

## REVIEWS

**Labels and roots.** Ed. by LEAH BAUKE and ANDREAS BLÜMEL. (Studies in generative grammar 128.) Berlin: De Gruyter Mouton, 2017. Pp. vii, 292. ISBN 9781501510588. \$114.99 (Hb).

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Compositionality, order, projection/labeling, and displacement are core properties of concern when inquiring into UNIVERSAL GRAMMAR (UG), and the relevant questions about LABELING need further exploration (Chomsky 2013). Basically, labeling provides the necessary information for SYNTACTIC OBJECTS (SOs) to be interpreted at interfaces. Chomsky (2013, 2015) ignited the discussion when formulating two proposals for labeling: SYMMETRY-BREAKING MOVEMENT and SHARED FEATURE + AGREE. *Labels and roots*, edited by Leah Bauke and Andreas Blümel, contributes to the intensive discussion about the properties of labeling and its interaction with roots.

The volume is based on the Labels and Roots Workshop in Germany in 2014. It not only elucidates the syntactic and semantic contributions that lexical categories (e.g. ROOTS) could make to syntactic derivation and generation, but also delves into issues closely related to roots and labeling. Thus the roles labeling plays within syntax (or morphology) and semantic and phonological interfaces are revealed, addressing issues regarding the properties of roots and labeling/endocentricity that Chomsky (2013, 2015) demonstrated. In the following, we outline the key points of the four parts of the book, examining how this volume contributes to the exploration of ontological and procedural issues in grammar.

The chapters by SAMUEL DAVID EPSTEIN, HISATSUGU KITAHARA, and T. DANIEL SEELY (EK&S), CHRIS COLLINS, and ALEKSANDRA VERCAUTEREN constitute the first part, framing a theoretical background for the volume. In ‘Merge, labeling and their interactions’, EK&S summarize their previous papers related to Chomsky’s (2013, 2015) analysis of labeling by MINIMAL SEARCH, and then explicate the LABELING ALGORITHM (LA) as creating the relation ‘member of’ for X and Y (SOs), forming a set  $\{X, Y\}$ . Labeling does not exist in NARROW SYNTAX (NS), but is created during TRANSFER via seeking for relevant object-identification information within unlabeled syntactic outputs generated by simplest Merge. Labeling in this way can explain ‘obligatory exit’ and ‘obligatory halting’ in English and Japanese, without recourse to Move-over-Merge, lexical array and subarray, or even phase (CP/v\*P), realizing the simplest means to reach the maximum explanatory force.

Collins (‘Merge(X,Y) =  $\{X,Y\}$ ’) mainly elaborates Transfer. First, Collins shows how phrase structure rules and transformations are unified under Merge and summarizes thirteen properties of Merge. Among them, the labellessness of Merge projects, which drives unbundling of the syntactic operation, that is, endowing Transfer with the duty to create structures with LABELS. Transfer is specified as Transfer<sub>SM</sub> (SOs into the sensory-motor system) and Transfer<sub>CI</sub> (SOs into the conceptual-intentional system), with the latter further unbundled into Transfer<sub>PF</sub> and Transfer<sub>SM</sub>. Crucially, Transfer<sub>SM</sub> externalizes SOs one after another, with reference to phase and the asymmetrical relation among SOs. Consequently, a simple derivation fits with labelless Merge, without appealing to lexical array but by listing lexical items as their own line of derivation. There is no Agree in UG, and no parameterization in Transfer but in different instances of internal Merge.

In her contribution (‘Features and labeling: Label-driven movement’), Vercauteren demonstrates, with English and Italian data, the mutually beneficial relation between LA and CARTOGRAPHIC SYNTAX, which assumes a universal hierarchy of ordered functional heads (features). To wit, the hierarchy of functional heads provides landing places for XP movement, because functional features could label SOs via minimal search and establishment of agreement between SOs, and moved constituents would find a label in NS. Movement comes for free, but is not triggered

by features. Meanwhile, the fact that LA seeks only features permits cartography to maintain its assumption.

EK&S and Collins clearly provide readers with a historical examination of labeling and relevant issues, and most importantly clarify how to transfer SOs at/into interfaces. This enables readers to understand how the proposals of labeling and the key factors conjectured successively for syntax, like interface conditions, free Merge, and third-factor principles, gear the operation of the minimalist machinery. Although deviating from EK&S and Collins in terms of the formation of labeling, Vercauteren assumes almost the same framework, and further informs readers of the compatibility of the minimalist framework with cartographic syntax, verifying theoretical advantages of the current framework. Below, readers will notice that all of the theoretical ideas presented in Part One are discussed in depth in later chapters, being either disputed or improved.

The papers in Part Two, by PETR BISKUP and MIKI OBATA, analyze how labeling interacts with cyclic Transfer in phase theory. In ‘Labeling and other syntactic operations’, Biskup modifies the minimalist system so that every Merge constitutes a phase, in contrast to the standard phase; labeling in every phase follows movements triggered by GREEDY FEATURES, and only labeled SOs are immediately transferred to interfaces. Thus, there is no need for projections of standard phases and the PHASE IMPENETRABILITY CONDITION (PIC), and the order of operations is Merge – movement – labeling – Transfer. In this process, labeling could be delayed; LOW COPY is deleted rather than ignored, different from Collins’s proposal. Biskup then demonstrates how his system explains the ‘freezing effect’ in English and order preservation in multiple movement in Bulgarian, among other phenomena.

Obata (‘Is Transfer strong enough to affect labels?’) distinguishes strong from weak Transfer in standard phase theory in English and Cape Verdean Creole. Strong Transfer refers to complete deletion of representations in NS after Transfer. Obata proposes that weak Transfer simply makes the transferred domain inaccessible to operations in NS. That is, the transferred elements/features are preserved in NS after weak Transfer, which allows for a copy of the label of the transferred unit as a ‘clue’ for reconstructing transferred pieces, as in 1.

- (1) [<sub>DP</sub> whose claim that [<sub>TP</sub> John bought the book]]

After Transfer at the v\*P phase, the TP label is preserved in order to guide the insertion for semantic interpretation of the original transferred TP representation.

The way labeling interacts with movement and Transfer here differs from Part One. The role of Transfer in semantics as delimited by Obata, together with Collins’s Transfer<sub>SM</sub>, refines the Transfer proposal in this volume.

The authors in Part Three touch on interface issues, dealing with how labeling affects linear order and how phonological properties interact with labeling in SM. DENNIS OTT (‘Clausal arguments as syntactic satellites: A reappraisal’) endorses left-peripheral clause arguments as clause-initial satellites under his theory of left-dislocation: dislocated XPs are sentential fragments derived by ellipsis under parallelism of two clauses. In the biclausal ellipsis analysis of German, English, and Dutch data, a clausal satellite (CP<sub>Σ</sub>) is assumed to internally Merge to the edge of the initial independent host clause (CP<sub>1</sub>), which is underlyingly parallel to CP<sub>2</sub>, a host clause. Then, the unpronounced remnant structure (Δ) is deleted at PF. The deleted structure is formed according to CP<sub>2</sub> and embeds the dislocated XPs. The operation proceeds as follows: [<sub>CP</sub><sub>1</sub> CP<sub>Σ</sub>[<sub>Δ</sub>...t<sub>Σ</sub>...]] [<sub>CP</sub><sub>2</sub>...]. This analysis is supported by prosodic preference and LA.

In ‘A labelling-based account of the head-final filter’, MICHELLE SHEEHAN examines Russian, Greek, and Bulgarian, among others, explaining Greenberg’s (1963) universal 21/Williams’s (1982) HEAD-FINAL FILTER (HFF) under the FINAL-OVER-FINAL CONDITION (FOFC), a more general constraint on head directionality. To wit, HFF (\*[<sub>NP</sub> [<sub>AdjP</sub> Adj]β] N), barring post-head materials as pronominal modifiers) and FOFC (\*[<sub>γP</sub> [<sub>αP</sub> αβ] γ], ruling out head-final phrases immediately dominating head-initial phrases) can be accounted for as a linearization problem in SM under Sheehan’s copy theory of labeling. Specifically, supposing that labels and terminal nodes of the same lexical item are segments of a single category, and linearization operates only over category

labels, the ungrammaticality of two types of configurations is attributable to the failure of linearization of the right-branching specifiers. To solve the problem, the right-branching specifiers are either kept in the base-generated position or fronted as extraposed reduced relatives (without internal structures).

Part Four addresses ‘roots’ as open-class lexical units and topmost sentential nodes. ARTEMIS ALEXIADOU and TERJE LOHNDAL (‘The structural configurations of root categorization’) present four views on how roots are introduced into and categorized in syntactic structures, using Dutch, English, and Hiaki data. The first view holds that roots are merged as complements of *v*, but the authors falsify roots’ complement status. The second proposal introduces roots into a derivation as uncategorized modifiers of *v*, ignoring the fact that roots always need to be categorized. According to the third view, roots are introduced as either *v*’s complements or modifiers, but with direct Merge indistinguishable from complement Merge in certain conditions. The final proposal discusses self-Merge and unary Merge (first, merger of roots with an empty set, then late insertion of roots into the derivation) as suffering from the same problem as the second, because it formulates a special mechanism in the introduction of roots. Thus, Alexiadou and Lohndal conclude that there is currently no conclusive view on how to categorize roots via structural configurations.

In ‘How unlabelled nodes work: Morphological derivations and the subcomponents of UG operations’, LEAH BAUKE and TOM ROEPER explore unlabeled nodes in morphological derivation in the lexicon. To verify the independent necessity of unlabeled nodes when probing the morphosyntax interface, the authors examine compound incorporation and preverbal affixation in English and German. For example, *(the) re-outflow* is legible even if *re-* cannot be attached to a noun, because *out-* moves to the position as unlabeled (e.g. [U out [V flow]]) when *re-* is added (e.g. [re [U out [V flow]])] before final nominalization (e.g. [N [re [U out [V flow]])]). Thus, the semantic flexibility of the incorporated element is a direct reflection of its unlabeled status. The unlabeled node is a natural and necessary concept in the lexicon, existing in syntax beyond the level of roots, and (delayed) labeling is a genuine syntactic operation for both PF and LF interfaces.

Finally, ANDREAS BLÜMEL (‘Exocentric root declaratives: Evidence from V2’) concludes the volume with a discussion of exocentric or labelless root declaratives in V2 languages like German and Swedish, among others. The prefield of the verb in V2 languages has three properties: promiscuity, obligatoriness, and uniqueness. These properties entail only one random phrase (XP) in the prefield of V2 sentences (CP). Given these properties, LA cannot label the corresponding structure {XP, CPV2} in the absence of a specifier position. Instead, labellessness or label suppression conforms to the three properties. Other evidence also supports this proposal. Therefore, labellessness in V2 languages is attributed to the interface restriction on syntactic format.

Without doubt, this volume will invigorate readers with insightful crosslinguistic exploration of the theoretical and technical issues in current minimalist inquiry. Among them, some essential issues stand out. For instance, could the order of structures be filtered at interfaces with the SM and/or CI system, dispensing with the roles of functional features assumed in the cartography here or elsewhere (cf. Mao & Meng 2016)? The chapters by EK&S, Collins, and Vercauteren implement non-feature-driven free movement and interface-filtered computation via labeling, while Biskup assumes feature-driven movement. Meanwhile, while Bauke & Roeper and Blümel propose delayed or partial labeling and total labellessness, respectively, all other chapters adopt Chomsky’s labeling proposal in either building structure dependency in NS (e.g. Biskup, Vercauteren, Ott) or linearization at interfaces during Transfer (e.g. EK&S, Collins, Sheehan). Given that labeling relies on the shared features in SOs, it seems sensible to say that functional features play important roles both in NS computations and at interfaces. If this reasoning is on the right track, we need to consider both the feature-driven operations for structure dependency and interface-filtered operations for linearization. That is, we cannot focus on the role of functional features at interfaces while ignoring their roles in NS.

This question immediately refers readers to relevant issues in language acquisition. If PARAMETER is still an essential construct, a principled explanation of the role of functional features, and the properties of roots as discussed here, will facilitate language acquisition inquiry.

In short, this volume explores what core components the minimalist machinery should consist of, such as Merge, labeling, and interface conditions, and investigates how it operates, and also presents some divergences. These areas of difficulty, such as how to define phase uniformly and whether phase, PIC, and labeling are necessary in NS, point to future topics.

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**The present perfective paradox across languages.** By ASTRID DE WIT. (Oxford studies of time in language & thought.) New York: Oxford University Press, 2017. Pp. 221. ISBN 9780198759539. \$90 (Hb).

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Reichenbach (1947:§51) proposed that English tenses encode three temporal coordinates: SPEECH TIME (S), EVENT TIME (E), and REFERENCE TIME (R). For simple tenses, E and R are equated; present tense equates S with R, yielding 1.

$$(1) E = R = S$$

Research in the last thirty years has explored how these coordinates factor into the composition of verb phrases, viewpoint aspect, and tense. According to one influential view, outlined in 2–4 below, tense contributes a relation between R and S, while E and R are related by ASPECT; the E-R relation is independent of tense (Kamp & Rohrer 1983; see also Klein 1994, Smith 1997, Kratzer 1998).<sup>1</sup>

(2) Verb phrase encodes E.

(3) Aspect combines with 2 to relate E and R as follows: if perfective:  $E \subseteq R$ ; if progressive:  $R \subseteq E$ ; if perfect:  $E < R$ .

(4) Present tense combines with 2 and 3 to relate R and S as follows:  $R = S$ .

Applying 2 to 5, the verb phrase *sees* encodes the seeing event. Assuming that 5 exemplifies the imperfective aspect, 3 requires the seeing to temporally contain R, which, given 4, is S. In this way we correctly predict that the seeing held throughout S.

(5) Ava sees the ball.

\* Thanks to Susanna Melkonian-Altshuler, Andries Coetzee, Laura Michaelis, and Lauren Squires for feedback on previous versions of this review. The usual disclaimers apply.

<sup>1</sup> See Bary 2009 and Altshuler 2012 for an overview of various ways that 2–4 have been implemented in a formal semantic framework; see Altshuler 2016:§6 for a critical assessment of 2–4 and Kamp 2013 on the emergence of 2–4 from Reichenbach's theory.