

## Times, Arguments, and the Projection of VP Shell

Based on the homogeneousness of the properties of an argument with respect to time, Klein (2010) discusses certain types of verb stems in their default readings. Heterogeneous Intransitive (HEI) and Transitive (HET) cover telic and degree achievement verb stems, and Homogeneous Intransitive (HOI) and Transitive (HOT) cover the rest. We propose that arguments of the four types of verb stems are base-generated as in (1). In the theta-domain, HE verbs have vP, whereas HO ones do not, regardless of how many arguments occur. In (1b), the two DPs are the specifier and complement of V. Supporting facts are listed below.

- (1) a. HOI: [<sub>VP</sub> V DP] e.g. *sleep, dance, vibrate, be*  
 b. HOT: [<sub>VP</sub> DP1 [V DP2]] e.g. *cost, weigh* with a measure phrase, *resemble, admire*  
 c. HEI: [<sub>VP</sub> v [<sub>VP</sub> V DP]] e.g. *die*, (intransitive) *drown, rise, remain*  
 d. HET: [<sub>VP</sub> DP1 v [<sub>VP</sub> V DP2]] e.g. *leave, close, slay*, (transitive) *drown, observe*

❶ Structure Integrity All of the arguments to support severing the subject from VP or vP shell projecting (Marantz 1984; Larson 1988; Kratzer 1996) come from HE, rather than HO, constructions. The latter fails in pseudo-cleft (Zucchi 1998: 349) (2a) and replacement by the vP-proform *do so* (Ross 1970; cf. Stroik 2001: 367) (2b,c). These are covered by (1b), where [V DP2] is an intermediate projection, which lacks visibility (Chomsky 1995), and is not vP.

- (2) a. \*What John did was resemble his father. b. \*Mary likes Sam, and Chris does so too.  
 c. \*The shoes cost 5 dollars, and the gloves do so too.

❷ Structure Richness Why is there no ditransitive or applicative HO verb? If only HE verbs may host their arguments in two layers of VP, the contrast in (3) is explained. (1b) does not have enough positions for three arguments, if no multiple Specs are allowed in theta-domain.

- (3) a. I gave him the clothes. [HET]  
 b. \*I like him the clothes. [HOT] Intended: ‘I like him with respect to the clothes.’

❸ There is no HO object-control construction, which has a DP and a clause complement.

- (4) a. Mary forced John to feed the baby.  
 b. \*Mary admired John to feed the baby.  
 Intended; ‘Mary admired John for his feeding of the baby.’

❹ Many verbs may occur in either HO or HE structures (Dowty 1979: 60; Rosen 1999). It is easy to change an otherwise HO construction into a HE one by adding a delimitable element. But we do not add material to a HE structure to change it into a HO one (Thompson 2006: 218). As in (3) and (4), the data in (5)–(10) show HE structures are richer than HO ones.

(5) ADDITION OF DIRECT OBJECT

- a. Bill ran (\*in 5 minutes). [HO]  
 b. Bill ran the mile in 5 minutes. [HE]

(6) ADDITION OF INDIRECT OBJECT

- a. That book costs three dollars. [HO]  
 b. That book has cost me three dollars. [HE]

(7) ADDITION OF COGNATE OBJECT

- a. Terry sang (\*in an hour). [HO]  
 b. Terry sang the ballad in an hour. [HE]

(8) ADDITION OF X’S WAY EXPRESSION

- a. Terry sang (\*in an hour). [HO]  
 b. Terry sang her way to the Met in 10 years. [HE]

(9) ADDITION OF FAKE REFLEXIVE

- a. Terry sang (\*in an hour). [HO]  
 b. Terry sang herself to sleep in an hour. [HE]

(10) ADDITION OF RESULTATIVE

- a. Terry ran (\*in an hour). [HO]  
 b. Terry ran us ragged in an hour. [HE]

Note that heterogeneous events can be repeated (*Mary dried the dishes for hours before being released from duty*) (Thompson 2006: 218; Ramchand 2008: 31). It is just like all nominals can be counted if an appropriate unit is identified (*two drops of water* as well as *two books*).

⑤ Certain formatives mark the HE status of the verb, and their absence marks the HO status, e.g., *meg-* in Hungarian (Hopper & Thompson 1980: 267). Presumably, such formatives are licensed by vP, and thus the HE reading correlates with a richer structure.

⑥ Intransitives exhibit HO-HE contrasts Only HEI allow expletives. This is explained if the expletive is base-generated in Spec of vP (Deal 2009). (1c), but not (1a), has vP.

(11) a. There arrived a train in the station. [HE] b. \*There laughed a man in the hallway. [HO]

⑦ Transitives exhibit HO-HE contrasts In some languages (e.g. Finnish, Hungarian) only HE structures have Acc case marker (Hopper & Thompson 1980: 262). The fact is captured in the (1b)-(1d) contrast: the overt case marking is licensed by vP in the languages (Chomsky 1995).

⑧ Cross-transitivity HO-HE contrasts Certain rules apply to both HET and HEI, but not HOT and HOI. First, *re-* occurs with HE verbs only (12) (Horn 1980). Since *again* behaves differently, the issue is not semantic. Note that *re-* scopes over either the HE root or the affected DP (Marantz 2005). But the ambiguity is independent of the HE restriction.

(12) a. The door reopened. b. I reopened the door. [HE]  
 c. John {\*resmiled/smiled again}. d. \*John re-admired his father. [HO]

Second, time frame PPs occur with HE verbs only (13). Thompson (2006) shows that such PPs are licensed by a projection higher than VP. Their absence in HO constructions indicates that the structures of HO constructions are lower and thus simpler than that of HE ones.

(13) a. John walked to the store in two hours. b. John destroyed the toy in two hours. [HE]  
 c. \*John slept in two hours. d. \*John admired his father in two hours. [HO]

● The proposal in (1) may also show the following properties:

① Generalization: Experiencer is never base-generated in vP, regardless of the position of the other argument in the structure (Belletti & Rizzi 1988; Pesetsky 1995).

(14) a. Ingrid fears ghosts. (DP1 of (1b)) b. The ghosts threatened Ingrid. (DP2 of (1d))

② Generalization: Causative-inchoative alternation occurs with HE verbs only, i.e., vP but not VP.

③ Generalization: Reinhart's (2002) [+c] roles (agent/causer/instrument) are DP1 of (1d).

④ Simplicity: (1) avoids the complexity and arbitrariness of the stipulation that all verbs project vP but v has different "flavors" (Arad 1999).

⑤ Integration: Based on Klein's insight, (1) integrates event structures with argument structures.

⑥ Generalization: The structures of homogeneous eventuality constructions are simpler than those of heterogeneous ones. This is parallel to Borer's (2005) analysis of nominals: the structures of mass nominals are simpler than those of count ones. The former shows homogeneousness, whereas the latter does not.

● **Selected references** Deal, A. 2009. The origin and content of expletives: evidence from "selection". *Syntax* 12: 285-323. Dowty, D. 1979. *Word meaning and Montague Grammar*, Reidel. Hopper, P. & S. Thompson. 1980. Transitivity in grammar and discourse. *Language* 56: 251-299. Horn, L. 1980. Affixation and the Unaccusative Hypothesis. *CLS* 16: 134-146. Klein, W. 2010. On times and arguments. *Linguistics* 48: 1221-1253. Rosen, S. 1999. The syntactic representation of linguistic events. *GLOT International* 4.2: 3-11. Ross, J. 1970. Act. In D. Davidson & G. Harmon (eds.) *Semantics of natural language*, 70-126, Reidel. Stroik, T. 2001. On the light verb hypothesis. *Linguistic Inquiry* 32: 362-369. Thompson, E. 2006. The structure of bounded events. *Linguistic Inquiry* 37: 211-228. Zucchi, S. 1998. Aspect shift. In S. Rothstein (ed.) *Events and Grammar*, 349-370, Kluwer.