:l, rɪəl) *n.* **1.** any of various cylindrical objects or frames that turn on an axis and onto which film, magnetic tape, paper tape, wire, thread, etc., may be wound. U.S. equivalent: spool. **2.** *Angling.* a device for winding, casting, etc., consisting of a revolving spool with a handle, attached to a fishing rod. **3.** a roll of celluloid exhibiting a sequence of photographs to be projected. *~vb. (tr.)* **4.** to wind (cotton, thread, etc.) onto a reel. **5.** (foll. by *in, out*, etc.) to wind or draw with a reel: *to reel in a fish*. [Old English *hrēol*; related to Old Norse *hræll* weaver's rod, Greek *krekein* to weave] — '**reelable** *adj.* — '**reeler** *n.*

reel² (ri:l, rɪəl) *vb. (mainly intr.)* **1.** to sway, esp. under the shock of a blow or through dizziness or drunkenness. **2.** to whirl about or have the feeling of whirling about: *his brain reeled*. *~n.* **3.** a staggering or swaying motion or sensation. [C14 *relen*, probably from REEL¹]

reel³ (ri:l, rɪəl) *n.* **1.** any of various lively Scottish dances, such as the eightsome reel and foursome reel, for a fixed number of couples who combine in square and circular formations. **2.** a piece of music having eight quavers to the bar composed for or in the rhythm of this dance. [C18: from REEL²]

reel-fed *adj. Printing.* involving or printing on a web of paper: a *reel-fed press*. Compare sheet-fed.

reel man *n. Austral. and N.Z.* the member of a beach life-saving team who controls the reel on which the line is wound.

reel off *vb. (tr., adv.)* to recite or write fluently and without apparent effort: *to reel off items on a list*.

reel of three *n.* (in Scottish country dancing) a figure-of-eight movement danced by three people.

reel-to-reel *adj.* **1.** (of magnetic tape) wound from one reel to another in use. **2.** (of a tape recorder) using magnetic tape wound from one reel to another, as opposed to cassettes.

Longman Dictionary of Contemporary English (1987)

reel¹ /ri:l/ *n* **1 BrE** || spool *AmE* – a round object on which a length of sewing thread, wire, cinema film, fishing line, recording TAPE¹ (2a), etc., can be wound –compare BOBBIN **2** [(of)] the amount that any of these will hold: *two whole reels of cotton* **3** one of several parts of a cinema film contained on a reel: *They get married at the end of the eighth reel*.

reel² *v* [T + *obj* + *adv/prep*] to bring, take, etc. by winding: *he reeled in his fishing line.* | *Reel some more thread off the machine.*

reel sthg. ↔ off *phr v* [T] *infmtl* to repeat (usu. a lot of information) quickly and easily from memory, RATTLE off: *He could reel off the dates of all the kings of England.*

reel³ *v* [I] 1 [+ *adv/prep*] to walk unsteadily, moving from side to side, as if drunk: *he came reeling up the street.* 2 [(BACK)] to step away suddenly and unsteadily (as if) after being hit or receiving a shock: *When I hit him he reeled (back) and almost fell.* 3 to be in a state of shock, confusion, or uncertainty: *All these statistics make my head reel.* | *The party is still reeling from its recent election defeat.* 4 to seem to go round and round: *The room reeled before my eyes and I became unconscious.*

reel⁴ *n* (the music for) a quick cheerful Scottish or Irish dance

Oxford Advanced Learner's Dictionary (1989)

reel¹ /ri:l/ *n* (US *spool*) 1 cylinder, roller or similarly shaped object on which thread, wire, fishing line, photographic film, magnetic tape, etc is wound: *a cotton reel* ○ *a cable reel.* 2 quantity of thread, etc wound on such a cylinder, roller, etc: *a six-reel film.*

▷ **reel v** 1 [Tn·p] ~ sth in/out wind (sth) on or off a reel; pull (sth) in by using a reel: *reel the line, the hosepipe, etc out* ○ *The angler reeled the trout in slowly.* 2 (*phr v*) reel sth off say or repeat sth rapidly without pause or apparent effort: *reel off a poem, list of names, set of instructions.*

reel² /ri:l/ *v* 1 [I, Ipr, Ip] move unsteadily or sway; stagger: *reel drunkenly down the road* ○ *She reeled (back) from the force of the blow.* ○ *I reeled round in a daze.* 2 [I, Ipr] (*fig*) (of the mind or head) be or become dizzy or confused; be in a whirl: *The very idea sets my head reeling.* ○ *His mind reeled when he heard the news/at the news.* ○ *be reeling from/with/under the shock* ○ (*fig*) *The street reeled* (ie seemed to go round and round) *before her eyes.*

reel³ /ri:l/ *n* (music for a) lively Scottish or Irish dance, usu for two or four couples.

Webster's New World Dictionary (1988)

reel¹ (rēl) *vl.* [ME *relen* < the *n.*: from the sensation of whirling] 1 to give way or fall back; sway, waver, or stagger as from being struck 2 to lurch or stagger about, as from drunkenness or dizziness 3 to go around and around; whirl 4 to feel dizzy; have a sensation of spinning or whirling —*vt.* to cause to reel —*n.* [ME *rele* < OE *hreol*: see REEL³] a reeling motion; whirl, stagger, etc.

reel² (rēl) *n.* [prob. < prec., *n.*] 1 *a*) a lively Scottish dance *b*) short for VIRGINIA REEL 2 music for either of these

reel³ (rēl) *n.* [ME < OE *hreol* < Gmc **hrehulaz* < IE base **krek-*, to strike, make a weaving motion > Gr *krekein*, to weave, Latvian *breklis*, shirt] 1 a frame or spool on which thread, wire, tape, film, a net, etc. is wound 2 such a frame set on the handle of a fishing rod, to wind up or let out the line 3 the quantity of wire, thread, film, tape, etc. usually wound on one reel 4 in some lawn mowers, a set of spiral steel blades rotating on a horizontal bar set between wheels —*vt.* to wind on a reel —**reel in** 1 to wind on a reel 2 to pull in (a fish) by winding a line on a reel —**reel off** to tell, write, produce, etc. easily and quickly —**reel out** to unwind from a reel —★(right) off the reel without hesitation or pause.

reel-to-reel (-tōō-rēl') *adj.* designating or of a tape recorder using two separate reels, on which the tape must be threaded.

Webster's Ninth New Collegiate Dictionary (1983)

- ¹reel** 'rē(ə)l *n* [ME, fr. OE *hrēol*; akin to ON *hrœll* weaver's reed, Gk *krekein* to weave] (bef. 12c) **1**: a revolvable device on which something flexible is wound: as **a**: a small windlass at the butt of a fishing rod for the line **b** chiefly *Brit*: a spool or bobbin for sewing thread **c**: a flanged spool for photographic film; *esp*: one for motion pictures **2**: a quantity of something wound on a reel **3**: a frame for drying clothes usu. having radial arms on a vertical pole
- ²reel** *vt* (14c) **1**: to wind on or as if on a reel **2**: to draw by reeling a line (~ a fish in) ~ *vi*: to turn a reel — **reel-able** \ˈrē-lə-bəl\ *adj*
- ³reel** *vb* [ME *relen*, prob. fr. *reel*, *n.*] *vi* (14c) **1 a**: to turn or move round and round **b**: to be in a whirl **2**: to behave in a violent disorderly manner **3**: to waver or fall back (as from a blow) **4**: to walk or move unsteadily ~ *vt*: to cause to reel
- ⁴reel** *n* (1572): a reeling motion
- ⁵reel** *n* [prob. fr. *⁴reel*] (1585) **1**: a lively Scottish-Highland dance; *also*: the music for this dance **2**: VIRGINIA REEL
- reel off** *vt* (1952) **1**: to chalk up usu. as a series **2**: to tell or recite readily and usu. at length (*reel off a few jokes to break the ice*)
- reel-to-reel** *adj* (1961): of, relating to, or utilizing magnetic tape that requires threading on a take-up reel (a ~ tape recorder)

Rod

Webster's Ninth New Collegiate Dictionary (1983)

- rod** \ˈräd\ *n* [ME, fr. OE *rodd*; akin to ON *rudda* club] (bef. 12c) **1 a** (1): a straight slender stick growing on or cut from a tree or bush (2): OSIER (3): a stick or bundle of twigs used to punish; *also*: PUNISHMENT (4): a shepherd's cudgel (5): a pole with a line and usu. a reel attached for fishing **b** (1): a slender bar (as of wood or metal) (2): a bar or staff for measuring (3): SCEPTER; *also*: a wand or staff carried as a badge of office (as of marshal) **2 a**: a unit of length – see WEIGHT table **b**: a square rod **3**: any of the long rod-shaped photosensitive receptors in the retina responsive to faint light **4**: a rod-shaped bacterium **5 slang**: PISTOL – **rod-less** \-ləs\ *adj* – **rod-like** \-,lik\ *adj*

Safety

Collins Cobuild English Language Dictionary (1987)

- safety** /seɪfti/. **1** Safety is **1.1** the state of being safe. EG *He was assured of his daughter's safety.* **1.2** the possibility of your being harmed in a particular situation. EG *Many worried about the safety of their children.* **1.3** a place where you are safe from a particular danger. EG *They were busy helping survivors to safety... They swim to the safety of a small, rock island.*
- 2** If you are concerned about the safety of a product, course of action, etc, you are concerned that it might be harmful or dangerous. EG *People worry about the safety of nuclear energy.*
- 3** Safety features, safety measures, etc are intended to make something less dangerous. EG *Every car will come with built-in safety features... Heating was by oil stoves without proper safety measures.*
- safety belt, safety belts**; also spelled with a hyphen. A safety belt is a belt or strap attached to a seat in a car, aeroplane, etc. You fasten it round your body, and it

stops you being thrown forward if there is an accident. EG *He would have been killed if he hadn't been wearing a safety belt.*

safety catch, safety catches; also spelled with a hyphen. **1** The safety catch on a gun stops you firing it accidentally. EG *Charles slipped on the safety catch and pocketed the gun.*

2 The safety catch on a window or door stops it being opened too far, or being opened by a thief.

safety net, safety nets; also spelled with a hyphen. **1** In a circus, a safety net is a large net that performers on trapezes or high wires can fall into if they make a mistake. EG *His most dangerous stunt was walking the tightrope without a safety net.*

2 A safety net is also something that you can rely on to help you if you get into a difficult situation. EG *The Fund is our safety net if anything should go wrong.*

safety pin, safety pins; also spelled with a hyphen. A safety pin is **1** a bent metal pin that is used for fastening two things together. It is designed so that the point of the pin is covered and does not stick into you. EG *My trousers were fastened with a safety-pin... Do it up with a safety pin.* **2** a short piece of metal in a grenade, bomb, etc that has to be removed before the device can explode.

safety-valve, safety-valves; also spelled as two words. **1** A safety-valve allows liquids or gases to escape from a steam engine or other machine when the pressure inside the machine becomes too great.

2 A safety-valve is also anything that allows you to express strong feelings without harming other people. EG *She needed a safety-valve, that was all... ...a safety-valve for the harmless release of rebellious feelings.*

Collins English Dictionary (1986)

safety ('seɪftɪ) *n.*, *pl.* **-ties**. **1.** the quality of being safe. **2.** freedom from danger or risk of injury. **3.** a contrivance or device designed to prevent injury. **4.** *American football.* **a.** Also called: 'safety, man. the defensive player furthest back in the field. **b.** a play in which the ball is put down by a player behind his own goal line when the ball is caused to pass the goal line by one of his own team. Compare touchback.

safety belt *n.* **1.** another name for seat belt. **2** a belt or strap worn by a person working at a great height and attached to a fixed object to prevent him from falling.

safety catch *n.* a device to prevent the accidental operation of a mechanism, e.g. in a firearm or lift.

safety chain *n.* a chain on the fastening of a bracelet, watch, etc., to ensure that it cannot open enough to fall off accidentally. Also called: guard.

safety curtain *n.* a curtain made of fireproof material that can be lowered to separate the auditorium and stage in a theatre to prevent the spread of a fire.

safety factor *n.* another name for factor of safety.

safety film *n.* photographic film consisting of a nonflammable cellulose acetate or polyester base.

safety fuse *n.* **1.** a slow-burning fuse for igniting detonators from a distance. **2.** an electrical fuse that protects a circuit from overloading.

safety glass *n.* glass made by sandwiching a layer of plastic or resin between two sheets of glass so that if broken the fragments will not shatter.

Safety Islands *pl. n.* a group of three small French islands in the Atlantic, off the coast of French Guiana. French name: Iles du Salut.

safety lamp *n.* an oil-burning miner's lamp in which the flame is surrounded by a metal gauze to prevent it from igniting combustible gas. Also called: Davy lamp.

- safety match** *n.* a match that will light only when struck against a specially prepared surface.
- safety net** *n.* 1. a net used in a circus to catch high-wire and trapeze artists if they fall. 2. any means of protection from hardship or loss, such as insurance.
- safety pin** *n.* 1. a spring wire clasp with a covering catch, made so as to shield the point when closed and to prevent accidental unfastening. 2. another word for pin (sense 9).
- safety razor** *n.* a razor with a guard or guards fitted close to the cutting edge or edges so that deep cuts are prevented and the risk of accidental cuts reduced.
- safety valve** *n.* 1. a valve in a pressure vessel that allows fluid to escape when a predetermined level of pressure has been reached. 2. a harmless outlet for emotion, energy, etc.

Longman Dictionary of Contemporary English (1987)

- safe-ty** /'seɪfti/ *n* [U] the condition of being safe: freedom from danger, harm, or risk: *The safety of the ship is the captain's responsibility.* | *She led the children to a place of safety.* | *There are fears for the safety of the climbers.* (= they might be hurt or dead) | *The management took all reasonable safety precautions.* | *Safety checks are carried out on all industrial machinery.* | *Let's try to stay together as a group: there's safety in numbers.* | *It's very important to teach children about road safety.*
- safety belt** /'seɪfti beɪlt/ *n* A SEAT BELT
- safety catch** /'seɪfti kætʃ/ *n* a lock on a gun to prevent it from being fired accidentally
- safety cur-tain** /'seɪfti kɜːtn/ is a theatre curtain made of material that will not burn, which may be lowered in front of the stage
- safety-de-pos-it box** /'seɪfti deɪpəzɪt bɒks/ *n* a SAFE-DEPOSIT BOX
- safety-first** /'seɪfti fɜːst/ *adj* [A] *sometimes derog* showing a wish to take no risks; CAUTIOUS: *a safety-first attitude*
- safety glass** /'seɪfti glɑːs/ *n* [U] strong glass that breaks only into small pieces which are not sharp
- safety is-land** /'seɪfti ɪslænd/ *n* AmE for ISLAND (2)
- safety lamp** /'seɪfti lɑːmp/ *n* a miner's lamp made so that its flame cannot explode the gases found underground
- safety match** /'seɪfti mætʃ/ *n* a match which can be lit only by rubbing it along a special surface on its box or packet
- safety net** /'seɪfti net/ *n* a large net stretched out below someone performing high above the ground to catch them if they fall: *A safety net was spread below the tightrope walker.* | (fig.) *What happens to the poor people who are not caught by the government's safety net of welfare payments?*
- safety pin** /'seɪfti pɪn/ *n* a wire pin that has a cover at one end and is bent round so that its point can be held safely inside the cover —see picture at PIN
- safety ra-zor** /'seɪfti ɹeɪzə/ *n* a RAZOR with a cover fitting over the thin blade to protect the skin from being cut —see picture at RAZOR
- safety valve** /'seɪfti vɑːlv/ *n* a part of a machine, esp. of a steam engine, which allows gas, steam, etc., to escape when the pressure becomes too great: (fig.) *Vigorous exercise is a good safety valve if you're under a lot of pressure at work.*

Oxford Advanced Learner's Dictionary (1989)

- safety** /'seɪfti/ *n* [U] 1 being safe; not being dangerous or in danger: *I'm worried about the safety of children,* ie I'm afraid something may happen to them. ○ *I'm worried about the safety of the product,* ie I'm afraid it may be dangerous. ○ *We reached the safety of the river bank,* ie a place where we would be safe. ○ *We're keeping you here for your own safety.* ○ *road safety,* ie stopping accidents on the

roads ○ [attrib] *safety precautions* ○ *a safety harness, bolt*. **2** (idm) ,safety 'first (*saying*) ie safety is the most important thing. there's 'safety in 'numbers (*saying*) being in a group makes one feel more confident: *We decided to go to see the boss together; there's safety in numbers.*

□ 'safety-belt *n* **1** = SEAT-BELT (SEAT). **2** strap securing a person, eg sb working on a high building.

'safety-catch *n* device that prevents the dangerous or accidental operation of a machine, etc, esp one that stops a gun being fired accidentally: *Is the safety-catch on?*

'safety curtain fireproof curtain that can be lowered between the stage and the auditorium of a theatre.

'safety glass glass that does not shatter or splinter when broken.

'safety island (also 'safety zone) (*US*) = TRAFFIC ISLAND (TRAFFIC).

'safety lamp miner's lamp in which the flame is protected so that it will not ignite dangerous gases.

'safety match match that will only ignite when rubbed against a special surface, eg on the side of the matchbox.

'safety net **1** net placed to catch an acrobat, etc if he should fall. **2** (*fig*) arrangement that helps to prevent disaster if sth goes wrong: *If I lose my job, I've got no safety net.*

'safety-pin *n* pin like a brooch, with the point bent back towards the head and covered by a guard when closed.

'safety razor razor with a guard to prevent the blade cutting the skin.

'safety-valve *n* **1** valve that releases pressure in a steam boiler, etc when it becomes too great. ◇ *illus* at PAN. **2** (*fig*) way of releasing feelings of anger, resentment, etc harmlessly: *My hobby is a good safety net.*

Webster's New World Dictionary (1988)

safety (săf'tē) *n., pl. -ties* [ME *sauvete* < MFr *sauveté* < OFr *salvete* < ML *salvitas*, safety < L *salvus*: see SAFE] **1** the quality or condition of being safe; freedom from danger, injury, or damage; security **2** any of certain devices for preventing an accident or an undesirable effect; specif., *a*) a catch or locking device on a firearm that prevents it from firing (also safety catch or safety lock) *b*) [Slang] a condom ★**3** *Baseball* BASE HIT ★**4** *Football* *a*) a play in which the ball is grounded by a player behind his own goal line when the ball was caused to pass the goal line by his own team: it scores as two points for the opponents (distinguished from TOUCHBACK) *b*) a player of a defensive backfield whose position is deep, behind the cornerbacks (in full **safety man**) —*adj.* giving safety; reducing danger or harm

safety belt **1** LIFE BELT **2** a belt attaching a telephone lineman, window washer, etc. to a telephone pole, window sill, etc. to prevent falling **3** a restraining belt, as in an airplane or motor vehicle: see SEAT BELT, SHOULDER HARNESS

safety glass glass made to be shatterproof by fastening together two sheets of glass with a transparent, plastic substance between them

★**safety island** SAFETY ZONE

safety lamp a miner's lamp designed to avoid explosion, fire, etc.; specif., DAVY LAMP

safety match a match that will light only when it is struck on a prepared surface

safety net **1** a net suspended as beneath circus aerialists to catch them if they fall **2** any protection against failure or loss, esp. financial loss

safety pin a pin bent back on itself so as to form a spring, and having the point covered and held with a guard

★**safety razor** a razor with a detachable blade fitted into a holder provided with guards and set at an angle which minimizes the danger of cutting the skin

safety valve 1 an automatic valve for a steam boiler, pressure cooker, etc., which opens if the pressure becomes excessive
2 any outlet for the release of strong emotion, energy, etc.

★**safety zone** a platform or marked area in a roadway, from which vehicular traffic is diverted, for protection of pedestrians, as in boarding or leaving buses

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- MW9 *Webster's Ninth New Collegiate Dictionary* (1983), ed. Mish et al., Merriam-Webster Inc., Springfield MA, USA.
- OALD *Oxford Advanced Learner's Dictionary* (1989), ed. Cowie et al., Oxford University Press, Oxford, UK.
- WNWD *Webster's New World Dictionary* (1988), ed. Neufeldt et al., Simon & Schuster Inc., New York, USA.