

Discourse Particles and Quantificational Structure

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Abstract: Following recent trends in the formal analysis of discourse particles, a class of so-called counter-argumentative/reformulative Spanish discourse particles is analyzed as a structured group comprising three types of adverbs of quantification, with universal, existential or negative force. Several arguments are presented in support of this hypothesis, as well as of the claim that these particles are associated with distinctive constraints at the levels of descriptive and expressive meaning.

1. Introduction

Discourse particles, or discourse markers/connectives in general, have been mostly the focus of attention of pragmatic, communicative and discourse-functionalist studies, with a variety of explanatory goals. The following issues are among those typically addressed: how these particles contribute to the overall coherence/cohesion of discourse; how they connect discourse segments; how they serve different argumentative functions in this respect; how they reflect or express speaker-oriented strategies or they give rise to implicatures of different sorts; etc. Nevertheless, there still remain important properties and issues that cannot be properly accounted for using a pragmatic or communicative approach exclusively. For example, the following questions seem to be relevant if we want to gain a comprehensive understanding of the meaning of discourse particles: What is the categorial ascription of these expressions?; Do they interact or determine other constituents at the subsentential level?; What do they tell us about the composition of meaning?; etc. More generally, recent formal perspectives on the analysis of discourse particles seem to point in the direction of a reassessment of how meaning is structured and how potentially different dimensions are articulated. Discourse particles can be seen as expressions connecting descriptive meaning and expressive meaning (Kratzer 1999, Potts 2003), as presupposition triggers (Zeevat 2002), or as context markers (Zeevat 2004).

The main goal of this paper is to analyze a small class of Spanish complex discourse markers or particles of the following form (where Q stands for a quantifier expression): *de Q formas/maneras/modos* ‘lit. of Q form(s)/way(s)/manner(s)/case(s)/event(s)’, e.g. *de todas maneras/formas, de todos modos* (‘lit. of all manners/forms/ways’); *de alguna manera/forma, de algún modo* (‘lit. of some manner/form/way’); *de ninguna manera/forma, de ningún modo* (‘lit. of no manner/form/way’). In all of these, an initial prepositional element (*de*) is followed by a determiner and a noun indicating manner. It will be shown that determiner variation is significant, since it radically changes the meaning of the complex expression and triggers quantificational variability. It will also be defended that these operators should be treated as adverbs of quantification (Lewis 1975; Heim 1982; etc.) with a systematic contrasting semantic behavior. Finally, there is evidence suggesting that *formas, maneras, and modos* also contribute to the interpretation of the clause as a contextual marker. Overall, I believe that, if a similar strategy were to be applied to other classes of discourse particles, a more fine-grained picture of their meaning would emerge, leading to a reconsideration of these expressions as operators with distinctive properties at the grammatical interfaces (semantics/pragmatics and syntax/semantics). This paper builds on some of the evidence presented in Gutiérrez-Rexach & Howe (2003).

2. Universal reformulative particles

The discourse markers *de todas maneras/de todas formas/de todos modos* (‘anyway, anyhow, in any case, in any event’) are said to convey a relation of opposition or correction between propositions in a discourse, and they are usually characterized as counter-argumentative or reformulative particles (cf. Ferrara 1997, Portolés 1998, Montolío 2001, etc.). In the discourse in (1), the proposition introduced by *de todas maneras*

corrects, is opposed to, or contrasts in some fashion with what is stated in the previous statement (counter-argumentative or contrastive use):

- (1) No sé por qué Juan estudia tanto. De todas maneras, suspenderá el examen.
'I don't know why Juan studies so much. Anyway/In any event, he will fail the exam.'

Alternatively, the complex particle can be used to reinforce an entailment or implicature of the preceding discourse (reformulative use), as in (2):

- (2) Las hamburguesas son demasiado grasientas y el pollo frito también. De todas formas, nunca me ha gustado la comida rápida americana.
'Hamburgers are greasy and fried chicken too. In any case, I never liked American fast food.'

The use of *de todas maneras/de todas formas* 'anyway, in any case/event' in (1) and (2) is warranted by assertions (or presuppositions) previously introduced in a discourse that are not necessarily congruent with what the actual speaker believes. Montolío (2001) notes that *de todas formas/ de todas maneras/ de todos modos* mark the existence of a previous argument P but instruct the addressee to discard P as relevant and consider only Q (the following argument or proposition). This type of account needs to be supplemented by a theory that takes into consideration the differential effects of syntactic position in interpretation and how the semantics of these particles is linked to other related expressions with which they form a natural class.

First, this complex particle connects the preceding discourse (a proposition or set of propositions (P)) with the proposition that it introduces (Q). The force of the quantifier in the '*de* + quantifier + manner-noun' construction determines the relationship that is established between these two elements, as I will argue below. Thus, I propose that the particle should be treated as a quantificational operator with the well-known tripartite structure of the form (**every manner**) [_R P] [_{NS} Q]. The restriction ([_R P]) of this operator is the relevant propositional fragment (previously asserted) or can alternatively be derived by presupposition accommodation (Lewis 1979, Von Stechow 1994, Partee 1995, Kadmon 2000, etc), so P can be viewed as the conjunction of the propositional assertions or presuppositions available in the common ground that determine the evidence underlying the assertion of the nuclear scope ([_{NS} Q]). There are important cross-linguistic differences that will not be dealt with in this paper. For example, in English, the difference between *in any event* and *anyway* is that the latter does not need P (the restriction) to be related to previous propositions stated or presupposed. As we will see below, when we substitute Spanish *alguna/algún* and *ninguna/ningún* for *todas*, we have a similar tripartite structure that privileges the argument in the nuclear scope, although in the case of *ninguna/ningún* an overt nuclear scope is not required.

Second, the discourse particles under consideration exhibit a contrasting behavior as a function of their syntactic position. They behave like speaker-oriented adverbials (Jackendoff 1972) when in left-detached, sentence-initial position, as exemplified in (1) and (2), or they may behave as standard event modifiers (manner adverbials) when they occur in non-detached sentence-internal or sentence-final position. What becomes critical to our purposes is that it can also be shown that the left-detached, sentence-initial position of these particles is linked to a difference in quantificational properties. Particles occurring in this position are selective adverbs of quantification and bind a contextual "manner" variable in their restriction, associated to the relevant assertions/presuppositions in the common ground of discourse, and do not bind individual variables in the restriction or the nuclear scope. In sentence-final, non-detached position, however, these adverbs may have a completely different interpretation as unselective operators. Let us consider the left-detached variant first:

- (3) a. De todas maneras, Juan es inteligente.
'In any case (no matter what alternative scenarios you consider), John is intelligent.'
b. De todas maneras, Juan beberá una cerveza.
'In any case (no matter what alternative scenarios you consider), John will drink a beer.'

Notice that in (3a) there are apparently no variables to be bound in the scope of the operator *de todas maneras*, given that *intelligent* is an individual-level predicate and *Juan* is an individual constant. If *de todas maneras* were an unselective adverb of quantification, then it would quantify vacuously, so that ill-

formed logical form would be derived: $*(\text{every manner}_{x,e})[P(x,e)][\text{intelligent}(j)]$. Thus, we have to conclude that (3a) only has a reading in which the “manner” variable pertains to accommodated information in the common ground which becomes relevant to the intended conclusion. This information is copied in the nuclear scope by the property of conservativity as applied to adverbs of quantification (cf. the property of “dynamic conservativity”, Chierchia 1995). We label this selective variant of *de todas maneras* ‘in any case’, (every_{-m}). The variable m denotes a contextually determined and salient circumstantial /situational parameter (a context variable, possibly of shifting type, that expresses what we will be calling an “m-case”):

- (4) Let P be the conjunction of the relevant propositions in the common ground, then $(\text{every}_{-m})[P(m)] [P(m) \ \& \ \text{intelligent}(j)]$ iff every m-case satisfying P can be extended to a m-case satisfying $[P \ \& \ \text{intelligent}(j)]$.

In this respect, the relevant presupposed propositions expressing the information P serve as the basis for the inference in the nuclear scope. What (4) states is that all those propositions share a contextual parameter –in general, a “manner” or way of evaluating them– and that under any possible value of that parameter (any possible circumstance) the proposition in the nuclear scope holds. For example, with respect to (3a), let us assume a common ground in which it is presupposed that Juan has received poor grades, he has not been admitted to the college of his choice, his performance has been erratic in the last few years, etc. A speaker, when uttering this sentence, might express that no matter what our opinion about all those propositions is (in other words, under any possible perspective or attitude we might adopt towards those facts), he still regards Juan as intelligent. In this respect, it can be said that *de todas maneras* ‘in any case’ indicates how the speaker evaluates the circumstances supporting his assertion, i.e. the nuclear scope.

Sentence (3b) poses a different problem: the event variable of the predicate and the individual variable of the indefinite *a party* can both be bound. However, the universal event-dependent reading of *de todas maneras* is at best difficult to obtain.

- (5) $(\text{every}_{-m,e,x}) [P(m)] [P(m) \ \& \ \text{beer}(x) \ \& \ \text{FUT}(\text{drink}(e, j, x))]$
i.e. ‘*In any m-case John will drink all the beers.’

This leads again to the conclusion that the adverbial is also a selective binder in (3b). Consider now (6), where the indefinite indeed has universal force. Nevertheless, it seems that the universal reading of (6) is due to *never* not to *in any case*:

- (6) De todas maneras, un estudiante nunca llega tarde.
‘In any case, a student never arrives late.’

Since (every_{-m}) seems to be consistently selective in left-detached position, any individual variables occurring in its scope should be bound by other means. For example, in (3b) the variable x is bound by existential closure of the nuclear scope (Heim 1982), as shown in (7a). Alternatively, the variable may receive its force from other unselective quantifier, like *nunca* ‘never’ in (6), yielding the logical form (7b):

- (7) a. $(\text{every}_{-m})[P(m)] \exists_{e,x} [P(m) \ \& \ \text{beer}(x) \ \& \ \text{FUT}(\text{drink}(e, j, x))]$
‘In every m-case under consideration, John will drink a beer’
h. $(\text{every}_{-m})[P(m)] \exists \exists_{e,x} [P(m) \ \& \ \text{arrive}(e, x) \ \& \ \text{late}(e)]$
‘In every m-case under consideration, no student ever arrives late.’

Let us now consider the case when these adverbials occur in a sentence-internal/final, non-detached position. An ambiguity arises in this scenario. For example, sentences (8) and (9) have two readings, depending on whether the indefinite has existential force or universal/generic force:

- (8) Un estudiante aplicado aprobará el examen de todas maneras.
‘A dedicated student will pass the exam no matter what.’
‘Every dedicated student will manage to pass the exam.’

- (9) Un elefante odiará a un ratón de todos modos.
 ‘An elephant will hate a mouse in any case.’
 ‘Every elephant will hate a mouse anyway.’ = ‘It is always/generally the case that an elephant will hate a mouse.’

The first reading is the one that we have characterized before, and for most speakers it is not available if the adverbial is not right-detached. In the second and most prominent reading, *de todas formas/de todas maneras/de todos modos* has universal/generic force and unselectively binds the individual, temporal, and modal variables in the sentence. Furthermore, these particles are incompatible with other unselective quantifiers in sentence-final, non-detached position, as the contrast between (10a) and (10b) shows:

- (10)a. *Un elefante odia a un ratón siempre de todas formas.
 ‘An elephant always hates a mouse in any case.’ = ‘every elephant hates a mouse.’
 b. Un elefante siempre odiará a un ratón, de todas formas.
 ‘In any case, an elephant always hates a mouse.’

Sentence (10a) is ungrammatical under the intended interpretation. Nevertheless, if an intonational break is inserted between the two adverbs of quantification or *de todas formas* is right-detached, as in (10b), then the sentence is grammatical under the selective interpretation of *de todas formas*.

Further evidence of the differential selectivity of this discourse marker is demonstrated by the fact that only the selective, canonically left-detached variant allows cross-sentential anaphora of indefinites:

- (11)a. De todas maneras, un ladrón se escapó. Era astuto.
 ‘Anyway/In any event, a thief escaped. He was astute.’
 b. *Un ladrón se escapa de todas maneras. Es astuto.
 ‘A thief always escapes (no matter what). He is astute.’

The null pronoun in the second clause cannot be bound because universal/generic quantifiers are “externally static”, i.e. they cannot bind beyond their scope (Chierchia 1995). As a consequence, cross-sentential anaphora is prohibited. Note that anaphora is possible with a null plural pronoun, whose reference is resolved by a “bridging” mechanism (Asher and Lascarides 1999).

- (12) Un ladrón se escapa de todas maneras. Pro_{pi} son siempre muy astutos.
 ‘A thief always escapes (no matter what). They are always very smart.’

The evidence presented thus far strongly suggests a connection between the syntax and semantics of *de todas formas/maneras/de todos modos*. The two resulting options can be represented as shown below:

- (13) *Selective:*
 (**every**_m)[Ψ][Φ], where the adverb of quantification binds a “manner” variable in [Ψ].
Unselective:
 (**every**)[Ψ][Φ], where all the variables in [Ψ],[Φ] are bound by the adverb of quantification.

3. Descriptive and expressive content

In recent work by Kratzer (1999) and Potts (2003), among others, discourse particles are viewed as multidimensional expressions articulating a descriptive and an expressive meaning. The nature of the latter is not sufficiently clear yet and will probably be subject to further debate in the coming years. Expressive meaning can be viewed as comprising conventional implicatures in the sense of Grice (1975), appropriateness conditions in a given context, or even more generalized constraint of a pragmatic nature. Without committing ourselves to any particular theory on this matter for the moment, let us now summarize the essential ingredients of the meaning of the universal counter-argumentative/reformulative discourse particles. The descriptive (truth-conditional) content of the corresponding selective adverbial is as follows:

(14) (**every**_m) $[\Psi][\Phi]$ iff every m-case satisfying $[\Psi]$ can be extended to a m-case satisfying $[\Phi]$.

The notion of what counts as a “m-case” or satisfying circumstance is determined contextually. As indicated above, it is normally linked to the speaker’s perception or evaluation of what makes the propositions in the restrictor “relevant” or salient for the intended conclusion.

The expressive meaning of the particle can be divided in two components. First, the particle establishes a rhetorical relation between discourse segments, in the sense of Asher and Lascarides (2003). As accurately described in the literature, this rhetorical relation may be either contrastive/ adversative or reformulative. In the first case, given the well-known difficulty in characterizing the notion of contrast (De Hoop & De Swart 2004) or even in reducing it to a single rhetorical relation, I will assume the existence of a family of contrastive relations (Contrast_i for $1 \leq i \leq n$). Then, a rhetorical relation Contrast_i or Elaboration has to hold between the restrictor and the nuclear scope of the particle. Formally, where CG stands for the conversational common ground and $\dot{\circ}$ is not the logical entailment relation but a weaker relation of contextual entailment or inference, the following constraints have to be satisfied:

(15) CG $\dot{\circ}$ $\text{Contrast}_i([\Psi][\Phi])$ or
CG $\dot{\circ}$ Elaboration ($[\Psi][\Phi]$)

Both Contrast and Elaboration require the identification of a discourse topic or “question under discussion” in $[\Psi]$ (Roberts 1996, Büring 2003). This topic is the element that becomes contrasted in some fashion with the nuclear scope of the particle ($[\Phi]$) or that is elaborated by it. The determination of the precise nature of the topic or question under discussion and of how the relevant contrastive or elaboration relation arises requires additional inferences on the part of the hearer. In this respect, particles might signal or serve to navigate through a “strategy” (Eckardt 2004).

The second ingredient in the expressive or non-descriptive meaning associated with the discourse particle is related to the speaker’s attitude towards the expressed content. As we stated before, the speaker expects $[\Phi]$ to be the case, and expects so to a high degree, i.e. he is committed to the well-foundedness of his expectation. In other words, he believes that the circumstances in question (the supporting “m-cases”) warrant the intended inference. Thus, the following also holds:

(16) CG + $[\Psi] \dot{\circ}$ Expect($s, [\Phi], \delta$) & High(δ)

Informally, updating a given common ground with the relevant assertion or presupposition $[\Phi]$, also contextually entails that the speaker s expects $[\Phi]$ to a high degree δ .

Finally, the selective adverbial particle does not seem to interact scopally with other discourse particles or expressives. Kratzer (1999) notes that “other expressives in the scope of a discourse particle are ignored in the computation of the expressive meaning contributed by that particle”. In this respect, they can all be treated as scope independent at the level of expressive content. For example, *de todas maneras* does not interact with the expressive *ahora que lo pienso* ‘now that I think about it’:

(17) De todas maneras, ahora que lo pienso, tendrás que llegar a tiempo a la reunión.
Ahora que lo pienso, de todas maneras tendrás que llegar a tiempo a la reunión.
‘Now that I think about it, in any case, you will have to be at the meeting on time.’

Nevertheless, the above statement is not completely accurate. Interaction or lack thereof seems to be dependent on whether there is compatibility between the particles in regards to their respective expressive meaning. For example, condition (16) requires “high degree of expectation/commitment by the speaker”. Thus, *de todas maneras* is compatible with other high-commitment particles such as *por supuesto* ‘of course’:

(18) De todas maneras, por supuesto que tendrás que llegar a tiempo a la reunión
Por supuesto, de todas maneras tendrás que llegar a tiempo a la reunión.
‘Of course, in any event you will have to be at the meeting on time.’

On the other hand, other expressives such as *cualquiera sabe* ‘who knows’ or *no estoy seguro* ‘I am not certain’ do indeed interact with *de todas maneras*, since they explicitly mark the speaker’s commitment’s to the proposition as not very high. As a consequence, they become incompatible with the selective adverbial:

- (19) Esta oportunidad es única para el negocio. Así que de todas maneras (* cualquiera sabe si/no estoy seguro si) tendrás que llegar a tiempo a la reunión.
 ‘This is a unique opportunity for our business. Thus, in any event (*who knows whether/I’m not sure whether) you will have to be on time at the meeting.’

4. Existential and negative contrastors/reformulators

The complex particles *de alguna manera/de alguna forma/de algún modo* ‘somehow’(‘lit. in some way/form/case’) also exhibit the contrasting selective/non-selective behavior just attested for universal contrastive/reformulative adverbials. In the left-detached, non-selective variant, they relate previous assertions/presuppositions with their nuclear scope by adding epistemic evidential content in which the speaker evaluates low probability (Kaufman 2001) or low expectation.

- (20) De alguna manera, esto no me gusta.
 ‘Somehow, I don’t like this.’

What (20) expresses is that there is a (salient) circumstance or “manner” of evaluating the relevant presuppositions in the common ground that grants my inference (I don’t like this). Formally:

- (21) (**some**_m) [P(m)] [not(like(I,it))] iff there is a m-case satisfying [P] that can be extended to a m-case satisfying [not(like(I,it))].

For example, with respect to (20), the restriction may be constituted by several propositions regarding a recent business deal: a few shady characters were involved, it took place at night, we make too much money, etc. The relevant circumstantial parameter (m-case) could be a negative perception/evaluation on the part of the speaker about those facts. It is this perception that justifies the assertion in the nuclear scope.

Following recent trends in the semantics of indefinites, we may represent the existential force of the indefinite through the use of choice functions in the metalanguage (Winter 1997, Reinhart 1997). This seems to be the right option, given that the indefinite in (20) always has a specific or wide-scope reading, in other words, the speaker is referring to a salient circumstance justifying his inference. This explains why existential contrastors/reformulators can only be built in Spanish using the specific determiner *algún* ‘some’ and not the non-specific *un* ‘a’ (Gutiérrez-Rexach 2003): **de una manera* ‘lit. of a manner’, **de un modo*, ‘lit. of a way’, etc. The indefinite determiner introduces a special kind of choice function in this case, namely an intensional choice function, given that what is selected is one of the circumstances or validating cases in the common ground:

- (22) Let M-case be the set of potentially relevant contextual circumstances, and $f(M\text{-case})$ the member of this set selected by the choice function f . Then,
 (**some**_m) [Ψ] [Φ] iff there is a choice function f such that $f(M\text{-case})$ satisfies [Ψ] and $f(M\text{-case})$ can be extended to a m-case satisfying [Φ].

In sentence internal or final non-detached position, the adverbial has an event-related manner interpretation. In other words, it behaves as a non-selective existential quantifier binding an event variable and the individual variable corresponding to the indefinite. The manner noun is translated as a predicate of events, à-la Davidson (Parsons 1990).

- (23)a. Un ladrón se escapó de alguna manera.
 ‘A thief escaped somehow.’ =
 ‘There is an escaping event and that event was performed in a certain fashion by a thief.’

- b. (**some**_{e, x, y})_[R] thief(x)_[NS] escape(e) & Agent(e,x) & manner(e,y)]

The expressive or non-descriptive content of this subclass of existential discourse markers seems to be similar to the expressive content of the universal particles. First, they trigger a rhetorical relation of contrast or elaboration in the common ground. Second, they are also associated with an expectation relation between the speaker and the content of the nuclear scope. In this case, we are not talking about a strong commitment or a high degree of expectation. Rather, the speaker's commitment can be described as sufficient but not high, in consonance with the existential force of the quantifier (only one circumstance of evaluation validates the inference, not all of them, so the speaker cannot be absolutely certain about the validity of his conclusion):

- (24) CG + [Ψ] $\dot{\circ}$ Expect(s, [Φ], δ) & \neg High(δ)

Finally, the same syntactic/semantic distinction holds with *de ninguna manera/forma/de ningún modo* 'in no way/case'. In its left-detached, selective position, *de ninguna manera* is a refutation operator that gives zero evidential support to the presuppositions in its restriction. Sentence (25) would be translated as (26):

- (25) De ninguna manera, no creas que vas a ganar
 'No way, don't think that you are going to win.'
 (26) (\neg **some**_m) [P(m)] [P(m) & \neg think(you, that you will win)]

The quantifier introduces a choice function that selects none of the m-cases potentially validating the propositions in the restriction and the nuclear scope. For example, (25) would be interpreted as: 'There is no circumstance (m-case) that warrants the inference that you will win (from the available presuppositions in P)'. On the other hand, when *de ninguna manera* occurs in sentence-final, non-detached position, it behaves as an unselective adverb of quantification whose restriction becomes a negative polarity item of a minimizing nature.

- (27) Un león amaestrado no atacará de ningún modo.
 'No tamed lion ever attacks at all.'
 (28) (\neg **some**_{x,e}) [lion(x) & tamed(x)] [attack(e,x)]

5. Conclusion

In sum, in this paper it has been defended that the members of the class of contrastive/reformulative discourse particles, represented in Spanish by the expressions instantiating the structural pattern '*de* + quantifier + noun', should be treated as adverbs of quantification. In this respect, they give rise to a tripartite structure (quantifier-restriction-nuclear scope) and vary in terms of their binding relationships as a function of their syntactic position. When they occur in left-detached position, as the result of base generation in the left periphery of the sentence, they are selective binders. In this position, the variable that becomes bound by the adverbial is one corresponding to a contextually dependent circumstantial parameter related to "manner" of perception/evaluation by the speaker. Several other properties follow from this characterization: sentence-final, non-detached reformulative particles are normally incompatible with other unselective quantifiers that may occur in the sentence; they are able to unselectively bind free variables and give rise to associated effects, such as external anaphoric statism, etc. Additionally, the distinction between descriptive and expressive meaning is used to fully characterize the contribution of this class of discourse particles to discourse integration and interpretation.

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