

Adverbials in Mandarin Argument Structure

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The similarity of bound nominal arguments to adverbials, such as those of measure, goal and result, regarding their role in deriving accomplishment predicates from activities has been observed since at least Dowty (1979). This similarity is reflected in the morphology of certain languages by the assignment of accusative case to measure adverbials (Tenny 1987; Wechsler and Lee 1996) – sometimes necessitating the assignment of a different case to the direct object, if present (1). Are these parallels expressed syntactically? Two dominant analyses of VP structure give an affirmative reply. In the first, (2), typified by Larson (1998, 2003), direct objects and adverbials can both be merged as the complement of V. In the second, (3), found in Pereltsvaig (2000), Kratzer (2002), Borer (in press), a head related to telicity and accusativity, c-commanding V, agrees with features of direct objects and accusative adverbials, potentially hosting them in its specifier position.

Deciding between (2) and (3) (under the assumption we need to) is by no means an easy task in a framework with a Move operation, especially when its application with respect to feature agreement isn't always direct (covert movement, or Agree not followed by Move).

Mandarin, and other Sinitic languages, being morphologically poor, cannot express the object/adverbial parallel through case marking. The parallel does however manifest itself in syntax, most notably in “verb copying” (VC) constructions. In a clause containing both a DP-object and an adverbial of the type discussed, the verb can (and sometimes *must*) occur twice, followed by DP_{obj} in its first occurrence and by AdvP in its second. The syntax of VC strongly favors (3): after head movement of V to *v* has taken place (as is generally assumed for Mandarin), VP moves out from under FP and its specifier, moving at least as high as the edge of *v*P; if AdvP were the complement of V, then V and DP_{obj} (merged as a SpecVP or some higher phrase) couldn't move as a constituent without including AdvP. VC has often been taken to support (2) insofar as it seems to have the function of creating two complement-of-V positions. But this idea is in fact difficult to implement in a derivational syntax, tending to require steps that are difficult to constrain (such as V twice undergoing First-Merge, or moving in violation of the Chain Condition (Chomsky 1995)). The analysis of VC associated with (3) resorts only to Move and derives the reduplication of V from structural considerations – namely the lack of c-command between the two occurrences. The most costly step in the analysis is to assume that VP can move, yet this has the additional benefit of relating VC to non-local verbal reduplicative phenomena attested cross-linguistically, such as predicate clefts (Koopman 1997) and V(P)-fronting (Landau 2003).

Three types of VC are distinguished depending on the adverbial in question as well as the affixation of the second occurrence: measure (4), result and manner (5), and resultative compounds (6). If VC is simply derived from the combination of V movement and VP movement, dependant upon a configuration in the style of (3), then the different adverbials must *all* be merged as specifiers of functional projections between *v*P and VP. This predicts that resultative compounds are derived from complex structure, as opposed to starting out as a complex or simple head. This also goes against recent proposals that, despite much variation in their execution, argue that VC can be arrived at from substantially different derivations (Bartos 2003, Cheng 2004), a claim that seems to be supported by the fact that the null subject of a result clause may take DP_{obj} as its antecedent, (8). If antecedence is determined by binding here, then DP_{obj} must c-command the result clause. However, we'll propose that the null subject is an unbound *pro*, free to take its reference from either subject or object. We'll also consider Subjacency issues regarding extraction from result clauses the seem to favor (2)-type analysis (Li Y. 2005).

Finally, the ‘accusative’ nature of the adverbial expressions involved in VC can be

related to the building of a telic predicate – except, it would seem, for manner adverbials. Then again, Wickboldt (2000) observes that manner can interact with telicity, “suspending” it. Manner adverbial VC, as (9) shows, gives rise to the same observation. We’ll suggest that this interaction is due to the scalar properties of these manner adverbials, which typically are headed by gradable adjectives.

- (1) Maria kantoi kirjaa tuunin. (Finnish)
 Mary carry book.PRT hour-ACC
 ‘Mary carried a book for an hour.’ Tenny 1987
- (2) [_{VP} V DP_{obj}/AdvP]
 (3) [_{FP} DP_{obj}/AdvP [F VP]]
- (4) ta kan (zhei ben) shu kan le san ci / san xiaoshi. (durative/ iterative measure)
 3s look this CL book read PFV three time three hour
 ‘She read (this book) three times/ for three hours.’
- (5) a. ta nian (zhei ben) shu nian de hen lei. (result)
 3s read this CL book read DE very tired
 ‘She read (this book) until she was tired.’
 b. ta chang (zhei ge) ge chang de hen haoting. (manner)
 3s sing this CL song sing DE very good.listen
 ‘She sings (this song) well.’
- (6) Lisi xie zhe ben shu xie - lei le (resultative)
 LS write this CL book write tired PFV
 ‘Lisi wrote this book and got tired as a result.’ Wu 2004
- (7) ... [_{VP} [_{VP} V DP] [_{VP} [_v V [_v ASP]]] [_{FP} AdvP [_{FP} F [_{VP} \forall DP]]]
- (8) ta da Lisi da de hen can
 he hit Lisi hit DE very miserable
 ‘He hit Lisi to the extent that Lisi became very miserable.’ Cheng 2004
- (9) ta zuo yi-ge dangao zuo de hen kuai, keshi mei zuo-wan.
 3s bake one-CL cake bake-DE very fast but not bake-finish
 ‘He baked a cake quickly, but didn't finish.’

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