

Aspect and Adverbial Quantification in Spanish

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0. Introduction ¹

The present work is part of a larger project the aim of which is to account for the perfective/imperfective contrast in Spanish. Rather than focus on this contrast in simple (unmodified) sentences, in this paper, I concentrate on perfective and imperfective sentences which contain adverbs of quantification. It is clear that to ultimately be considered successful, an account of the perfective/imperfective contrast should lead to an explanation of how these aspects interact with adverbs, but why begin an investigation of the contrast with the more complicated, adverbially modified sentences instead of simple sentences? First, it is often the case that the interaction between the more basic parts of sentences and modifiers such as adverbs is instrumental in revealing the fundamental character of those basic parts. Second, Bonomi (1997) has put forward a compositional account of the perfective/imperfective in Italian, one that might be extended to the contrast in Romance in general². Bonomi's analysis accounts for imperfective and perfective sentences with no explicit adverb of quantification. However, adverbially quantified sentences present a major problem for his proposal. In order to see how the analysis might eventually be modified, we need to pay close attention to the cases where it breaks down, namely, sentences like (1) and (2) which contain adverbial quantifiers.

¹ I would like to thank Angelika Kratzer, Barbara Partee, Joe Pater and Mike Terry for their invaluable comments and suggestions.

² To my knowledge, perfective and imperfective behave the same way in all the Romance languages, so Bonomi's conclusions can be applied to Spanish as well.

- (1) Siempre que vino a mi casa, Juan fumó
Always that *pro* come-3psg-past-pfv. to my place, Juan smoke-3psg-past-pfv.
'When Juan came to my place, he always smoked.'
- (2) Siempre que venía a mi casa, Juan fumaba
Always that *pro* come-3psg-past-imp. to my place, Juan smoke-3psg-past-imp.
'When Juan came to my place, he always smoked.'

These sentences contrast with their non-adverbially quantified counterparts in (3) and (4).

- (3) Cuando vino a mi casa, Juan fumó
When *pro* come-3psg-past-pfv. to my place, Juan smoke-3psg-past-pfv.
'When he came to my place, Juan smoked.' [at least once]
- (4) Cuando venía a mi casa, Juan fumaba
When *pro* come-3psg-past-imp. to my place, Juan smoke-3psg-past-imp.
'When he came to my place, Juan smoked.' [he had the habit of...]

When no adverbial quantifier is present, there is a clear-cut contrast between perfective and imperfective sentences: perfective sentences like (3) are episodic (they report a particular episode) and imperfective sentences like (4) are characterizing (they report a generalization). The adverbially quantified sentences in (1) and (2), on the other hand, both express generalizations over particular episodes. In this paper I argue that perfective sentences like (1) express accidental generalizations whereas imperfective sentences like (2) express non-accidental generalizations. This claim is further supported by the fact that the same conclusion has been arrived at independently for Italian by Lenci and Bertinetto (2000). In the nominal domain, the accidental/non-accidental distinction patterns with quantification over parts of a group/quantification over individuals that instantiate a kind. I take this to suggest that the contrast between (1) and (2) might be understood in terms of different domains of quantification, with aspect morphology (imperfective vs. perfective) establishing each domain.

1. The basic perfective/imperfective contrast

In Romance, there are two simple past tense forms: the perfective form and the imperfective form. The distinction between episodic and characterizing sentences is conveyed by the perfective/imperfective contrast. The verb in episodic sentences bears perfective morphology, while the verb in characterizing sentences bears imperfective morphology. This is illustrated by the examples in (3) and (4), repeated below. The perfective sentence in (3) could be paraphrased as 'there was (at least) an occasion in which John came to my place and smoked'. The imperfective sentence in (4), on the other hand, says something close to 'whenever he came to my place, Juan smoked' or 'Juan had the habit of smoking when he came to my place'

- (3) Cuando vino a mi casa, Juan fumó
 When *pro* come-3psg-past-pfv to my place, Juan smoke-3psg-past-pfv
 ‘When he came to my place, Juan smoked.’ [at least once]
- (4) Cuando venía a mi casa, Juan fumaba
 When *pro* come-3psg-past-imp to my place, Juan smoke-3psg-past-imp
 ‘When he came to my place, Juan smoked.’ [he had the habit of...]

In an event-based semantics, it is standardly assumed that the logical-conceptual representation of episodic sentences involves existential quantification (starting with Davidson 1967). In contrast, habitual sentences are usually taken to express generic quantification over eventualities (Carlson 1989; Krifka et al. 1995, among many others). Therefore, the sentences in (3) and (4) can be represented, respectively, by the formulas in (3') and (4').

- (3') $\exists e (\text{Agent}(e, \text{John}) \ \& \ \text{coming to my place}(e) \ \& \ \tau(e) \subseteq t_{\text{past}} \ \& \ \exists e' (\text{Agent}(e', \text{John}) \ \& \ \text{smoking}(e') \ \& \ e' \succ e))^3$
- (4') **GEN** $[e, x] (x = \text{John} \ \& \ \text{coming to my place}(e) \ \& \ \text{Agent}(e, x) \ \& \ \tau(e) \subseteq t_{\text{past}})$
 $(\exists e' (\text{Agent}(e', x) \ \& \ \text{smoking}(e') \ \& \ e' \succ e))$

The correlation between the perfective/imperfective distinction and the episodic/habitual distinction has led Bonomi (1997) to propose that, in Italian, there is a systematic connection between aspectual categories and quantificational structures. Leaving the technical details aside, the core of Bonomi's proposal is that perfective aspect is associated with existential quantification over eventualities while imperfective aspect is associated with contextually restricted universal quantification over eventualities (or, alternatively, with generic quantification)⁴.

2. Adverbs of quantification

As Bonomi himself points out, his theory faces a challenge when presented with sentences that contain overt adverbs of quantification. Both perfective and imperfective sentences can combine with most explicit adverbs of quantification, as the following examples illustrate:

³ τ is a function that maps an event into its running time (Krifka 1989); ' $\succ$ ' stands for the 'temporal overlap' relation, which should be interpreted in a loose way.

⁴ Bonomi's proposal is designed to account also for the 'progressive' reading of the imperfective form (exemplified in (i)), which I will not discuss here.

- (i) Cuando Juan llegó, María leía un libro
 When Juan arrive-3psg-past-pfv., María read-3psg-past-imp. a book
 ‘When Juan arrived, María was reading a book’

(5)

- a. A veces, Juan fue al cine con sus amigos
Sometimes, Juan go-3psg-past-pfv. to the movies with his friends
'Sometimes, Juan went to the movies with his friends'
- b. A veces, Juan iba al cine con sus amigos
Sometimes, Juan go-3psg-past-imp. to the movies with his friends
'Sometimes, Juan went to the movies with his friends'

(6)

- a. Cuando estaba en Estados Unidos, Juan fue
When *pro* was-3psg-past-imp. in the United States, Juan go-3psg-past-pfv.
al cine a menudo
to the movies often
'When he was in the United States, Juan went to the movies often'
- b. Cuando estaba en Estados Unidos, Juan iba
When *pro* was-3psg-past-imp. in the United States, Juan go-3psg-past-imp.
al cine a menudo
to the movies often
'When he was in the United States, Juan went to the movies often'

(7)

- a. Siempre que la vi, me saludó
Always that her *pro* see-1psg-past-pfv., *pro* me greet-3psg-past-pfv.
'Always, when I saw her, she greeted me'
- b. Siempre que la veía, me saludaba
Always that her *pro* see-1psg-past-imp., *pro* me greet-3psg-past-imp.
'Always, when I saw her, she greeted me'

The explicit adverb of quantification does not necessarily coincide with the invisible quantifier associated with aspectual morphology. For instance, the imperfective sentence in (5b) contains a quantifier, *a veces* ('sometimes'), that does not have universal force. The quantifier in (6a) and (6b) has neither universal nor existential force. And the quantifier in the perfective sentence (7a), *siempre* ('always'), has universal, not existential, force. Bonomi seems to take for granted that, in cases like the above, the quantifier associated with aspectual morphology is neutralized, the only open question being how exactly this neutralization is achieved: "it is not clear what kind of syntactic and semantic devices neutralize the invisible quantifier when an explicit adverbs of quantification is present". (Bonomi 1997: 509).

Is there, then, any difference between the (a) and the (b) sentences above? According to Bonomi, "intuitions are not clear on this point, although there seems to be

no difference in terms of truth conditions”, since, he says, the (a) sentences and their (b)-counterparts seem to be true in the same scenarios⁵.

In what follows, I show that the perfective/imperfective contrast is not neutralized in the presence of an overt quantifier, since perfective and imperfective forms behave differently even when an explicit adverb of quantification is present. Furthermore, I argue that there is in fact a semantic difference between perfective and imperfective sentences that contain an overt adverb of quantification, namely that they express different types of generalizations.

3. Against the neutralization hypothesis.

On Bonomi’s view, aspectual morphology is associated with a *default* quantifier, which can be overridden by an overt adverb of quantification. If the role of aspectual morphology is to signal the presence of an operator that introduces a determinate type of quantification over eventualities, but this quantification can be overridden by an explicit adverb of quantification, then we will predict imperfective and perfective forms to be interchangeable when the sentence contains an adverbial quantifier.

However, as Menéndez-Benito (2001) has shown for Spanish and Lenci and Bertinetto (2000) have shown for Italian, this prediction is not borne out: even when an adverbial quantifier is present, imperfective and perfective forms do not have the same distribution. In Spanish, perfective and imperfective behave differently with respect to generic adverbs (e.g. *normalmente* ‘normally’), durational phrases (e.g. *durante dos años* ‘for two years’) and exceptive phrases: the imperfective can combine with generic adverbs, but the perfective cannot; the perfective is fine with durational phrases but the imperfective is not; imperfective and perfective allow for different types of exceptive phrases. In this section, I will examine each of these cases in turn.

3.1. Generic adverbs

While imperfective sentences can combine with generic adverbs like *normalmente* (‘normally’), perfective sentences cannot. The perfective sentence in (8) becomes ungrammatical if we insert *normalmente* (as in (10)). On the other hand, adding *normalmente* to the imperfective sentence in (9) gives us the perfectly good sentence in (11).

⁵ Bonomi goes on to suggest that there might be a pragmatic difference between imperfective and perfective in sentences that contain an adverb of quantification, namely that “an Italian speaker is naturally inclined to associate the perfective with a *delimited* interval of time (with both end points made “visible”) and as a consequence, with a *determinate* quantity of eventualities located. This would not be true of the sentence in the imperfective, where the intended interval is felt as an indefinite period of time, because its end points are unspecified (...) the perfective, but not the imperfective, is acceptable, when the duration of the course of events at issue is exactly specified”. However, I believe that the difference cannot be characterized in those terms: both perfective and imperfective are fine with frame adverbials that denote periods of time whose duration is precisely delimited (*last year*); the imperfective is bad with durational phrases, even with those that contain a vague quantifier (*for many years*).

- (8) El año pasado, Juan fue al cine
 Last year, Juan go-3psg-past-pfv. to the movies
 ‘Last year, Juan went to the movies’ [at least once]
- (9) El año pasado, Juan iba al cine
 Last year, Juan go-3psg-past-imp. to the movies
 ‘Last year, Juan went to the movies’ [he had the habit of...]
- (10) *El año pasado, Juan normalmente fue al cine
 Last year, Juan normally go-3psg-past-pfv. to the movies
 ‘Last year, Juan normally went to the movies’
- (11) El año pasado, Juan normalmente iba al cine
 Last year, Juan normally go-3psg-past-imp. to the movies
 ‘Last year, Juan normally went to the movies’

The same contrast obtains when there is an adverbial quantifier present. The sentences in (12) and (13) form a minimal pair, the only difference between them being the aspectual morphology (perfective in (12) and imperfective in (13)). Inserting an adverbial quantifier in (12) yields the ungrammatical sentence in (14). Performing the same operation in (13) gives us (15), which is a perfectly grammatical sentence.

- (12) El año pasado, Juan fue al cine a menudo
 Last year, Juan go-3psg-past-pfv. to the movies often
 ‘Last year, Juan, went to the movies often’
- (13) El año pasado, Juan iba al cine a menudo
 Last year, Juan go-3psg-past-imp. to the movies often
 ‘Last year, Juan went to the movies often’
- (14) *El año pasado, Juan normalmente fue al cine a menudo
 Last year, Juan normally go-3psg-past-pfv. to the movies often
 ‘Last year, Juan normally went to the movies often’
- (15) El año pasado, Juan normalmente iba al cine a menudo
 Last year, Juan normally go-3psg-past-imp. to the movies often
 ‘Last year, Juan normally went to the movies often’

3.2. Durational phrases.

While perfective sentences are acceptable with durational phrases like *durante dos años* (‘for two years’), imperfective sentences are not. The contrast between (16a) and (16b) illustrates that.

(16)

- a. Durante dos años, Juan fue al cine
 For two years, Juan go-3psg-past-pfv to the movies
 cuando tuvo tiempo
 when *pro* have-3psg-past-pfv time
 ‘For two years, Juan went to the movies when he had time’
- b. *Durante dos años, Juan iba al cine
 For two years, Juan go-3psg-past-past-imp. to the movies
 cuando tenía tiempo
 when *pro* have-3psg-past-imp. time
 ‘For two years, Juan went to the movies when he had time’

Again, the same contrast obtains when there is an adverbial quantifier present, as in (17a) and (17b).

(17)

- a. Durante dos años, Juan fue al cine a menudo
 For two years, Juan go-3psg-past-pfv to the movies often
 ‘For two years, Juan went to the movies often’
- b. *Durante dos años, Juan iba al cine a menudo
 For two years, Juan go-3psg-past-past-imp. to the movies often
 ‘For two years, Juan went to the movies often’

3.3. Exceptive phrases

The paradigm in (18a) through (18d) shows that perfective and imperfective allow for different types of *except*-phrases. In particular, imperfective sentences are bad with exceptive phrases that contain a temporal phrase that denotes a particular time interval, as in (18a).

(18)

- a. Siempre que le hice una observación, se lo
 Always that *pro* her make-1psg-past-pfv an observation, *pro* her it
 tomó bien, excepto el lunes dos de Abril de 1998.
 take 3psg-past-pfv well, except Monday April 2, 1998
 ‘Always, when I made her an observation, she took it well, except for Monday, April 2, 1998’
- b. ??Siempre que le hacía una observación, se lo
 Always that *pro* her make-1psg-past-imp. an observation, *pro* her it
 tomaba bien, excepto el lunes dos de Abril de 1998.
 take 3psg-past-imp. well, except Monday April 2, 1998
 ‘Always, when I made her an observation, she took it well, except for Monday, April 2, 1998’

- c. Siempre que le hacía una observación, se lo
 Always that *pro* her make-1psg-past-imp. an observation, *pro* her it
 tomaba bien, excepto los lunes.
 take 3psg-past-imp. well, except Mondays
 ‘Always, when I made her an observation, she took it well, except on Mondays’
- d. Siempre que le hice una observación, se lo
 Always that *pro* her make-1psg-past-pfv an observation, *pro* her it
 tomó bien, excepto los lunes.
 take 3psg-past-pfv well, except Mondays
 ‘Always, when I made her an observation, she took it well, except on Mondays’

Since perfective and imperfective forms behave differently when there is an adverb of quantification in the sentence, the neutralization hypothesis put forward by Bonomi is not tenable. This leaves us with the question of what the difference between perfective and imperfective in adverbially quantified sentences is. As noted above, when there is no adverb of quantification, the difference between perfective and imperfective sentences is intuitively clear: imperfective sentences are characterizing (they express generalizations over particular episodes); perfective sentences are episodic (they report a particular episode). When there is an adverb of quantification present, however, both perfective and imperfective sentences express generalizations. In order to characterize the difference between them, we will have to look more closely at the type of generalization they express. The following section is devoted to that task.

4. Accidental/non-accidental generalizations

Generalizations may be non-accidental or accidental. Non-accidental generalizations are law-like statements, which are accepted “as true while many cases of it remain to be determined, the further unexamined cases being predicted to conform with it”. (Goodman, 1947: 26) Accidental generalizations, on the other hand, “are accepted as a description of a contingent fact after the determination of all cases, no prediction of any instances based upon it” (Goodman, 1947: 26). Non-accidental generalizations support the truth of counterfactuals; accidental generalizations do not support the truth of counterfactuals.

The examples in (19) and (20) illustrate this distinction. The sentence in (19) expresses a non-accidental generalization that conveys a principled fact about dimes, and supports the counterfactual in (21). The sentence in (20) expresses an accidental generalization, which does not support the counterfactual in (22).

(19) All dimes are silver

(20) All the coins in my pocket are silver

(21) If this were a dime, it would be silver

- (22) If this were in my pocket, it would be silver

While the generalizations made by imperfective sentences pattern with sentences like (19), the generalizations made by perfective sentences pattern with sentences like (20). In other words, imperfective sentences express non-accidental generalizations and perfective sentences express accidental generalizations⁶.

The sentences in (23) and (24) differ minimally in that (23) is imperfective while (24) is perfective. The sentence in (23) could be used to report the content of a law that was in force during the republican period or to refer to a custom that was followed at that time. Accepting the truth of (23) commits us to the truth of the counterfactual statement in (25).

On the other hand, (24) is a claim about all the occasions in which someone was accused of a crime during the period of time under consideration: it so happened that in all the occasions in which someone was accused of a crime he had a fair trial. But, as far as the speaker who utters (24) is concerned, that could have been mere chance. (24) does not support the counterfactual in (25): The speaker who utters (24) does not commit herself to a 'principled' connection between being accused of a crime and having a fair trial. Hence, nothing guarantees that had there been one more accusation, it would have been like the rest. A sentence like (23) could have been uttered by anyone familiar with the laws or the customs of the Republic. On the other hand, a sentence like (24) could have been truthfully uttered only by someone (a historian, for instance) that had gone through each and every document of the republican period in which a trial was reported.

- (23) En la República, siempre que alguien era acusado de un crimen,
In the Republic, always that someone be-3psg-past-imp accused of a crime,
 tenía un juicio justo.
pro had-3psg-past-imp a fair trial
'In the Republic, when somebody was accused of a crime, he always had a fair trial'
- (24) En la República, siempre que alguien fue acusado de un crimen,
In the Republic, always that someone be-3psg-past-pfv. accused of a crime,
 tuvo un juicio justo.
pro had-3psg-past-pfv. a fair trial
'In the Republic, when somebody was accused of a crime, he always had a fair trial'

⁶ Lenci and Bertinetto (2000) have independently reached the same conclusion for the perfective/imperfective contrast in Italian.

- (25) Si hubieras sido acusado de un crimen en la República,
 If *pro* have-2psg-past-subj been accused of a crime in the Republic,
 hubieras tenido un juicio justo
pro have-2psg-past-subj had a fair trial
 ‘If you had been accused of a crime in the Republic, you would have had a fair trial’

The sentences in (26) and (27) illustrate the same point: while the imperfective sentence in (26) expresses a generalization about the behavior code of gentlemen in the 19th century, (27) can only be interpreted as reporting a ‘sum of accidents’. The sentence in (26) supports the counterfactual in (29) (assuming that you are a gentleman and I am a lady, or that we would be if we were in the 19th century); the perfective sentence in (27) does not. Note that (27) is pragmatically odd: The reason is that it is impossible that we have access to the information needed to make the generalization that (27) expresses. Compare (27) with (28), which sounds perfectly fine.

- (26) En el siglo XIX, siempre que un caballero saludaba a una dama,
 In the century XIX, always that a gentleman greet-3psg-past-imp. to a lady
 se quitaba el sombrero
pro take off-3psg-past-imp. the hat
 ‘In the 19th century, always, when a gentleman greeted a lady, he took off his hat’
- (27) #En el siglo XIX, siempre que un caballero saludó a una dama,
 In the century XIX, always that a gentleman greet-3psg-past-pfv. to a lady
 se quitó el sombrero
pro take off-3psg-past-pfv. the hat
 ‘In the 19th century, always, when a gentleman greeted a lady, he took off his hat’
- (28) En la clase de ayer, siempre que un chico hizo una pregunta,
 In the class of yesterday, always that a boy make-3psg-past-pfv. a question
 una chica le dio la respuesta.
 a girl him give-3psg-past-pfv. the answer
 ‘In yesterday’s class every time a boy asked a question, a girl gave him the answer’⁷

⁷ It is perhaps worthwhile noting that even though speakers accept and produce perfective sentences with *siempre que* (‘always that’), when asked about sentences like (28) or any of the perfective sentences above, they consistently paraphrase them with *cada vez que...* (‘every time that...’). (28), for instance, sounds more natural as (28’). It seems to me that this kind of paraphrase puts emphasis on the accidental character of perfective sentences.

- (28’) En la clase de ayer, cada vez que un chico hizo una pregunta, una chica le
 In the class of yesterday every time that a boy make-3psg-past-pfv. a question, a girl him
 dio la respuesta.
 give-3psg-past-pfv. the answer
 ‘In yesterday’s class, every time a boy made a question, a girl gave him the answer’

- (29) Si estuviéramos en el siglo XIX y me hubieras
 If *pro* be-1pl-past-subj in the century 19th, and me *pro* have-2psg-past-subj
 saludado, te hubieras quitado el sombrero.
 greeted, you *pro* had-2psg-past-subj taken off the hat
 ‘If we were in the 19th century and you had greeted me, you would have taken off
 your hat’

Perfective sentences that contain an adverbial quantifier cannot have kind-referring subjects. Definite DPs in Spanish can be either kind-referring or group-denoting. A sentence like *Los niños son traviesos* (‘The boys are naughty’) can be interpreted, depending on the context, as ‘The boys in a contextually determined group of boys are naughty’ or as ‘Boys are naughty’. The imperfective sentence in (30) also has two readings. On one reading, (30) tells us something about the pattern of behavior of a contextually determined group of dinosaurs. On the other, more plausible, reading, (30) express a fact about the pattern of behavior of the kind *dinosaur*. The first reading supports the counterfactual in (32); the second reading supports the counterfactual in (33). The perfective sentence in (31), on the other hand, can only be taken to describe how a contextually determined group of dinosaurs behaved on all the occasions in which its members were scared (it so happened that on each of the occasions on which they were scared they attacked). The fact that the kind-reading is blocked follows from the accidental character of the generalization that the sentence expresses. ‘In all the occasions in which x was scared, x attacked’ is something that we can predicate of an ‘regular’ individual (or a group of individuals) but not of a kind.

- (30) Siempre que los dinosaurios tenían miedo atacaban
 Always that the dinosaurs have-3ppl-past-imp. fear, *pro* attack-3ppl-past-imp.
 ‘When the dinosaurs were scared, they always attacked’
- (31) Siempre que los dinosaurios tuvieron miedo atacaron
 Always that the dinosaurs have-3ppl-past-pfv. fear, *pro* attack-3ppl-past-pfv.
 ‘When the dinosaurs were scared, they always attacked’
- (32) Si los dinosaurios hubieran tenido miedo ese día,
 If the dinosaurs had-3ppl-past-subj had fear that day
 hubieran atacado
 had-3ppl-past-subj attacked
 ‘If the dinosaurs had been scared that day, they would have attacked’
- (33) Si tú fueras un dinosaurio y hubieras tenido miedo,
 If you be-2psg-past-subj a dinosaur and *pro* had-2psg-past-subj had fear,
 hubieras atacado
pro had-2psgl-past-subj attacked
 ‘If you were a dinosaur and you had been scared, you would have attacked’

While the generalizations made by imperfective sentences can be paraphrased very naturally by means of conditional sentences, the generalizations made by perfective

sentences cannot. For instance, when the sentence in (30) is turned into a conditional sentence, the resulting sentence, (34), exhibits at most a slight change of meaning. On the contrary, (31) cannot even be expressed in conditional form ((35) is, at best, distinctly odd). This provides further evidence for the correlation between the perfective/imperfective distinction and the accidental/non-accidental distinction. As Strawson (1952) already pointed out, law-like statements are essentially conditional in nature.

- (34) Si los dinosaurios tenían miedo, (siempre) atacaban
If the dinosaurs have-3ppl-past-imp. fear, *pro* (always) attack-3ppl-past-imp.

‘If the dinosaurs were scared, they always attacked’

- (35) ??Si los dinosaurios tuvieron miedo, siempre atacaron
If the dinosaurs have-3ppl-past-pfv. fear, *pro* always attack-3ppl-past-pfv.

What we have seen so far supports the claim that perfective sentences express accidental-generalizations and imperfective sentences express non-accidental generalizations. There is another piece of data that leads to the same conclusion: In Spanish, perfective morphology very readily coerces individual-level predicates into stage-level ones. According to Kratzer (1989), individual-level predicates express non-accidental generalizations. The behavior of perfective morphology with respect to individual-level predicates may, thus, be taken as further evidence for the correlation above.

By means of illustration, consider the sentences in (36) and (37): the imperfective sentence in (37) can be paraphrased as ‘the price of the book was \$40’. But the most natural paraphrase of the perfective sentence in (36) would be something like ‘someone bought the book and it cost \$40’.

- (36) El libro costó \$40
The book cost-3psgl-past-pfv. \$ 40
‘The book cost \$40’

- (37) El libro costaba \$40
The book cost-3psgl-past-imp. \$ 40
‘The book cost \$40’

The sentences in (38) and (39) provide an additional example: in the imperfective sentence, (38), the verb *pesar* behaves as an individual-level predicate. This sentence can be paraphrased as ‘the weigh of the baby was 10 pounds’. If we replace imperfective morphology by perfective morphology, we get (39), that means something like ‘someone weighed the baby and he weighed 10 pounds’⁸

⁸ It has to be noted, however, that there are contexts in which a perfective verb may get an individual-level interpretation. Examples (i) and (ii) below behave as expected: (i) means ‘Then, John used to know the answer’; (ii) can be paraphrased as ‘Then, John realized what the answer was’. That is, the

- (38) El bebé pesaba 10 libras
 The baby weigh-3psgl-past-imp. 10 pounds
 ‘The baby weighed 10 pounds’

- (39) El bebé pesó 10 libras
 The baby weigh-3psgl-past-pfv. 10 pounds
 ‘The baby weighed 10 pounds’

To sum up, I have claimed that perfective sentences express accidental generalizations while imperfective sentences express non-accidental generalizations. The following facts support that claim: First of all, imperfective sentences may report the content of laws and regulations, but perfective sentences cannot do so. Second, imperfective sentences support the truth of counterfactuals while perfective sentences do not. Third, perfective sentences block the kind reading of definite DPs. Finally, perfective morphology easily coerces individual level predicates (that express non-accidental generalizations) into stage-level ones.

Showing the correlation between the perfective/imperfective contrast and the accidental/non-accidental contrast might help us understand why perfective and imperfective sentences have *seemed* to be truth-conditionally equivalent⁹. According to Kratzer 1989, accidental generalizations and their non-accidental counterparts are true in the same worlds (that is, they *are* truth-conditionally equivalent if we evaluate sentences in terms of worlds), but not in the same situations. An accidental universal generalization will be true only in situations that are big enough to contain all the elements in the domain of quantification. A non-accidental universal generalization will be true either in all the situations of a world or in none.

Before ending this section, I would like to make some remarks regarding the law-like character of imperfective sentences. Bonomi has noted that imperfective sentences may refer to contingent or even fortuitous sets of events. It is indeed true that there are

individual-level predicate *to know* is coerced by perfective morphology into a stage-level interpretation. But even though the verb in (iii) is perfective, the predicate involved can be considered individual-level, as the gloss indicates. Exceptions like (iii) notwithstanding, I believe that the tendency noted above is strong enough to still count as evidence for my claim.

- (i) Entonces, Juan sabía la respuesta
 Then, Juan know-3psg-past-imp. the answer
 ‘Then, Juan knew the answer’
- (ii) Entonces, Juan supo la respuesta
 Then, Juan know-3psg-past-pfv. the answer
 ‘Then, John knew the answer’
- (iii) Juan supo francés hasta que se mudó a los EEUU
 Juan know-3psg-past-pfv. until *pro* move-3psg-past-pfv. to the USA
 ‘Juan knew French until he moved to the US’

⁹ As noted above, this is what Bonomi tentatively suggested and it was also my impression for a long period of time.

imperfective sentences that do not seem to meet the standards for lawhood. One such example is (40). It is difficult to imagine how the proposition expressed by (40) could be a non-accidental fact of our world. However, what I think is relevant here is not so much whether the fact at issue can be objectively considered as a non-accidental fact, but rather that by using the imperfective we somehow ‘promote’ the fact to the non-accidental level. In this connection, it should be noted that native speakers accept without question the counterfactual inference from imperfective sentences, even though in most cases one could argue against the inference on purely logical grounds.

- (40) Siempre que Juan venía, se quedaba a cenar
Always that Juan come-3psg-past-pfv, *pro* stay -3psg-past-imp. to dine
‘Always, when Juan stopped by, he stayed for dinner’

Non-accidental generalizations that report natural or physical laws are stronger than non-accidental generalizations reporting ‘human laws’ or habits. It is possible for some generalizations of the latter type to be treated either as accidental or as non-accidental. The following example, taken from Kratzer (1989) (who in turn adapts it from Goodman (1947)) illustrates that:

King Ludwig of Bavaria spends his weekends at Leoni Castle. Whenever the Royal Bavarian flag is up, the King is in the Castle. That is the kingdom’s law, which has been made public by the King himself. At this precise moment, the king is away and the flag is down. But suppose that the flag were up. Then according to the law, the King would be in the Castle. (41), therefore, supports the truth of (42).

- (41) Whenever the flag is up, the King is in the Castle
(42) If the flag were up, the King would be in the Castle.

If someone hoisted the flag, would that bring the King back into the Castle? No, the counterfactual in (43) is false

- (43) If I hoisted the flag, the King would be in the Castle.

Why? As Kratzer (1989) puts it, “what was treated as a non-accidental generalization before has been demoted to a simple accidental one” (Kratzer 1989: 641). Although it has been true so far that whenever the flag was up and the lights were on, the King was in the Castle, anyone could destroy this regularity with a single action.

What is interesting for us is that the non-accidental version of (41) would be expressed in Spanish by using the imperfective (as in (44)) whereas the corresponding accidental generalization would be expressed by using the perfective (as in (45)).

- (44) Siempre que la bandera estaba izada, el rey estaba
Always that the flag be-3psg-past-imp hoisted, the king be-3psg-past-imp
en el castillo.
in the castle
'Whenever the flag was up, the king was always in the castle'
- (45) Siempre que la bandera estuvo izada, el rey estuvo
Always that the flag be-3psg-past-pfv.hoisted, the king be-3psg-past-pfv.
en el castillo.
in the castle
'Whenever the flag was up, the king was always in the castle'

5. Towards an analysis

Having arrived at what I believe to be a coherent description of the contrast between perfective and imperfective in adverbially quantified sentences, the next task is to account for that contrast formally. In this paper, I will limit myself to discussing some possible directions for the analysis. I would like to suggest that we might gain some perspective by looking at how the accidental/non-accidental distinction is expressed in the nominal domain.

In English, one possible guide to the character of generalizations is the quantifier being used. As observed by Vendler (1967) and others, *any* statements tend to express law-like generalizations, while *every*-statements are commonly used to express accidental generalizations. *All*, on the other hand, seems to be used in both accidental and non-accidental statements. A sentence of the form *All Ns are P* can be used to express a non-accidental generalization if *N* is kind-referring. Otherwise, it expresses an accidental generalization. Our examples (19) and (20), repeated here as (46) and (47), illustrate that point.

- (46) All dimes are silver
(47) All the coins in my pocket are silver

The example in (46) is saying that if an object realizes the kind *dime*, it will be silver. On the other hand, (47) says that each and every member of the group of coins that are right now in my pocket is silver.

In the examples in (46) and (47) the kind/no-kind difference corresponds to a grammatical difference. (46) has a bare plural subject; (47) does not. However, that is not necessarily the case, as the following example (due to Larry Horn) illustrates. In both (46) and (48) we have a bare plural. However, (48) is clearly making an accidental generalization about all seats in the domain, rather than a non-accidental generalization about the kind *seat*.

- (48) All seats are taken.

Carlson (1977) points out that one and the same NP can be either kind-referring or non-kind referring, depending on our assumptions about the causal structure of the universe. He illustrates this by means of the following example, due to Lisa Selkirk: The noun phrase *Alligators in the New York sewer system* appears to fail all the tests for kinds, since the sentence *Alligators in the New York sewer system are often intelligent* sounds odd. But this sentence would become totally acceptable given the following scenario: Suppose that all the alligators in the New York sewer system are taken to constitute “almost a race of alligators, those descended (say) from baby alligators originally bought by New Yorkers as pets and flushed down the toilets. So if we think of ‘in the New York sewer system’ as defining the natural habitat of a set of alligators, we find a kind reading much easier to obtain” (Carlson 1977: 321) and the sentence above becomes natural. Examples of this sort lead Carlson to conclude that the distinction between NPs that denote kinds and NPs that do not can only be drawn at the conceptual level, not at the grammatical level.

Note that if we take *alligators in the New York sewer system* to be kind-denoting, (49) below will express a non-accidental generalization. If, on the other hand, we take *alligators in the New York sewer system* to denote a finite set of elements, then (49) can only be understood as an accidental generalization.

(49) All alligators in the New York sewer system are intelligent

Parallels between VPs and NPs have been repeatedly noted in the literature (see Carlson’s 1977 analysis of bare plurals and Chierchia’s 1984 analysis of infinitives; or Bach (1986) and Krifka (1989) analyses of mass/count in the nominal and the verbal domain.) Chierchia (1984) has worked out a theory of gerunds that parallels Carlson’s account of bare plurals. According to Chierchia gerunds uniformly denote an individual correlated with a property. This individual plays the role of a kind in Carlson’s theory. This would account for examples like (50) (taken from Portner 1995).

(50) Eating apples is extremely popular in the fall

Maybe this account can be extended to VPs. We might argue that VPs can denote either kinds of events or sets of events. As in the case of NPs, the same VP could be taken to denote either a kind or a set. In Romance, this distinction would correspond to a grammatical distinction. When uttering an imperfective sentence of the form *always*, *when P, Q*, we would be saying something like ‘if an event instantiates the kind P, then it will overlap with an event that instantiates the kind Q’. When uttering a perfective sentence of the same form, we would be saying that each and every event belonging to the set P overlaps with an event that belongs to the set Q’.

Obviously, this suggestion would need to be worked out and made explicit before it can be put forward even as a hypothesis. This is a task that I leave for future research.

6. Summary

I have argued that the perfective/imperfective distinction in Romance is not neutralized when an adverbial quantifier is present, since imperfective and perfective forms are not interchangeable in that context. In particular, they behave differently with respect to generic adverbs like *normalmente* ('normally'), durational phrases like *durante dos años* ('for two years') and exceptive phrases.

Furthermore, I have shown that the difference between perfective and imperfective adverbially quantified sentences can be characterized by means of the accidental/non-accidental distinctions: perfective sentences express accidental generalizations while imperfective sentences express non-accidental generalizations. The evidence for that claim can be summarized as follows:

0. Imperfective sentences can be used to report the content of laws or regulations. Perfective sentences can only be used to report a sum of accidents
1. Imperfective sentences support the truth of counterfactuals, but perfective sentences do not.
2. Perfective sentences block the kind-referring reading of the subject DP
3. Imperfective sentences can be paraphrased by a conditional sentences; perfective sentences do not.
4. Perfective morphology readily coerces individual-level predicates into stage-level ones.

I have also presented some observations that might lead to a formal analysis of the contrast at issue: I have suggested that looking at how the non-accidental/accidental distinction is expressed in a different domain (the nominal domain), might give us some clues for analyzing the distinction in the verbal domain. In the nominal domain, the non-accidental/accidental distinction patterns with quantification over instances of a kind/quantification over parts of a group. In future research, I would like to explore an analysis where we take that parallel seriously: what the domain of quantification for an adverbial quantifier depends on what the aspectual form is.

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