

Deriving telic and atelic predicates via (non-)extensive measure functions in Korean

Korean aspectual verb constructions (aspectual V-V), traditionally known as auxiliary verb constructions, encode situation aspect (Smith 1991) in the form of two verbs: the main verb (V1), which provides the argument structure, and the aspectual verb (V2), which contributes aspectual meanings *e.g.*, completion and iteration. Choi (2004a) proposes that aspectual classes such as activity and accomplishment (Vendler 1967) are expressed by verb verb (V-V) formations in Korean, and (a)telicity of the predicate (V-V) is determined by the second verb (V2).

In this paper, I claim that the telic (quantised) and atelic (cumulative) status of predicates (V-V) arise after the application of (non-)extensive measure functions, which are expressed by (a)telic-determining V2s in Korean. Telic predicates are derived by applying extensive measure functions (*e.g.*, a *litre* of water, a *pound* of apples) which are expressed by a group of telic-determining V2s. Atelic predicates are derived by applying non-extensive measure functions (*e.g.*, *18 carat* gold, *90 degree Celsius* water) which is expressed by a group of atelic-determining V2s (1). The claim that V2s express (non-)extensive measure functions presupposes that the input predicate must be homogeneous (Krifka 1998). I argue that this is precisely the case for the verb-object complex in Korean. This is based on the fact that simplex verb constructions (*i.e.*, verb + object) yield ambiguous interpretations in terms of (i) (in-)definiteness of the direct object, (ii) lexical semantics of a verb, and (iii) (non-)quantised status of the direct object with respect to (a)telicity of the sentence (2). These ambiguities do not arise in the aspectual V-V due to the presence of V2 (3).

Extending Choi (2004b), who proposes that, in the aspectual V-V, V2s, which behave as quantifiers, impose a temporal measure over input event descriptions of the first verb (V1), I argue that V2s denote specific temporal measurements (see (7)). Thus, any type of V2 can combine with V1 and yields different eventuality descriptions (*e.g.*, state, activity, accomplishment, achievement). The supporting evidence for V2s as expressing specific temporal measurements comes from the fact that (i) the derived (a)telic V-V formations show certain restrictions in terms of [\pm stages] and [\pm telic], (ii) the (a)telic-determining V2s are compatible only with a particular type of temporal adverbs (3)-(4), (iii) atelic-determining V2s can be distinguished from each other by adverbs such as *cwulcwuli* 'in a line' (5); (iv) V2s can be stacked in a particular order, which influences the interpretation of direct object references (6). Based on these properties, I argue that telic-determining V2s correspond to extensive measure functions, which 'carve out' some 'portion' of the homogeneous input event descriptions of V1, and assign a certain temporal measure yielding telic (quantised) predicates. Thus, any sub-part of *wipe up two tables* in (3) cannot count as *wipe up two tables*. In addition, the sum of two contiguous *wipe up two tables* will amount to *wipe up four tables*. Atelic-determining V2s correspond to non-extensive measure functions, which measure some qualitative property of the predicate in question, and yield atelic (cumulative) predicates. I propose that the measured 'qualitative property' by atelic-determining V2s constitutes different time intervals, as shown in (7). Thus, any proper sub-part of *keep on eating two apples at a time* also counts as *keep on eating two apples at a time*. Also, the sum of two contiguous *keep on eating two apples at a time* amounts to *keep on eating two apples at a time*. Thus, the atelic-determining V2s differ from each other with respect to their frequency, and telic-determining V2s provide discrete temporal measurements. The derived (a)telic V-V formations via the application of (non-)extensive measure functions then encode their relation with respect to the input event description by means of morphological markings on the numeral determiner: *-lul* 'ACC' for telic V-V and *-ssik* 'each/bit by bit' for atelic V-V (see (3) and (5b)). I propose that the *-lul* marks its *individuated* status, and *-ssik* marks its *part-of* relation to the homogeneous input.

The proposed analysis for Korean aspectual V-V in which the (a)telic status of predicates arise after the application of (non-)extensive measure functions is in line with the claim that extensive measure functions can be used to define quantised predicates (Krifka 1998), and that simple predicates in natural language are typically cumulative (Krifka 1989, 1992, 1998). It is also in line with Rothstein's (2003) claim that telicity is to do with counting and the identification of atomic events. Furthermore, the composition of aspectual V-V resembles the distinction between count vs. bare plural/mass nominal references (Bach 1986) as well as the distinction, among noun phrases, between measure phrases (*e.g.*, *2 kilos of gold*) and substantive phrases (*e.g.*, *9 carat gold*) (Schwarzschild 2002).

