

### Adverbial Clauses: Internally rich, externally null

Background: There is a recent and ongoing effort to formulate grammatical properties in terms of the interaction of (a) the free application of the set-forming operation Merge, (b) properties of the Conceptual-Intentional and the Sensorimotor systems and (c) Third Factor principles, i.e. efficient computation (Chomsky 2013/POP). Accordingly, the  $\bar{X}$ -theoretic notion of endocentricity derives from and dissolves into (i) the principle that a “label” is needed for interpretation at the interfaces and (ii) detection of the structurally closest element in {Head, XP}=HeadP. POP suggests two strategies to endow {XP, YP} with a label: symmetry-breaking movement and sharing of a prominent feature. Blümel (2015) proposes a third strategy, namely non-labeling, effectively questioning the general validity of (i). He argues that V2-languages feature a structure {XP, CP<sub>V2</sub>} in which the “prefield” is XP, i.e. a sister of CP<sub>V2</sub> fulfilling the following interface condition: Root declarative clauses must not be labeled. (i) needs refining in that a label is needed for interpretation *and the ongoing derivation*, i.e. selection. Since V2-clauses are root phenomena, the derivation terminates, which renders labels superfluous. If root declaratives must not be labeled, prefield occupation is but a means to ensure this, given (ii). Core properties of V2 follow, such as obligatory XP in the prefield and XP’s heterogeneity.

Conjecture: In this paper we argue that adverbial clauses in at least Slavic and German likewise fit the class of exocentric categories. We proceed in three steps: **Observationally (1)**, an asymmetry is discernible between the morphosyntactic complexity of complementizers in complement clauses and adverbial clauses. The tables illustrate this strong tendency with data from Slavic and German.

Serbo Croatian	Russian	Polish
<i>zato što</i> (‘because’) for+this-ACC that	<i>potomu čto</i> (‘because’) through+this-DAT that	<i>dlatego że</i> (‘because’) for+this-GEN that
<i>nakon što</i> (‘after’) on+end that	<i>vvidu togo čto</i> (‘because, since’) in+sight-LOC this-GEN that	<i>podczas gdy</i> (‘during, while’) under+time-ACC when
<i>premda</i> (‘despite’) in-opposition-to+that	<i>posle togo kak</i> (‘after’) after this-GEN how	<i>mimo że</i> (‘nevertheless, despite’) spite that
<i>time što</i> (‘through, by’) this-INS that	<i>s tech por kak</i> (‘since (then)’) since those times-GEN how	<i>po tym jak</i> (‘after’) after this-LOC how

Table 1: A subset of SC, Russian and Polish subordinators introducing finite adjunct clauses

compl. clauses	adjunct clauses		
	Obligatory C	With a D-element	With Adv/Prt
<i>dass</i> (‘that’)	<i>als dass</i> (‘(rather. . .) than’) as that	<i>während (dessen)</i> (‘while’) while that-GEN	<i>ob-wohl/-gleich</i> (‘despite’) if+PRT/+soon
<i>ob</i> (‘if’)	<i>auf dass</i> (‘so that’) on that	<i>nachdem</i> (‘after’) after+that	<i>zu-mal</i> (‘(especially) since’) to+PRT
∅	<i>bis auf dass</i> (‘except (that)’) until on that	<i>trotzdem</i> (‘(and) yet’) despite+that	<i>als wie</i> (‘like’) as how

Table 2: A (roughly categorized) subset of German subordinators introducing finite complement and adjunct clauses (cf. Fabricius-Hansen 2007 for a functional survey)

**Analytically (2)**, we propose to treat subordinators introducing complement clauses as C-heads (as is standard) and the transparently complex subordinators in adverbial clauses as phrasal units, i.e. PPs (cf. *inter alia* Emonds 1985):

- (1) a. [<sub>PP</sub> P=*v* [<sub>DP</sub> *vidu* [<sub>DP</sub> *togo*]]]      b. [<sub>PP</sub> P=*nach* [<sub>DP</sub> D=*dem*]]

In contrast to previous approaches (e.g. Junghanns 1994:159 for Russian and Müller 1995:86ff for German), we propose that the PP is a constituent *to the exclusion of the finite CP*:

- (2) [*AdverbialClause* [*PP* nachdem<sub>i</sub> ] i [*CP* (dass) sie das Buch auf den Tisch gelegt hat ]]  
 after+that (that) she the book on the table put has  
 ‘after she put the book on the table’

A Müller-style analysis with a D/NP-shell raises the issue why the correlating demonstrative (e.g. *dem* in (1-b)) *selects* the CP: Correlates usually relate “horizontally” rather than “vertically,” and a selectional relation appears redundant. Relatedly, the approach begs the question why these demonstratives do not select CPs in the absence of a prepositional element:

- (3) \**dem* sie das Buch auf den Tisch legt

We suggest that the correlate be coindexed with the finite CP, effectively functioning as a cataphoric pronoun. While traditional analyses highlight the prepositional nature of adverbial clauses, our analysis does not attribute a dominant status to either term in the symmetrical structure {PP, CP}=α, expressing and capturing both the prepositional and the sentential character of these clause types. **Theoretically (3)**, we observe that the structure (2) raises a problem for the minimal-search-based labeling algorithm in POP in that no feature is shared in α, nor does movement evacuate the adverbial clause α to render either phrase an invisible trace. We claim that the labeling problem remains unresolved, i.e. α is exocentric, converging with independent ideas in the literature about adjunction more generally (Hornstein & Nunes 2008). Adverbial clauses do participate in the ongoing derivation but crucially must be adjoined (pair merged). Since they belong to the class of unselected categories, their being exocentric is unproblematic, indeed desirable.

Adverbial clauses modify different abstract semantic units in the matrix clause, corresponding to differential attachment heights (cf. e.g. Frey 2012 for some): Event-related modifiers pair merge at the VP-level, topic-time related modifiers adjoin to AspP and proposition-related modifiers adjoin at the TP-level as shown in (4).

- (4) [*TP* [*TP* ... [*AspP* [*AspP* ... [*VP* [*VP* ... ]]]]]]      α<sub>proposition</sub>      β<sub>topic time</sub>      γ<sub>event</sub>
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In all cases {α, β, γ} remain unlabeled; syntactically, pair merge is free and the attachment point is determined by semantic category. Questions arise regarding cases without any subordinator, like final adverbial clauses:

- (5) Fritz winkt ihr zu [dass sie das Fenster schliesse]  
 Fritz bekons her to that she the window close  
 ‘Fritz waves towards her so that she may close the window.’

The current approach lends theory-internal support for the view that such cases involve null(-headed) PPs, contributing the adverbial meaning, i.e. these cases are {PP=0, CP}, also unlabeled (cf. the silent operators in Larson 1990, as well as semantic considerations in Emonds 1985, Junghanns 1994:153). We extend the current perspective to broader ramifications about clause typing and (*prima facie*) problematic cases like simplex subordinators (e.g. German *weil* ‘because’), discussing the option that these might be category-neutral roots, obviating labeling.

Selected Refs: Blümel, A. (2015) *Category avoidance in root contexts – the case of V2-C*. Talk given at the 37<sup>th</sup> DGfS-conference Leipzig. • Frey, W. (2012). On two types of adverbial clauses allowing root-phenomena. In Lobke Aelbrecht, Liliane Haegeman & Rachel Nye (eds.), *Main Clause Phenomena: New Horizons*, 405-429. Amsterdam: John Benjamins. • Junghanns, U. (1994). *Syntaktische und semantische Eigenschaften russischer finaler Infinitiveinbettungen*. München: Sagner. • Müller, G. (1995). *A-bar Syntax: A Study in Movement Types*. Berlin: Mouton de Gruyter.