1. Introduction: El Cheapo and the Mating Problem

Fake-Spanish expressions like el cheapo reveal that English speakers need not know much Spanish in order to perceive, albeit dimly, a fundamental fact about the canonical form of Spanish adverbs, adjectives, nouns, pronouns, and determiners: they end in the vowel o more often than not. This is the conspicuous tip of a morphological iceberg that involves, in particular, grammatical gender and the vowels o and a in word-final position. For example:

(1) muchacho = 'boy'  muchacha = 'girl'
    abuelo = 'grandfather'  abuela = 'grandmother'
    nieto = 'grandson'  nieta = 'granddaughter'
    tío = 'uncle'  tía = 'aunt'

Sets of words like (1) are pet examples used in linguistics textbooks to illustrate the notion "morpheme," as the following passage illustrates:

(2) "... the form a occurs always and only as a suffix when the word refers to 'female', while the meaning 'male' occurs in conjunction with the suffix o. The linguist concludes from these correlations of form and meaning that it is probable, at least for this set of words, that Spanish has the morphemes a 'female' and o 'male'." (Falk (1978, 32))

These are the starting points of the present study: First, the set of examples in (1) is so impoverished as to support no general conclusion. The -a and -o in (1) belong to

I first drafted this paper in 1986 out of dissatisfaction with Harris (1985). The version that I circulated then excited no one, so I let it languish. I am updating and reissuing it now under the stimulus of Bromberger and Halle (1989), Halle (1989a, b1, and other work that reflects an infusion of new energy in the study of inflectional classes and related issues in morphology. I gratefully acknowledge helpful comments from an anonymous reviewer, Mark Aronoff, Sylvain Bromberger, Heles Contreras, Jorge Guitart, Morris Halle, José Ignacio Hualde, Philip Klein, Rafael Núñez, Iggy Roca, and Karen Zagora, all of whom are to be held blameless for my failings.

1 Essentially the same view is expressed in works as far separated in time and orientation as Nida (1949), Stockwell, Bowes, and Martin (1965, chap. 3), and Slot, Taylor, and Houdé (1978, chap. 9). Falk’s is the most concise statement of this view that I have found. Other relevant works are Anderson (1961), Echaide (1969), Murphy (1954), and Saporta (1962).
The meanings of words, such as *presidente* and *linguista*, are phonologically well-formed and actually exist (see §1.4.4). In fact, they are not the only ones that do. The system of gender-form associations in Spanish imposes certain restrictions. Consider the words in (4):

(4) Masculine Feminine

*premier* (presidente)

*profesora*

Of these words, *presidente* and *linguista* are phonologically well-formed and actually exist, but their gender is masculine. *Profesora*, on the other hand, is phonologically well-formed and exists, but it is not masculine. The reason is that the *-a* ending is common on feminine words, while the *-e* ending is common on masculine words. For example, *maestro* and *doctor* both exist, but *maestra* and *doctora* do not.

Note carefully that although all masculine words have comparable feminine forms (e.g., *ingeniero* and *ingéniera*), the reverse is not true. For example, *musica* and *música* both exist, but *musico* and *músico* do not.

It is accurate to say that words ending in *-a* are feminine and those ending in *-o* are masculine. This is not surprising because all nouns are of two genders. However, this property is phonological and not semantic. For example, *músico* is masculine, not because it means "musician," but because it is formed using the masculine gender rule. The same reasoning can be applied to *maestra* and *profesora*, which are feminine because they follow the gender rule for feminine nouns.

The fact that words with the same *-a* ending are always feminine and those with the same *-o* ending are always masculine is a simple linguistic fact. However, it can be misleading. For example, *viaje* and *viajero* are both masculine in Spanish, but *viaje* is a noun meaning "journey," while *viajero* means "traveler." The gender of a word is determined by its form, not its meaning. This is why gender is often learned before any other aspect of language, such as meaning, pronunciation, or syntax.

There are cases where the gender of a word can be predicted from its form. For example, words ending in *-ma* are masculine, while words ending in *-ma* are feminine. However, exceptions exist, so it is important to learn the gender of each word individually. This is why it is difficult to learn Spanish as a second language, as the gender of a word is often the only aspect of the word that is learned.

The gender of a word is often determined by its suffix. For example, *maestro* and *profesora* are both masculine because they end in *-e* and *-o*, respectively. However, *maestra* and *profesora* are both feminine because they end in *-a* and *-a*, respectively. This is why it is important to learn the gender of each word individually, as the gender of a word is often determined by its suffix.

In conclusion, the gender of a word is determined by its form, not its meaning. This is why gender is often learned before any other aspect of language, such as meaning, pronunciation, or syntax. The gender of a word is often determined by its suffix, as words ending in *-ma* are masculine, while words ending in *-ma* are feminine. However, exceptions exist, so it is important to learn the gender of each word individually.
phological redundancy rules that allow the full range of relevant morphophonological information to be predicted from maximally impoverished (morphologically underspecified) lexical representations. Finally, the remaining aspect of the “el cheapo” syndrome—the fact that Spanish nouns, adjectives, and so forth, canonically end in a vowel—is explicated in terms of a prosodic template of which one or more positions are filled, in the normal case, by a “word marker.”

The remainder of the article is organized as follows: Section 2 lays out and organizes the rich array of basic data. Section 3 provides an explicit analysis of these data, including proposals regarding lexical entries, constraints on lexical entries, and rules that relate gender classes to declensional classes, and declensional classes to phonological shape. Section 4 contains a summary and concluding remarks.

2. Survey of Data

The final vowels -o and -a illustrated in (1) and (3) belong to a set of seven or more morphemes that I call word markers, following Harris (1985). The primary morphological property of word markers is that their appearance marks a derivationally and inflectionally complete word; word markers cannot be followed by any other suffix, derivational or inflectional, except for plural -s. For example, the marker -a signals the end of the word democra-t+a ‘democrat’ and does not appear in democra-t+i+c ‘democratic’, whose word marker is -o. Neither marker appears in the infinitive democra-t+izar ‘to democratize’, since verbs do not have word markers.

The nouns, adjectives, and adverbs in (5) illustrate the most common word markers and their possible associations with gender:

<table>
<thead>
<tr>
<th>(5) Marker</th>
<th>Gender</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. -o</td>
<td>m only</td>
<td>muchacho</td>
</tr>
<tr>
<td></td>
<td>f only</td>
<td>mano</td>
</tr>
<tr>
<td></td>
<td>m or f</td>
<td>testigo</td>
</tr>
<tr>
<td></td>
<td>none</td>
<td>dentro</td>
</tr>
<tr>
<td>b. -a</td>
<td>f only</td>
<td>muchacha</td>
</tr>
<tr>
<td></td>
<td>m only</td>
<td>día</td>
</tr>
<tr>
<td></td>
<td>m or f</td>
<td>turista</td>
</tr>
<tr>
<td></td>
<td>none</td>
<td>fuera</td>
</tr>
<tr>
<td>c. -Vs</td>
<td>m only</td>
<td>Lucas</td>
</tr>
<tr>
<td></td>
<td>f only</td>
<td>síntesis</td>
</tr>
<tr>
<td></td>
<td>m or f</td>
<td>mochales</td>
</tr>
<tr>
<td></td>
<td>none</td>
<td>lejos</td>
</tr>
</tbody>
</table>

The complete inventory of word markers includes all the possibilities of $V/s(s)$, where $V$ can be any one of the five underlying vowels of Spanish, /a/ e i o u/, and parentheses indicate optionality. Nearly all marker shapes are found in words that are only masculine, words that are only feminine, words that can be either gender, and words with no gender at all (adverbs, see below). As implied by the two sets of parentheses in the marker formula $(V/s(s))$, some Spanish nouns, adjectives, adverbs, and determiners do not have word markers. Such words are common and manifest all the possibilities of gender seen in the various classes in (5). A sample is given in (6):

<table>
<thead>
<tr>
<th>(6) Gender</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. m only</td>
<td>padre</td>
</tr>
<tr>
<td></td>
<td>sol</td>
</tr>
<tr>
<td>b. f only</td>
<td>madre</td>
</tr>
<tr>
<td></td>
<td>col</td>
</tr>
<tr>
<td>c. m or f</td>
<td>amante</td>
</tr>
<tr>
<td></td>
<td>mártir</td>
</tr>
<tr>
<td>d. none</td>
<td>delante</td>
</tr>
<tr>
<td></td>
<td>atrás</td>
</tr>
</tbody>
</table>

As illustrated, the phonetic representations of words without a word marker typically end in a single coronal consonant or in [e]. Predictably, [e] appears after otherwise un syllable segments. For example, the sequences dr of padr-, madr- and nt of amant-, delan- are not permissible codas in Spanish; final [e] permits the acceptable syllabi
cations pa, dre, ma, dre, a, aman, te, de, lan, te. In contrast, sol, col, mártir, atrás are exhaustively syllableable without [e]. The stems hero-, pro-, and those of other words

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6 This work thus observes a clear distinction between morphological and phonological underspecification, Harris (1985) confluses the two, at least in exposition if not in substance.

7 For a more careful statement, see Harris (1983, 91-94).

8 If I am not mistaken, Stockwell, Bowen, and Martin (1961) were the first to discern that the -e in (6) is an empty syllable carrier” (p. 43). The latter work (whose first draft appeared years before the published version) contains precursors of several other ideas in the present study.
of type (5g) are also fully syllifiable without a final vowel. Yet they have one: heroe, prole. This phonologically unpredictable -e must then be due to some sort of lexically marked irregularity.9

Both (1) and (5)-(6) obfuscate the true nature of the system of gender exponence in Spanish: (1) is hopelessly simplistic; (5)-(6) reveal something about the complexity of the data but give no clue about where any systematicity lies. There are, in fact, two axes of systematicity. One, there are generalizations particular to each of the categories of words that bear word markers (nouns, pronouns, determiners, adjectives, and adverbs). Two, the examples in (5)-(6) are not all on a par; rather, they fall naturally into three hierarchically related classes: an inner core of prototypes, illustrated in (1); an outer core of slightly deviant cases, namely, the class of markerless words illustrated in (6); and a motley residue. This hierarchy is illustrated in table 1.

In the inner core the suffix -o is invariably attached to masculine stems and the suffix -a is invariably attached to feminine stems, in words of both animate and inanimate reference. Words in the outer core are those that do not have word markers (but may have [e] for syllabicity). It is thus logically impossible for them to manifest any correlation between word marker and grammatical gender. In fact, the outer core contains masculine and feminine words in approximately equal numbers, as well as genderless words. The residue contains all words not in the core.

Inner and outer core are grouped together in table 1 as regular cases in opposition to the irregular residue—that is, as the unmarked as opposed to the marked case, in some technical sense that remains to be clarified. Several asymmetricities support this primary partitioning. First, numerical preponderance. The vast bulk of nouns, adjectives, and adverbs in Spanish belong to the core. The residue is relatively small overall, and its subclasses are tiny for the most part. For example, the subclass of feminine nouns with word marker -a contains the single item tribu 'tribe'. The largest subclass is that of masculine words with marker -o, which contains about 600 nouns and a fair number of adjectives.10 The other subclasses cluster toward the smaller rather than the larger end of this range.

Second, productivity. Inner and outer core are productive in the sense that both accept loanwords and other types of neologisms freely. The residue has only a limited ability to house neologisms. Indeed, this is close to tautologous: a potential new word is rarely considered 'really Spanish' unless it adheres to the canonical patterns of the core.

Third, historical drift. Words tend to migrate over time from the residue into the core. For example, residual feminine tribu has become core masculine tribu; in some dialects of the southwestern United States, and residual masculine idioma 'language' has become regularly feminine in other dialects. There is no systematic migration from core to residue.11

Relative markedness is not so obvious in the secondary partitioning between inner core and outer core. I know of no clear pattern of diachronic migration between the two, and both seem to accept loans and other neologisms with equal ease. The only asymmetry is in numbers: inner core words outnumber outer core words by about two to one.

We now survey each of the categories—nouns, pronouns, determiners, adjectives, adverbs—to which word markers may attach. I will start with adverbs, about which there is least to say.

### 2.1. Adverbs

Spanish adverbs have no intrinsic component of meaning related to sex, and they do not enter into the gender system of Spanish in any way: they have no lexical gender, and they do not participate in gender concord. Adverbs do, however, have word markers that display precisely the same distinctive morphological behavior as the word markers of nouns and adjectives. For example:

\[(7) \text{ a. } \text{dentro} \quad \text{adverb, (5a))} \quad \text{inside}\]

\[\text{a + dentro + ar \quad \text{(verb) \quad to penetrate}}\]

\[\text{a + dentro + ar}\]

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9 This will be discussed in more detail below. For the moment, we can observe that this -e is not an integral part of the stem since it does not appear if the stem has another affix: for example, heroe + in + a (*heroe + in + a) 'heroin', héro + is + o (*héro + is + o) 'heroism'. There is no independently motivated rule that would delete such a stem-final vowel.

10 Teschner and Russell (1984) count 591 nouns of this sort, most of them in common use; no tally of adjectives (or of adverbs) is given.

11 In the case of tribu (m) and idioma (f), form has driven gender shift. It does not always go that way: for example, modisto (m/f) 'fashion designer' has spawned modista (m) 'male fashion designer'.
2.2. Adjectives

Like determiners and other noun modifiers, adjectives have no inherent gender; they do, however, show gender concord with the noun they modify, as illustrated in (8):

(8) a. Mi sobrín (m) es inteligente (m) ‘My nephew is clever’

b. Mi sobrina (f) es inteligente (f) ‘My niece is clever’

These examples provide another transparent illustration of the independence of gender and form; noun-adjective concord demands a match in gender; the form of the matching elements is irrelevant. As in the case of (7), this alone would force us to abandon the analysis proposed in (2) of word markers as direct exponents of gender (or sex), even if there were no other evidence against it.

Not surprisingly, most adjectives are prototypical inner core words with -o in the masculine and -a in the feminine, illustrated in (9a). Most of the rest are of the outer core type, which lack word markers, as illustrated in (9b). A small subtype illustrated in (9c) contains mostly but not exclusively “gentilic” adjectives, which have national, geographical, or ethnic reference; these have no word marker in the masculine but -a in the feminine. Finally, there is a residual type, illustrated in (9d), in which both masculine and feminine have the word marker -o.

What (9) does not contain is as important as what it does. In particular, the converses of (9c) and (9d) do not occur. That is, there are no pairs that differ from (9c) in that the masculine is in the inner core, with marker -o, whereas the feminine is in the outer core, with no word marker (for example, *grandote (m)/grandote (f)). Similarly, there is no adjective that differs from the (9d) type in that word marker -o is neutral with respect to concord. The fact is that every adjective with -o is masculine and only masculine.

In a different dimension, there is no adjective stem, whatever word marker it may take, that can be only masculine or only feminine.12 This is true even of adjectives of the sort illustrated in (10a), which for semantic or other reasons can be felicitously predicated only of a single noun or of a single type of noun. Such adjectives display, and must display, concord with any noun they are predicated of. This is easy to see in contexts in which the anomaly of the predication is neutralized, as illustrated in (10b):

12 Presumably, such monogeneric adjectives are excluded by Universal Grammar.
Es un disparate hablar de semanas \{bisistegis (f) \{bisistegis (m)\},

'It's nonsense to talk about leap weeks.'

No hay mareas (f) \{alisais (f)\},

'There are no trade tides.'

2.3. Nouns

Nouns are more complicated. They are more numerous than adjectives and display a greater variety both of word markers and of marker-genre associations.

2.3.1. Gender in Nouns. All Spanish nouns have lexical gender, either masculine or feminine (but not neuter). For nouns referring to humans, grammatical gender usually matches biological sex, as illustrated in (1)—but not always (see below). As illustrated in (11), the gender of other nouns is arbitrary: there is no correlation with either meaning (11a) or phonological shape of the stem (11b).\textsuperscript{13}

\begin{tabular}{llll}
\hline
\textbf{Masculine} & \textbf{Feminine} & \textbf{Nonhuman outer core (12a) and residual} & \\
\textbf{Masculine} & \textbf{Feminine} & \textbf{Nonhuman outer core (12a) and residual} & \\
\hline
\textbf{a.} & domicilio & residencia & 'home' 'residence' \\
& púbaro & ave & 'bird' 'bird' \\
& ostión & almeja & 'oyster' 'clam' \\
& asiento & silla & 'seat' 'chair' \\
& ratón & rata & 'mouse' 'rat' \\
& supo & rana & 'toad' 'frog' \\
\textbf{b.} & libro & libra & 'book' 'pound' \\
& caso & casa & 'case' 'house' \\
& paso & pasa & 'step' 'raising' \\
& palo & pala & 'stick' 'shovel' \\
\end{tabular}

2.3.2. Gender and Word Marker in Nouns. (12b) words belong freely to either gender:

\begin{tabular}{llll}
\hline
\textbf{Masculine} & \textbf{Feminine} & \\
\hline
\textbf{a.} & frente & frente & 'front' 'forehead' \\
& orden & orden & 'order' 'order' \\
& moral & moral & (succession) (command) \\
& corte & corte & 'blackberry' 'morality' \\
& pez & pez & 'cut' 'court' \\
\end{tabular}

There exists, however, a striking asymmetry among residual nouns. With nearly 600 exemplars, masculine nouns (human and nonhuman) with word marker -a constitute the largest single class in the residue. A sample is given in (13a). In contrast, there is just one guaranteed example of an invariably feminine noun with word marker -o in common use. This is mano 'hand', shown in (13b) along with all the other cases I know of, which are relatively exotic.

\begin{tabular}{llll}
\hline
\textbf{Masculine} & \textbf{Feminine} & \textbf{Nonhuman outer core (12a) and residual} & \\
\textbf{b.} & telegrama & 'telegram' & \\
& profeta & 'prophet' & \\
& poeta & 'poet' & \\
& dia & 'day' & \\
& problema & 'problem' & \\
& síntoma & 'symptom' & \\
& dramat & 'drama' & \\
& mapa & 'map' & \\
& approximately 600 others & \\
\textbf{Feminine} & \\
& dinamo/dinamo & 'dynamo' & \\
& virago & 'virago' & \\
& nao & 'ship' & \\
& libido/libido & 'libido' & \\
& mano & 'hand' & \\
& and no others\textsuperscript{14} & \\
\end{tabular}

This asymmetry in nouns is especially interesting in light of the fact, noted in connection with (8), that there are quite a few adjectives with word marker -a, but not one with word marker -o, that can be either masculine or feminine.

2.3.3. Mating in Nouns. A striking fact about nouns that refer to human beings is stated in (14):

(14) Human nouns are "mated": both a masculine and a feminine form exist for each human noun.

Exceptions to (14) are rare, and getting rarer every day, as we will see shortly. The

\textsuperscript{13} A few tiny pockets of partial predictability exist. For example, some stems refer to fruit when feminine and to the corresponding tree when masculine: cereza (f)cerro (m) 'cherry/ tree', manzana (f)manzano (m) 'apple/ tree', naranja (f)naranjo (m) 'orange/ tree', and a few others. Many fruit-tree pairs, however, are not related in this way; for example, higo (m)figuero (f) 'fig/ tree', membrillo (m)membrillo (m) 'quince/ tree'.

\textsuperscript{14} Fotografía (f) 'photograph' and motocicleta/motocicleta (f) 'motorcycle/motor scooter' are commonly shortened to foto (f) and moto (f), which look like examples of (13b). Their final -a, however, does not behave like a word marker.
classic case of human noun mating in Spanish is illustrated in (1). One might conclude from (1) that inner core human nouns are limited largely to kinship terms, but this is not true, as illustrated in (15a). Words like those in (1) and (15a) are prototypical and quite numerous. Other patterns of human mating are illustrated in (15b–g):

<table>
<thead>
<tr>
<th>Masculine</th>
<th>Feminine</th>
</tr>
</thead>
<tbody>
<tr>
<td>(15)</td>
<td></td>
</tr>
<tr>
<td>a. secretario</td>
<td>secretaria</td>
</tr>
</tbody>
</table>
| campe
tino      | camps
tina     | 'peasant' |
| cocinero     | cocina
era  | 'cook'     |
| criado       | criada     | 'servant'  |
| alumno       | alumna     | 'student'  |
| amigo        | amiga      | 'friend'   |
| b. estudiante | 'student' |
| intérprete   | 'interpreter' |
| cómplice     | 'accomplice' |
| esquil
dar       | 'Eskimo'   |
| can
ibal       | 'cannibal' |
| cóny
uge       | 'spouse' |
| mártir       | 'martyr' |
| joven        | 'young man' |
| c. (presid
te)ente | (presid
tenta) | 'president' |
| (sirivi
tente) | (sirivi
tenta) | 'servant' |
| (profes)
or | (profes)
ora | 'professor' |
| colegial     | colegiala  | 'student in a colegio' |
| doncel       | doncel
a | 'lad'/'lass' |
| monje        | monja     | 'monk'/'nun' |
| nene         | nena      | 'child' |
| jefe         | jefa      | 'chief' |
| d. duque      | duquesa   | 'duke'/'duchess' |
| poeta        | poetisa   | 'poet'/'poetess' |
| actor        | actriz     | 'actor'/'actress' |
| e. (aristó)
ocrata | (aristó)
ocrat a | 'aristocrat' |
| (artista)    | artist    | 'artist' |
| (monarch)    | monarch   | 'monarch' |
| camarada     | comrade   | 'comrade' |
| acrobata     | acrobat   | 'acrobat' |
| patriota     | patriot   | 'patriot' |
| suici
da     | (person who commits) suicide' |
| policía      | police    | 'police' |
| colega       | colleague |

These subtypes have the following characteristics:

(15b) No word marker (outer core); each can be either masculine or feminine. This set is large enough to defy exhaustive listing.

(15c) Outer core masculines (plus residual nene)\(^{13}\) mated to (inner core) feminines with word marker -a. This set is listable; it contains an arbitrary two or three of the many nouns with the suffix -ente, nouns with the derivational suffix -or, and a scattering of other stems. It is thus marked in some sense with respect to (15b).

(15d) Masculine and feminine related by derivational suffixation. This set is listable and relatively small.

(15e) Word marker -a; each can be either masculine or feminine. Contains nouns formed with -crat, -ist, and -arc as well as undervived stems. This set is sizeable and heterogeneous.

(15f) Word marker -o; each can be either masculine or feminine. Contains only the examples shown, so far as I know (but see immediately below), thus contrasting significantly in size with (15e).

(15g) Suppletive mates. List is exhaustive, barring oversight. Note that in the cases with -o and -a, the suppletive mate blocks the expected inner core mate.

Absolutely unmated noun stems that refer to humans—that is, exceptions to (14)——

\(^{13}\) Residual since n is a regular word-final coda, in which case -e is syllabically unwarranted.
are extremely rare. I can find only four totally solid cases in the entire lexicon of Spanish.  

16

(16) Masculine Feminine
marido *marida 'husband' 'wife'
criadero criadera 'baby'
persono persona 'person'
victima victima 'victim'

At this point some sociolinguistic comments are in order. The accelerating entry of women into previously male-dominated professions has led to radical dialectal and even idiolectal variation in the case of words like those in (17a):  

(17) a. (primer) ministro 'prime minister'
abogado 'lawyer'
quimico 'chemist'
gramatico 'grammarian'
ingeniero 'engineer'
medico 'doctor'
fisico 'physician'
musico 'musician'

b. Mi madre es un (m) buen (m) ingeniero (m).
un (f) buena (f) ingeniero (f).

'My mother is a good engineer.'

It is not possible to call a woman grammariant una gramaticana, or a woman musician una musica; the feminine forms gramaticana and musica are preempted by the abstract meanings 'grammar' and 'music'. But what do we call a woman prime minister, a woman engineer, and so on, where no such blocking effect obtains? Not all cases are uniform even for a given speaker, but one set of options for one particular case is shown in (17b). The most conservative option is all-masculine un buen ingeniero; the moderate option is una buena ingeniera, treating ingeniero as a member of the subtype illustrated in (15f); the most liberal option is una buena ingeniera, which assimilates ingeniero fully to the inner core class illustrated in (15a). This order of innovation to the goal of placing nouns in the inner core surely reflects a progression from maximum to minimum markedness in some sense.

2.4. Pronouns and Determiners

The set of pronouns and determiners in Spanish contains some special cases with respect to gender exponence (see table 2). Specifically, third person nominative pronouns, definite articles, and demonstratives exhibit a three-way contrast not found in nouns and

Table 2

<table>
<thead>
<tr>
<th>Masculine</th>
<th>Feminine</th>
<th>Neuter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nom. pronoun</td>
<td>el</td>
<td>ella</td>
</tr>
<tr>
<td>Article</td>
<td>el</td>
<td>la</td>
</tr>
<tr>
<td>Demonstrative</td>
<td>este</td>
<td>esta</td>
</tr>
<tr>
<td></td>
<td>ese</td>
<td>esa</td>
</tr>
<tr>
<td></td>
<td>aquel</td>
<td>aquella</td>
</tr>
</tbody>
</table>
3.1 Basic Machinery

As illustrated in (5) and (6), each of the declensional classes of Spanish—that is, each set of nominative singular forms—has one or more specific forms.

<table>
<thead>
<tr>
<th>Class</th>
<th>Gender</th>
<th>feminine</th>
<th>neuter</th>
<th>masculine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a</td>
<td>f</td>
<td>unnamed</td>
<td>m/n</td>
</tr>
<tr>
<td>2</td>
<td>b</td>
<td>f</td>
<td>unnamed</td>
<td>m/n</td>
</tr>
<tr>
<td>3</td>
<td>c</td>
<td>f</td>
<td>unnamed</td>
<td>m/n</td>
</tr>
</tbody>
</table>

Table 1: Gender.

b. Meaning

<table>
<thead>
<tr>
<th>Class</th>
<th>UK stem</th>
<th>Grammatical Category</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>book</td>
<td>noun</td>
<td>m/f/n</td>
</tr>
<tr>
<td>2</td>
<td>name</td>
<td>noun</td>
<td>m/f/n</td>
</tr>
<tr>
<td>3</td>
<td>name</td>
<td>noun</td>
<td>m/f/n</td>
</tr>
</tbody>
</table>

Table 2: Gender.

2.5 Summary

The analysis of masculine nouns suggests that the masculine form is not a property that is inherent to the noun, but rather that it is a property of a set of forms, and so it is a property of a set of forms. Furthermore, it is indicated that only some members of the set have the property.

Analysis

The fundamental strategy of an investigation that aims to give an insightful analysis of the formal and word order of Spanish is to account for the differences in the forms of masculine and feminine nouns, which are recognized as having formal autonomy.

Table 3: Gender.

<table>
<thead>
<tr>
<th>Noun</th>
<th>Pronoun</th>
<th>Adverb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>reference</td>
<td>Gender concord target</td>
</tr>
<tr>
<td>(Sa-c)</td>
<td>(Sa-b)</td>
<td>(Sa-a)</td>
</tr>
<tr>
<td>(6)</td>
<td>(6)</td>
<td>(6)</td>
</tr>
</tbody>
</table>

Table 3: Gender.

There is little doubt that masculine is the unmarked or default gender in Spanish.

[20] a. Terms demasiados (m) ‘paras’ en en parado;

b. Por ejemplo, mírate (m) ‘para’ en este tipo...

The metalinguistically mentioned phrase para for is inherently genderless and cannot transfer gender from the quantifier. Immediate modifications to the demonstrative phrase do not affect gender. Yet these modifications show ambiguous masculine concord, not neutral.

[21] a. Juan (m) ‘paras’ en en parado;

b. Juan (m) ‘para’ en este tipo...

The metalinguistically mentioned phrase para for is inherently genderless and cannot transfer gender from the quantifier. Immediate modifications to the demonstrative phrase do not affect gender. Yet these modifications show ambiguous masculine concord, not neutral.
In the limited extent that discussion of gender is explicit, it is claimed in the literature—particularly in Spanish—

... the phenomenon is interpreted as marked or default gender linguistic forms. However, the phenomenon is not limited to gender

...—it is a common feature of many languages. In Spanish, for example, the feminine gender is indicated by the use of the articles 'la'

... and 'las', and the plural form of feminine nouns is typically marked by the use of the definite article 'las'. This linguistic feature is considered to

... be universal and is found in many Romance languages. Similarly, in Romance languages like Italian and French, the feminine gender is indicated by

... the use of specific grammatical forms, such as feminine singular nouns being marked with an accent on the final syllable. These linguistic features are considered

... to be inherent to the language itself and are not arbitrary. The same is also true for other gender systems, such as the masculine gender in

... Spanish, which is marked by the use of the articles 'el', 'los', and the plural form of masculine nouns is typically marked by the use of the

... definite article 'los'. This linguistic feature is considered to be universal and is found in many Romance languages. Similarly, in Romance languages like Italian and French, the masculine gender is indicated by the use of specific grammatical forms, such as masculine singular nouns being marked with an accent on the final syllable. These linguistic features are considered to be inherent to the language itself and are not arbitrary.

The phonological manifestation of word markers is provided by the 'spell-out' rule

... marker realization rules supply feature values for underspecified morphological information. Marker realization rules are designed to make up for certain

... features or underspecified morphological information that is missing in the input.

... for words that carry no markers, words that are marked but not gender marked, and words that are gender marked. The

... underspecified morphological information is specified by the realization rules. These rules are designed to assign values to the

... underspecified features in the input. For example, the realization rules may specify that a word that is underspecified for gender

... should be marked as masculine or feminine. The realization rules are designed to be context-dependent, so that the morphological

... information specified by the rules reflects the context in which the word is used. For example, in Spanish, the realization rules specify that

... words that are not marked for gender should be marked as masculine, while words that are marked for gender should be marked as

... feminine. This is because the gender information is not always explicit in the input, so the rules must assign values to the underspecified

... features based on the context. The realization rules are also designed to be context-invariant, so that the same rules apply in different

... contexts. For example, the rules for specifying gender information are the same whether the word is in a noun phrase or in a verb phrase.

The realization rules are designed to be context-independent, so that the same rules apply in different contexts. For example, the rules for specifying gender information are the same whether the word is in a noun phrase or in a verb phrase. The rules are also designed to be context-invariant, so that the same rules apply in different contexts. For example, the rules for specifying gender information are the same whether the word is in a noun phrase or in a verb phrase. The rules are also designed to be context-independent, so that the same rules apply in different contexts. For example, the rules for specifying gender information are the same whether the word is in a noun phrase or in a verb phrase.
3.2. Adverbs

All but the two rarest of the seven declensional classes illustrated in (5) contain adverbs, as does the class of markerless words illustrated in (6). In no adverb, however, can class affiliation be predicted on the basis of biological/semantic sex or gender. The reason is simple: no adverb has these properties lexically or ever acquires them syntactically. Lexical entries of the various cases are illustrated in (24a); the application of relevant morphological and phonological (syllabification) rules to these lexical entries is shown in (24b).

Since adverbs neither have gender lexically nor acquire it through concord, Feminine Marker has no input. Marker Realization, on the other hand, applies in the expected fashion—exactly as in (23)—as do the rules of syllabification. I delay discussion of the anomalies in apenas and adrede until we reach the more ample context of sections 3.4.1 and 3.6.

3.3. Adjectives

The primary generalizations about concord, gender, and form classes of adjectives set forth in section 2.2 are summarized for convenience in (25):

(25) a. No adjective stem is marked lexically for gender (as either exclusively masculine or exclusively feminine).
    b. Gender in adjectives is supplied through concord.
    c. Many adjectives have -e for both genders.
    d. No adjective has -o for (both masculine and) feminine.

Generalization (25a) can be registered formally by means of the filter shown in (26), which is presumably just the Spanish instantiation of a principle of Universal Grammar:

(26) Constraint on Lexical Entries

\[[\text{Adj.}]\]

---

22 The intended interpretation of the notation is this: concord with a masculine noun changes nothing (indicated by the ditto marks); concord with a feminine noun adds the feature f to the set of lexical properties of the adjective.

23 The -e of apenas places this word in the residue (see 5c) and table 1. The stem-final voiced coronal -d of adrede- is a normal word-final coda; thus, the word-final -e of adrede is not needed for syllabification.
Generalization (25c), on the other hand, requires that many adjective stems be specified lexically for declensional class. Thus, the lexical entries of the class of adjectives illustrated in (9d) are as shown in (27):

<table>
<thead>
<tr>
<th>Meaning</th>
<th>belga</th>
</tr>
</thead>
<tbody>
<tr>
<td>UR of stem</td>
<td>/belg/</td>
</tr>
<tr>
<td>Category</td>
<td>A</td>
</tr>
<tr>
<td>Gender</td>
<td>ja</td>
</tr>
<tr>
<td>Class</td>
<td>ja</td>
</tr>
</tbody>
</table>

As stated in (25d), Spanish systematically lacks adjectives ambiguous with respect to gender that have word marker -o. This fact is explained by the proposal that -o is the unmarked case, literally. If there were a lexical diacritic [jo] parallel to [ja] and [ja], then adjective stems could bear this diacritic as a lexical peculiarity. In that case there would be no natural way of ruling out the set of forms that do not occur. The nonexistence of such a diacritic thus has exactly the desired consequences.

What of the small idiosyncratic class (9c) of “gentilic” adjectives (with largely but not exclusively geographical/national/ethnic reference) that have no word marker in the masculine but -a in the feminine? I propose that this double peculiarity (most masculine adjectives have marker -o; most masculines without a marker are paired with identical feminines) be marked lexically by supplying stems with a special diacritic g (mnemonic for “gentilic”) that triggers the redundancy rule shown in (28):

(28) Gentilic Rule

\[ g \rightarrow \begin{cases} 
  [ja] & \text{(/agricola/)} \\
  [jo] & \text{(elsewhere)} 
\end{cases} \]

The Gentilic Rule supplies the diacritic [ja] to feminine “gentilics” and exempts masculines (by disjunctivity) from Marker Realization. No further machinery is required for adjectives. A sample derivation of each class in (9) is given in (29):

<table>
<thead>
<tr>
<th>Lexical entries</th>
<th>crudo/a</th>
<th>verde</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word form</td>
<td>/crudo/</td>
<td>/verde/</td>
</tr>
<tr>
<td>Gender</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Class</td>
<td>ja</td>
<td>jos</td>
</tr>
<tr>
<td>Concord</td>
<td>*</td>
<td>/crudo/</td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>/berd/</td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>f</td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>jos</td>
</tr>
</tbody>
</table>

3.4. Nouns

3.4.1. Core Nonhuman Nouns. The descriptive apparatus developed up to this point for adverbs and adjectives is also necessary and sufficient for nonhuman nouns, and it evidently provides the basis for exactly the right set of descriptive generalizations. This is illustrated in the sample lexical entries shown in (30), where only immediately relevant lexical properties are given:

<table>
<thead>
<tr>
<th>Lexical entry</th>
<th>UR</th>
<th>Gender</th>
<th>Marker</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. libro</td>
<td>/libr/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. libro</td>
<td>/libr/</td>
<td></td>
<td>f</td>
</tr>
<tr>
<td>c. orden</td>
<td>/orden/</td>
<td></td>
<td>jos</td>
</tr>
<tr>
<td>d. orden</td>
<td>/orden/</td>
<td></td>
<td>f</td>
</tr>
<tr>
<td>e. drama</td>
<td>/dram/</td>
<td></td>
<td>ja</td>
</tr>
</tbody>
</table>
Libro exemplifies the class of masculine inner core nouns. Gender and word marker class are unspecified; default word marker -o is supplied by Marker Realization.

Libra exemplifies the class of feminine inner core nouns. Gender is specified; word marker class is not. Rule (21), Feminine Marker, predicts word marker -i from marked gender; Marker Realization guarantees the phonological shape /a/ for the word marker.

 Orden (30c) exemplifies the class of masculine outer core nouns. Gender is unspecified; word marker class is specified as ]i which exempts the stem from Marker Realization.

 Orden (30d) exemplifies the class of feminine outer core nouns. Gender is marked; word marker class is specified as ]i which exempts the stem from Marker Realization.

 Drama exemplifies the class of residual masculine nouns with word marker -a. Gender is unspecified; marker class is idiosyncratically specified as ]a, which triggers Marker Realization to guarantee word marker -a.

This array of descriptive mechanisms hits a stone wall when it comes to providing a lexical representation for the feminine nonhuman noun manó and its exotic companions náño, vínago, dinamón/dinamo, and libido/libido. Feminine gender can (and must) be specified with the feature f, but the proposed mechanisms cannot attach word marker -o to the stems in question. This is exactly as it should be: feminine forms with word marker -o fall outside the systematic possibilities of Spanish morphology. As noted above, the truly exceptional character of such forms is reflected in great clarity in the whopping imbalance of about 600-to-1 between masculine nouns with -a (which are themselves marginal!) and feminine nouns with -o, along with the parallel disparity in adjectives. In formal terms, my claim is that feminine nouns and adjectives with -o are outside the morphological system of the language in the sense that the relevant rules of this system—namely, Feminine Marker and Marker Realization—do not automatically generate this word marker as they do in core masculine forms. Lexical entries must be provided with a phonological representation for the word marker -o attached to feminine stems: the lexical entry of manó is essentially [(mano)stem] +o. Of course, I assume some theory of phonological underspecification, but the -o of manó is treated like any other underlying /o/: its missing features are filled in by phonological redundancy rules—the morphological spell-out rule Marker Realization has nothing to do with it.

The same is true for the small groups of nouns with word markers -i, -a, and -s: all phonologically nonredundant features must be specified in lexical entries. The set of words like héroe illustrated in (5g) merits special comment. It is more than obvious that the final -e of these words is not required for full syllabification of the stem:

(31) a. hé.ró.e ‘hero’ o.bo.e ‘obe’
    b. hé.ró+i o.bo+i ‘oibo’

The derived words in (31b) illustrate that the final -e here, in addition to being unnecessary for syllabification, is not an integral part of the stem but rather displays the syndrome of morphological behavior of a word marker. The derivation of words with syllabically anomalous -e is discussed further in section 3.6.

3.4.2. Core Human Nouns. We turn now to human nouns. I propose the redundancy rules in (32) as the grammatical mechanisms responsible for two fundamental observations made in section 2.3, namely, that in human nouns grammatical gender matches biological sex (with extremely rare exceptions to which we return below) and that both a masculine and a feminine form exist for each human noun.

(32) a. Human Gender
    ‘female’ → f / ___ {‘human’}

b. Human Cloning

The effect of Human Cloning is this: for every lexical entry L of a noun stem that contains the semantic specification ‘human’ without specification of sex, Human Cloning replaces L with a pair of entries Lm and Lf, each identical to L except for the addition of the semantic specifications ‘male’ and ‘female’, respectively. Of course, Human Cloning is not deeply explanatory; it simply encodes the observation made in English prose in (14). As a structure-building redundancy rule, however, it has the desirable formal property of blocking when its output would duplicate corresponding elements of an existing lexical entry. Consider, for example, the entries in (33), which exemplify the set of suppletive mates illustrated in (15g):

(33) Meaning padre madre yerno nuera
    ‘parent’ ‘parent’ ‘child’s spouse’ ‘child’s spouse’
    ‘male’ ‘female’ ‘males’ ‘females’

UR /padr/ /madr/ /yern/ /nuer/

Gender Category N N N N

Class /i/ /i/ /i/ /i/

Cloning of the stem of padre, for example, would produce—after application of all relevant redundancy rules—the outer core feminine word ‘padre meaning ‘female parent’, but this is preempted (blocked) by existing madre. Cloning of the stem of nuera would
ultimately produce the inner core masculine word "nuevo meaning 'child's male spouse', but this is preempted (blocked) by existing yerno. And so on.

Of course, suppletive pairs of mated human nouns are the exceptional case. The operation of the rules of Human Gender and Human Cloning in the vast bulk of human nouns in Spanish is illustrated in the derivations shown in (34):

(34) Lexical entries

<table>
<thead>
<tr>
<th>elkaar/a</th>
<th>juez</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ailk/</td>
<td>/kues/</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>'friend'</td>
<td>'judge'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cloning (32b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ailk/</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>'friend'</td>
</tr>
<tr>
<td>'male'</td>
</tr>
</tbody>
</table>

| Gender (32a) | f | f |
| Feminine Marker (21) | la | la |
| Syllabification (22) | a.mi.go | a.mi.ga |

No additional descriptive machinery is needed to account for the remaining subtypes of nouns catalogued in (15). The stems of schizophrenic nouns like monje/mojita and jefefi (15c)—with outer core masculines but inner core feminines—are lexically marked with the diacritic g that triggers the Gentilic Rule originally motivated by "gentilic" adjectives like galesia/galesa and grandote/grandota. A sample lexical entry is provided in (35a). The derivation of nouns in this subclass is entirely analogous to that of the adjective galesi/galesa shown in (29). In the nouns, Human Cloning has the same affect as concord in adjectives: both a masculine and a feminine form are generated for each lexical entry, whereupon the Gentilic Rule provides the diacritics [f] and [a] for masculines and feminines, respectively.

<table>
<thead>
<tr>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
</tr>
</thead>
<tbody>
<tr>
<td>jefe/a</td>
<td>gato/a</td>
<td>colega</td>
<td>marido</td>
<td>persona</td>
</tr>
<tr>
<td>/xelf/</td>
<td>/gato/</td>
<td>/koleg/</td>
<td>/marid/</td>
<td>/person/</td>
</tr>
<tr>
<td>'chief'</td>
<td>'cat'</td>
<td>'colleague'</td>
<td>'spouse'</td>
<td>'person'</td>
</tr>
<tr>
<td>'human'</td>
<td>'human'</td>
<td>'human'</td>
<td>'human'</td>
<td>'male'</td>
</tr>
</tbody>
</table>

| g | [a] |

The general observation for the diacritic g is that this is a label for a class of items with a particular morphological behavior: not all members of this class refer to geography, nationality, or ethnicity. Nor are all or even the majority of terms of geography, nationality, and ethnicity members of this class. But this comes as no surprise: it is a commonplace in the world’s languages that semantic classes and related morphological classes are not coextensive.24

This suggests a way to deal with dogs, cats, and the few other familiar animals that come in mated inner core pairs, as illustrated in (18c). I propose that they are morphologically human honoris causa, as illustrated in (35b). That is, they have no arbitrarily fixed lexical gender as do most animals, and their lexical entries do undergo cloning (32b).

The subtype of human noun illustrated in (15e) with camarada, acróbata, and so on—nouns with marker -a for both masculine and feminine—is analogous to the set of adjectives illustrated in (9d). As illustrated in (35c), their lexical entries contain the marker-class diacritic [a] but no specification for gender; derivations are exactly like that of belga in (29), with Human Cloning instead of Concord generating masculine and feminine mates from a single entry unspecified for gender.

3.4.3. Anomalies. The anomalous unmated human nouns marido, criatura, persona, and victima (16), and any others of this type that may exist, can be dealt with quite naturally as follows. Marido, which in fact refers exclusively to biological males, contains the semantic specification 'male' in its lexical entry, as illustrated in (35d). Human Cloning is thus prevented from cloning a mate with the specification 'female'. Criatura, persona, and victima, whose meaning has no component referring to sex, have lexical entries that contain a specification for (feminine) gender, as illustrated in (35e). No grammatical device exists that can delete this specification; hence, no masculine mate can be generated.

We are left with the anomalous human nouns with word marker -o illustrated in (15f) and (17). In light of the sociolinguistic factors outlined in section 2.3.3, it is clear that the status of such nouns is currently unstable but that they are in transition to the inner core, whose lexical entries and derivations are like that of amigo/amigo in (34).

The starting point of this transition is illustrated in the first line of (17b) with obligatorily masculine ingeniero. I must assume that ingeniero and similar names of practitioners of professions illustrated in (17a) are registered lexically as exclusively male human nouns, like marido in (35d).25 The intermediate stage illustrated in the middle line of (17b) coincides with the tiny class of nouns listed in (15f), like testigo and modelo, which can be both masculine and feminine with no change in word marker -o. This suggests that the lexical specification 'male' has been lost, so that cloning is not only possible but also predicted. A feminine mate does exist in the anomalous intermediate stage, but not with the predicted word marker -a. This fact suggests that, as in the case of the feminine

24 As we learn from Garde (1980), bacteria and oysters are morphologically inanimate in Russian, whereas dolls, corpses, and playing cards are animate.

25 Many of the same stems, but not all, also form feminine nouns that refer to the corresponding subject matter: for example, química 'chemistry', gramática 'grammar', física 'physics', música 'music'.
nonhuman noun *mano*, the markers of these words must be supplied in lexical entries about which the morphological rules of Spanish say nothing.

### 3.5. Pronouns and Determiners

On the face of it, the pronouns and determiners shown in table 2 seem to contradict my claim that gender in Spanish is formally represented by the single privative feature *f*; a single mark cannot distinguish three categories of things (masculine, feminine, and neuter). The apparent contradiction disappears quickly, however.

The so-called neuters are the troublesome forms. As pointed out in section 2.4, there is no consensus in the literature regarding their syntactic status. It is clear, however, that there are no neuter lexical nouns in Spanish. Therefore, the neuter determiners cannot acquire gender through concord, as do their masculine and feminine counterparts. And we know independently that the default gender in Spanish is masculine, not neuter. Consequently, whatever “neuter” is, it is not a third gender in Spanish, along with masculine and feminine.

These facts add up to a conundrum—how to mark the three-way distinction in table 2—if the notions of gender and form class are conflated. But there is no puzzle for the analysis proposed above, where gender and word markers are related but distinct entities. This analysis can provide a straightforward and well-motivated description of the forms in question (though we await clarification of “neuter” by future syntactic investigation), as follows.

The masculine and feminine forms of the nominative pronouns refer to male and female humans, respectively; their mating is thus predicted by Human Cloning. The gender of the masculine and feminine articles and demonstratives is derived by Concord, as in the case of lexical adjectives. Furthermore, the singular forms of these determiners are like the “gentilic” adjectives in that they end in -e or -a in the masculine and feminine, respectively. The lexical entries and derivations of these forms, then, are analogous in relevant respects to those of *gáles*-a illustrated in (29).26 All the neuter forms get their -o by default—that is, precisely by not bearing the diacritic *g* or any other mark of gender or form class. Nothing further need be said about the word markers in table 2.

Something else can be said, however, about the traditional statement that the masculine definite article *el* “contracts” with the prepositions *de* ‘from, etc.’ and *a* ‘to, etc.’ to form *del* and *al*, respectively. On the traditional assumption that contraction applies literally to *de* and *a* + *el*, we cannot understand the result *al*, since there is no independently motivated rule that would delete the initial *e* of the article. Suppose, however, that the underlying representation of the definite article is just the segment *al*. Addition of word markers produces the expected forms in the case of feminine *lais*.

26 On the other hand, the corresponding plural forms *los/as, estas/estas,* and so on, are like inner core nouns and adjectives. The basic peculiarity of these determiners, then, is that unlike nouns and adjectives, singulars bear a lexical diacritic but plurals are unmarked.

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**3.6. The Phono logical Realization of Word Markers**

In the normal case, phonological substance is provided to the word markers -a and -o by Marker Realization. Since the focus of this study is morphological rather than phonological, I do not wish to dwell on Marker Realization at length, but I will outline one proposal for its implementation in order to provide a modicum of concreteness. Filling in the details of this outline is left for discussion elsewhere. It should be clear that the formalization of Marker Realization is logically separable from other issues treated in sections 3.1–3.5; consequently, the proposals sketched below can be modified radically without affecting the rest of the analysis.29

In the comments on (5) in section 2, I observed that the complete inventory of word markers exactly matches all the possibilities of *(V)j*, where parentheses indicate that one or both of these segments may be absent. Now consider these additional facts: (a)
all regular noun and adjective plurals have the form [stem]V's; (b) noun and adjective singulars like [lunes] 'Monday'; [dos] 'two' have identical plurals: [lunes] ('luneses') 'two Mondays'; [dos] ('doses') 'two doses'.

In sum, the fact emerges that all representatives of the major lexical categories other than verbs (that is, nouns, adjectives, and adverbs—be they singular, plural, or numberless) have one single canonical shape, namely, [stem]V[3]V[3].

I propose to capture this striking generalization in the following way. I assume that all Spanish roots, stems, and affixes that belong to the major categories noun, adjective, and adverb are in fact bound morphemes: such stems and affixes must always undergo (further) affixation in order to form a complete prosodic word. Specifically, they must be bound to a prosodic "template" whose properties are given in (37):32

(37) "word marker template"
Meaning (none)
UR VC/
Category X0
Context stem[3,3]
Other phonologically noncyclic

We can now understand the function of Marker Realization in the following way: this rule associates a segmental melody to the empty V position in the word marker template, which enforces the universal canonical shape of all nonverb major category words in Spanish. For example:

(38) Lexical entries
libros /libro-
libras /libra-

Template concatenation
CVCC|VCJ CVCC|VCJ
libr libr

Morphology: Plural suffixation
CVCC|VCJ CVCC|VCJ
libr s

Morphology: Feminine Gender (21), Marker Realization (22)
CVCC|VCJ CVCC|VCJ
libras libras

The hyphen in the lexical entries is a shorthand representation of the fact that the stems in question are bound morphemes. The phonologically invariable plural morpheme /s/ is also lexically unattached to a prosodic slot. Since it is a suffix (that is, attaches at the right edge of its host), it fills the C position of the template. In cases like [Lucas] 'Luke', [Marcos] 'Mark', [lunes] 'Monday', and so on, where the (single) C position is filled with the s of the idiosyncratic bisegmental word marker, association of plural -s to the same slot is phonetically vacuous, as illustrated in (39a).33 In core singulars, where the C position of the template remains unfilled, this position is simply phonetically unrealized, as illustrated in (39b).

(39) a. CVCC|VCJ CVCC|VCJ
    [libr] [libr] = [libr] [libr]
    uness unes

b. CVCC|VCJ CVCC|VCJ
    [libr] [libr] = [libr] [libr]
    libr0 libr0

Forms marked with the diacritic ñ are lexical exceptions to Marker Realization. Thus, no phonological matrix is supplied by this rule to the V position of the word marker template. Consequently, when this position is syllabified, phonological redundancy rules fill it with the features of the maximally unspecified default vowel [e].34 Slots that remain unsyllabified and empty at the end of the phonological derivation are either removed by convention or simply ignored. All this is illustrated in (40):

(40) Singular Plural Singular Plural
par parte

Lexical entries
par- par-
ññ

Template concatenation:
CVCC|VCJ CVCC|VCJ CVCC|VCJ CVCC|VCJ
libr libr libr libr

Marker Realization (22) does not apply

Plural suffixation
CVCC|VCJ CVCC|VCJ CVCC|VCJ CVCC|VCJ
libr as libr as

Syllabification
libr libr libr libr
par s part s

32 Unlike words in which V is contained within the stem: lanza/lanzas 'pencil's'.
33 The format of (37) follows that of (19) and (27). The symbols V and C in the template can be understood as skeletal X slots attached to segmental root nodes annotated with [c- consonantal] and [l- consonantal], respectively. I intend the template notation to be neutral with respect to various views of segment geometry.
34 The claim that is the default vowel in Spanish has a long history and seems unassailable to me. More detailed discussion—in need of revision but on the right track. I think—that of the various aspects of syllabification at work here is found in Harris (1985).
Phonological redundancy rules

\[
\begin{align*}
\text{The stems of words like héroe ((5g), (31)), chile 'chili', and sede 'seat, see', whose final -e follows a segment that can normally be syllabified without addition of a nucleus, bear the diacritic [β] and are furthermore lexically exempted from the syllabification process that normally incorporates single coronal consonants into a word-final rhyme.}\ &\text{Relevant portions of the derivation of the minimally contrasting trio of feminine nouns sēda 'silk' (core), sed 'thirst' ([β], and sede (syllabically exceptional) are shown in (41)):}
\end{align*}
\]

(41) Template concatenation;

\[
\begin{align*}
\text{Marker Realization (22)} & \quad \text{sed} \quad \text{sed} \quad \text{sed}
\end{align*}
\]

Syllabification

\[
\begin{align*}
\text{sēda} & \quad \text{sed} & \quad \text{sed}
\end{align*}
\]

Phonological redundancy rules

\[
\begin{align*}
\text{sed} & \quad \text{sed} & \quad \text{sed}
\end{align*}
\]

Individual lexical entries provide the phonological content of template V positions in idiosyncratic cases such as mano and tribu, discussed in section 3.4.1. The lexical filling of skeletal V in these cases preempts Marker Realization. This is illustrated in (42):

(42) Lexical entries;

\[
\begin{align*}
\text{template concatenation} & \quad \text{CVC} & \quad \text{VC} & \quad \text{CCVC} & \quad \text{VC}
\end{align*}
\]

\[
\begin{align*}
\text{Melody-skeleton association: removal of empty slots} & \quad \text{CVC} & \quad \text{VI} & \quad \text{CVC} & \quad \text{VI}
\end{align*}
\]

\[
\begin{align*}
\text{man} & \quad +o & \quad \text{trib} & \quad +u
\end{align*}
\]

Of course, the segments transcribed /o/ and /u/ in (42) are not fully specified in lexical entries; only [+round] for /o/ and [+high, +round] for /u/ are required to distinguish these vowels from each other and from all others in the underlying inventory of Spanish; phonological redundancy rules complete the respective matrices. I underscore (once more) the distinction between the application of phonological redundancy rules and the nonapplication of morphological redundancy rules in cases of the type illustrated in (42).

4. Summary and Conclusion

Tradition has it that the -o of such nouns as maestr-o 'male teacher', tor-o 'bull', disb-o 'disk', and the -a of such nouns as maestra 'female teacher', vac-a 'cow', cinta 'tape' are gender-marking suffixes. Tradition is wrong: the -o and -a in question belong to a set of exponents of decennial class. They are markers of pure form; members of a particular form class uniquely share no attribute other than membership in that class. The class-marking suffixes have no meaning or function; they obey no higher semantic or syntactic authority. They are simply pieces of form that must be at the right place at the right time, by their own rules. They may perform an incidental phonological service by permitting syllabification of otherwise impermissible clusters. For example, nt cannot be tautosyllabic in Spanish, and the -a of cinta allows the syllabification cinta. But this service can be rendered in other ways. For example, the stem tint- 'tint' belongs to a decennial class that has no vocalic suffix. In this case nt is saved by epenthesis: tin.te.

Reduced to its essentials, the argument that the suffixes in question are declension-class markers rather than gender markers is this: These suffixes share a unique pattern of distribution. They thus constitute a coherent set of morphemes. The form classes defined by these morphemes, however, are unrestricted with respect to gender; each may contain masculine, feminine, and gender-ambiguous nouns, adjectives, and adverbs. Moreover, adverbs—which are strictly genderless—are scattered throughout the various form classes. These cannot, therefore, be gender classes.

The exponent of gender in Spanish is modular in that it involves four interrelated but autonomous domains of linguistic generalization: biological/semantic sex, syntactic gender, morphophonological form classes, and strictly phonological redundancy rela-

---

55 This double exceptionality accords well with the rarity of such words. Their treatment in terms of exceptional syllabification, on the other hand, automatically accounts for the fact that the vowel found in word marker position is [e] rather than [i] or [a]. Additional discussion can be found in Harris (1985).

56 Roca’s recent study “The Organisation of Grammatical Gender” (1989), which is concerned almost exclusively with Spanish, came to my attention after this article was substantially completed. Where coverage overlaps, the two works agree on many points—one notable exception being that Roca accepts the standard view that the two Spanish gender classes are distinguished formally by means of the binary feature [±feminine]), which I have argued against in some detail. Roca’s study does not provide explicit formal treatment of the numerous subclasses illustrated in (5) and does not recognize the role of syllable structure in the distribution of -e. The descriptive devices map gender marking directly into phonological form without the intervention of form-class marks. Roca does not broach the overarching explanatory issue of the “mating problem.” On the other hand, he provides a much more thorough and insightful treatment of semantic aspects of gender than I have attempted here. I also became aware of Klein (1989), a follow-up to Klein (1983), after completing the present work (see footnote 8).
tions. We cannot gain insight into the interactions among these modules unless we have some understanding of the separateness and internal organization of each.

Neither declensional class membership nor gender is fully predictable from the other, or from anything else. There is some partial predictability, however, and this must be registered in the grammar. Within the class of nouns that refer to humans, gender is predictable from sex (with exceptions): nouns that refer to biological males are usually masculine gender; those that refer to biological females are usually feminine gender. Within the class of feminine nouns and adjectives that take a vocable form-class suffix (not all feminines do), this suffix is -a (with vanishingly rare exceptions in nouns and none in adjectives); within the class of masculine nouns and adjectives that take a vocable form-class suffix (not all masculines do), the majority take -o, though there is a large minority that take -a. These subregularities and others are captured by grammatical rule; the many exceptions are noted in lexical entries, as are the aspects of form-class membership and gender that are never predictable.

The grammatical apparatus with which I propose to account for this material includes the items in the following list, among others:

(43) a. The single lexical gender marker f, mnemonic for “feminine”;
   b. Two form-class lexical diacritics: jα, which marks the class of forms that take suffix -a; and jβ, which marks the items that take no declension class suffix;
   c. The Human Cloning rule (32b), which predicts the existence of mated masculine-feminine pairs of stems for every human noun;
   d. The Human Gender rule (32a), which predicts feminine gender from the semantic property ‘female’ in human nouns;
   e. Redundancy rule (21), Feminine Marker, which assigns the form-class diacritic jα for feminine items;
   f. Redundancy rule (28), the Gentilec Rule, which assigns the diacritics jα and jβ to feminine and masculine “gentilec” forms, respectively;
   g. Spell-out rule (22), Marker Realization, which supplies phonologically unpredictable features to the slots of prosodic template (37);
   h. A theory of phonological redundancy whereby phonologically predictable features are supplied to incompletely specified matrices.

“Masculine” gender is not marked in Spanish in any way, lexically, morphologically, or phonologically. No binary feature [-feminine], or any formal equivalent, plays any role in the grammar of Spanish. The traditional term “masculine” is just the label applied to the absence of any grammatical manifestation whatsoever of feminine gender (or of “neuter,” whatever that turns out to be) where it could in principle occur. Any overt formal grammatical entity reflecting “masculine” gender would be otiose, and thus must be rejected. Similarly, the declension class defined by suffix -o is lexically unmarked, literally. Membership in this class is assigned by default—that is, in the absence of any mechanism that blocks it. (This is thus the class of so-called “neuter” words.) Briefly, the empirical argument against a lexical mark identifying the class of -o-suffixed items is based on the near total absence of feminine nouns and the total absence of feminine adjectives with the class suffix -o. If a lexical mark existed that identified -o-class items—say, jα, analogous to the diacritics jα and jβ—then there would be no nonarbitrary way to account for the lack of -o feminines. Absence of such a lexical diacritic, in conjunction with the independently motivated rule of Feminine Gender, predicts the absence of such forms.

To conclude, I return to the “mating problem” identified in section 1. Given a noun stem /tindro/ that refers to humans, the well-formed masculine-feminine mated pairs with this stem are those shown in (44a) and the ill-formed pairs are those shown in (44b):

(44) a. Well-formed

<table>
<thead>
<tr>
<th>Masculine</th>
<th>Feminine</th>
</tr>
</thead>
<tbody>
<tr>
<td>tindro</td>
<td>tindra</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. Ill-formed

<table>
<thead>
<tr>
<th>Masculine</th>
<th>Feminine</th>
</tr>
</thead>
<tbody>
<tr>
<td>tindra</td>
<td>tindro</td>
</tr>
<tr>
<td>tindra</td>
<td>tindra</td>
</tr>
<tr>
<td>tindre</td>
<td>tindre</td>
</tr>
<tr>
<td>tindre</td>
<td>tindre</td>
</tr>
</tbody>
</table>

The well-formed pairs have been illustrated and discussed above. The proposals advanced in section 3 account for them. These proposals also solve the explanatory problem posed by the fact that the ungrammaticality of cases like (44b) is an instance of “negative evidence,” evidence not accessible to the learner. The solution, of course, is that the grammar motivated entirely by data accessible to the learner excludes the ill-formed pairs without additional stipulation. Specifically:

\[
\text{tindraitenido} \quad \text{and} \quad \text{tindraitindre}
\]

The stem would have to be lexically marked jα, which would be cloned onto both masculine and feminine mates, thus making it impossible to generate feminine tindro or tindre.

\[
\text{tindreitenido} \quad \text{and} \quad \text{tindroltindre}
\]

The stem would have to be lexically marked jβ, which would be cloned onto both masculine and feminine mates, thus making it impossible to generate masculine or feminine tindro.

References
Reciprocity and Plurality

1. Introduction

In investigating the properties of noun phrases, it has proven useful to employ anaphora as a probe to revealing their subtleties. This is especially the case with singular noun phrases, in that aspects of their interpretation have been teased apart by being able to distinguish, for instance, between bound variable and coreference anaphora. In this article we will extend this strategy to explore the syntax and semantics of plural noun phrases. Plural noun phrases provide a particularly rich territory for such exploration because they have an anaphoric element all to themselves, which they do not share with singulars. We refer here to reciprocal pronouns, which are found in sentences like (1):

\[(1) \text{ The spies suspected each other.}\]

It is well known that expressions like each other and one another can cooccur only with plural antecedents; replacing the subject of (1) with the singular the spy leads directly to ungrammaticality. Because of this restriction—which we will attempt to explain as we proceed—a detailed investigation of reciprocals reveals, we believe, certain fundamental ways in which the interpretation of plurals differs from the interpretation of singulars. These differences flow, in our opinion, from certain differences in how the semantic structure of plurals is represented in their logical form, especially as this concerns aspects of argument structure and binding. In focusing on these central issues in the semantics of plurals and reciprocals, we will perhaps ignore many aspects of their meaning.

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