

Representing Noun Grammar in English and Spanish Dictionaries

Janet DeCesaris, Paz Battaner and Elisenda Bernal

Institut Universitari de Lingüística Aplicada, Pompeu Fabra University

La Rambla, 30-32, 08002 Barcelona, Spain

janet.decesaris@upf.edu, paz.battaner@upf.edu, elisenda.bernal@upf.edu

Abstract

This paper discusses the representation of the count/mass parameter in English and Spanish dictionaries. The practice of using a label to classify nouns as either countable or uncountable is first discussed with reference to English learners' dictionaries. Several sample entries are analyzed, and the widespread practice of labelling a single sense as both [countable] and [uncountable] is questioned. The countable/uncountable label developed by English lexicographers has been applied to Spanish as a way to incorporate more grammar in the dictionary. We suggest that simplifying the grammatical issue of boundedness in Spanish to a single countable/uncountable label does not yield positive results, given the morphological and syntactic complexities involved. We present data from six Spanish dictionaries to show that the main issue related to representing the count/mass parameter in Spanish is not one of including more grammatical information in the dictionary entries, but rather one of listing lexicalized count senses derived from mass nouns.

1. Introduction

Grammatical information has long been a part of dictionary entries for nouns, as information on gender and plural formation is found in most monolingual dictionaries of languages in which those morphological categories are relevant to the syntax and in many bilingual dictionaries as well. In this paper we analyze the lexicographical representation of an aspect of noun grammar that has recently become a part of dictionary entries, namely the count/mass classification. We first review current practice in English learners' dictionaries, as they have been an innovating force in the field as a whole and consequently have become a model to follow. English learners' dictionaries often use labels to encode information related to the count/mass parameter, and this practice has been extended in at least two identifiable directions: (a) to other types of English dictionaries and (b) to learners' dictionaries of languages other than English. Our discussion concentrates on the latter in relation to Spanish dictionaries. We suggest that the labelling system favored by English monolingual dictionaries to mark count/mass may not be suited to Spanish (and, more generally, to other Romance languages) in which the grammatical behavior of count and mass nouns significantly differs from that in English.

2. The Count/Mass Classification in English dictionaries

2.1 English learners' dictionaries

It is a well-known fact of English grammar (e.g. Quirk et al. 1985; Huddleston 1984) that the count/mass distinction is relevant to quantifier selection (e.g. *much equipment*/**many equipment*; **much books*/*many books*). Information on count/mass is currently a regular

feature of learners' dictionaries of English for non-native speakers: individual senses are marked [countable] or [uncountable], although the codes used may vary slightly across publishers. The following entries, taken from the fourth edition of the *Longman Dictionary of Contemporary English (LDOCE)*, exemplify this practice:

Sample entries from *LDOCE*

CONSTRUCTION

1 BUILDING SOMETHING[U] the process of building things such as houses, bridges, roads etc:

[+of] *construction of: the construction of a new airport; under construction (=being built)*
The hotel is currently under construction. | a road construction project | construction workers

2 MAKING SOMETHING FROM MANY PARTS [U] the process of making something using many parts: *Work out the exact design before you start construction.*

3 WAY STH IS MADE [U] the materials used to build or make something, or its design and structure: *The houses were partly timber in construction. | External doors should be of robust construction.*

4A BUILDING/STRUCTURE [C] *formal* something that has been built: *a strange construction made of wood and glass*

5 GRAMMAR [C] the way in which words are put together in a sentence, phrase etc: *difficult grammatical constructions*

6 IDEAS/KNOWLEDGE [U] the process of forming something from knowledge or ideas: *the construction of sociological theory*

EQUIPMENT

1[U] the tools, machines, clothes etc that you need to do a particular job or activity: *a shop selling camping equipment | some brand new computer equipment | piece/bit of equipment a very useful piece of equipment*

2 [singular] the process of equipping someone or something: [+of] *A lot of money was spent on the equipment of the new hospital.*

The grammar codes [C] and [U] are explained in the front matter, and the explanations directly relate the count/mass parameter to singular/plural morphology. The following explanations of countable and uncountable nouns, taken from *LDOCE* and the *Macmillan English Dictionary (Macmillan)*, respectively, are representative:

Explanations in *LDOCE*

[C] **countable**: a noun that has both a singular and a plural form: *He lent me a book about photography. | Some of the books were very old.*

[U] **uncountable**: a noun that has no plural form and refers to something that cannot be counted: *the importance of education | a bucket of water.*

Explanations in *Macmillan*

[C] countable nouns that are used with *a* or *an* or a number and have a plural: *car, soldier*

[U] uncountable nouns that cannot be used with *a* or *an* or a number and have no plural: *happiness, pasta*

The fact that both *LDOCE* and *Macmillan* include codes for [countable] and [uncountable] as well as for [singular] and [plural] points up the complexity of the grammatical issues involved. Count/mass or boundedness, to use Huddleston's (1984) term, is closely related to but does not coincide entirely with morphological number: *surroundings* is morphologically plural but semantically refers to something that cannot be counted; *water* cannot be counted in any conventional sense but does have a morphological plural, *waters*, which is listed in both *LDOCE* and in *Macmillan*.¹ The choice of the word "noun" in the front matter explanations of the grammar codes seems odd when in many cases it is an individual sense, and not all senses of polysemous nouns, that is labelled [C] or [U].

Although the definitions of the labels [countable] and [uncountable] clearly suggest that a noun or sense of a noun cannot be labelled both [countable] and [uncountable], examination of learners' dictionaries reveals that there are many such entries. Users are likely to be confused by entries like the following, which imply that the noun has a singular and a plural form and, at the same time, occurs only in the singular and has no plural:

Sample entry from *LDOCE*: *CHECK*

5 PATTERN [C,U] a pattern of squares, especially on cloth: *a shirt with brown and black checks* | check suit/jacket etc (= made with cloth patterned with checks) *a blue cotton check dress* → **checked**

The main difficulty, we feel, is that the dictionaries, in striving to provide simple, easy-to-understand explanations and representations for count/mass, have simplified a complex grammatical issue too much, particularly when the expected audience is advanced learners (such simplification may be justified at initial stages of language learning; we do not address that issue here). In the entry above, the [uncountable] use of *check* is related to its function as a noun modifier and thus linked to its prenominal position. Most canonical count nouns in English occur in the singular when they serve as noun modifiers (e.g. *book fair*, *program manager*, *dress shop*; *parks commissioner* and *systems analyst* are two often cited exceptions to the general rule in the linguistics literature (e.g. Kiparsky 1982)). That information is not readily available from the dictionary representation of count/mass grammar, although it is surely important to advanced learners.

It has been our experience that users tend to interpret labels as an "all or nothing" enterprise: labels do not lend themselves to gradient interpretations. We therefore question the usefulness of labelling a single sense as both [countable] and [uncountable], because the information will appear to be contradictory, even in the optimal case of a user who fully understands the grammar codes.

2.2 Count/Mass in other English dictionaries

The practice of labelling a noun or sense of a noun for count/mass has been adopted by other types of dictionaries. Although most English dictionaries aimed at native speakers that we have checked do not include this information, one dictionary that has incorporated such a label is the *New Oxford Dictionary of English (NODE)*, which is known to incorporate several features of pedagogical lexicography.

Sample entries from *NODE*

CONSTRUCTION

► **noun** [mass noun] the building of something, typically a large structure: there was a skyscraper *under construction*. ■ such activity considered as an industry. ■ the style or method used in the building of something: *the mill is of brick construction*. ■ [count noun] a building or other structure. ■ the creation or formation of an abstract entity: *language plays a large part in our construction of reality*. ■ [count noun] an interpretation or explanation: *you could put an honest construction upon their conduct*. ■ Grammar the arrangement of words according to syntactical rules: *sentence construction*.

EQUIPMENT

► **noun** [mass noun] the necessary items for a particular purpose: *suppliers of office equipment*. ■ The process of supplying someone or something with such necessary items: *the construction and equipment of new harbour facilities*. ■ mental resources: *they lacked the intellectual equipment to recognize the jokes*.

Whereas the learners' dictionaries define the count/mass parameter principally in terms of singular/plural morphology, the front matter of the *NODE* carefully phrases its remarks in terms of 'ordinary use':

Explanation of terms relating to nouns in the *NODE*: [**mass noun**]

Used to mark those nouns (and senses of nouns) which are not ordinarily used in the plural and are not used in the singular with the indefinite article 'a' [...]. Occasionally, a mass noun may be used in the plural, with the sense 'different types of X' or portions of X', as in *the panel tasted a range of bacons*.

[**count noun**]: used to mark those nouns (and senses of nouns) which can take a plural and can be used with 'a', where this is in contrast with an already stated mass noun. By default, in this dictionary all nouns are to be regarded as count nouns unless stated otherwise.

Although this information explicitly relates count/mass to singular/plural noun morphology, it does not exclude the exceptional case. Importantly, the front matter includes reference to the 'different types of X' sense, which was absent from the learners' dictionaries.

3. Count/mass in dictionaries of other languages: the Spanish case

3.1 Mass nouns in Spanish.

The count/mass parameter in Romance languages in general does not coincide with the English facts, either in terms of the lexical items classified (e.g. Sp. *equipo, equipos*; Fr. *information, informations*; Eng. *equipment, *equipments; information, *informations*) or in terms of syntactic behavior. Our discussion will concentrate on this issue in relation to Spanish, although we believe that our analysis of the differences involved can be easily extended to other Romance languages.²

The count/mass parameter in Spanish is usually described both in terms of syntactic behavior and morphological form (Bosque 1999). Mass nouns, which tend to occur in the singular, can be used without any determiner in a noun phrase, whereas count nouns occur both in the singular and the plural and require a determiner when used in the singular:³

Sp. *Necesito dinero*. 'I need money.'

Sp. *Necesito *libro*. 'I need book.'

Sp. *Necesito un libro*. 'I need a book.'

Sp. *Necesito libros*. 'I need books.'

It proves impossible to divide the Spanish lexicon into two different groups, mass nouns as opposed to count nouns, for a number of reasons. First, as noted by Bosque (1999: 15), most mass nouns that refer to substances in Spanish can also be used to refer to an individual item of the substance, i.e. mass nouns can be recategorized as count nouns and thus have both singular and plural forms. Unlike English, no individualizing noun is necessary, as can be seen in the following examples:

Sp. *papel* 'paper': *Necesito un papel*. 'I need a piece/sheet of paper.'

Sp. *madera* 'wood': *Compramos las maderas para hacer la estantería*. 'We bought the /pieces of wood/planks/*woods/ to make the shelves.'

Sp. *crystal* 'glass': *Había muchos cristales rotos en la carretera*. 'There were /many pieces of broken glass/a lot of broken glass/*many glass/*many glasses/ on the road.'

A second difficulty is that the grammar of Spanish allows mass nouns in the plural as long as the reading is "various categories of [mass] noun". For example, the sentence *Los vinos del Priorat se aprecian en todo el mundo* 'Wines from the Priorat are valued the world over' implies that several types of wine are produced in the Priorat, whereas *el vino del Priorat se aprecia en todo el mundo* conceives of *el vino del Priorat* as an indivisible whole. The 'different types of noun' sense requires the morphological plural and is not stylistically marked or rare. Finally, a few high frequency mass nouns are often used in the plural for stylistic effect although there is no denotative contrast with the singular use (e.g. *arenas* 'sands'; *tiempos* 'times'). The combination of these three factors, and particularly the widespread application of lexical recategorization, blurs the count/mass distinction at the level of lexical structure.

3.2 Mass nouns in Spanish dictionaries

Spanish monolingual dictionaries traditionally have not labelled senses of nouns as being count or mass. The Spanish Royal Academy *Diccionario de la lengua española* (*DRAE*) does not discuss the issue at all. In general, the *DRAE* does not always make fine sense distinctions for derived meanings and consequently many derived meanings are not individually listed, even if the grammar of the derived sense differs from that of the original sense. An example of this practice can be seen in the Academy's practice of defining deverbal nouns with the phrase '*acción y efecto de verbo*': it is almost always the case that the *acción* 'action' is uncountable whereas the *efecto* 'effect' is countable (e.g. '*acción y*

efecto de construir: the ‘*acción*’ sense refers to construction as an activity and is treated grammatically as a mass noun, while the ‘*efecto*’ sense refers to the result, a building, and is grammatically a count noun).

The *Diccionario Salamanca de la lengua española (Salamanca)*, a learners’ dictionary for non-native speakers, breaks with the *DRAE* tradition by adopting the English-inspired labelling system, using [*contable*] and [*no contable*]. This dictionary provides the following definition for the label (*Salamanca*: VIII-IX):

Contable/no contable. Siempre que no se han planteado excesivas dificultades se han marcado los sustantivos como *contable/no contable*. Las ventajas de disponer de esta información parecen claras. En primer lugar, el usuario puede despreocuparse del plural morfológico en el caso de que el sustantivo esté caracterizado como no contable en una acepción. En segundo lugar, en muchos casos diferencian semánticamente dos acepciones: el significado diferente se apoya solamente en esta oposición. En los casos frecuentes en los que hay razones para discutir si el uso concreto de un sustantivo es contable o no en una acepción, se ha prescindido de la caracterización.

The editor’s acknowledgement that the label has only been applied in certain cases would not seem to argue for systematicity in the dictionary. Furthermore, we question the validity of stating that learners’ do not need to be concerned with the plural form of mass nouns, when the plural form is used for the “different types of X” sense, as stated above.

Treatment of count/mass varies in other Spanish dictionaries. The *Diccionario de uso del español* and the *Diccionario del español actual* do not use labels for this issue but indirectly provide information on it through extensive use of examples and citations. The recent *Diccionario de uso del español de América y España* includes a separate table entitled *Tipo de nombres* in which the grammatical behavior and semantics of count nouns are briefly contrasted with those of mass nouns. The inclusion of this sort of table is innovative in Spanish lexicography, and we reproduce the pertinent part of the table below:

<i>nombres contables</i>	<i>nombres no contables</i>
Cuando aparecen con cuantificadores, se indica el número de objetos que hay: <i>veinte libros, muchos problemas.</i>	Con cuantificadores ³ se indica la cantidad, pero no el número: <i>mucho agua, poca mantequilla.</i>
En plural, denotan una colectividad de objetos: <i>los libros</i> denota varios objetos de la clase libro.	En plural, denotan distintas clases o porciones de la materia: <i>los vinos</i> significa distintos tipos o botellas de vino.
Como objeto del verbo en singular, requieren determinante: <i>quiero un libro.</i>	Como objeto del verbo en singular, pueden ir sin determinante (y designan la materia <i>quiero agua</i>) o con determinante (y designan porciones o clases: <i>quiero un agua</i>).
Como complemento preposicional, indican algo distinto de la materia de la que está hecha algo: <i>mesa de trabajo.</i>	Como complemento preposicional, indican la materia de la que está hecha algo: <i>mesa de vidrio.</i>

(3) Los nombres no contables no admiten cuantificadores numerales (*cuatro, veinte*) pero sí indefinidos (*mucho, poco*). Algunos admiten cuantificadores numerales, pero entonces designan porciones cuantificables o clases (*un café* es una taza o un tipo de café). Esta diferencia entre materia, por un lado, y porción o clase, por otro, es la misma que se observa entre singular y plural o entre el uso con y sin determinante.

Table 1. Portion of Grammar Table, Diccionario de uso del español de América y España

The fact that the count/mass parameter has received little attention in Spanish lexicography led us to suspect that these recategorized, count senses of what are usually considered only mass nouns were poorly represented in Spanish dictionaries. We analyzed several examples of this type in six Spanish dictionaries. The entries analyzed are summarized in the following tables, in which (a, b, c, d) refer to senses looked up in the dictionary and the abbreviations used for the dictionaries are as follows:

- DRAE = *Diccionario de la Real Academia Española*
- DUE = *Diccionario de uso del español*
- Salamanca = *Diccionario Salamanca de la lengua española*
- CLAVE = *Clave. Diccionario de uso del español actual*
- DEA = *Diccionario del español actual*
- DUEAE = *Diccionario de uso del español de América y España*

Sense looked up	DRAE	DUE	Salamanca	CLAVE	DEA	DUEAE
a) substance	yes	yes	yes	yes	yes	yes
b) count noun: bottle of water	no	no	no	no	no	no*
c) <i>aguas</i> (mass noun but with plural morphology)	yes	yes	yes	yes	yes	yes

* Given in the grammatical table “*tipo de nombres*” although not found under the entry *agua*

Table 2. Senses of *agua* ‘water’ listed

Sense looked up	DRAE	DUE	Salamanca	CLAVE	DEA	DUEAE
a) substance	yes	yes	yes	yes	yes	yes
b) drink made with the substance	no	no	yes	no	yes	no
c) count noun: cup or measure of expresso coffee	no	yes	no	no	no	no

Table 3. Senses of *café* ‘coffee’ listed

Sense looked up	DRAE	DUE	Salamanca	CLAVE	DEA	DUEAE
a) liquid	yes	yes	yes	yes	yes	yes
b) glass or mug containing this liquid	no	no	yes	no	yes	no
c) count noun: 33 cl bottle containing this liquid, contrastive with <i>caña</i> , small glass of draught beer	no	no	no	no	no	no

Table 4. Senses of *cerveza* ‘beer’ listed

Sense looked up	DRAE	DUE	Salamanca	CLAVE	DEA	DUEAE
a) substance	yes	yes	yes	yes	yes	yes
b) piece of this substance	no	yes	no	no	yes	yes
c) sheet of substance that fills a window	yes	yes	yes	yes	yes	yes
d) count noun (pl): eyeglasses	no	yes*	no	no	no	yes

*Plural with a different meaning: set of window panes in a building.

Table 5. Senses of *crystal* ‘glass’ listed

	DRAE	DUE	Salamanca	CLAVE	DEA	DUEAE
a) substance	yes	yes	yes	yes	yes	yes
b) piece of that substance	no	no	no	yes	yes	yes
c) weapon made out of the substance	yes	yes	yes	yes	yes	yes
d) count noun: dental braces	no	no	yes	no	no	yes

Table 6. Senses of *hierro* 'iron' listed

Sense looked up	DRAE	DUE	Salamanca	CLAVE	DEA	DUEAE
a) substance	yes	yes	yes	yes	yes	yes
b) count noun: cut piece of this substance	yes	yes	yes	no	yes	yes
c) in music, set of wind instruments; also used in plural: <i>maderas</i>	yes	no	yes	yes	yes	yes*

*There is no indication that the plural is used with the same meaning

Table 7. Senses of *madera* 'wood' listed

	DRAE	DUE	Salamanca	CLAVE	DEA	DUEAE
a) substance	yes	yes	yes	yes	yes	yes
b) count noun: sheet or piece of paper	yes	yes	yes	yes	yes	yes
c) role, as in theater	yes	yes	yes	yes	yes	yes
d) used in the plural: documents	yes	yes*	yes	yes	yes	yes

*The definition of this sense does not indicate that the plural is used, although the example given contains the plural form: *Tiene sus papeles en regla*.

Table 8. Senses of *papel* 'paper' listed

These few examples show that Spanish dictionaries need to improve representation of lexicalized count uses of mass nouns; e.g., the (b) sense of *agua* and the (c) sense of *café* are extremely common in actual usage but absent from the dictionaries we checked. Since these meanings are stable in the speech community, it is our opinion that they should be present in monolingual dictionaries. Better representation of these senses does not involve putting more grammatical information in the entries, but rather making finer sense distinctions, making better use of examples and including senses that are perhaps more characteristic of oral (although not necessarily informal) language.

4. Suggestions to improve the representation of count/mass in Spanish dictionaries

The grammar of nouns in Spanish (and in English, obviously) is a multifaceted issue that presents difficulties for dictionary entries because it involves several morphological and syntactic characteristics. Two features of the grammar of count/mass in Spanish, recategorization of mass nouns to count nouns and use of the plural of mass nouns to refer to several categories of the substance or abstract entity, do not lend themselves to representation with a label that is directly related to singular/plural morphology. We believe a system better adapted to the grammar of Spanish is that adopted for French in the *Dictionnaire du français*, in which the uncountable sense is preceded by the definite article and the count sense is preceded by the indefinite article, which is also the number one, as shown in the following entry:

Sample entry from *Dictionnaire du français*: **CONSTRUCTION** [pron] n.f.

I. **LA CONSTRUCTION**: action de construire. *La construction de la maison a été rapide.* → **édification**. L'architecte inspecte l'immeuble **EN CONSTRUCTION**, en train d'être bâti (contraires: démolition, destruction) *La pierre, le buis, le béton, le métal son des MATERIAUX DE CONSTRUCTION. Mon fils joue avec son JEU DE CONSTRUCTION, un jeu fait d'éléments que l'on doit assembler pour construire qqch.*

II. **UNE CONSTRUCTION**. 1. Bâtiment construit. *Il y a beaucoup de constructions neuves dans le quartier.* → **bâtiment, édifice, immeuble, maison**. 2. Manière dont est élaboré qqch. *Étudions la construction de ce poème. La construction d'un mot.* → **formation**. 3. Place des mot dans la phrase. *Elle a fait une faute de construction. Connaissez-vous cette construction grammaticale?*

This system relates the count/mass parameter to article usage and not only to plural formation in the morphology. It implicitly refers users to the use of articles in French, which is discussed at length in French grammars and thus helps to place the burden of detailed grammatical explanation on grammars and not on dictionaries. Including determiners as a part of noun entries in learners' dictionaries would seem particularly suited to languages like Spanish with grammatical gender, and especially helpful information for those students whose native language does not contain gender as a lexical category.

Since the interplay between morphology and syntax can be generalized across nouns as a lexical category, tables like the one given in *DUEAE* are able to give users information about many nouns in very little space. In this particular case, the information in the table is a more accurate description of the language than the simplification signalled by a count/mass label. We note that in English learners' dictionaries *Macmillan* has adopted a similar editorial approach to several issues, although at this point it remains to be seen exactly how much and what sort of information editors are willing to summarize in tables.

5. Conclusions

In this paper we have considered the lexicographical representation of one aspect of noun grammar. As dictionaries aim to meet user needs associated with encoding, they have

increased the amount of grammatical information included in entries. We have questioned the usefulness of employing labels in Spanish dictionaries to describe the grammatical consequences of boundedness. The fact that both morphological and syntactic characteristics come into play means that a relatively simple labelling system will not provide an accurate description of the language. Although labels may be well suited to representing the count/mass parameter in English grammar, they do not necessarily lend themselves to the grammars of other languages.

Endnotes

1. It is rather surprising that *LDOCE* gives *water* as a canonical example of an uncountable noun when the noun *water* has a plural form with at least two commonly used senses (as in *international waters* and *breaking waters at the end of pregnancy*).
2. Bernal (2003) discusses similar facts in relation to Catalan.
3. See Bosque (1999) for a thorough discussion of noun syntax in Spanish.

Acknowledgements

The authors gratefully acknowledge that the work presented in this paper was supported by two grants from the Spanish Ministry of Science and Technology: BFF 2003-08043 "*La gramática de los sustantivos en los diccionarios bilingües y de aprendizaje*" (Principal Investigator, J. DeCesaris), and BFF 2003-07301 "*El tratamiento de la polisemia en el artículo lexicográfico*" (Principal Investigator, P. Battaner).

References

Dictionaries

- Clave. Diccionario de uso del español actual.* (C. Maldonado, ed.) 1997. Madrid: Ediciones SM.
- Diccionario del español actual.* (M. Seco, ed.) 1999. Madrid: Aguilar.
- Diccionario de uso del español.* (M. Moliner, ed.) 1968. Madrid: Gredos.
- Diccionario Salamanca de la lengua española.* (J. Gutiérrez Cuadrado, ed.) 1996. Madrid: Santillana.
- Diccionario de la lengua española.* Madrid: Real Academia Española and Espasa Calpe, 2001.
- Diccionario de uso del español de América y de España.* (Paz Battaner, ed.) 2002. Barcelona: Spes.
- Dictionnaire du français.* (J. Rey-Debove, e.) 1999. Paris: Dictionnaires Le Robert & CLE International.
- Longman Dictionary of Contemporary English.* (D. Summers, ed.) 2003. Harlow: Pearson Education.
- Macmillan English Dictionary for Advanced Learners.* (M. Rundell, ed.) 2002. Oxford: Macmillan Education.
- New Oxford Dictionary of English.* (J. Pearsall, ed.) 1998. Oxford: Oxford University Press.

Other references

- Bernal, E. 2003. 'La gramàtica dels noms de matèria als diccionaris'. Paper presented at the *III Jornada de Lexicografia*, Pompeu Fabra University, Barcelona.
- Bosque, I. 1999. 'El nombre común' in I. Bosque and V. Demonte (eds.), *Gramática descriptiva de la lengua española*. Madrid: Espasa Calpe. Volume I, pp. 3-75.

- Huddleston, R. 1984. *Introduction to the Grammar of English*. Cambridge: Cambridge University Press.
- Kiparsky, P. 1982. 'Lexical Phonology' in I. S. Yang (ed.), *Linguistics in the Morning Calm*. Seoul: Hanshin, pp. 3-91.
- Quirk, R. et al. 1985. *A Grammar of Contemporary English*. Harlow: Longman.