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This is a contribution from *Studies in Language* 37:4  
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# The notion of inflection and the expression of nominal gender in Spanish

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The paper discusses the morphological status and the function of Spanish nominal endings *-o* and *-a* (*ciel+o* 'sky' vs. *caj+a* 'box'); it is shown that both endings, plus the endings *-e* and  $-\emptyset$ , are inflectional suffixes that mark, however, not the values of an inflectional category (like nominal number or verbal tense), but the values of a feature of the syntactics of the noun — the nominal gender. The 'nominal gender' is defined as a cluster concept based on eight properties; it is a particular case of 'agreement class' opposed to 'noun class.' Some particularities of Spanish nominal gender are examined: its interaction with diminutive suffixes, gender conversion, and its "non-prototypical" character (a parallel is drawn between Spanish nominal genders and noun classes in Fula).

**Keywords:** inflection, nominal gender, Spanish, Fula

## 1. The problem stated

The commonly held view of grammatical gender in Spanish is that Spanish nouns are distributed between two grammatical genders — masculine and feminine; the masculine is marked on the noun, roughly speaking, by the ending *-o*, while the feminine is marked by the ending *-a*. Thus, *cuchillo* 'knife' is masculine and *cuchara* 'spoon' is feminine, while the masculine *hermano* 'brother' contrasts with the feminine *hermana* 'sister', etc. This is more or less unproblematic.<sup>1</sup> What researchers still cannot agree on are the answers to the following two questions, concerning the nominal endings *-o* and *-a*:

- What is their **morphological status** — are they the signifiers of the morphs *-o* and *-a* (or simply parts of nominal stems that just somehow happen to signal the gender of the corresponding noun)?<sup>2</sup>
- What is their **function** in language — are they inflectional markers (or derivational, or both, or neither, or else something in between)?

Over time, both questions have been met with all imaginable answers, but it seems that none of these answers has taken hold, as the discussion continues as heated as ever; cf. for instance, Serrano-Dolader 2010. In the present paper, I will try to give clear-cut and substantiated answers, adding some logical clarity to the discussion. I do not use new data, but adopt a different type of analysis, with rigorous definitions of the concepts used, such as ‘nominal gender’ and ‘inflection’, and all of my reasoning is actually hinging on these definitions. Doing so, I continue a series of publications dedicated to sharpening and formalizing a number of linguistic notions: Mel’čuk 1982, 1993–2000, 2001, and 2006a, b. In point of fact, ONE OF THE CENTRAL CLAIMS OF THE PAPER IS BROADENING THE NOTION OF INFLECTION — TO INCLUDE IN IT INHERENT MARKERS OF GENDER AND/OR NOUN CLASS.

There is no shortage of papers published on the topic of Spanish nominal gender (in fact many scores),<sup>3</sup> but I will limit myself to a few major ones: Saporta 1962, Roca 1989, Harris 1991, Lloret & Viaplana 1997, Ambadiang 1999 and 2012, RAE & AALE 2010–2: Ch. 2, and Serrano-Dolader 2010. These works contain all the data and a near-exhaustive bibliography on the question.

To save the reader the trouble, I will state my answers to both questions right away:

In Spanish nouns, the word-final *-o* and *-a* are separate nominal gender morphs, and they are 100% inflectional.

In actual fact, I propose to solve the controversy by broadening the notion of **inflection**: it should be interpreted as **the linguistic mechanism used to produce the forms of a lexeme**. The corresponding definition (Def. 3) is given in 4.1; derivational use of inflectional morphs will be considered in 4.3.

In what follows I will try to shore up the above statements. This will be done in four steps:

- Section 2 discusses the concept ‘nominal gender’, considered as a particular type of **agreement class**, the other type being ‘noun class’<sup>4</sup>
- Section 3 analyses the Spanish nominal gender suffixes *-o*, *-a*, *-e*, and *-Ø*.
- Section 4 is dedicated to the problem of the inflectional *vs.* derivational nature of these suffixes (it contains a definition of inflection *vs.* derivation).
- Section 5 presents a parallel between Spanish genders and Fula noun classes: the Spanish nominal genders are not quite prototypical as genders, featuring some properties of noun classes, and this parallel helps to grasp their non-prototypical character better.

## 2. Nominal gender

To make the discussion sufficiently rigorous, first of all, a definition of nominal gender is necessary. Informally, nominal genders are **nominal agreement classes** having some particular properties: for instance, they are not numerous in the language under consideration (2–4), they reflect sexual distinctions, etc. Since nominal gender is a particular case of agreement class, I have to begin with the latter. Only the minimum will be stated here; the reader is referred to Mel'čuk 2006a: 47ff. and 324ff. for explanations, additional discussion, and relevant references. (More recently, agreement classes, genders, and noun classes have been discussed, for instance, in Aikhenvald 2004; see also Corbett 2011a, b for a different viewpoint on the distinction “gender ~ noun class.”)

### *Definition 1: Agreement class*

Let there be 1) nominal wordforms  $w_i$  and  $w_j$  that belong to a subset  $K$  of all nominal wordforms of language  $L$  and 2) a wordform  $w_T$  that, in a sentence of  $L$ , morphologically depends on  $w_i$  or  $w_j$ .

The maximal subset  $K$  of the set of all nominal wordforms of language  $L$  is an **agreement class** if and only if Conditions 1–3 are simultaneously satisfied:

1. For any two wordforms  $w_i$  and  $w_j$ , in any context where  $w_i$  and  $w_j$  can appear alternatively in the same syntactic role and impose on a wordform  $w_T$  a grammeme of an inflectional category  $C(w_T)$  such that this grammeme does not depend on  $w_i$ 's and  $w_j$ 's own grammemes,  $w_i$  and  $w_j$  both impose on  $w_T$  the same grammeme  $g \in C$ .<sup>5</sup>
2. For any wordform  $w \in K$ , in any context where  $w$  imposes simultaneously on several wordforms  $w_T$ s a grammeme of the inflectional category  $C(w_T)$  such that this grammeme does not depend on  $w_i$ 's own grammemes,  $w$  imposes on all  $w_T$ s in the same context the same grammeme  $g \in C$ .
3. The grammemes of the category  $C$  are never imposed by anything except wordforms of  $K$ , and  $C$  is neither pronominal person nor pronominal number.

Wordforms  $w_i$ , which are the morphological governors (or **controllers**) of  $w_T$ s, are distributed in agreement classes according to the “reactions” of their morphological dependents (**targets**): all the targets of any controller that belongs to a given agreement class express the same grammeme depending on the controller. The minimal number of agreement classes in a language is of course two; as far as I know, the maximal number, found in East-Papuan Nasioi, is about 100 (Rausch 1912 lists over 50, but indicates that there are many more one-noun agreement classes).

The proposed concept of agreement class is a development and sharpening of Zaliznjak's well-known definition: Zaliznjak 1967: 66.

Nominal gender and noun class are defined as particular cases of agreement classes. Each of them is a **cluster concept**, specified by a set of eight properties, or conditions: prototypical nominal gender has “yes” for all of them, while prototypical noun class has “no,” also for all of them; between these two extremities, one finds intermediate cases — that is, less typical genders and less typical noun classes.

Following the principles of defining formal linguistic notions stated in Mel'čuk 2006b, the defining conditions are selected in such a way as to model the prototypical nominal gender after the gender of Classical languages, for instance, in Latin. To put it differently, Latin nominal gender is taken to be the “gender standard,” so that the term *gender* should apply to a classification that sufficiently resembles it. (Similarly, the “noun class standard” is the noun class in Bantu languages.)

*Definition 2: Nominal gender*

Agreement classes  $\{K_i\}$  of the noun in **L** are **nominal genders** if and only if the whole set of Conditions 1–8 is satisfied to a sufficient degree:

1. The number of  $\{K_i\}$  is small: 2 to 4. [For instance, Latin has three genders: masculine, feminine, neuter.]
2. Two of  $\{K_i\}$  manifest a direct link with the biological sex of the being denoted by the noun: a noun referring to a male belongs to one class and that referring to a female to another class. [Like the masculine and the feminine genders in Latin: *pater*<sub>(masc)</sub> ‘father’ ~ *mater*<sub>(fem)</sub> ‘mother’, etc.]
3. Except for the division by sex,  $\{K_i\}$  do not show a sufficiently visible semantic motivation: in most cases, there is no direct link between the meaning of a noun and its gender. [Lat. *pons* ‘bridge’ is masculine, but *via* ‘road’ is feminine; *crus* ‘leg’ is neuter, while *pes* ‘foot’ is masculine, and *manus* ‘hand’ feminine; *aqua* ‘water’ is feminine, *sucus* ‘juice’ is masculine, and *lac* ‘milk’ is neuter; etc.]
4. A  $K_i$  does not have an autonomous and non-cumulative marker in the noun: nominal gender is not expressed by a special morphological means — by an affix that exclusively expresses  $K_i$ . In other words, nominal gender is a **covert feature**. [Cf. Latin nouns *pons*<sub>(masc)</sub> and *fons*<sub>(fem)</sub>: absolutely nothing in their signifiers indicates the gender, same as in *pater* and *mater*.]
5. The markers of adjectival/verbal genders in the wordforms that agree with the noun are cumulative: adjectival/verbal gender, which reflects nominal gender and is a grammeme, is expressed, as a rule, in combination with other grammemes, such as adjectival number or case. [In Latin adjective *pulchr+orum* ‘of.

- beautiful<sub>PL</sub>, the suffix **-orum** marks the masculine or neuter together with the plural and the genitive.]
6. {**K<sub>i</sub>**} are relevant for the formal aspects of the noun's inflection: the choice of particular number/case affixes depends on the **K<sub>i</sub>** of the noun. [In Latin, masculine and feminine nouns belong, generally speaking, to different declensions.]
  7. A change of the **K<sub>i</sub>** of a noun is not used in **L** to express an inflectional meaning (for instance, the grammatical number), nor does this change systematically accompany the expression of an inflectional meaning by a separate linguistic sign. [Such is the nominal gender of Latin.]
  8. A change of the **K<sub>i</sub>** of a noun is not used in **L** to express a derivational meaning characterizing this noun — for instance, diminutivity. [This is again the case of Latin nominal gender.]

Nominal gender as a type of agreement class is opposed to noun class. The definition of noun classes is, in a sense, the opposite of Definition 2: prototypical noun classes are agreement classes that are characterized by the negated properties of nominal genders, namely: noun classes are numerous (from 4 up to 100), they do not manifest a link with biological sex (the names of being of both sexes can be in the same class), etc.

Note that some properties of nominal gender are “more equal” than others: the positive values of Features 1–3 seem to be (almost) sufficient for dubious agreement classes to be considered as nominal genders. Thus, for instance, take Avar agreement classes: class I includes the names of men, class II the names of women, class III covers all the rest, and class IV embraces all plurals. These classes violate Condition 3 for being genders, since they are semantically fully motivated; therefore, they are noun classes.

Let me emphasize, lest confusion arise, the following three points:

1. In sharp contrast to nominal number, determination, possession and case, nominal genders do not form a **morphological**, or **inflectional**, **category** of the noun: a noun cannot be **declined** according to nominal gender, it simply **belongs** to such and such a gender.<sup>6</sup> A specific nominal gender is thus not a grammeme, but an inherent feature of the noun's **syntactics** (which is a set of data about the noun's cooccurrence).
2. Genders are purely grammatical (rather than semantic) — they constitute a particular case of agreement classes. They are linked to the sex of the noun-denoted being in the sense that, in a gender system, male beings are mostly denoted by the nouns of masculine gender and female beings, by the feminine nouns. Yet the link between grammatical gender and biological sex is not logically necessary, and it is frequently the case that a given language has a number

of exceptions: cf. Fr. *laideron*<sub>(masc)</sub> ‘ugly young woman’ vs. *sentinelle*<sub>(fem)</sub> ‘sentry’; Irish *cailín*<sub>(masc)</sub> /kal’ín/ ‘young woman’ vs. *stail*<sub>(fem)</sub> /stal/ ‘stallion’; Ger. *Weib*<sub>(neu)</sub> ‘woman’, Gr. *korítsi*<sub>(neu)</sub> ‘girl’ and Fr. *recrue*<sub>(fem)</sub> ‘recruit’; It. *donnino*<sub>(masc)</sub> ‘pretty miniature woman’ and *SS*<sub>(fem)</sub> ‘SS-man’; etc.

Even in such a clear-cut case as HERMAN+O ‘brother’, the marker **-o**, which indicates the masculine gender of the noun, does not, strictly speaking, directly indicate the masculine sex of the denoted person. The semantic component ‘of masculine sex’ is part of the meaning of the radical **herman-** ‘brother’, just like in **padre-(Ø)** ‘father’ or **tor-(o)** ‘bull’. In Spanish, the names of males belong to the masculine gender, so the noun HERMAN+O is masculine, and therefore receives the suffix **-o**. The homophonous radical **herman-** ‘sister’ carries the meaning ‘of feminine sex’ like **madre-(Ø)** ‘mother’ or **vac-(a)** ‘cow’ and, naturally, the noun HERMAN+A is feminine and gets the suffix **-a**.

3. Since the present paper is not about the definitions of nominal gender and noun class, I allowed myself to omit many important details. Thus, for instance, gender is not limited to the distinction of biological sexes: it can also be based on a different biological characteristics, such as animacy: Algonquian languages distinguish animate vs. inanimate genders; animate vs. inanimate subgenders exist in Slavic languages; etc.

The following discussion is strictly limited to:

- NOMINAL gender. ADJECTIVAL gender (in particular, in Spanish) is something completely different: it constitutes an inflectional category of the adjective, since an adjective is inflected according to adjectival gender. The same is true of VERBAL gender in languages that have it, for instance, Slavic and Semitic: it constitutes an inflectional category of the verb, just like adjectival gender.
- The EXPRESSION of gender.

I will not discuss several other related problems (even if some of them are very popular in texts on Spanish gender) such as:

- the correlation between gender and the meaning of the noun;
- the correlation between gender and the form of the noun;
- the unmarked character of masculine gender;
- gender variation in nouns; etc.

### 3. Spanish nominal gender markers: suffixes -o vs. -a vs. -e vs. -Ø

Now I can turn to the analysis of the nature of the *-o/-a/-e/-Ø* endings: their autonomous morphological status (3.1), their function as gender markers (3.2), their description (3.3) and, finally, a description of the diminutive suffix *-it* in connection with gender markers (3.4). The discussion will proceed strictly within the perspective of the production of nominal wordforms.

#### 3.1 Morphological status of Spanish noun endings -o and -a

The masculine/feminine endings *-o* and *-a* in Spanish are the signifiers of morphs — that is, of full-fledged linguistic signs (whose signifieds are the syntactic features «masc» and «fem»).

Beginning some fifty years ago, the standard proof of this statement involves the diminutive and augmentative suffixes (see, e.g., Saporta 1962). Let me concentrate on the diminutive suffix {-it}. It has two allomorphs: roughly, *-it* that appears after stems ending in a consonant, and *-(e)cit*, after stems ending in a vowel.<sup>7</sup> Therefore, *perro* 'dog', whose diminutive is *perr+it+o* (*\*perro+cit+o*) has the stem *perr-*; and *-o* is a separate morph. Several cases, long since well known, support this description. The first names *Carl+o+s*, *Marc+o+s*, *Milagr+o+s*, and *Merced+es*, as well as the common noun *mecen+as* 'patron, sponsor' have the diminutives *Carl+it+o+s*, *Marqu+it+o+s*, *Milagr+it+o+s*, *Merced+it+a+s*, and *mecen+it+a+s* (MILAGRO 'miracle' being masculine, MERCED 'mercy', feminine, and MECENAS, masculine), which clearly identifies their radicals as *Carl-*, *Marc-*, *Milagr-*, *Merced-*, and *mecen-*. The elements *-o+s* and *-e+s* are not part of the radical, which confirms the status of the gender markers as separate morphs.<sup>8</sup>

The diminutive suffix test singles out not two, but four nominal gender suffixes for the masculine:

-o: <i>carr+o</i> 'cart'	~ <i>carr+it+o</i>	'little cart'
-a: <i>problem+a</i> 'problem'	~ <i>problem+it+a</i>	'little problem'
-e: <i>jarab+e</i> 'syrup'	~ <i>jarab+it+o</i>	'little syrup'
-Ø: <i>reloj+Ø</i> 'watch'	~ <i>reloj+it+o</i>	'little watch'

There are also, as it will be immediately seen, four homophonous feminine gender suffixes.

A final *-a* or *-e* is not necessarily a separate suffix: it can be a part of the stem, cf.:

<i>poet+a</i> ‘poet’	~ <i>poet+it+a</i>	<i>detall+e</i> ‘detail’	~ <i>detall+it+o</i>
vs.		vs.	
<i>papa+Ø</i> ‘daddy’	~ <i>papa+it+o</i>	<i>monte+Ø</i> ‘mountain’	~ <i>monte+cit+o</i>

The researcher has to decide whether one of these vowels is or is not the signifier of a gender suffix by considering the use of the diminutive suffix. Consequently, the user of a Spanish dictionary should be given a clear indication to this effect; in other words, Spanish nouns must be presented in the dictionary with the stem explicitly marked: POET+A, PAPA+Ø, TRÁMIT+E, MONTE+Ø, [la] MOT+O, etc.

Other Spanish derivational suffixes, especially the augmentative ones, behave — as far as the gender markers are concerned — the same way as the diminutive.

Actually, most authors known to me (from Saporta to Harris to Ambadiang to Serrano-Dolader, as well as dozens of others) agree that the noun endings -o, -a, and -e represent separate morphs — that is, noun suffixes. The problems begin with respect to the function of these morphs.

### 3.2 Morphological function of Spanish noun suffixes -o, -a, -e, and -Ø

J. Harris (1991) sees the following two difficulties related to the treatment of the suffixes -o and -a as nominal gender markers:

- In Spanish, numerous adverbs are of the type *lej+os* ‘far’ (~ *lej+it+os*), *en voland+as* ‘as if flying’ (~ *en voland+it+as*), *despaci+o* ‘slowly’ (~ *despaci+it+o* ⇒ *despacito*) or *fuer+a* ‘outside’ (~ *fuer+it+a*), where the endings -o and -a cannot be gender markers: adverbs cannot, of course, have (nominal) gender.
- The endings -o, -a, and -e (and, let us add, -Ø) can appear on a noun of either gender, and a noun of either gender can have any of these endings.

Harris’ conclusion: the suffixes -o, -a, and -e are not gender markers, but “exponents of declensional class” — as I understand, something similar to thematic elements. However, I do not think this conclusion is satisfactory, and here are my reasons.

- First, why should we look for a general solution squeezing together an overwhelming multitude (tens of thousands) of nouns and a rather limited set of adverbs?<sup>9</sup> In adverbs, -o and -a are only **empty** morphs, residual elements representing diachronic traces of the adverb’s nominal origins. (Actually, -os and -as could well be markers of adverbiality in phrasal adverbials with a preposition, such as *a chorr+os* ‘in torrents ≈ abundantly’, *a cie+as* ‘with no knowledge ≈ blindly’, *a gat+as* ‘on all fours’, *a hurtadill+as* ‘stealthily’, *a sabiend+as* ‘consciously’, *a tient+as* ‘by touch’, *de/en jarr+as* ‘hands on hips’, *de ver+as*

- ‘truly’, *en voland+it+as* ‘as if flying’, etc.) The existence of **-o** and **-a** in adverbs in no way interferes with the gender-marking function of **-o** and **-a** in nouns.
- Second, multiply-ambiguous inflectional markers are not a cross-linguistic rarity. In Russian, for instance, the nominal suffix **-a** marks 1) SG.NOM (*knig+a* ‘book’), 2) SG.GEN (*nos+a* ‘of.nose’), 3) SG.ACC ([*Ja vižu*] *brat+a* ‘I see [my] brother’), 4) PL.NOM (*professor+a* ‘professors’), and 5) PL.ACC ([*Ja vižu*] *okn+a* ‘I see windows’); each of these grammeme combinations has other exponents as well. (The suffix **-a** also marks the feminine gender in short adjectives and verbs.)

In response to Harris, then, I will simply claim that Spanish has gender suffixes **-o**, **-a**, **-e**, and **-Ø**; all of them are ambiguous in that each one can mark either masculine or feminine, and either gender can be marked by any of these suffixes. But: 1) With a given radical, the gender suffixes are of course not ambiguous, except for numerous human nouns that have the same form in both genders, of the type [un/una] PATRIOTA ‘patriot’ or [un/una] RATA ‘miser/female miser’. 2) The many-to-many correspondences between the meaning and the form of the gender suffixes are not equally frequent; thus, **-o** «fem» occurs in a dozen or so nouns, such as DINAM+O ‘dynamo’, DISC+O ‘disco’, FOT+O ‘photo’, LIBID+O ‘libido’, MAN+O ‘hand’, MOT+O ‘motorcycle’, NA+O ‘ship’, POLI+O ‘poliomyelitis’, QUIMI+O ‘chemotherapy’, SE+O ‘cathedral’, RADI+O ‘radio’, VIRAG+O ‘mannish woman.’<sup>10</sup> An overwhelming majority of nouns in *-o* are masculine and an overwhelming majority of nouns in *-a* (setting aside the names of human beings) are feminine.

As a consequence, the wordform of an underived (= simple) Spanish noun always has the following tripartite morphological structure: “STEM + Gender Suffix + Number Suffix.”<sup>11</sup> Examples:

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**masculine nouns**

<i>cuchill+o+Ø</i>	‘knife’	<i>detall+e+Ø</i>	‘detail’
<i>ded+o+s</i>	‘fingers’	<i>jarab+e+s</i>	‘syrops’
<i>dí+a+Ø</i>	‘day’	<i>nombre+Ø+s</i>	‘names’
<i>paragu+a+s</i>	‘umbrella(s)’	<i>equipaje+Ø+Ø</i>	‘luggage’
<i>poem+a+Ø</i>	‘poem’	<i>lápiz+Ø+es</i>	‘pencils’
<i>papa+Ø+s</i>	‘daddies’	<i>corazon+Ø+es</i>	‘hearts’

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**feminine nouns**

<i>cuchar+a+Ø</i>	‘spoon’	<i>cort+e+Ø</i>	‘court’
<i>manzan+a+s</i>	‘apples’	<i>calle+Ø+s</i>	‘streets’
<i>man+o+Ø</i>	‘hand’	<i>edad+Ø+es</i>	‘ages’
<i>virag+o+s</i>	‘viragos’	<i>cancion+Ø+es</i>	‘songs’
<i>fot+o+s</i>	‘photos’	<i>cárcel+Ø+es</i>	‘jails’
<i>tribu+Ø+Ø</i>	‘tribe’	<i>voc+Ø+es</i>	‘voices’

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### 3.3 Morphemes of Spanish genders and gender syntactic features of the Spanish nouns

In conformity with the proposed description of Spanish genders, the syntactics of a Spanish noun radical must include two pieces of information concerning the noun's gender:

1. whether the noun is masculine or feminine: «masc» vs. «fem»;
2. whether its gender suffix is **-o**, **-a**, **-e**, or **-Ø**: «o» vs. «a» vs. «e» vs. «Ø».

These indications determine the use of the allomorphs of the two gender morphemes.

Here are the Surface-Morphological rules necessary for the gender morphemes of Spanish. They have the standard form

{MORPHEME} ⇔ allomorphs | conditions for selection:

**Notations:**  $\Sigma(\mathbf{R}_0)$  is the syntactics of the nominal radical to which the gender suffix is to be attached.

{MASC}	⇔ -o	$\Sigma(\mathbf{R}_0) \ni$ «masc», «o» (e.g., <i>cuchill+o+Ø</i> , <i>braz+o+s</i> )
	⇔ -Ø	$\Sigma(\mathbf{R}_0) \ni$ «masc», «Ø» (e.g., <i>coche+Ø+Ø</i> , <i>lápiz+Ø+es</i> )
	⇔ -e	$\Sigma(\mathbf{R}_0) \ni$ «masc», «e» (e.g., <i>aceit+e+Ø</i> , <i>detall+e+s</i> )
	⇔ -a	$\Sigma(\mathbf{R}_0) \ni$ «masc», «a» (e.g., <i>poet+a+Ø</i> , <i>dí+a+s</i> )
{FEM}	⇔ -a	$\Sigma(\mathbf{R}_0) \ni$ «fem», «a» (e.g., <i>cam+a+Ø</i> , <i>sill+a+s</i> )
	⇔ -Ø	$\Sigma(\mathbf{R}_0) \ni$ «fem», «Ø» (e.g., <i>calle+Ø+Ø</i> , <i>nube+Ø+s</i> )
	⇔ -e	$\Sigma(\mathbf{R}_0) \ni$ «fem», «e» (e.g., <i>hambr+e+Ø</i> , <i>muchedumbr+e+s</i> )
	⇔ -o	$\Sigma(\mathbf{R}_0) \ni$ «fem», «o» (e.g., <i>man+o+Ø</i> , <i>virag+o+s</i> )

This encoding of combinatorial data on gender necessary to produce correct wordforms is similar to Harris' proposal (1991: 49ff).

To illustrate, it would be helpful to present one of these allomorphs as a linguistic sign; let us take the first example on our list — the suffix **-o** in *cuchillo*:

**-o** = ⟨ «masc» ; /o/ ;  $\Sigma$  = suffix of N, «masc», «o», order +2, ... ⟩

The signified of the suffix **-o** is a syntactic feature of the target noun; but in order for **-o** to be selected by the inflection mechanism while constructing a particular wordform of a given noun, the radical of this noun must be marked as «masc». That is why this suffix can be considered to be “empty” — in the same sense that structural words, such as governed prepositions and conjunctions, which have a purely syntactic signified and are not represented in the starting Semantic Structure of the sentence, are called *empty*.<sup>12</sup>

### 3.4 Formal description of the Spanish diminutive suffix *-it*

To give some additional depth to the proposed description of nominal gender suffixes, here is the description of the diminutive suffix *-it* presented in the standard format for linguistic signs (symbols in *HELVETICA*, in this case *DIM*(inutive), represent Spanish derivatememes here and below):

$$-it = \langle DIM ; /it/ ; \Sigma = \text{suffix, nominal, order } +1, \left. \begin{array}{l} \text{if } \Sigma(\mathbf{R}_0) \ni \langle \text{«masc»}, \text{ non «a»}, \quad \text{then } \langle \text{«masc»}, \langle \text{«o»} \rangle \\ \text{if } \Sigma(\mathbf{R}_0) \ni \langle \text{«masc»}, \langle \text{«a»} \rangle, \quad \text{then } \langle \text{«masc»}, \langle \text{«a»} \rangle \\ \text{if } \Sigma(\mathbf{R}_0) \ni [\langle \text{«fem»}, \text{ non «o»} \rangle] / \text{MANO}, \text{ then } \langle \text{«fem»}, \langle \text{«a»} \rangle \\ \text{if } \Sigma(\mathbf{R}_0) \ni \langle \text{«fem»}, \langle \text{«o»} \rangle, \text{ non MANO} \quad \text{then } \langle \text{«fem»}, \langle \text{«o»} \rangle \end{array} \right\} \dots \rangle$$

When the suffix *-it* is joined to the noun radical  $\mathbf{R}_0$ , the syntactics of the derived radical  $\mathbf{R}_1$  gets one of the following four markings:

- «masc», «o», if  $\mathbf{R}_0$  is masculine with any gender suffix but *-a*: *libr+o* ~ *libr+it+o*, *monj+e* ~ *monj+it+o*, *lápiz+Ø* ~ *lapic+it+o*, [un] *corte+Ø* ~ *corte+cit+o*
- «masc», «a», if  $\mathbf{R}_0$  is masculine with the gender suffix *-a*: *dí+a* ~ *di+it+a*, [un] *patriot+a* ~ [un] *patriot+it+a*, [un] *paragu+a+s* ~ [un] *paragü+it+a+s*, [un] *maric+a* ~ [un] *mariqu+it+a*, [un] *atl+a+s* ~ [un] *atl+it+a+s*
- «fem», «a», if  $\mathbf{R}_0$  is feminine with any gender suffix but *-o* (except the noun MANO): [una] *patriot+a* ~ [una] *patriot+it+a*, *hamb+r+e* ~ *hamb+r+it+a* or *hamb+r+cit+a*, *sal+Ø* ~ *sal+cit+a*, *man+o* ~ *man+it+a*
- «fem», «o», if  $\mathbf{R}_0$  is feminine with the gender suffix *-o*, but not MANO: [una] *fot+o* ~ [una] *fot+it+o*, [una] *mot+o* ~ [una] *mot+it+o*, *Ampar+o* ~ *Ampar+it+o*, *Milagr+o+s* ~ *Milagr+it+o+s*

The suffixes *-cit* and *-ecit*, allomorphs of *-it* appearing either after a vowel or after *-/n/*, *-/l/* or *-/r/* in a noun with the *-Ø* gender suffix, have a similar description. NB: the syntactics of *-it*, as presented above, is of course incomplete: it does not contain data ensuring the correct distribution of the allomorphs *-it* vs. *-cit* vs. *-ecit*, since this is irrelevant for our topic; the interested reader may consult Eddington 2000 and Ambadiang 2012. I did not mention, either, a few quirky instances when *-it* seems to be infixes: *azúcar* ~ *azuqu+ít+ar*, *Víctor* ~ *Vict+ít+or* or *César* ~ *Ces+ít+ar*, see Méndez-Dosuna & Pensado 1990.

#### 4. Suffixes -o vs. -a: Inflection, not derivation

The discussion of the problem “inflection vs. derivation” starts with the definition of both notions (4.1) and then the case of Spanish pairs of the type HERMANO ~ HERMANA is considered (4.2), after which conclusions are drawn (4.3).

##### 4.1 Inflection vs. derivation

Actually, the definitions of both are straightforward.

Definition 3/4: Inflection/Derivation

Let there be a lexeme L.

All signs and operations needed to construct a wordform of the lexeme L constitute **inflection**; all signs and operations needed to derive the radical of the lexeme L' from the radical of the lexeme L constitute **derivation**.

The situation is as simple as that: inflection produces the lexes of the same lexeme, derivation derives one lexeme from the other. It follows from Definition 3 that inflectional means do not necessarily express elements of inflectional categories (such as singular ~ plural, nominative ~ genitive ~ dative, etc.): they can also express some elements of the radical's syntactics, such as gender or noun class markers, thematic elements, linkers, and what not. For instance, in Papua New Guinea Tok Pisin, any transitive verb necessarily has the suffix **-im** (< Eng. *him*), which simply marks its transitivity: *huk+im pis* ‘catch fish’, *kilim* ‘kill’, *pas+im maus* ‘close mouth’ = ‘shut up’, *rid+im* ‘read’, etc. (A notable exception being the verb ‘eat’ — *kaikai*.)

All inflectional forms of a lexeme are described by one **lexical entry** in the language's dictionary. What is meant here is a lexical entry in the sense of the *Explanatory Combinatorial Dictionary* — that is, a full-fledged description of a lexical unit, which is a disambiguated word or idiom, not a polysemous lexical item: see, for instance, Mel'čuk 2006c, especially Subsection 1.3.5, and Mel'čuk 2013: Ch. 11. Two different lexemes are described by two different lexical entries (this is actually the definition of a lexeme: a set of forms that can be described by one lexical entry).<sup>13</sup>

##### 4.2 The Spanish nouns of the form *L-o/-e/-Ø* vs. *L-a* belong to different lexemes

As my next step, I have to answer the following question: Are the nouns of the type *hermano* ‘brother’ and *hermana* ‘sister’ (and all similar pairs) the lexes of the same lexeme or do they belong to two different lexemes?

*Hermano* and *hermana* (as well *jefe* 'boss' and *jefa* 'female boss', *campeón* 'champion' and *campeona* 'female champion', etc.) belong to two different lexemes, and the linguistic relation between them is that of **derivation**.

Here are the reasons for such a decision: three properties of the pairs of nouns such as HERMANO ~ HERMANA that characterize them as belonging to different lexemes. (Mel'čuk 2000a presents similar reasons for considering the French nouns of the type [*un*] FOU 'madman' and [*une*] FOLLE 'mad woman' to belong to two different lexemes.)

- **Restricted character of the 'male' ~ 'female' semantic contrast in Spanish.** The noun HERMAN+O means 'sibling (of masculine sex)', the component 'of masculine sex' being weak, which is shown by the parentheses: it is suppressed in the plural, since *hermanos* refers to siblings of both sexes; HERMAN+A means 'sibling of feminine sex'. The semantic contrast 'male [= masculine sex] ~ female [= feminine sex]' does not apply to the majority of Spanish nouns; more importantly, it does not even apply to all the names of sexed beings. This is highly atypical of an inflectional category: as a rule, it embraces all lexemes of a given part of speech — or, at least, of a clearly defined "natural" semantic class (all human nouns, all action verbs, etc.). Therefore, the semantic contrast 'male ~ female' is not inflectional in Spanish.
- **Lexicographic description.** If nouns of the type HERMANO ~ HERMANA were the lexes of the same lexeme, they would have to be described by the same lexical entry — i.e., in the same dictionary article. Even if HERMANO and HERMANA have rather similar lexical entries, with most noun pairs of this formal type the situation is different: the feminine form has additional properties/senses and therefore needs another entry (in some cases, the masculine form has additional properties or senses). Here are a few examples:

AMERICANO ' [an] American'	~ AMERICANA 1) '[a] female American'; 2) 'jacket'
CAZADOR 'hunter'	~ CAZADORA 1) 'female hunter'; 2) 'leather jacket'
CHINO 1) '[a] Chinese';	~ CHINA 1) '[a] female Chinese'; 2) 'porcelain, china'
2) 'Chinese [language]'	
GENERAL '[a] general'	~ GENERALA 1) 'wife of a general'; 2) 'call to arms'
HABANERO '[a] Havanan'	~ HABANERA 1) '[a] female Havanan'; 2) 'habanera [dance]'
HIJUELO 1) 'small son';	~ HIJUELA 1) 'small daughter'; 2) 'little girl'; 3) [Techn.]
2) 'little boy';	'accessory'; 4) 'estate of a deceased person'; 5) 'small
3) [Bot.] '[a] shoot'	irrigation channel'; 6) 'small side road or trail'
JUDÍO 'Jew'	~ JUDÍA 1) 'Jewess'; 2) 'bean'
MARINERO 'sailor'	~ MARINERA 1) 'female sailor'; 2) 'sailor top'
PERRO 1) 'dog';	~ PERRA 1) 'bitch'; 2) 'coin'; 3) 'tantrum'; 4) 'prostitute'
2) 'tyrant'	
RUSO 1) '[a] Russian';	~ RUSA 1) '[a] female Russian'
2) 'Russian [language]'	

SECRETARIO 'secretary'	~ SECRETARIA 1) '[a] female secretary'; 2) 'office of secretary'; 3) 'secretariat'
SEVILLANO '[a] Sevillan'	~ SEVILLANA 1) '[a] female Sevillan'; 2) 'dance of particular type'

The same is true of all similar noun pairs.<sup>14</sup> Moreover:

- The masculine forms of the HERMANO type denote in the singular only a male, but in the plural representatives of both sexes (*mis hermanos* 'my brothers and sisters'), while the noun HERMANA refers, in both numbers, only to females.
- All the masculine forms of ethnic names have an additional sense of 'language' (*español*<sub>(masc)</sub> 1) '[a] Spaniard'; 2) 'Spanish language'), which the feminine form of course does not have.
- A masculine noun in **-dor** that denotes a human agent, systematically has a corresponding feminine form that also denotes a machine or a device:

AMETRALLADOR 'machine-gunner'	~ AMETRALLADORA 1) 'female machine-gunner'; 2) 'machine gun'
COPIADOR 1) 'copyist'; 2) 'copier'	~ COPIADORA 1) 'female copyist'; 2) 'copier'
LAVADOR 'washer'	~ LAVADORA 1) 'female washer'; 2) 'washing machine'
MEZCLADOR 'mixer [person]'	~ MEZCLADORA 1) 'female mixer'; 2) 'mixer [device]'
TALLADOR 'cutter'	~ TALLADORA 1) 'female cutter'; 2) 'cutting machine'

- In some cases, the situation is reversed: the masculine form denoting a human agent has an additional meaning of a device:

LECTOR 1) 'reader'; 2) 'scanner, player'	~ LECTORA 1) 'female reader'
--	------------------------------

From this, two conclusions can be drawn. First, noun pairs of the HERMANO ~ HERMANA type cannot, generally speaking, be conveniently described within one lexical entry, while the wordforms opposed via an inflectional category must be — by definition of inflectional category — covered by one dictionary article. This indicates, again, that the contrast 'male ~ female' is not inflectional in Spanish. Second, if we decide to have one lexeme of the type AMERICANO 'American', which covers both gender forms, *vs.* another lexeme, AMERICANA 'jacket', we will have a huge amount of cases where an inflectional form of one lexeme physically coincides with a form of another lexeme — and this is again quite atypical of inflection.<sup>15</sup>

- **Formal irregularity** The formal morphological relations in the pairs of the HERMAN+O ~ HERMAN+A type are often irregular, which is manifested in three ways:

- Without mentioning the pair PADRE ‘father’ ~ MADRE ‘mother’, there are many “suppletive” or “near-suppletive” pairs, such as:

CABALLO ‘horse’	~ YEGUA ‘mare’	MACHO ‘male’	~ HEMBRA ‘female’
CARNERO ‘ram’	~ OVEJA ‘ewe’	MARIDO ‘husband’	~ MUJER ‘wife’
CABALLERO ‘gentleman’	~ DAMA ‘lady’	REY ‘king’	~ REINA ‘queen’
GALLO ‘rooster’	~ GALLINA ‘hen’	TORO ‘bull’	~ VACA ‘cow’
HÉROE ‘hero’	~ HEROÍNA ‘heroine’	YERNO ‘son-in-law’	~ NUERA ‘daughter-in-law’

- Many animal names exist only in one of two genders:

**only masculine**

[un] BUITRE ‘vulture’
[un] CACHALOTE ‘sperm whale’
[un] CAMELLO ‘camel’
[un] CASTOR ‘beaver’
[un] CHIMPANCÉ ‘chimpanzee’
[un] COCODRILO ‘crocodile’
[un] CONEJO ‘rabbit’
[un] DELFÍN ‘dolphin’
[un] ELEFANTE ‘elephant’
[un] FAISÁN ‘pheasant’
[un] HIPOPÓTAMO ‘hippopotamus’
[un] JAGUAR ‘jaguar’
[un] LEOPARDO ‘leopard’
[un] ÑANDÚ ‘rhea’
[un] RINOCERONTE ‘rhino’
[un] SAPO ‘toad’
[un] TIBURÓN ‘shark’

**only feminine**

[un <sub>FEM</sub> ] ÁGUILA ‘eagle’
[una] ALONDRA ‘lark’
[una] ARDILLA ‘squirrel’
[una] BALLENA ‘whale’
[una] CEBRA ‘zebra’
[una] FOCA ‘seal’
[una] GRULLA ‘crane’
[una] HIENA ‘hyena’
[una] JIRAFÁ ‘giraffe’
[una] LECHUZA ‘owl’
[una] LIEBRE ‘hare’
[una] LLAMA ‘llama’
[una] MARTA ‘marten’
[una] PALOMA ‘pigeon’
[una] PANTERA ‘panther’
[una] PERDIZ ‘partridge’
[una] RANA ‘frog’

- Numerous noun pairs which are semantically perfectly parallel are formally not parallel:

[un] ALCALDE ‘mayor’ ~ [una] ALCALDESA ‘female mayor’, but [un] SACERDOTE ‘priest’ ~ *[una] SACERDOTESA; correct: SACERDOTISA ‘priestess’
[un] DIRECTOR ‘director’ ~ [una] DIRECTORA ‘female director’, but [un] ACTOR ‘actor’ ~ *[una] ACTORA; correct: ACTRIZ ‘actress’
[un] GORRIÓN ‘sparrow’ ~ [una] GORRIONA ‘female sparrow’, but [un] RUISEÑOR ‘nightingale’ ~ *[una] RUISEÑORA; no name for a female nightingale
[un] HÉROE ‘hero’ ~ [una] HEROÍNA ‘heroine’, but [un] PRÍNCIPE ‘prince’ ~ *[una] PRINCIPINA; correct: [una] PRINCESA ‘princess’
[un] JEFE ‘chief’ ~ [una] JEFA ‘female chief’,

- but [un] ESTUDIANTE ‘[university] student’ ~ \*[una] ESTUDIANTA;  
correct: [una] ESTUDIANTE
- [un] INGENUO ‘naive person’ ~ [una] INGENUA ‘naive female person’  
but [un] MONSTRUO ‘monster’ ~ \*[una] MONSTRUA ‘female  
monster’; no name for a female monster
- [un] MODISTO ‘fashion designer’ ~ [una] MODISTA ‘female fashion  
designer’  
but [un] NUDISTA ‘nudist’ ~ [una] NUDISTA ‘female nudist’
- [un] RATÓN ‘mouse’ ~ [una] RATONA ‘female mouse’  
but [un] CABRÓN ‘billy goat’ ~ \*[una] CABRONA ‘she-goat’; correct:  
[una] CABRA
- [un] SIRVIENTE ‘servant’ ~ [una] SIRVIENTA ‘female servant’  
but [un] CÓNYUGE ‘spouse’ ~ [una] CÓNYUGE ‘female spouse’
- [un] TIGRE ‘tiger’ ~ [una] TIGRESA ‘tigress’  
but [un] ELEFANTE ‘elephant’ ~ \*[una] ELEFANTESA; correct: [una]  
ELEFANTA

Summing up, RAE & AALE 2010 dedicates about 15 pages (pp.97–112) to the description of the semantic and formal irregularities characteristic of masculine/feminine pairs of animate nouns. This is utterly atypical of an inflectional category: even if there always are exceptions, different forms of an inflectional category are normally described by general rules. Thus, we have here yet another indication to the effect that members of the pairs like HERMANO ~ HERMANA do not express an inflectional difference.

An obvious conclusion: Gender pairs reflecting sex differences, of the HERMANO ~ HERMANA type, are by no means inflectional in Spanish; their members belong to different lexemes. This is derivation, although very productive and relatively regular derivation. It is especially productive as applied to human nouns: Harris (1991:51) speaks of “Human Cloning” in Spanish in the sense that each designation of human being has a corresponding designation of the female counterpart (barring a few exceptions).

#### 4.3 Gender conversion in Spanish

The gender suffixes *-o* and *-a*, like the two other gender suffixes *-e* and *-Ø*, are used by the inflection mechanism only to construct a correct wordform of a given noun; they are never used to derive another nominal lexeme. Therefore, as was stated at the very beginning of this paper:

*-o* and *-a* are 100% inflectional suffixes.

“But”, — a knowledgeable reader might ask in amazement, — “what about such well-known cases as *manzan+a* ‘apple’ ~ *manzan+o* ‘apple tree’ and many others of the same type?” Of course, these pairs illustrate derivation, as do the pairs of the type *herman+o* ‘brother’ ~ *herman+a* ‘sister’. However, the marker of this derivation is not the gender suffix as such, but the **modification of the gender**, which entails the replacement of the gender suffix. Such a modification is nothing other than **morphological conversion**.

*Definition 5: Morphological conversion* (Mel'čuk 1982: 102–103, 2000b, 2006a: 304–306)

**Morphological conversion** is a linguistic sign whose signifier is an operation on the syntactics of the affected sign, namely a modification of a feature/features in its syntactics.

A classic example is English **part-of-speech conversion** (C stands for ‘conversion’):

$$C_{\text{APPLY}} = \langle \text{'apply } Y \text{ to } Z'; \langle N \rangle \in \Sigma_{(L(Y))} \Rightarrow \langle V \rangle; \Sigma = L(Y)_{(N, \text{APPLY}: C)} \rangle$$

[the] BOMB	~ [to] BOMB [N <sub>Z</sub> ]	[the] OIL	~ [to] OIL [N <sub>Z</sub> ]
[the] HAMMER	~ [to] HAMMER [N <sub>Z</sub> ]	[the] SALT	~ [to] SALT [N <sub>Z</sub> ]
[the] MACHINE GUN	~ [to] MACHINE-GUN [N <sub>Z</sub> ]	[the] SAW	~ [to] SAW [N <sub>Z</sub> ]

The case we are discussing here in Spanish is **gender conversion**, which expresses different derivatememes: *TREE*, *FEM(ale)*, *AGENT*, etc.

First, two productive and rather regular conversions.

1) *TREE*(L(‘fruit Y’)) ⇔

$$\{C_{\text{TREE}}\} = \langle \text{'tree that bears the fruit/the flower } Y'; \langle \text{fem} \rangle \in \Sigma_{(L(Y))} \Rightarrow \langle \text{masc} \rangle; \Sigma = L(Y)_{(\text{fem}, \langle \text{a} \rangle, \text{TREE}: C)} \rangle$$

ALMENDRA ‘almond’	~	ALMENDRO ‘almond tree’
CAMELIA ‘camellia’	~	CAMELIO ‘camellia tree’
CASTAÑA ‘chestnut’	~	CASTANO ‘chestnut tree’
CEREZA ‘cherry’	~	CEREZO ‘cherry tree’
CIRUELA ‘plum’	~	CIRUELO ‘plum tree’
GUAYABA ‘guava’	~	GUAYABO ‘guava tree’
GUINDA ‘sour cherry’	~	GUINDO ‘sour cherry tree’
MANZANA ‘apple’	~	MANZANO ‘apple tree’
NARANJA ‘orange’	~	NARANJO ‘orange tree’
PAPAYA ‘papaya’	~	PAPAYO ‘papaya tree’
TORONJA ‘grapefruit’	~	TORONJO ‘grapefruit tree’

Conversion  $C_{\text{TREE}}$  applies to a noun L that denotes a fruit or a flower ‘Y’, if and only if 1) L is feminine, 2) L has the gender suffix -a, and 3) L is marked in its syntactics as allowing for this conversion. If a fruit name fails one of the three conditions, the conversion is not applicable. For instance:

- PERA ‘pear’ gives PERAL ‘pear tree’, and not \*PERO; the noun is feminine and has the suffix -a, therefore it has to be marked in its syntactics: «*TREE*: -al+Ø».
- NUEZ ‘walnut’ is feminine, but its gender suffix is -Ø; its syntactics says «*TREE*: nogal», since the walnut tree is NOGAL (and this is a suppletive form).
- LIMÓN ‘lemon’ is not feminine; the lemon tree is called LIMONERO, and LIMÓN’s syntactics has «*TREE*: -er+o».

As we see, the derivateme *TREE* is describable as a non-standard lexical function, just like other derivatemes below.<sup>16</sup>

The productivity of this conversion is naturally limited by the small number of feminine names of fruit; but the next conversion, which derives from the names of male beings the names of their female counterparts, is much more productive: it involves hundreds (or maybe even a couple of thousand) of nouns.

$$\begin{aligned}
 2) \text{ FEM}(L(\text{'sexed being } X')) &\Leftrightarrow \{C_{\text{FEM}}\} = \\
 &= 1. \langle \text{'female } X'; [\text{«masc»}, \text{«-}\alpha\text{»}] \in \Sigma_{(L(X))} \Rightarrow \langle \text{«fem»}, \text{«-a»}; \Sigma = L(X)_{(\text{masc}, \text{FEM}: C, -\alpha)} \rangle \\
 &= 2. \langle \text{'female } X'; [\text{«masc»}, \text{«-}\alpha\text{»}] \in \Sigma_{(L(X))} \Rightarrow \langle \text{«fem»}, \text{«-}\alpha\text{»}; \Sigma = L(X)_{(\text{masc}, \text{FEM}: C, -\alpha)} \rangle
 \end{aligned}$$

The symbol «- $\alpha$ » stands for ‘any gender suffix’.

There are two specific conversions realizing the conversioneme  $C_{\text{FEM}}$ , which derives the female counterpart for a male name:

- $C_{\text{FEM}} 1$  applies to a masculine noun that denotes a male sexed being if this noun is marked (by means of a non-standard lexical function *Female*) as accepting the conversion — such as, for instance, [un] HERMANO, which becomes HERMANA, or else [un] JEFE ~ [una] JEFA, [un] LADRÓN ‘thief’ ~ [una] LADRONA, etc. This is, so to speak, a “genuine” feminization.
- $C_{\text{FEM}} 2$  applies to any noun whose form does not change in the feminine: such as [un] TESTIGO ‘witness’ ~ [una] TESTIGO, [un] ESTUDIANTE ‘[university] student’ ~ [una] ESTUDIANTE, [un] ARTISTA ~ [una] ARTISTA, [un] PROFESIONAL ‘[a] professional’ ~ [una] PROFESIONAL.

A noun, such as, for instance, [un] CONDE ‘count’, which has the female counterpart [una] CONDESA ‘countess’, and not \*[una] CONDA/\*[una] CONDE, will not be processed by the above conversions, because it does not have the indication «*Female*:  $C_{\text{FEM}}$ » in its syntactics (it has instead «*Female*: FEM -es(+a)»). The same is, of course, true of other types of nouns that do not allow for the conversion  $C_{\text{FEM}}$ .

Three much less regular and non-productive conversions also illustrate the derivational use of nominal gender conversion in Spanish.

The conversion  $C_{\text{AGENT}}$  derives the names of agents from the names of objects, collectivities, official bodies or activities:

$$3) \text{ AGENT}(\text{L}(\text{'X'})) \Leftrightarrow \{\text{C}_{\text{AGENT}}\} = \\ = \langle \text{'agent related to X'} ; \langle \text{'fem'}, \langle \text{'-a'} \rangle \in \Sigma_{(\text{L}(\text{'X'}))} \Rightarrow \langle \text{'masc'}, \langle \text{'-a'} \rangle ; \\ \Sigma = \text{L}(\text{'X'})_{(\text{fem}, \text{S1/S1Real1: C, -a})} \rangle$$

[la] AYUDA 'help <sub>(N)</sub> '	~ [un] AYUDA 'helper' [ <i>ayuda de oratorio</i> ]
[una] CABEZA 'head'	~ [un] CABEZA [ <i>de un bando</i> ] 'head person'
[la] CANALLA 'riff-raff'	~ [un] CANALLA 'rascal'
[una] CORNETA 'bugle'	~ [un] CORNETA 'bugler'
[una] ESPADA 'sword'	~ [un] ESPADA 'matador'
[la] DEFENSA 'defense'	~ [un] DEFENSA 'backline player'
[una] FLAUTA 'flute'	~ [un] FLAUTA 'flutist'
[la] GRANUJA 'riff-raff'	~ [un] GRANUJA 'rascal'
[la] GUARDA 'ward'	~ [un] GUARDA 'keeper' [of a museum]
[la] GUARDIA '[the] guard'	~ [un] GUARDIA '[a] guard'
[la] POLICÍA 'police'	~ [un] POLICÍA 'policeman'
[una] TROMPETA 'trumpet'	~ [un] TROMPETA 'trumpeter'
[la] ZAGA 'back part, rear'	~ [un] ZAGA 'backline player'

Two additional gender conversions  $\text{C}_{\text{PEQUEÑO}}$  and  $\text{C}_{\text{GRANDE}}$  derive the names of “small/large” objects from the names of “ordinary” objects; they are even less regular than the preceding example. (In fact, the “small/large” objects differ from the “normal” ones not only by size, but also by form, by several properties, by function, etc., so that the glosses are quite approximate.)

$$4) \text{ PEQUEÑO}(\text{L}(\text{'X'})) \Leftrightarrow \{\text{C}_{\text{PEQUEÑO}}\} = \\ = \langle \text{'small X'} ; [\langle \text{'fem'}, \langle \text{'-a'} \rangle] \in \Sigma_{(\text{L}(\text{'X'}))} \Rightarrow \langle \text{'masc'}, \langle \text{'-o'} \rangle ; \Sigma = \text{L}(\text{'X'})_{(\text{fem}, \text{PEQUEÑO: C, -o})} \rangle$$

[una] BOLSA 'bag'	~ [un] BOLSO 'small bag'
[una] CALDERA 'cauldron'	~ [un] CALDERO 'small cauldron'
[una] GORRA 'cap'	~ [un] GORRO 'small cap'

$$5) \text{ GRANDE}(\text{L}(\text{'X'})) \Leftrightarrow \{\text{C}_{\text{GRAN}}\} = \\ = \langle \text{'large X'} ; \langle \text{'masc'}, \langle \text{'-o/-e'} \rangle \in \Sigma_{(\text{L}(\text{'X'}))} \Rightarrow \langle \text{'fem'}, \langle \text{'-a'} \rangle ; \\ \Sigma = \text{L}(\text{'X'})_{(\text{masc}, \text{GRANDE: C, -a})} \rangle$$

[un] CÁNTARO 'pitcher'	~ [una] CÁNTARA 'large pitcher'
[un] CHARCO 'puddle'	~ [una] CHARCA 'large puddle'
[un] GARBANZO 'chickpea'	~ [una] GARBANZA 'large chickpea'
[un] HUERTO 'orchard'	~ [una] HUERTA 'large orchard'
[un] HOYO 'depression [in the ground]'	~ [una] HOYA 'large depression [in the ground]'
[un] JARRO 'jug'	~ [una] JARRA 'large jug'
[un] MACHETE 'machete'	~ [una] MACHETA 'large machete'
[un] OLMO 'elm'	~ [una] OLMA 'large elm'
[un] SACO 'bag'	~ [una] SACA 'large bag'

$$= \langle \text{'large X'} ; [\langle \text{'fem'}, \langle \text{'-a'} \rangle] \in \Sigma_{(\text{L}(\text{'X'}))} \Rightarrow \langle \text{'masc'}, \langle \text{'-o'} \rangle ; \Sigma = \text{L}(\text{'X'})_{(\text{fem}, \text{GRANDE: C, -o})} \rangle$$

[una] BARCA 'boat'	~ [un] BARCO 'large boat'
[una] CANASTA 'basket'	~ [un] CANASTO 'large basket'
[una] CESTA 'basket'	~ [un] CESTO 'large basket'

NB: The pairs of the type BOLO ‘pin [bowling]’ ~ BOLA ‘ball [sphere]’ or SOTO ‘grove’ ~ SOTA ‘jack, knave [playing cards]’ (and hundreds, if not thousands, of similar ones) do not, of course, represent morphological conversion and do not belong to the same family as HERMANO ~ HERMANA: the members of the former pairs do not manifest a regular semantic difference that could be expressed by a conversion.

## 5. Nominal gender vs. noun class

Spanish nominal gender is the least prototypical gender among all Romance languages: it has only four (out of eight) properties of a noun class.<sup>17</sup> Namely, features 4, 5, 6, and 8 in Definition 2 have negative values, which is typical of noun class rather than of nominal gender.

- Feature 4: In Spanish, a noun does have an autonomous and non-cumulative gender marker; it is a suffix that expresses exclusively nominal gender. (Therefore, in Spanish, nominal gender is an **overt feature**.)
- Feature 5: In Spanish, the markers of adjectival gender in adjectives that agree with the noun are not cumulative; adjectival gender is not expressed in combination with other grammemes, such as adjectival number or case, but in its “pure” state.
- Feature 6: In Spanish, gender does not affect the declension of the noun — the plural of all nouns is formed in the same way, regardless of their gender.
- Feature 8: In Spanish, a change of the gender of a noun is used to express a derivational meaning characterizing this noun (see the examples above).

Let me now sketch a parallel with Fula (language of the Senegambian branch of Niger-Congo family, spoken in Nigeria, Mali, Burkina-Faso, Senegal). Fula is a prototypical noun class language: it distinguishes between 20 and 25 noun classes (depending on the dialect; see Koval & Zubko 1986 and Paradis 1986); these classes have positive values for features 4, 5, 6 and 8:

- Feature 4: In Fula, a noun does have an autonomous and non-cumulative noun class marker, which is a suffix expressing exclusively this class and nothing else; cf. *gor+ko* ‘man’, *lek+ki* ‘tree’, *suu+du* ‘house, cabin’, etc. Thus, in Fula, noun class is an **overt** category, as in all noun class languages.
- Feature 5: In Fula, the markers of adjectival class in the adjectives that agree with the noun are not cumulative, and for the same reason; cf.

*gor+ko toowu+dô* lit. 'man tall', *lek+ki toowu+ki* lit. 'tree tall', *suu+du toowu+ndu* lit. 'house tall'.<sup>18</sup>

Feature 6: In Fula, the noun class of a noun does not affect the noun's declension, since there is no noun declension besides the class conversion.

Feature 8: In Fula, a change of the class of a noun is actively used to express a derivational meaning characterizing this noun. Here are a few examples:

#### Augmentative

Class **-ngol** ⇒ Class **-ngii**: *can+ngal* 'river' ~ *can+ngii* 'big river' (c = /č/)  
 Class **-ngii** ⇒ Class **-ngal**: *baal+ii* 'sheep' ~ *baal+al* 'big sheep'  
 Class **-ko** ⇒ Class **-ngal**: *gor+ko* 'man' ~ *gor+gal* 'big man, giant'

#### Diminutive

Class **-ol** ⇒ Class **-kel**: *taal+ol* 'tale' ~ *taal+el* 'little tale'  
 Class **-be** ⇒ Class **-koy**: *git+e* '[pair of] eyes' ~ *ngit+oy* '[pair of] little eyes'  
 Class **-ki** ⇒ Class **-kun**: *lek+ki* 'tree' ~ *lek+kun* 'little tree'

#### Deverbal Noun

Verb ⇒ Class **-ngal**: *sell+a* 'be healthy' ~ *cell+al* 'health'  
 Verb ⇒ Class **-nde**: *maay+a* 'die' ~ *maay+de* 'death'  
 Verb ⇒ Class **-ngu**: *wall+a* 'help<sub>(V)</sub>' ~ *mballuu+gu* 'help<sub>(N)</sub>'

It can be immediately seen to what extent the Spanish gender resembles, in this respect, the Fula noun class. These atypical properties of nominal gender are at the root of the continuing disagreement with regard to the nature of Spanish nominal gender markers. Yet, even if atypical, they are **gender** markers: Spanish has 1) just two genders, 2) they are sex-oriented, 3) beyond sex, they show no links with the meaning of the noun, and 7) a change of gender never expresses an inflectional meaning (for instance, nominal number). Moreover, and this is also important, noun class feature 4 is not really well represented in Spanish: typical noun class markers stand with noun classes in a one-to-one relationship (one marker — one noun class); but the Spanish gender markers are ambiguous, and any gender can in principle be marked by any marker — a property more characteristic of genders than of noun classes.

## Conclusions

1. Nominal gender in Spanish, like in all languages, is — by definition — not an inflectional category, but an inherent feature of the noun (formally speaking,

an indication in the noun's syntactics). In sharp contrast, adjectival gender is of course an inflectional category of Spanish.

2. The gender of a noun is expressed in each Spanish wordform by a suffix: **-o**, **-a**, **-e**, or **-Ø** (this fact is demonstrated by the use of diminutive/augmentative suffixes: e.g., [una] *hambr+e* 'hunger' ~ *hambr+it+a/hambre+cit+a* 'little hunger'). A set of homophonous suffixes is used for the agreement of the adjective.
3. Since the nominal gender suffixes **-o**, **-a**, **-e**, and **-Ø** serve to construct the forms of a given nominal lexeme, they are — again by Definition 3 — inflectional. The situation strongly resembles that observed in many noun class languages (for instance, Bantu and Niger-Congo), which have morphological markers of the class of the noun, semantically empty, but necessary in each wordform of any nominal lexeme.
4. The noun pairs of the type HERMANO 'brother' ~ HERMANA 'sister' or ESCRITOR 'writer' ~ ESCRITORA 'female writer' do not belong to the same lexeme, but constitute two separate lexemes; therefore, they manifest derivation — very productive and sufficiently regular, but derivation.
5. The expressive means used in pairs of the type HERMANO 'brother' ~ HERMANA 'sister' is morphological conversion — that is, transference of the noun from one gender to another.

## Annex

In order to buttress the line of reasoning presented above, I would like to sketch two additional phenomena of Spanish: non-gender morphological conversions and the use of the plural grammeme for derivation.

1. Spanish has an inflectional morphological conversion that is both 100% productive and 100% regular: it expresses the subjunctive in the present tense.

$$\begin{aligned} \{C_{\text{SUBJ}}\} &\Leftrightarrow C_{\text{SUBJ}}^{\text{I} \Rightarrow \text{II}} = \langle \text{SUBJ}(\text{unctive}); \langle \text{I} \rangle \in \Sigma(L_{(V)}) \Rightarrow \langle \text{II} \rangle; \Sigma = L_{(V, \langle \text{I} \rangle)} \rangle \\ &\Leftrightarrow C_{\text{SUBJ}}^{\text{II/III} \Rightarrow \text{I}} = \langle \text{SUBJ}(\text{unctive}); \langle \text{II/III} \rangle \in \Sigma(L_{(V)}) \Rightarrow \langle \text{I} \rangle; \Sigma = L_{(V, \langle \text{II/III} \rangle)} \rangle \end{aligned}$$

This conversion changes the conjugation group of the verb: from Group I to Group II, and from Group II or III to Group I: *cantamos* 'we are singing' ~ [que] *cantemos* '[that] we be singing', *comemos* 'we are eating' ~ [que] *comamos* '[that] we be eating', *subimos* 'we are going up' ~ [que] *subamos* '[that] we be going up'. (For a detailed description, see Mel'čuk 1976, 1994, and 1993–2000: vol. 5, 117–172.) The importance of this inflectional conversion, which is an integral part of Spanish conjugation, lends credibility to the description of the pairs of the type HERMANO ~ HERMANA by a derivational conversion. The

parallelism of these two conversions is striking: both express a grammatical meaning by using meaningless morphs.

2. The use of inflectional morphs for derivational purposes is typical of Spanish. Thus, the plural marker *-(e)s* is pressed into service to realize several derivates (see, for instance, Ambadiang 1999: 489ff.):
  - ‘X and his wife’, as in *rey+es* ‘king and queen’, *padre+s* ‘father and mother’, *tío+s* ‘uncle and aunt’, ...
  - ‘Supplies X owned by Y’, as in *Farina+s Alonso* ‘Alonso Flour Supplies’, *Hormigon+es Villas* ‘Villas Concrete Supplies’, *Cerveza+s Heineken* ‘Heineken Beer Supplies’, ...
  - ‘X, of which I think poetically’, as in [*En abril*], *las agua+s mil* [A. Machado] lit. ‘[In April], thousand waters’, *humo+s de la guerra* ‘smokes of the war’, *arena+s del Sahara* ‘Sahara’s sands’, ...

The same marker, but as an empty morph (i.e., without the plural grammeme), also participates extensively in derivation (*boton+es* lit. ‘buttons’ = ‘bellhop’) and compounding (*sacacorcho+s* lit. ‘pull-corks’ = ‘cork-screw’).

## Acknowledgments

The first sketches of this paper were read and criticized by M. Alonso Ramos, D. Beck, I. Bosque Muñoz, G. Corbett, L. Iordanskaja, F. Louis, J. Milićević, A. Polguère, B. Sanromán Vilas, and D. Serrano-Dolader, as well as an anonymous reviewer of *Studies in Language*. Their criticisms and suggestions, especially Beck’s remarks, helped me significantly improve the presentation, avoid several mistakes and make my points more forcefully. The usual disclaimer applies: I am solely responsible for any mistake or inconsistency that remains in the text.

## Notes

1. This is only approximately true: numerous nouns of both genders end in *-e* or in a consonant, like the masculine *coche* ‘car’ vs. the feminine *calle* ‘street’, or the masculine *análisis* ‘analysis’ vs. the feminine *síntesis* ‘synthesis’. Equally numerous are the nouns that end in a gender-imposing suffix: all nouns in *-aje* are masculine, all nouns in *-dad/-tad/-tud* feminine, etc. However, for the moment, this phenomenon can be ignored. I leave completely aside the so-called “neuter gender,” as in *est+o*, *aquell+o* and *lo tierno de sus abrazos* lit. ‘the tender of his hugs’; by all means, its existence does not concern Spanish nouns: there is no special neuter gender agreement of the adjective with the noun. Note also that Spanish personal pronouns of the 1st and 2nd persons do not have grammatical gender; when an adjective agrees with such a pronoun, the agreement is done according to the sex of the referent (as, for instance, in *Estoy enfermo*<sub>MASC</sub>/*enferma*<sub>FEM</sub> ‘[I<sub>male/female</sub>] am sick’). Neither do the relative pronouns QUIÉN ‘who’ and QUE ‘which’ have grammatical gender themselves: they let “percolate” the gender of their antecedent.

2. The endings **-o** and **-a** in the adjective are unanimously recognized as separate gender morphs; only the nominal endings **-o** and **-a** are problematic.
3. An Internet search for *género gramatical en español* returns about 8000 hits; see also <http://www.ub.edu/crai/filo/bib.php?text=g%E9nero&camp=clau&ordre=autor&sentit=ASC>, where about 150 articles concerning grammatical gender are listed.
4. I stick to the formally inconsistent terms *nominal gender* vs. *noun class* because of their wide acceptance.
5. A grammeme is a value of an inflectional category, such as NOM(inative), ACC(usative), etc. for the category of **nominal case**; or PRES(ent), PAST and FUT(ure) for the category of **tense**.
6. This sentence does not contradict such cases as seen in Bagwalal (Daghestan) *Allašū+b<sub>III</sub> šim<sub>(III)</sub>b<sub>III</sub>+aqiri+b<sub>III</sub>+o* lit. 'Allah anger holding' = 'Allah being angry' (Kibrik 2001: 427), where ALLAH agrees with the noun ŠIM. First, agreement of this type proves that we deal here with noun classes, and not genders; second, agreement happens according to the morphological category of "agreeing class" (ALLAH does not change its own inherent noun class I).
7. The real situation is more complex: **-it** appears also after *-i* and *-a*: *di+it+a* 'little day', *ri+it+o* 'little river' or *bacala+it+o* 'little cod'; when **-it** appears after */j/*, this */j/* is truncated according to the general phonological rule of Spanish: *\*/ji/* ⇒ */i/*, giving, e.g., *espac+it+o* 'little space' instead of *\*/espaθjito/* (see a formal description of a fragment of Spanish (mor)phonology in Mel'čuk 2000c: 160ff.); **-(e)cit** can be used after stems in *-n*, *-l* and *-r*, such as *ladron+cit+o* 'little thief' or *man+ecit+a* 'little hand', possible along with *man+it+a*, *sal+cit+a* 'little salt', etc. However, these details are not relevant for the present discussion.
8. The nominal suffix **-s** is the marker of the plural. However, in human names such as *Carlos* or *Mercedes* this **-s** does not, of course, express the plural: here it is an empty morph.
9. Such an egalitarian treatment of the phenomena so widely different in their numerical importance reminds me of an entry in the menu of a cheap restaurant: "Meat patties — hazel hen and horse meat, fifty-fifty (the proportion: one hazel hen, one horse)". The hazel hen is a tiny bird, smaller than a sparrow, whose meat is highly appreciated by gourmets.
10. But note the synonymous masculine noun [*un*] MARIMACHO 'mannish woman'.
11. Zero suffixes, especially the gender zero suffix, play an important role in the proposed description of nominal wordforms of Spanish; for more details on the zero linguistic signs, see Mel'čuk 2006a: 469ff.
12. As for assigning a noun to a particular gender as a function of its form, there are many well-known generalizations, for instance:
  - All nouns of Ancient Greek origin in **-ma** are masculine (*enigma, sintagma, teorema*).
  - All nouns with the suffixes **-aj(+e)**, **-mient(+o)** or **-al/-ar** are masculine (*peaje, aburrimiento, pedral, manzanar*).
  - All nouns with the suffixes **-dad/-tad/-tud**, **-umbre**, **-ur(+a)**, **-ción/-sión** are feminine (*verdad, libertad, actitud, cumbre, locura, aparición, visión*).
  - All human nouns with the suffix **-ist(+a)** can be of both genders (*lingüista<sub>(masc)</sub> bueno* ~ *lingüista<sub>(fem)</sub> buena*).

In other words, gender indications in the syntactics of Spanish nouns are often predictable, beyond the obvious case of nouns referring to sexed beings.

The corresponding rules are very useful for a learner of Spanish; this paper, however, does not deal with the problem of the gender inclusion of Spanish nouns.

13. The problem of determining whether a particular morphological element is inflectional or derivational has been discussed many times; three texts aimed at establishing checklists of properties characterizing derivatememes as opposed to grammemes can be indicated: Dressler 1989, Plank 1991, and Mel'čuk 1993–2000: vol. 1, 293ff. and 303ff.

14. This happens, of course, not only in Spanish. Here is an amusing list of Russian noun pairs (ethnic names), where the masculine noun denotes a person, while the feminine noun denotes a female person, but has additional senses with respect to the masculine noun:

<i>amerikanec</i> 'an American'	– <i>amerikanka</i> 1) '[a] female American, 2) 'pool of a particular type, 3) 'bet of a particular type'
<i>cygan</i> 'Gypsy'	– <i>cyganka</i> 1) 'female Gypsy, 2) 'Gypsy dance'
<i>čex</i> '[a] Czech'	– <i>češka</i> 1) 'female Czech, 2) PL 'shoes of a particular type' [for dance or sports]
<i>finn</i> 'Finn'	– <i>finka</i> 1) 'female Finn, 2) 'Finnish knife' [= <i>puukko</i> ]
<i>gavaec</i> '[a] Hawaiian'	– <i>gavajka</i> 1) 'female Hawaiian, 2) 'Hawaiian shirt'
<i>gollandec</i> 'Dutchman'	– <i>gollandka</i> 1) 'Dutchwoman, 2) 'oven of a particular type'
<i>ispanec</i> 'Spaniard'	– <i>ispanka</i> 1) 'female Spaniard, 2) 'Spanish flu' [pandemics of 1918–1919]
<i>kanadec</i> '[a] Canadian'	– <i>kanadka</i> 1) 'female Canadian, 2) 'oven of a particular type, 3) 'haircut of a particular type, 4) 'door of a particular type'
<i>lezgin</i> '[a] Lezgian'	– <i>lezginka</i> 1) 'female Lezgian, 2) 'Lezgian dance'
<i>litovec</i> '[a] Lithuanian'	– <i>litovka</i> 1) 'female Lithuanian, 2) 'scythe of a particular type'
<i>panamec</i> '[a] Panamanian'	– <i>panamka</i> 1) 'female Panamanian, 2) 'Panama hat'
<i>poljak</i> 'Pole'	– <i>pol'ka</i> 1) 'female Pole, 2) 'Polish dance' [ <i>polka</i> ]
<i>rumyn</i> '[a] Rumanian'	– <i>rumynka</i> 1) 'female Rumanian, 2) PL 'ladies' boots of a particular type'
<i>šotlandec</i> 'Scot'	– <i>šotlandka</i> 1) 'female Scot, 2) 'tartan'
<i>vengr</i> '[a] Hungarian'	– <i>vengerka</i> 1) 'female Hungarian, 2) 'plum of a particular type, 3) 'Hungarian dance'

For a good measure, there are a few French lexical pairs of the same type:

<i>abatteur</i> 'hard-working man'	– <i>abatteuse</i> 'hard working prostitute'
<i>courtisan</i> 'courtier'	– <i>courtisane</i> 1) 'female courtier, 2) 'courtesan'
<i>entraîneur</i> 'sports coach'	– <i>entraîneuse</i> 1) 'female sports coach, 2) 'bar hostess/prostitute'
<i>péripatéticien</i> 'philosopher'	– <i>péripatéticienne</i> 'prostitute'
<i>professionnel</i> '[a] professional'	– <i>professionnelle</i> 1) 'female professional, 2) 'prostitute'
<i>turfleur</i> 'race goer'	– <i>turfeuse</i> 1) 'female race goer, 2) 'prostitute'

15. Isolated cases of such coincidences are common: for instance, BOTONES 'bellhop' (the plural form of BOTÓN 'button') or PAGARÉ 'promissory note' = 'IOU' (the future indicative form of the 1sg of PAGAR 'pay'); what is not common is the utter systematicity of the homophony "inflectional form of one lexeme ~ another lexeme."

16. Lexical functions are a tool proposed for the formal description of derivations and collocations: a derivative and a collocate of L are specified in the lexicon as a function of L. For instance:

- Derivations:  $S_2(\text{SHOOT}) = \text{target}$ ,  $S_2(\text{ADDRESS}) = \text{addressee}$ , etc.; Sp. *TREE*(NARANJA) = *naranja*, *TREE*(LIMÓN) = *limonero*, etc.
  - Collocations:  $\text{Oper}_1(\text{ATTENTION}) = \text{pay}$ ,  $\text{Oper}_1(\text{CREDENCE}) = \text{give}$ ,  $\text{Oper}_1(\text{SURVEY}) = \text{conduct}$ , etc.; or  $\text{Magn}(\text{ATTENTION}) = \text{deep}$ ,  $\text{Magn}(\text{CREDENCE}) = \text{full}$ ,  $\text{Magn}(\text{SURVEY}) = \text{broad}$ , etc.
- See Mel'čuk 1996 and 2007.

17. This is probably true of nominal gender in Portuguese and Catalan as well, but special studies are needed to confirm this guess. (On the morphological status of nominal gender in Catalan, see Lloret & Viaplana 1997.)

18. In Fula writing system,  $\acute{b} = /b/$  and  $\acute{d} = /d/$  represent preglottalized consonants.

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