Conjuncts in need of symmetry

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The syntax of coordination involves symmetries as well as asymmetries. On the one hand, conjuncts of a coordinate structure have an equal syntactic status: e.g., the two conjuncts in a coordinate structure may appear in a different order, and DP conjuncts usually bear the same case and thematic role. On the other hand, various data suggest that asymmetries do exist between conjuncts. For one, while the second conjunct and conjunction can be extraposed, the first conjunct and conjunction may not, as shown in (1). In the literature, such (a)symmetric properties of coordination give rise to two opposite types of analysis. The first one, focusing on the symmetry of coordination, postulates structures like (2a) and (2b), where conjuncts appear structurally in a parallel way (cf. Jackendoff 1977, Goodall 1987, Moltmann 1992). The second strand of analysis, by contrast, assumes that conjuncts are located in an asymmetrical manner as in (3) (cf. Munn 1993, Kayne 1994, Zoerner 1995). Unfortunately, these two approaches to coordination—both symmetry- and asymmetry-based—have been challenged theoretically and empirically (see Progovac 1998 for a review). Moreover, within the minimalist framework, they face one common problem. It concerns the syntactic status of a coordinate structure, namely the question of how the entire constituent is labeled. Under the minimalist assumptions, any syntactic object (**SO**) needs to have a label to satisfy the output conditions imposed at the interpretive interfaces (cf. Chomsky 1994) and the operation of labeling is implemented according to a standard labeling algorithm as in (4). However, in structures assumed under the symmetry-based approach such as (2a) and (2b), coordinated phrases are non-heads, and further, they are not created by Internal Merge (Chomsky 2004 *et seq*.). It is thus unclear which one of them can be the label of the entire coordinate complex. If we turn to the asymmetry-based approach, a coordinate structure as in (3) is headed by the conjunction, but this head does not look like a standard head in any obvious sense: the categorical and selectional properties of the projection are determined by the conjuncts, not by the conjunction. This consideration, among others, undermines the claim that the conjunction projects as the label of a coordinate structure.

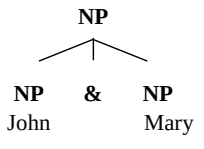
With this background, this paper presents an analysis of coordination that can circumvent the problem of labeling. For this attempt, I first take up Chomsky's (2013) analysis of coordination, which addresses the issue of labeling, and point out that it has several problems. Next, I introduce the theory of "Merge and (a)symmetry" proposed by Narita and Fukui (2012) (N&F), and offer a novel analysis of coordination that relies on this theory. The basic idea behind N&F's theory is that syntactic computation is essentially driven for *featural symmetry*, the notion based on *feature-equilibrium* (**FE**), defined as in (5)–(6). More concretely, the authors formulate this idea under *Dynamic Symmetrization Condition* (**DSC**) stated in (7). To illustrate, let us consider the case of subject raising. The subject DP, when it is merged in a structure, bears φ-features, and according to DSC (7), these features must form an FE. The DP is therefore raised to surface subject position, entering into a φ-agreement relation with T associated with φ-features, and this results in forming a new SO, {DP, TP}, which is symmetric. Under this theory, I propose that sentences with coordination are derived via movement triggered for featural symmetry. Specifically, the derivation of *John and Mary saw Bill* that I propose starts out as in (8). The two conjunct DPs of this example originate with valued φ-features. Therefore, when the derivation proceeds up to C and T inherits unvalued φ-features from C, assuming the feature inheritance analysis (cf. Chomsky 2007, 2008, Richards 2007), these DPs must both raise to establish a φ-agreement relation with T, by the DSC in (7). What would then happen to the conjunction? My proposal is that when the conjuncts are raised to subject position, the conjunction is also raised, following the view that a conjunction is a clitic that attaches to a conjunct (Haspelmath 2007). This derivation yields the structure in (9), which has "three peaks," each of which representing three distinct but intersecting set-theoretic SOs that share the term T_1: {DP1, T_1}, {DP2, T_1}, and {C, T_1}. At this point, one may think that such a "multi-peaked" structure is problematic for further computation. However, I consider that the problem does not arise, crucially adopting the theory of phases and cyclic Transfer (Chomsky 2000), according to

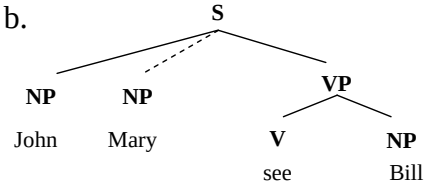
which at the level of the phase heads C and *v*, their respective complements TP and VP are sent off to the interfaces by the application of Transfer. Thus, in (9), the two SOs {DP1, T_1} and {DP2, T_1}, once they are created, are eliminated by Transfer, leaving only one SO that is visible for subsequent Merge, namely {C, T_1} (see Epstein *et al*. 2012 for related discussion).

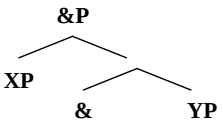
With this proposal in hand, let us consider the issue concerning the label of a coordinate structure. In the proposed structure (9), the two conjuncts initially form a structure with two non-heads, hence unlabeled, according to the standard labeling algorithm in (4). Crucially however, in the course of the derivation, they both undergo Internal Merge for the need of featural symmetry, ending up in a position where they are licensed in terms of labeling: according to (4b), the two SOs {DP1, T_1} and {DP2, T_1} receive the label T_1. Note also that under the present proposal, the asymmetry between conjuncts as seen in (1) can be attributed to the assumption which I adopt that English *and* is a proclitic type element, which forms a cluster with its hosting conjunct that follows it (see Stassen 2001, Haspelmath 2007 for discussion).

Finally, the present proposal has an empirical advantage over the alternative proposals that assume an asymmetrical '&P' structure as in (3). It has been observed that conjuncts in a coordinate structure do not exhibit c-command effects, as shown by the contrasts between (10a) and (10b)/(11a) and (11b) (see Progovac 1998, de Vries 2005). While these data present a problem for the asymmetry-based analysis, under the structure of coordination proposed here, in which conjuncts do not c-command each other, the problem does not arise any more.

(1) a. John read a book yesterday, and the newspapers.
b. *John read the newspapers yesterday, the book and. (Munn 1993: 15)

(2) a.


b.


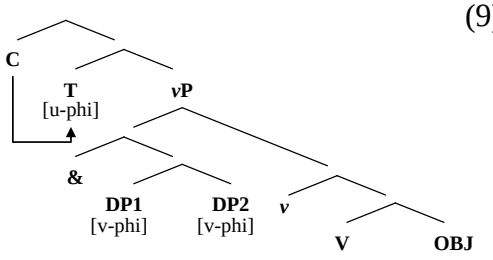
(3)


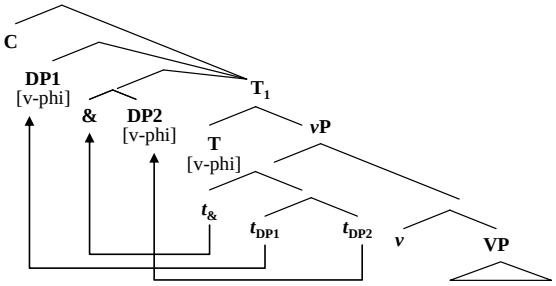
(4) a. In {H, α}, H an LI [head a lexical item: YA], H is the label
b. If α is internally merged to β forming {α, β}, then the label of β is the label of {α, β} (Chomsky 2008: 10)

(5) *Feature-equilibrium* For a formal feature F, an SO {α, β} is in an *F-equilibrium*. ≡*def.* α and β share a matching formal feature F that is equally prominent in α and β.

(6) *Featural symmetry* Given a formal feature F in an SO{α, β}, the SO is *symmetric* with respect to F (or *F-symmetric*) if it is in an *F-equilibrium*. Otherwise, the SO {α, β} is (F-)asymmetric with respect to F. (N&F: 13)

(7) *DSC* Each formal feature F must form an F-equilibrium in the course of the derivation.

(8)


(9)


(10) a. John and John's wife are certainly invited.
b. ?*John certainly likes John's wife. (Progovac 1998: 3)

(11) a. *He chased nobody and/or any dogs.
b. Nobody chased any dogs. (Progovac 1998: 3)

Selected references: Chomsky, N. 2013. Problems of projection. *Lingua* 130: 33–49.| Munn, A. 1993. Topics in the syntax and semantics of coordinate structures. Doctoral dissertation, University of Maryland, College Park.| Narita, H. & N. Fukui. 2012. Merge and (a)symmetry. ms. Waseda Institute for Advanced Study and Sophia University.| Progovac, L. 1998. Structure of coordination. Part I. *GLOT International* 3 (7): 3–6.