Concordance in morphology
Lexeme and suffix in Spanish nouns

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Introduction
The issue that will be treated in this contribution is which features of the base and the suffix are “active” in words formed by suffixation. More specifically, the question is how the base and the suffix interact. In such a lexicmatic approach, as has been discussed in Beard (1981; 1995; 1998), the base has lexical semantic features which are interpretable in base position. The suffix is a spell-out of lexical category and of grammatical functions which are interpretable in suffix position. Thus, the question is which part of the meaning of a word formed by suffixation is provided by the base, which part of its interpretation is provided by the suffix and how these interpretations are combined and merged, giving the meaning of the word formed by suffixation. I will try to show that the merger of base and suffix has concordance properties: uninterpretable features in the base or in the suffix which have not been eliminated will produce a “crash”, as has been proposed in the “Minimalist” framework (Chomsky (1995)) for concordance phenomena.

In this paper, the analysis of Spanish nouns on -ido, on -azo and on -era will be discussed. A careful survey of available studies can be found in Rainer (1993). These suffixes have been treated as suffixes having lexical meaning: -ido as having the meaning “sound”, -azo as having the meaning “hit” or “blow” or “smash” or “shot”, and -era as having different meanings, such as “container” or “bottle” or “can”. Note that noone suggests that -ido, -azo, -era are not suffixes: they cannot be treated as suffix-like nominal heads of compounds.

In the lexicmatic approach, lexical meanings such as “sound”, “hit”, “blow”, “smash”, “shot”, or “container” are not found in suffix position, and the traditional, compound-like analyses reviewed by Rainer (1993) cannot be true.

I will try to show that this traditional, compound-like analysis is insufficient and inappropriate. It has been favored by the fact that many translation equivalents
in English, German and Dutch are compounds headed by a noun expressing one of these meanings. I want to show that these suffixes have no such lexical meanings. Lexical meaning is part of the base; the suffix has grammatical meaning and it merges with the base. Pragmatic aspects determine the referents of the Spanish words formed by suffixation: real world knowledge that the speaker and the hearer share on the usual referents.

In the first section, on nouns with the suffix -ido, which denote sounds, and on other nouns denoting sounds and the corresponding verbs, some ways of interpreting “morphological concordance” will be discussed.

In the second section, on the Spanish suffix -azo and its interpretation, it will be shown that semantic properties of the base are responsible for aspects of meaning that have been taken to be properties of the suffix -azo. The “concordance” issue will be taken up again: the hypothesis will be adopted that the suffix has grammatical meaning which gives access to the “telic quale”, a semantic feature of the base.

In the third section, on the -era suffix, which is said to have a number of distinct, but related meanings, it will be argued that the suffix has one grammatical meaning, which is “typical location”. The suffix has access to what will be called the “locative quale”, a semantic feature of the base.

In the fourth section, a short résumé of some conclusions will be given.

1. On nouns and verbs denoting sounds

Consider some Spanish nouns with the suffix -ido and the related verbs:

(1) i. aullido (howl, yell) \(<i>aullar\) (to howl, to yell)
   ii. balido (bleat(ing)) \(<i>balar\) (to bleat)
   iii. bramido (bellow) \(<i>bramar\) (to bellow)
   iv. ladrado (bark(ing)) \(<i>ladrar\) (to bark)

According to Rainer (1993:531), the suffix -ido is used to derive “nomina actionis” from verbs denoting sounds. Thus, the verbal base denotes the “action” of producing a typical sound; the suffix -ido is used to form the corresponding “nomen actionis”, which denotes the act of producing the sound or the sound which is produced in this act.

The properties of -ido in (1) can be described in general terms, as in (2), or in a “Minimalist formulation”, as effects of the concordance which must hold between a feature of the base and the suffix, as in (3):

(2) Properties of -ido and its base
   i. The base is a verb denoting sound;
   ii. The suffix -ido denotes an act, or its effect;
   iii. The suffix -ido selects as its base a verb denoting a sound
"Minimalist formulation": features of -ido and its base

i. The suffix -ido has the semantic feature [sound]

Note: The [sound] feature is uninterpretable in suffix-position.

Consider the “Minimalist formulation” that has been given in (3). The statement that the suffix -ido selects a base that has a [sound] feature, given in (2i), is not necessary if the semantic feature [sound] is uninterpretable in the suffix. Being uninterpretable, it must be eliminated; it can be eliminated by concordance with the semantic feature [sound] of the base, which is interpretable.

An advantage of this approach is that different types of affixes can be distinguished: some affixes, like -ido, possess a semantic, but uninterpretable feature that must be eliminated by a base of a specific semantic type. Other affixes are general, since they do not contain an uninterpretable semantic feature. They contain a grammatical feature like [action], which can be assumed to be part of the “semantic” -ido suffix as well. The lexical base contains interpretable semantic features and can take a semantically non-specific affix, like the general "action suffix" -o. And in fact, alternations like aullido/aúllo are found.

Note that, on the one hand, the semantic suffix -ido requires a base which is able to eliminate its uninterpretable feature [sound] and that, on the other hand, a base with the semantic feature [sound] can take a meaningful suffix like -ido, or a grammatical suffix like -o. If the base has the feature [sound], this semantic feature of the base is interpretable, and it can, but it need not, eliminate an uninterpretable [sound] feature of the suffix. If the base is followed by a suffix lacking the [sound] feature, the result can be fine, since there is no need for the base to combine with a suffix having a [sound] feature.

Consider a small number of "sound" verbs and related nouns which do not take the -ido suffix, but a general suffix -o, as given in (4)

(4) Some "sound" verbs and nouns
i. gritar (to shout) / grito (shout) [*gritido]
ii. sollozar (to weep) / sollozo (weeping) [*sollocido]
iii. cantar (to sing) / canto (song) [*cántido]

Thus, the -ido suffix is found with some [sound] bases, and the -o suffix with other [sound] bases, and in some cases we find both suffixes.

Let us take a closer look at the relation between the base and the suffix.

Usually, [sound] verbs are assumed to be basic and [sound] nouns, to be derived from them. However, no reasons are given why this should be so. The [sound] noun might be basic, and the [sound] verb, denominal.

A different approach is to assume that the base has no lexical category and that it is the suffix which determines the lexical category of the word. Not only lexical category, but also its grammatical value is provided by the suffix. Thus, the base grit- has the semantic feature [sound]; the verbal suffix -ar in gritar has transitive
“event” meaning (say [produce]; cf. Hale and Keyser (1993)) and the nominal suffix -o adds the nominal meaning, the action or its effect.

Now, two questions arise:

i. How does the native speaker know the appropriate verbal suffix?

ii. How does the native speaker know the appropriate nominal suffix?

These are not questions on how the speaker/listener acquires lexical and morphological properties but on how they are encoded in the mental lexicon.

It is evident that the conjugation class feature is an accidental, unpredictable feature. Given the base grit-, a formal feature such as [+__ar] is necessary to derive the correct first conjugation (infinitival) verb form gritar, and to avoid deriving the second or third conjugation verb forms, *griter or *gritir. Moreover, if the base grit- has no lexical category, it is necessary to indicate that a verb can be derived from it. Furthermore, it has to be stated that the same base underlies a noun has the suffix -o; the formal feature [+__o] represents this.

(5) The base form and its lexical categorical feature(s).

Base form: grit-
Lexical categorical feature(s): [+V=__ar] or: [+N=__o]

These formal features are eliminated if the base combines with the appropriate suffix, the right verb conjugation class feature or the right nominal suffix. Thus, formal features of the base are eliminated by merging with the appropriate suffix.

In this approach, the formal features of the base are uninteresting; they must be eliminated, by adding the right suffix to the base to derive an appropriate word. When deriving the noun grito, the suffix -o eliminates the corresponding formal features of the base. When *gritido is formed, the base cannot “lose” its formal feature, which is why the word is inappropriate.

An affix like -ido can be thought to be special in that it contains a lexical feature which must match the same lexical, semantic feature in the base. Only in this way can the base eliminate the uninterpretable feature of the affix.

Other features of the suffix are non-lexical, functional or grammatical: they are interpretable in suffix position. This is why they do not need to be eliminated by a matching feature of the base. The base must possess appropriate semantic features to accommodate aspects of the (grammatical) meaning of the suffix. Therefore, the base might be hypothesized to contain a feature which must be accessed by a functional or grammatical feature of the suffix.

The analysis of the suffix -azo in the next section will show that access to a semantic feature of the base is essential in the interpretation of -azo words.
2. The interpretation of the Spanish suffix -azo

The Spanish suffix -azo is described as having the basic meaning [hit/blow/smash/shot], since many nouns ending in -azo denote hits, blows, smashes and shots and their effects, the wounds or bruises. Rainer (1993) states that the suffix -azo has the basic lexical meaning [violent hit/blow/smash/shot]; it takes other meanings by analogy or metaphorical extension.

Thus, the traditional analysis of the meaning of -azo is as given in (6):

\[(6) \text{Traditional analysis of the basic meaning(s) of the suffix -azo}\]
\[-azo = \{\text{hit/blow/smash/shot}\}\]

In this section, it will be shown that the suffix -azo has no such basic lexical meaning(s). The "violent" lexical meaning(s) it seems to have is (are) part of the meaning of the base, if it denotes an instrument designed to give a hit, blow, smash or shot. If the base denotes an instrument or artifact designed for other, non-violent functions, the -azo word does not denote a hit, blow, smash or shot. Intuitively speaking, the suffix -azo has access to a specific part of the meaning of the base, its intended use.

Note that the statement that the suffix -azo is characteristic of words denoting hits, blows, smashes and shots is correct. This is a fact of the Spanish lexicon. It does not follow, however, that the suffix -azo is responsible, behaving like a nominal head of a compound noun. I will show that -azo is not like the nominal head hit or blow or smash or shot of a compound, but that it has only functional or grammatical, non-lexical meaning.

Let us start with the analysis of Spanish -azo words.

As said, many bases of -azo words denote weapons or utensils of violence. Some illustrative examples are given in (7):

\[(7) \text{Some Spanish -azo words with a base denoting a weapon}\]
\[\text{alfanjazo < alfanje (cutlass), arcabuzazo < arcabuz (harquebus), ballestazo < ballesta (crossbow), bayoneta < bayoneta (bayonet), cachiporra < cachiporra (truncheon), cañonazo < cañón (cannon), carabinazo < carabina (carbine), chicotazo < chicote (whip)}\]

The meaning of these -azo words can be guessed if it is known how the weapon is used: cuts are produced by using a cutlass, shots are produced by using the harquebus, the crossbow, the cannon and the carbine, thrusts are produced by the bayonet and blows are produced by the truncheon and the whip.

Now consider other -azo words given in (8):

\[(8) \text{Some Spanish -azo words with a base not denoting a weapon}\]
\[\text{abanicazo < abanico (fan), brochazo < brocha (brush), plumazo < pluma (pen)}\]

The typical use of a (hand-held) fan is to produce a flow of air, brushes are used to make brush strokes and pens to write signs. The -azo words have predictable
meaning: movement of a fan to produce a flow of air (abanicazo), brush stroke (brochazo), and pen stroke (plumazo).

Monolingual dictionaries, sometimes, give strange definitions of some -azo words, which are due to the conviction of the lexicographer that the basic meaning of -azo is [blow] (“golpe” in Spanish) and to the fact that, in some cases, the lexicographer has to deal with a basic noun which denotes an object that is no longer in use and with which (s)he is not familiar. No problem arises with the definition of brochazo and plumazo, which are never defined as “blow with a brush/pen”, since these instruments are well-known, and since such blows are difficult to conceive as so common that specific words exist to denote them. All dictionaries give the appropriate “brush stroke” (brochazo) and “pen stroke” (plumazo) definitions. However, abanicazo is defined in many monolingual dictionaries as “blow with a fan”, although this can hardly be seen as the basic use of a hand-held fan.

In an older bilingual Spanish-Dutch dictionary, Van Dam (1955), cases can be found of weird translations of -azo words, based on monolingual dictionaries of that period; some examples are given in (9):

(9) Curious “blow” translations of Spanish words ending in -azo
capotazo < capote (bullfighter’s cloak); escobazo < escoba (broom); hisopazo < hisopo (aspergillum); librazo < libro (book); pantuflazo < pantufo (slipper); sombrerazo < sombrero (hat) (Van Dam, s.v.)

In some cases, it is easy to see that the “blow” translation is misguided. Bullfighter’s cloaks are not used to hit the bull, but to “guide” him; brooms are not used to give blows, but to sweep the floor, and the sweeping movement is the primary referent of the -azo word; hats are not used to give blows with, but they are removed from the head to greet someone; the aspersgillum is not used to give blows, but it is shaken to give holy water. Native speakers are able to assign “typical uses” to artefacts, which is why pantuflazo can have acquired the meaning “blow with a slipper”; and escobazo “blow with a broom”; some other similar cases are found.

These examples show that dictionaries are not always reliable sources of information. The number of -azo words incorporated in dictionaries is surprisingly different: many -azo words seem to have been incorporated to provide a meaning which has been lost, since its base denotes an instrument which is no longer in use.

Note that -azo is typically used to refer to a “normal” use of an artifact: firearms are used to shoot bullets, bows are used to shoot arrows, and the -azo nouns denote the shots and their effects, the wounds; swords are used in a different fashion, as are sticks, truncheons and whips, and the -azo words refer to these different uses. Bells are artifacts used to produce sounds; and, in fact, the corresponding -azo words denote sounds, as will be seen below, in (13).

Even body-parts can have “typical uses”. Heads are used to give thrusts, fists are used to give blows, and elbows are used to nudge another person to draw his/her
attention, and the -azo words denote just that: a thrust given by the head (cabezazo < cabeza (head)), a blow given by the fist (puñetazo < puñeta (fist)) and a nudge given by the elbow (codazo < coda (elbow)). In soccer, however, elbows are used to give offensive and violent blows, which is another meaning of codazo, to refer to an act which is penalized by the referee, and heads are used to give headers, another meaning of cabezazo.

The tentative conclusion is that -azo has access to a semantic feature of the base, its “telic quale”, which expresses, as will be shown in (12), the “typical use” of the artifact, the instrument or the body-part to which the base refers.

Let us take a short look at a few impossible -azo words, according to intuitions of native speakers. Blows can be given with many objects, but speakers tend to reject formations such as those given in (10):

(10) “IMPOSSIBLE” -azo words
*revistazo < revista (journal), *pinturazo < pintura (painting)

Typical “actions” related to the bases revista (review) and pintura (painting) can be imagined, but the -azo suffix cannot be used to derive the “nomina actionis” *revistazo and *pinturazo. The bases of these *-azo words suggest some action, such as “reading a journal”, “looking at a painting”, but the outcome is weird, as indicated in (10). Why is this so? The answer is that -azo not only has the meaning [ACTION], but also the aspectual meaning [ACHIEVEMENT]. Actions like “reading a journal” or “looking at a painting” are not achievements. This is the reason why the -azo words in (10) are weird.

The hypothesis that I want to consider that -azo has grammatical and aspectual meaning which has access to semantic features properties of the base.

The hypothesis is sketched in (11):

(11) THE MEANING OF -azo
   i. The suffix -azo has grammatical meaning [ACTION] and [ACHIEVEMENT]
   ii. The suffix -azo accesses the “telic quale” of the base.
   iii. The base and the suffix agree in aspectual value.

Suffixation, then, can be viewed as a process in which the base and the suffix show concordance in a semantic feature: the suffix -azo has some feature which must be in cordance with some semantic feature of the base.

Semantic properties of nouns denoting instruments and artifacts are characterized by Pustejovsky (1993), who calls the semantic feature indicating the intended use of an instrument or artifact its “telic quale”. In a non-technical fashion, the telic quale of fire-arms can be represented as in (12):

(12) THE TELIC QUALE OF NOUNS DENOTING ARMS
   R(use) (x, y) (x = person, y = weapon) > R(fire) (y, z) (y, z = [bullet, arrow])
   [In words, if a person uses a weapon, the weapon fires a bullet or arrow]
In a similar fashion, if a person uses a fan, (s)he moves it to produce a flow of air, an action called *abanica*zo. If a person uses a bell, the bell emits a sound and *campanilla*zo (loud ring, sudden ring) [campanilla (small bell, electric bell)] and *timbra*zo (ring) [timbre (bell)] denote the sounds made by the *campanilla* or *timbre*. If a person uses a broom, the broom is used to sweep the floor, and this the meaning of *escoba*zo (quick sweep), derived from *escoba* (broom).

These -azo words are given in (13):

(13) Some -azo words denoting the typical use, the telic quale, of the base
i. *abanica*zo (fanning action) < *abanico* (fan)
ii. *campanilla*zo (loud ring, sudden ring) < *campanilla* (small bell, electric bell); *timbra*zo (ring) < *timbre* (bell);
iii. *escoba*zo (quick sweep) < *escoba* (broom)
(Translations from Collins, s.v.)

In other words, the grammatical meanings [action] and [achievement] of the suffix -azo have access to the “telic quale” of the base, which defines the “typical action” of the instrument, or of the body part. This access to the “telic quale” permits a suitable interpretation of the suffix.

This intuitive approach to the value of the suffix -azo shows the weak point of the traditional analysis, according to which the suffix has a basic meaning like [blow], as if -azo were some kind of nominal head of a compound.

The approach I have sketched in this section permits a unitary treatment of the basic features of the suffix -azo.

Let us now consider an even more interesting case: the suffix -era.

3. The interpretation of the Spanish suffix -era

Following again Rainer (1993:477–480), the following classification of the meaning of the suffix -era can be made:

(14) Some basic values of denominal words with the suffix -era
i. “containers for food”, like *aceitera* (olive-oil bottle; oilcan) [aceite (oil; olive-oil)], *chocolatera* (chocolate pot) [chocolate (chocolate)];
ii. “containers for non-food” like *cartuchera* (cartridge belt) [cartucho (cartridge)], *cerillera* ([Latin America] matchbox) [cerilla (match)];
iii. “houses of animals” like *conejera* (warren; rabbit hutch) [conejo (rabbit)], *pecera* (fishbowl, fishtank) [pez (fish)]

These values are characterized by Rainer as “word formation types”, lexical semantic classes, related but not reducible to one basic semantic value.

It is useful to take a look at the translations in English. The Spanish -era words are translated into English as compounds, in which the head of the compound is a
noun denoting some kind of container. The compound heads that are found in the translations that have been mentioned in (14) are listed in (15).

(15) **Compound heads in English as translation of the -era suffix in (14)**

(i) bottle; (ii) can; (iii) pot; (iv) belt; (v) box; (vi) hutch; (vii) bowl; (viii) tank

In the compounds, the nominal heads refer to different types of containers. Which container noun is used in the compound translation is dictated by the objects that are found in the real world. For example, olive-oil is found in bottles or cans; it follows that English has the compounds “olive-oil bottles” and “olive-oil cans”, which are translations of aceiteras. Cartridges are usually found in cartucheras, that is, in belts, which is why “cartridge belt” is the most appropriate translation. If cans would be used as containers of cartridges, they would be called “cartridge cans” in English, and cartucheras in Spanish.

Thus, the Spanish word aceitera can be used to denote a bottle, a can, or any other container in which olive-oil is stored. Similarly, the Spanish word cartuchera can denote any object in which cartridges are usually kept. National or local use dictate the usual kind of container for cartridges, which is a belt.

In short, the Spanish -era words that have been taken into account are translated as compounds having a head which mentions the type of container, but it does not follow that the Spanish -era suffix has the meaning [container].

If the suffix -era has grammatical meaning, the question is which meaning it has. A reasonable guess is that its meaning is the grammatical feature [location]. The more specific hypothesis is presented in (16):

(16) **Interpretation of the suffix -era**

The grammatical feature of the Spanish suffix -era is [location]. Therefore, its base is its Theme.

[location] is a thematic role which must be defined with respect to a Theme, and the Theme role is provided by the base. World knowledge determines the referent: the usual or typical location of olive-oil is a bottle or a can, not a carton.

Let us take a look at another class of -era words, in which the suffix is attached to a base which denotes an animal. For example, the “typical location” of rabbits is their home, either their natural home called “rabbit’s burrow” or “rabbit-hole” or the enclosure called “warren” or the home built by rabbit owners called “hutch”. Note that these are ”typical locations” at the conceptual level, in the mind of the speaker/hearer. As shown in (17), all these “typical locations” are found in English as translations of the Spanish word conejera:

(17) **Translations of conejera**

conejera: (a) warren; burrow; rabbit hutch; (b) … (Collins, s.v.)

[conejo: rabbit]

Other -era words are similar, as can be seen in a few cases given in (18):
Now consider a quite different location, exemplified by salitrera, in (19):

(19) **Translations of salitrera**

    *salitrera* nitre works; nitrate fields (Collins, s.v.) < *[salitre]* nitrate

The English equivalents are compounds whose heads denote the places where nitre or nitrate is found: the plant or the fields, that is, the manmade, artificial location or the natural location. Spanish *salitrera* does not refer to the specific location but it only means “typical place where nitre or nitrate are found”.

Another use of *-era* can be interpreted in a similar way: the typical location of tomatoes in the mind of the speaker/hearer is the *tomatera* (tomato plant), where they grow. A small sample of similar words is given in (20):

(20) **Some -era words of trees and plants**

    i. alcachofera (alcachofa = artichoke);
    ii. calabacera (calabaza = pumpkin);
    iii. datilera (dátil = date);
    iv. higuera (higo = fig)

Again, English compounds name the “holder” of the fruit, a plant or a tree, as in “artichoke plant”, “fig tree”. The Spanish suffix *-era* means “typical location”, the place where the speaker/hearer knows that tomatoes and figs are found: plants or trees.

Changing perspective, consider other pairs of nouns which denote trees and the fruits they bear. In (20), the tree or plant is expressed by the suffix *-era*, with grammatical meaning [location]. In Spanish, there are other ways of relating the names of trees and the fruits that they bear. In a number of nouns denoting fruits and trees, in which the fruit and the tree have the same base, the fruit is feminine and takes the *-a* suffix and the tree is masculine and takes the *-o* suffix. Examples are given in (21):

(21) **Spanish noun pairs: trees (with suffix -o) and fruits (suffix -a)**

    i. manzano (apple tree) < manzana (apple); 
    ii. cerezo (cherry tree) < cereza (cherry); 
    iii. ciruelo (plum tree) < ciruela (plum)

In other cases of trees and fruits, we find another suffix, such as *-al* in peral (pear tree) (< *pera* (pear)), and *frutal* (fruit tree) (< *fruta* (fruit)). In still another case, there is suppletion: *vid* (vine) bears the fruit called *uva* (grape).

It follows that the base must have a specific semantic feature: it must have a “locative quale”, that is, a feature which specifies that it has location. Furthermore, the base combines with a specific suffix if the location is the head.
The "locative quale", then, is part of the semantic structure of a base referring to a concrete object. It specifies its usual location. Furthermore, it is one of the interpretable features of the base.

If a base with a "locative quale" combines with a suffix of location, the suffix has a matching feature. Concordance will consist in checking whether the base and the suffix have the same feature, which is interpreted in suffix position. However, -era has no lexical meanings like [container], [house], [tree].

Another way of forming "locative words" is that the location feature of the base, is promoted to head position: the base selects a general, non-locative suffix, which attracts the "locative quale" feature of the base.

4. Résumé

The analysis of Spanish -ido, -azo, -era nouns has shown that the merger of the lexical base and its suffix can be profitably interpreted as "lexical concordance".

The following aspects of this approach have been discussed:

i. The base has a formal, uninterpretable feature stating with which suffix it combines;

ii. The suffix has lexical category and grammatical meaning, which is interpretable in that position; the suffix can contain a lexical semantic feature which is uninterpretable in suffix position, and must be eliminated by an appropriate base, under concordance;

iii. The grammatical properties of the suffix must match properties of the base; the matching effects can be interpreted as different kinds of lexical concordance, in a way that has to be made precise.

Treating suffixation as "lexical concordance" permits a coherent way of dealing with the data that have been discussed.

References


