Payne on Adverbs

Ref.: Payne (2018)

1. Introduction

Claim:
Cinque has 87 adverb classes, which is too much. Jackendoff (1972) has 4, which is not enough (and he got them wrong anyway). Ernst does everything semantically, which must be wrong (cross-linguistic variation). Engels (2004) does it in OT, which is "rather stipulative" and misguided (plus, OT is on the wrong track anyway: "concerns about the overgeneration of optimality theory in general"). Payne's (2018) assumption: There are five adverb classes.

(1) [evaluative/speaker-oriented [epistemic [tense/aspect [frequency/degree [manner VP]]]]]

These are the classes that syntactic operations may refer to.
Syntactic background: minimalist grammars.

(2) *Adjunction in minimalist grammars* (Fowlie (2017)):
When an adjunct [Y,n,m] adjoins to [X,i,j], the resulting phrase is of catgory [X,i,n], so long as n>y.

(3) a. big bad wolf
b. *bad big wolf
c. bad ↔ [Adj,4,0]
d. big ↔ [Adj,6,0]
e. wolf ↔ [N,0,0]

(4) *Payne's proposal*: Adverb classes are mapped to numerical values.
a. evaluative/speaker-oriented: 5
b. epistemic: 4
c. tense/aspect: 3
d. frequency/degree: 2
e. manner: 1

(5) a. Caroline apparently (5) nervously (1) ate dinner
b. *Caroline nervously (1) apparently (5) ate dinner
c. Caroline nervously (1) happily (1) ate dinner
d. Caroline happily (1) nervously (1) ate dinner

Wrong claim (p. 42):
"Adverbs at the same level in the hierarchy can be freely ordered with respect to each other."

2. Evidence

Corpus evidence confirms the five classes (vs. Cinque's 96).
Behavioural experiments (Amazon Mechanical Turk) confirms the five classes.

- *probably allegedly* and *allegedly probably* are both ok.
- *already once* and *once already* are both ok.
- *still almost* and *almost still* are both ok.
- *just almost* and *almost just* are both ok.

Cross-linguistic evidence confirms the five classes.

3. Intervention Effects in Minimalist Grammars

(6) a. John frequently (3) skillfully (1) mows the lawn
b. ?How skillfully (1) did John frequently (3) mow the lawn?

(7) *Potential Moveability Condition* (Li & Lin (2012)):
In a configuration X ... (Y) ... Z, where X c-commands Y and Y c-commands Z, Z can move to X only if there is no Y such that:
a. Z and Y are of the same structural type (A, A-bar, head), and
b. If x ranges over types of homogeneous movement (wh, focus, ...) and [X] over the features that signal a constituent's ability to undergo x-movement, then x-movement of a constituent is blocked by a c-commanding [+X] category, but not by a c-commanding [–X] category.

Assumption (Payne):
The [±X] feature partitions the set of adjuncts into exactly two disjoint parts – but languages differ with respect to where the boundary is (p. 47).
Ref.: Stabler (2011)
Movement is triggered by [+x] on a head that attracts a [–x] tree to its specifier.

(8) *Shortest Move Condition* (SMC):
Exactly one head in the tree has [–x] as its first feature.

(9) *Internal Merge*:
im(t_1[+x]) = [$_>$ t_2^M t_1{t_2[–x]^M → ϵ}] if SMC

Persistent features:
In standard minimalist grammars, it can never be the case that one and the same feature (say, D) is involved in more than one Merge operation (like basic structure-building and movement to SpecT). This can be changed by assuming that (a) the features for em and im are identical ([=f], [f] throughout, instead of both [=f], [f] and [+f], [–f]); and (b) features can be *persistent* (indicated by underlining).
Note:
To capture the concept of (defective) intervention, checked features must remain in the tree even if they cannot participate in Merge operations anymore.

(10) *Inert features for intervention*:
"Instead of marking progress on the requirements of lexical items by erasing features, we move a dot through the sequence. That is, lexical items will start with dot-initial feature list •$\alpha_1\alpha_2...\alpha_n$; when α_1 is checked and becomes invisible to any other probe, we get the sequence α_1•$\alpha_2...\alpha_n$; and if α_1 is checked and persists [...] the feature sequence is left unchanged. The dot is similarly moved across later features, marking the unique feature that is visible to a probe/selector while leaving all the features for the determination of blocking effects. In this system, the notation t[f] refers to a tree whose head has feature f immediately following the dot."

(11) *Relativized Minimality Constraint* (RMC):
im applies to t_1[=f] only if (a) and (b) hold.
a. t_1[=f] has exactly one subtree t_2[f].
b. *cover*(t_2[f]) ∩ *type*(f) = Ø.

(12) *Cover*:
Cover(t_2) is the set of features of heads t_3 such that t_3^M c-commands t_2^M.

(13) *Type*:
Type(f) is a function mapping each basic feature f to features that will block movement of t[f].

Engels, Eva (2004): Adverb Placement. An Optimality-Theoretic Approach. PhD thesis, Universität Potsdam.
Fowlie, Meaghan (2017): Slaying the Great Green Dragon. PhD thesis, UCLA.
Jackendoff, Ray (1972): *Semantic Interpretation in Generative Grammar*. MIT Press, Cambridge, Mass.
Payne, Amanda (2018): Adverb Typology: A Computational Characterization. PhD thesis, University of Delaware.
Stabler, Edward (2011): Computational Perspectives on Minimalism. In: C. Boeckx, ed., *Oxford Handbook of Linguistic Minimalism*. Oxford University Press, Oxford, pp. 616–641.