

Determiners and Classifiers

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Abstract

This study claims, based on French determined and bare coordination and Japanese plurals and classifiers, that determiners require Classifier Phrase to get uniform referents, and that bare coordination lacks DP because it denotes, like associative plurals, heterogeneous referents, and lacks Classifier Phrase. Five arguments support these hypotheses: restriction on the occurrence of a single determiner with coordinated NPs; restriction on verbal predicates with bare coordinated subjects; (in)compatibility of bare coordination with restrictive relatives; (in)compatibility of coordinated NPs with numerals; compositional order of additive and associative plurals. Correlatively, two numeral-classifier constructions are distinguished depending on their (in)compatibility with associative plurals.

1. Introduction

This study claims a close relation between determiners and classifiers, based on the distribution of determined and bare coordination in French, as in (1), and plural markers and classifiers in Japanese.

- (1) *Mari et femme* se respectent toujours comme des invités honorés. (google)
'*Husband and wife* always respect each other as honored guests.'

In what follows, after introducing Borer's (2005) analysis about determiners and classifiers, Section 2 argues that French bare coordination, as in (1), lacks DP because it denotes, like associative plurals, heterogeneous referents, and therefore lacks Classifier Phrase (CIP). Section 3 presents five arguments in favor of this hypothesis. Section 4 discusses a consequence of the advanced hypotheses on the analysis of two types of numeral-classifier constructions in Japanese. Section 5 recapitulates the main results of this study and points out remaining problems.

2 Proposals

2.1 Borer (2005)

Borer (2005) points out a close relation between determiners and classifiers. This author claims that the occurrence of an article or a numeral with count nouns requires the projection of CIP whose function is to divide NP's referents into uniform members. She then proposes structures, as in (2a-c). In (2a,b), where an article or a numeral explicitly occurs, CIP is projected between #P and NP. In (2b,c), an additively pluralized noun, *cats*, is located in CIP because of the uniformity of its referents. In (2c), an implicit DP is projected for a bare plural, *cats*, correlatively to the projection of CIP.

- (2)a [DP the [#P the [CIP the [NP cat]]]] for *the cat* in "I bought the cat."
b \exists [DP <e> [#P two [CIP cats [NP eat]]]] for *two cats* in "I bought two cats."
c. \exists [DP <e> [CIP cats [NP eat]]] for *cats* in "I bought cats."

2.2 French bare coordination

French bare coordination is next revisited from this perspective. Two competing views are proposed as regards the presence or absence of DP in this construction. On the one hand, Heycock & Zamparelli (2003) argue that bare coordination projects DP and moves to Spec-DP when interpreted as definite. According to these authors, this movement is similar to that observed with modified proper names in Italian: the ordering *Parigi antica* 'Paris ancient', is generated by a movement of the noun to Spec-DP, which yields the same definiteness as the definite article in *l'antica Parigi* ('the ancient Paris').

On the other hand, Le Bruyn & de Swart (2014: 1225-1229) claim, within the framework of Optimality Theory, that bare coordination lacks DP: although French usually requires the presence of a

determiner with an argument NP, by ranking faithfulness constrain (presence of discourse referent and definiteness must be reflected in the form) higher than markedness (economy) constraint (Avoid functional structure in the nominal domain), the latter constraint is given priority in the case of non-intersective coordination (whose conjuncts have different denotation). Now, in view of Borer's (2005) analysis, I claim that i) bare coordination lacks DP, unlike English bare plurals, because it denotes heterogeneous referents, and therefore lacks Classifier Phrase, and ii) a single determiner with coordinated NPs projects a single Classifier Phrase which requires a uniformity of conjuncts.

3 Arguments

3.1 Restriction on the occurrence of a single determiner with coordinated NPs

At least five arguments come in favor of these hypotheses. First, as noted by Roodenburg (2005)¹, among others, the use of a single determiner with non-intersective coordination is severely limited in French. This is possible only when the conjuncts form a superordinate category, as *pins et sapins* ('pines and fir trees'), as in (3a) (Benetti, 2008: 91), or a set phrase, like *frères et sœurs* ('brothers and sisters'), as in (3b). The idiomatic nature of the latter is confirmed by the difficulty of reverse order (Michaux, 1998: 325). It is natural to assume that the conjuncts establish a unity in these cases.

- (3)a. *Les pins et sapins* avaient conservé leur ramure qui renouvelle de saison en saison. (Benetti 2008)
 'The pines and fir trees had retained their branches, which renew from season to season'
 b. Il connaît très bien {*les frères et sœurs* /**les sœurs et frères*} du Premier Ministre. (Michaux 1998)
 'He knows very well {the brothers and sisters/ *the sisters and brothers} of the Prime Minister'

3.2 Restriction on the type of verbal predicates

Second, when bare coordination occupies argument positions, the type of verbal predicates is restricted. I here adopt tripartite distinction of plural predicates advanced by Hackl (2002): 1) genuine collective predicates, which denote collective State (ex. *be a big group*) or Achievement (ex. *elect the president*) and lack division of referents (Brisson 2003); 2) pluralized individual predicates (ex. *be students*) which presuppose division of referents and hold for each one of them totally independently; 3) inherently plural predicates, which presuppose division of referents and form an interdependence between them. This interdependence may be established by TOGETHERNESS, lexical SYMMETRY or EPISTEMIC DEPENDENCY (Mari, 2005). In my corpus consisting of 144 attested examples of bare coordination in argument positions, all the cases include inherently plural predicates: they convey TOGETHERNESS in 90 cases (62.5%), as *coopérer* ('cooperate') in (4a) (Märzhäuser, 2013); lexical SYMMETRY in 36 cases (22%), as *se respecter* ('respect each other') in (1), or internally interpreted *contraires* ('opposite') in (4b); EPISTEMIC DEPENDENCY in 18 cases (12.5%), as in (4c) where the knowledge of a change of French fiscal policy allows the speaker to predict the same change of German one.

- (4)a. *France et Allemagne* continuent de coopérer pour approfondir la construction européenne.
 'France and Germany continue to cooperate to deepen European integration' (google)
 b. *France et Allemagne* ont connu des évolutions contraires en ce qui concerne le taux de pauvreté.
 'France and Germany have experienced opposite trends as regards the poverty rate' (google)
 c. *France et Allemagne* ont diminué leur taux marginal supérieur d'impôt sur le revenu.
 'France and Germany lowered their upper marginal income tax rate.' (google)

But no example involves genuine collective predicates, as *être un couple* ('be a couple') in (5a), or pluralized individual predicates, as *être respectivement nés* ('be respectively born') in (5b). These

¹ « il est difficile en français de coordonner des N en mettant en facteur le déterminant, sauf [...] si ces N forment un groupe naturel » (Roodenburg, 2005 : 98)

observations indicate that the referents of bare coordination should be at the same time contrasted and associated (cf. Curat, 1999), and difficult to be treated as uniform.

- (5)a. {??*France et Allemagne / La France et l'Allemagne*} sont un couple. (google)
 ‘{*France and Germany / The France and The Germany*} are a couple.’
 b. {?*Mari et femme / Le mari et la femme*} sont respectivement nés le 5 juillet et le 4 juin. (google)
 ‘{?*Husband and wife / the husband and the wife*} were respectively born on 5 July 1944 and ...’

3.3 (In)compatibility with a restrictive relative

Third, except in the two cases discussed in 2.1, the use of a single determiner is difficult, as in (6a), while bare coordination is here accepted with a reciprocal predicate. Roodenburg (2005) observes that restrictive relative clauses reverse the acceptability of determined and bare coordination, as in (6b). This effect is accounted for if we assume, with Milner (1979)², that restrictive relatives provide some unity among the referents: this unity improves the acceptability of a single determiner, but yields a semantic clash with the non-uniformity required by bare coordination.

- (6)a. {??**Les** locataires et propriétaires / Locataires et propriétaires} se retrouvent dans la cour [...].
 ‘{??**The** tenants and owners / Tenants and owners} meet in the courtyard’ (Roodenburg, 2005)
 b. {**Les** locataires et propriétaires / ??Locataires et propriétaires} qui le souhaitent se retrouvent [...]
 {**The** tenants and owners / ??Tenants and owners} who want to do so meet [...]’ (*ibid.*)

A similar effect of restrictive relatives is observed with Japanese plural markers, *-tati* and *-ra*, both of which may represent a set of uniform members (additive use) or heterogeneous members (associative one). Nakanishi & Tomioka (2004) observe that they normally cannot attach to the theme of relational possessive verb *iru*, as in (7a), since the relational possessive construction aims to characterize the subject, while the heterogeneity of members invoked by *-tati* conflicts with this purpose. A use of *-tati* however becomes possible when accompanied with a restrictive relative, as in (7b). Nakanishi & Tomioka (2004: 137-138) attribute this improving effect to the fact that restrictive relatives create a contrast (teenage kids vs. non-teenage kids in (7b)), which serves to minimize non-uniform members.

- (7)a. Inoue-san-ni-wa kodomo-(*?-**tati**)-ga iru. (Nakanishi & Tomioka, 2004: 116)
 Inoue-Mrs.-DAT-TOP child-TATI-NOM exist
 ‘Mrs. Inoue has children (Mrs. Inoue is a mother).’
 b. Inoue-san-ni-wa muzukasii tosigoro-no kodomo-(?-**tati**)-ga iru. (*idem.* 137)
 Inoue-Mrs -DAT-TOP difficult age-GEN child-TATI-NOM exist
 ‘Mrs. Inoue has teenage kids.’

3.4 (Im)possibility of counting the referents of conjuncts

Milner (1979) points out that the referents of conjoined NPs are not appropriately counted, as in (8a), without a restrictive relative introducing a unity among members, as in (8b), and argues that this is because coordinated NPs themselves don’t provide uniformity necessary for counting the referents. Interestingly, unlike (8a), the Japanese counterpart in (8c) is not totally excluded. The above hypothesis can account for this difference in terms of the absence or presence of a classifier.

- (8)a. ***cinq** professeurs de lycée et étudiants de première année (Milner, 1979: 91)
 ‘**five** high school teachers and 1st year students’
 b. **cinq** professeurs de lycée et étudiants de première année qui ont signé la petition (*ibid.*)
 ‘**five** high school teachers and 1st year students who signed the petition.’
 c. **go-nin-no** kookoo-no sensei to itinen-no seeto
five-CL-GEN high.school-GEN teacher and 1st.year-GEN student

² « les deux N’ conjoints désignent un groupe ‘mixte’ dont l’unité est indiquée dans la relative ». (Milner, 1979 : 91)

3.5 Order of the composition between demonstratives and two types of plurals

Finally, the above hypotheses predict that an additive (uniform) plural and an associative (non-uniform) one are semantically composed respectively before and after the composition of a determiner-like element with a NP. This prediction seems to be borne out in Japanese where two plurals may co-occur. Nomoto (2013) points out that, when they are combined with a demonstrative *sono*, the NP is first composed with the additive, which is next composed with the demonstrative. The whole demonstrative phrase is finally composed with the associative³, as in (9).

- (9) [sono [_{NumP} san nin-no gakusee-tati]] -ra (Nomoto, 2013: 69)
 that **three CL-GEN** studentt-PL^{additive} -PL^{associative}
 ‘(intended) **those three** students and their associate(s)’

4 Consequence

The above discussion has a consequence on the analysis of two numeral-classifier (NUM-CL) constructions, as in (10a,b). Two competing views are proposed for the relation between the two cases.

- (10)a. **go-nin-no** Taro-tati-ga haitte-kita. (Downing, 1996: 229)
 five-CL-GEN Taro-PL^{additive}-NOM entering-came
 ‘The five Taro came in.’
 b. Taro-tati **go-nin-ga** haittekita. (*ibid.*)
 Taro-PL^{associative}-NOM **five-CL-GEN** entered
 ‘Taro et al, the five of them, came in.’

On the one hand, Watanabe (2006) claims that, in both cases, the NUM-CL is DP-internal, and that the prenominal one, as in (10a), is derived from the post-nominal one, as in (10b). On the other hand, Downing (1996) suggests that the post-nominal NUM-CL is independent from and external to the host NP, to which it is appositively related (see also Iwata, 2013: 98-108). Now crucially, *Taro-tati* in (10b) admits an associative (non-uniform) reading, as is very often the case with <proper name-tati>, while it must be interpreted as additive (uniform) in (10a). The advanced hypothesis accounts for this contrast by assuming that the prenominal NUM-CL is NP-internal and more rigidly requires the uniformity of the referents than the post-nominal one which is NP-external and doesn’t affect NP’s meaning itself.

5 Concluding remarks

This study claimed that determiners require Classifier Phrase (CIP) to get uniform referents; French bare coordination, denoting heterogeneous referents, lacks both CIP and DP; a single determiner with coordinated NPs projects a single CIP and requires a uniformity of conjuncts. Five arguments came in favor of these hypotheses. Furthermore, rather different analyses were proposed to prenominal and post nominal numeral-classifier constructions, taking into account the fact that the former requires the uniformity of the members, which is not the case for the latter. There however remain many problems: while the uniformity of referents (and the projection of CIP) requires a projection of DP in French, does Japanese equally obligatorily project DP with NP-internal NUM-CL?; how to formalize uniformizing effect of CIP in explicit semantics terms⁴ ? These are subjects of future study.

³ It is not sure if Japanese demonstratives should always be semantically composed before the composition of associative plurals and if they really project DP. In effect, in (i), the adjective *sawagasii* (‘noisy’), which may be analyzed as restrictive precedes the demonstrative *sono* (‘that’). And the plural marker *-tati* may be interpreted as associative.

(i) *sawagasii sono gakusee-tati*
 noisy that student-TATI ‘those noisy students /those noisy people represented by students’

⁴ Presence or absence of uniformizing CIP is tentatively formalized in (i) and (ii), where Y is a plural entity denoted by NP; Q is a uniformizing property provided by CIP, explicitly, as in (5c), or implicitly, like in idioms or superordinate categories in (3a,b). (i) says that there is a property Q satisfied by each individual part of Y, while (ii) says that there is no such property.

(i) $\lambda Y_e [\exists Q (\forall x (x \subseteq Y \rightarrow Q(x)))]$; (ii) $\lambda Y_e [\neg \exists Q (\forall x (x \subseteq Y \rightarrow Q(x)))]$

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