

Change of Location and Change of State: How Telicity is Attained

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Abstract. This paper basically discusses parallels between change of location (or space) and change of state. Change of state is analogous to change of location, involving an abstract state Source and an abstract state Goal with abstract Path, involving telicity and showing alternations crosslinguistically. Spatial change is least abstract, whereas temporal change and state change are more abstract and psychological change is most abstract, exhibiting various phenomena of degree modification and telicity differentiations. Abstraction causes argument reduction and change in syntactic behavior. State-oriented predicates are modified by the equivalents of the degree modifier *very* and process-oriented ones by the quality modifier *well* and its equivalents.

Keywords: change of location, change of state, creation/removal, telicity, degree, Generative Lexicon Theory

1. Introduction¹

This paper discusses parallels between change of location and change of state, involved in locomotive (=motion), change of state, and creation/removal verbs, trying to see how telicity is attained semantically, examining cross-linguistic typological variation in lexical patterning and some syntactic behaviors.

First, spatial uses of prepositions or postpositions are closely connected with temporal uses of them, although the latter are more abstract and limited because of directionality and dimensionality.

Second, change of state (qualities) is structurally associated with change of location, with its Source and Goal. Change always means a shift from $\neg P$ to P in state as well as in location through the flow of time. But the former is more abstract.

Third, when change of state becomes psychological, it becomes even more abstract. As seen in *build tension* or its Korean equivalent *kincangkam-ul coseng-ha-ta*, indirect constitutive causation changes to experienced (direct) causation and does not need any part of the object such as ‘material’ (from a default argument). This is ‘derived unaccusativity’ (Pustejovsky 1995) that allows for modification by the degree adverbial *maywu* ‘very’ in Korean. If *Mary’s presence is building tension* then *Mary’s presence has built tension*. In other words, imperfective paradox disappears because there is no telicity involved any more.

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2. Motion Expressions with Goal/Theme

2.1 Typological Variation of Motion Expressions

Typologically, in verb-framed languages (Talmy 2000) such as K/J, Hindi, Romance, Semitics, Bantu and Polynesian languages, an existential/stative location postposition/preposition such as *-ey* (K), *-ni* (J), *à* (French), *-meN* (Hindi) is further used only for basic directed motion verbs but not for manner verbs, e.g.

- (1) a. *hakkyo-ey iss-ess-ta*
 school-LOC be - PAST-DEC
 ‘(She) was in the school.’
 b. *hakkyo-ey ka-ass-ta*²
 school -PATH/GOAL go-PAST-DEC
 ‘(She) went to (the) school.’
- (2) * *hakkyo-ey(K)/gakko-ni(J) talli -ess-ta*
 school -PATH/GOAL run-PAST-DEC
 ‘(She) ran (the) school-ey(K)/-ni(J).’
- (3) * *LaD.kaa kamre-meN dauD.aa* (Hindi)
 boy -NOM room-PATH ran
 ‘The boy ran the room-*meN*.’ (in the sense of ‘to’) (Narasimhan 1999)
- (4) * *El hombre corrido a la casa* (Spanish)
 the man ran PATH the house
 ‘The man ran *a* the house.’ (in the sense of ‘to’) *hasta* ‘up to’ OK
- (5) a. The boy went/ran *to* the park (in an hour). Cf. The boy was *in* the park.
 b. Mary drove home for an hour.
 c. *(hoswu-esyse) kongwon-kkaci/??-ey il mail-ul tali-ess-ta*
 lake-from park-as far as /to 1 mile-ACC ran
 ‘(He) ran 1 mile (from the lake) to the park’

In English, a satellite-framed language, an existential/stative locative preposition *in/at/on* is separate from a Path (Goal) preposition *to* and the latter is applied to manner verbs such as *run* and *walk* in addition to basic directed motion verbs such as *go* and *come*, as in (5a), but not *arrive*. This is possible in this type of conflation languages. In verb-framed languages, however, a correspondent such as *-ey* in Korean of the existential/stative locative postposition basically functions as a stative locative and additionally is used as Goal postposition for directed motion verbs of *go* and *come*.

All the Goal PPs in both types of languages as in (1b) and (5a) can be modified by a time span adverbial ‘in an hour’; they denote the final contact point of motion (location change) event that ranges from the understood Source to the Goal. In (5b), by the manner motion the Agent changes her location from $\sim BE_AT_HOME(m)$ to $BE_AT_HOME(m)$. The adverbial modification is by a durative for Mary’s being at home, and the final state subevent *be_at home* is headed (e2*) (see Pustejovsky 1995). This is impossible in K/J and other verb-frame languages; we need a separate clause for the state event after the moving process. Therefore, K/J speakers often misinterpret the durative *for an hour* in (5b) as modifying the process of *running*. We can say in general that the manner motion verbs such as *walk*, *run*, and *fly* with the Goal expression in English constitute a complex event of e1 and e2* (with a head on e2).

Those Path-oriented Goal prepositions *kkaci*(K), *made*(J), *hasta*(Sp), and *jusqu’a*(Fr) in verb-framed languages can freely co-occur with manner motion verbs, as in (4), and behave like

² Abbreviations: LOC=Locative, DEC=Declarative, K=Korean, J=Japanese, TOP=Topic, NOM=Nominative, ACC=Accusative, CAUS=Causative, ASP=Aspect, INST=Instrumental

up to/until/as far as in English, denoting a Path all the way through up to the telic or culminating point, naturally forming an accomplishment. They are modified by ‘in an hour’ for temporal modification. This is true of temporal paths or durations as well. There is no Goal to stay at and *to midnight* and its correspondent in Korean ‘caceng-kkaci’ cannot constitute a Goal of an event type with telicity but just signals the other end of a certain period of duration, showing just a final point of activity when combined with *run*, or *swim*. The expression means that the entire length of the path (she) traversed is one mile (see Pinon 1993 for English). *Kongwon-uro il mail-ul tali-ess-ta* ‘ran 1 mile towards the park’ means (she) traversed the one mile initial part of the path to the park. In other words, *kkaci* ‘up to’ implies an entire path to the Goal. An event of motion or change of state involves correlated time flow and an endpoint delimited by *-kkaci*, *made* and the like. It can embed another event of duration, as follows:

- (6) KAL-ki-ka han shikan man-ey Tokyo-ey tah-ul-ttay-kkaci pan shikan tongan ca-ss-ta
 K-flight-NOM one hour in T-at arrive time-until half hour for slept
 ‘(I) slept for half an hour until the KAL flight arrived at Tokyo in an hour.’

There is a striking parallel between spatial and temporal expressions. Events are basically correlated with spatio-temporal locations and space and time are inseparable from each other. Because of this relationship, temporal expressions show some exact parallels as well as some remarkable restrictions; they are relatively more abstract than spatial expressions. More abstract temporal structuring parallels spatial (motional) structuring (Talmy 2000). For instance, prepositions/postpositions showing location or movement are used in temporal expressions, e.g., ‘at two o’clock’ (*twu shi-ey* (K)), ‘from noon to midnight’ (*chengo-eyse/puthe caceng-kkaci*). The progressive in English was with a preposition *on/at=>a-* (Vlach 1981) of contact (Lee 1999) or central coincidence (Hale 1984). The counterpart in Korean (K)/Japanese (J) involves *V-ko -iss-/V-te iru*, each with ‘be,’ and can co-occur with psychological/cognitive verbs like ‘know’ (*al-ko iss-ta*) (because of its original (central) coincidence or result state meaning), unlike in English.

Consider the following parallels. A time point expression can co-occur with a stative location expression in existential stage-level state (*was*) and instantaneous/punctual achievement events (*arrived*) in English and K/J, as in (6). This is not possible in a generic (or kind) statement, as in (7). Telicity is possible in an existentially interpreted statement as in (8) but not in (7). A duration expression can co-occur with a stative location expression in stative and activity events, as in (8). In English a manner locomotive verb with Source and Goal is modified by a time span (or interval) adverbial, as in (8a), but in K it can be modified by either duration or time span, as in (9a’). However, the basic (deictic) motion verb with Goal cannot be modified by duration, as in (9a’).

- (6) a. Mary was/arrived **at** the door **at** three o’clock.
 b. Mia-nun seyshi-ey mwun-kkan-ey iss-ess-ta/tochakhay-ss-ta
 M-TOP 3 o’clock-at door-area-at be-PAST-DEC
- (7) God/Electrons/The Cole bottle/?The green bottle exist (‘conca-y-ha-n-ta’(K)/‘sonjai-suru’(J). (individual-level (generic only), if not ‘well-established kinds’ (Krifka 1995) not licensed) (Husband 2010)
- (8) a. Mia was **in** her house **for** three hours.
 b. Mary worked/drew circles **in** her house **for** three hours.
 b.’ Mia-nun caki cip-eyse sey shikan tongan il-hae-ss-ta/ won-ul kuri-ess-ta
 M-TOP self house-at 3 hours for work-PAST-DEC/circle-ACC draw-PAST-DEC
 (same interpretation as (b))

States and activities continue atelically and can naturally be modified by a duration adverbial, as in (8). But in Korean a verb of locational being takes an *-ey* PP and action verbs take *-eyse* PP.³ The former behaves as a complement, whereas the latter behaves as an adjunct (Lee 1999).

³ In Middle Korean, *-eyse* was a combination of *-ey* and *iss-e* (‘by being’), meaning ‘by being at.’

The Source of a Path, expressed by *from*, often assumed in the context, as in (9a), cannot be an independent telic element, unlike the Goal preposition *to* (cf. Nam 2000).

In the case of manner motion verbs such as ‘walk’ in Korean, as in (9a’), the Path-oriented telic postposition *-kkaci* ‘up to’ (*made* in J) with a location noun forms a syntactic adjunct phrase and still changes the event type from activity to accomplishment, compositionally. It can be modified not only by the time span adverbial but also by the slightly odd durative phrase *---tongan* ‘for ---’ because of the continuity sense in the Path in Korean. This duration expression is impossible with the basic motion verbs of ‘go’ and ‘come’ in Korean, which need the ‘-ey’ Goal as a complement and allows *-kkaci* ‘up to’ alternatively. Other achievement verbs like ‘arrive’ in Korean cannot take the Path-oriented telic postposition *-kkaci* ‘up to, until’; the process part of an achievement is cognitively suppressed or backgrounded and is almost not perceived. This is why it cannot be compatible with the Path-oriented postposition *-kkaci* (see Beavers 2008 for *made* in J). ‘The Mall goes from the park to the lake,’ in a fictitious motion. Furthermore, there is only one possible route from one point in time to the other; no zigzag is allowed.

2.2. Relation to Change of State and Its Telicity

Change of state parallels change of location to a certain degree. They are represented similarly. Consider:

- (9) a. Two pages yellowed.
 b. Twu peyici-ka noray-ci-ess-ta
 2 page-NOM yellow-get-PAST-DEC (same interpretation as (a))
 c. ‘Going TO’ a state of being yellow (Jackendoff 1983)
 or [x BECOME [x BE AT _STATE]].

Change of state can be [‘GO/COME (=MOVE) TO’ a state] in general. However, for a telic event, BECOME or COME (GET) TO is preferable and for an on-going atelic change/motion, GO is appropriate. It is a change or moving from a state of being not yellow to a state of being yellow. (9a) is telic and can be modified by ‘in three years.’ In English a zero morpheme is involved in the inchoative change and in Korean an inchoative marker (Adj-*e*)-*ci* ‘become, get.’ All kinds of change of state can be conceptualized this way. The only difference is that some **abstract motion** is involved in change of state. In English, a satellite-framed language, Path particles get abstract (Talmy 2000), their correspondents being verbs in verb-framed languages.⁴ Observe:

- (10) a. The ball rolled *in* [Path] cf. (kwule) ture-o- ‘(roll)-enter-come’
 b. They talked *on* [Aspect] cf. kyeysook-ha- ‘continue’
 c. The candle blew *out*. [state change] cf. kke-ci ‘get extinguished’

We can observe gradable adjectives showing degree or scale structure with a type of function from entities to degrees <*e*, *d*> (Kennedy 1999). (11a) denotes the road’s being wide to a certain degree in a context where standard normal roads are less wide. But (11b) shows that the width of the road changed (moved) from the Source state of width to the Goal state of width (with an assumed notion of comparison). In contrast, (9a) shows a change from zero degree yellowness to a tangible degree of yellowness. Because *wide* has a structure of open scale, its deadjectival inchoative shows variable telicity; it can be modified by ‘for/in two days.’ On the other hand, (11c, d) more evidently show the comparison idea in Korean (Lim and Zubizarreta (2010) give a nice formal description), still with abstract motion. (11e) shows that the change of state inchoative verb, which functions like (*-e*)-*ci*- ‘get,’ makes the composed event atelic, whereas (*-e*)-*ci*- makes its event variable between telic and atelic, as in (11b, d).

⁴ In verb-framed languages like Korean, verb + verb verbal compounds like this rather than verb + preposition expressions used and categories *in* (containment) and *on* (support) are differently categorized and instead the verb *kki-ta* ‘fit in tightly’ for both are acquired by 2-year-old Korean children, according to Choi (2003).

- (11) a. This road is wide. Cf. *I kil-un nelp-ta*
 b. This road widened. Cf. *I kil-un nelp-e-ci-ess-ta*
 c. *I kil-un 1 meter (te) nelp-ta* Cf. *I kil-un nelp-i-ka 1 meter-i-ta* ‘--- is 1 meter wide.’
 ‘This road is 1 meter wider (than before or than that road in the context).’
 d. *I kil-un 1 meter (te) nelp-e-ci-ess-ta*
 ‘This road became 1 meter wider (than before or than that road in the context).’
 e. *Kkoch-i shitul-e ka -ss-ta*
 flower fade-E went
 ‘The flower went on fading.’

When associated with the intransitive verb ‘change,’ the target Goal is expressed by *-uro* ‘toward’ in K, whereas it is expressed by *-ni* ‘at,’ ‘to’ in J. It is telic in both languages, although *-uro* ‘toward’ itself in K is originally directional but atelic; it changes to telic when it co-occurs with final-state salient verbs by the telicity strength (weight) of the verbs or by conventional implicature based on the verbs. Observe:

- (12) *mwul-i erum-uro pyen-hay-ss-ta*
 water-NOM ice-to(ward) changed
 (13) *mizu-ga koori-ni kawat-ta*
 water-NOM ice -at changed
 (12-13) ‘Water changed to ice.’

The change involved in (12) and (13) may be gradual but telic and can be modified by a time span adverbial (---*man-ey* ‘in’). The change has the abstract (state) Source of ‘being water’ and the abstract (state) Goal of ‘being ice’ and the stative Goal marker *-ni* ‘at’ indeed shows up in Japanese.

An activity statement such as ‘Mary ran’ has no Goal but a statement like ‘Mary ran a mile’ has a Goal implied in the measure phrase ‘a mile’, i.e., a point in space one mile away from the point at which Mary began running (Bennet 1975). That is the telic point in time and the latter constitutes an accomplishment. Likewise, *build a house* and *write a letter* have inherent endpoints of events, i.e., the complete house and the end of a letter.⁵ Now let us see how telicity is defined.

- (14) A predicate *P* is *quantized* iff no entity that is *P* can be a subset of another entity that is *P* (see Krifka 1998) (Kennedy 2002)
 Quantized: $\forall X \subseteq U_p [\text{QUA}_p(X) \leftrightarrow \forall x,y [X(x) \wedge X(y) \rightarrow \sim y <_p x]]$ (Krifka 1998)
X is quantized iff for all *x* and *y* both with property *X*, *y* is not a proper part of *x*.
 (15) An event description *R* is *telic* iff it applies to events *e* such that all parts of *e* that fall under *R* are initial and final parts of *e* (see Krifka 1998) (Kennedy 2002)

Mass nouns/bare plurals are not quantized, they are homogeneous and cumulative. When verbs compose with them, their events become atelic. An eventive or stative verb and its quantized object typically compose to license telicity. Inchoative verbs also may license telicity.

Most cases of telicity may be dealt with the above definitions but Kennedy (2002) argues that certain degree achievements such as *lengthen the icicle for an hour* cannot be solved with (15) because an atelic interpretation is possible even when the object argument is quantized. The object *the icicle* is quantized but the event *lengthen the icicle* is not telic. Thus, he proposes that the aspectual behavior of these verbs can be explained in terms of underlying scalar properties of the source verbs, particularly, the structure of “degree of change,” *d*. He posits a degree “increase” function for both positive (such as *long*) and negative (such as *short*), having open-

⁵ In Chinese, the verb *gai* ‘build’ or *xie* ‘write’ is regarded as a process event at times and requires a “resultative complement verb” such as *wan*, *hao* to assure telicity in transition to result state of creation.

scale and closed-scale for respective default atelic and telic interpretations. A sentence such as ‘The gap between the two cars has widened’ is given as an example of default atelicity but contexts may make it telic. Other researchers proposed improvements on the above definition with notions such as ‘divisive,’ etc. to treat *read less than/more than three books in an hour*.

K and J, as numeral classifier languages, exhibit explicit quantization in terms of numeral classifiers. Otherwise their nominals remain underspecified, unlike in English (cf Kennedy 2002). In (16a), *cip* ‘house’ can be ‘a house,’ or ‘houses,’ exhibiting variable telicity. The numeral classifier construction in (16b) certainly licenses telicity.

- (16) a. Mia-nun cip-ul sam-nyen tong/-man-ey ci-ess-ta
M -TOP house-ACC 3 year for/in built
‘Mia built houses/a house for/in three years.’
- b. Mia-nun cip sey chay –rul sam-nyen -man-ey/??tongan ci-ess-ta
M-TOP house 3 CL –ACC 3 year in/for built
‘Mia built three houses in/??for three years.’

3. Alternation Patterns between Goal and derived Theme

3.1 Patterns of Case Alternations

(I) Patterns of Case Alternations [Nom=N, Acc=A, Loc=L, Inst=I]

	Type A noh-	Type B tam-	Type C chaywu-	Type D puthi-
Pattern 1: x-ka [N] y-lul[A] z-ey[L] V	o	o	o	o
Pattern 2: x-ka[N] z-lul[L] y-lo[I] V	x	x	o	o
Pattern 3: y-ka[N] z-lul[A] V	x	x	o	x ² o
Pattern 4: z-ka[N] y-lul[A] V	x	(?)o	x	x

(see Lee et al 1999).

(II) Types of Verbs

Type A: neh- ‘put (into)’, twu- ‘put’, noh- ‘put (on)’, pus- ‘pour’,
olmki- ‘move’, tenci- ‘throw’, ...

Type B: tam- ‘put (into)’, sit- ‘load (onto)’, pokwanha- ‘store’,
cecangha- ‘store’ ...

Type C: chaywu- ‘fill’, machchwu- ‘hit’, teph- ‘cover’, ssa- ‘cover’,
mukk- ‘tie’, kyenwu- ‘aim’, kyenyangha- ‘aim,’ sso-‘shoot,’
chiwu- ‘clear’ (with Source), ...

Type D: puthi- ‘attach, paste’, palu- ‘paste’, chilha- ‘paint’, sekk- ‘mix’, ...

As witnessed in case alternations in transitive motion verbs, a Goal expression changes to a derived Theme (C. Lee 1997)(‘globally/fully affected’) as Incremental one (Dowty 1991) in Quantization and tends to exhibit change of state, as in (17), (19) and (21) below in English. However, alternation patterns in English and in K/J are different from each other. The class of verbs corresponding to such verbs as ‘load,’ ‘pile,’ and ‘spray’ are non-alternating in K/J, as (18), (20) and (22) show. Consider:

- (17) a. Mia loaded hay onto **two trucks** (for two hours/*in two hours/for a day/all day long). (Goal)
b. Mia loaded **the truck** with hay (in an hour/?for an hour). (derived Theme) (change of state)
c. Mia loaded **two trucks** with hay in an hour.

- d. Mia loaded **the truck** with two tons of hay. Cf. *The truck loaded the hay.
- (18) a. Yumi-nun kkol -ul thurek -ey sil-ess-ta (K) / tsumi-kon-da (J)
 Y-TOP hay -ACC truck-LOC load-PAST-DEC / load-insert
 ‘Yumi loaded hay onto the truck.’ (Goal) LOC *ni* (J)
- b. *Yumi-nun thurek-ul kkol-lo sil-ess-ta (K) /tsumi-kon-da (J)
 Y-TOP truck-ACC hay -INST load-PAST-DEC /load-insert-PAST
 Lit. ‘Yumi *loaded* [K/J] the truck with hay.’ INST *de* (J)
- (19) a. Yumi piled books on the table.
 b. Yumi piled the table with books.
- (20) a. Yumi-nun chayk-ul table-ey ssah-ass-ta (K)/tsumi-age-ta (J)
 Y-TOP book -ACC -LOC pile -PAST-DEC /pile-raise-PAST
 ‘Yumi piled books on the table.’
- b. *Yumi-nun table-ul chayk-uro ssah-ass-ta (K)
 Y-TOP -ACC hay->book -INST pile-PAST-DEC
 Lit. ‘Yumi *piled* [K] the table with books.’
- (21) a. Yumi sprayed oil colors on the wall.
 b. Yumi sprayed the wall with oil colors.
- (22) a. Yumi-nun mulkkam-ul pyek-ey ppuri-ess-ta
 Y-TOP colors-ACC wall-on spray-PAST-DEC
 ‘Yumi sprayed oil colors on the wall.’
- b. *Yumi-nun pyek-ul mulkkam-uro ppuri-ess-ta
 Y-TOP colors->wall-ACC wall-on ->colors-INST spray-PAST-DEC
 ‘Yumi *sprayed* [K/J] the wall with oil colors.’

These verbs involve movement of Figures such as ‘hay,’ ‘books,’ and ‘oil colors’ as well as certain types of manner. They are distinct from intransitive manner motion verbs with Agent subject and Goals we observed in (5). In the Goal PP (a) sentences, either the initial process or action event (e1) is headed (e1*) or the second state event is headed (e2*) and the durative adverbial ‘for two hours/for a day’ in (17a) can be ambiguous, modifying either the process or possibly the state, unlike in other typical accomplishments of creation such as *build a house* or *draw a circle*, of which the initial process subevent is headed. However, *all day long* can only modify the process in (17a). The ambiguity may be treated by underspecification of headedness. Because the headed process interpretation is possible, this type is distinct from the achievement type, in which a headed process interpretation is impossible. As in (17b), a derived Theme object from Goal, showing the change of state in *the truck*, is possible in English but this alternation is not permitted in K/J, as in (18b).⁶ In K/J, if we have a durative adverbial, as in (18a), it can only modify the process event, which alone is headed (e1*). The Goal cannot be prominent enough to become a derived Theme with the verbs corresponding to *load*, *pile*, and *spray* in K/J. On the other hand, the indefinite nominal object *hay* is not quantized in (17a) and the relevant event cannot be telic and thus cannot be modified by *in an hour*. But the objects in (17b,c,d) are all quantized and make their related events telic.

Here it must be noted that there is no sense, or rather we do not cognitively assign the sense, of ‘affected’ and hence no sense of the parts with regard to the Goal *the truck* in (17a) and the moving object Figure *hay* in (17a) as well. But we perceive that the incremental objects in (17b,c,d) undergo certain change in their parts and can say they are ‘affected’ (Lakoff 1970) as well as quantized. Therefore, we can possibly represent [**load the truck with hay**] (**pile/spray** ---) as a **change-of-state lcp** with FORMAL = (globally) **affected** (e2, <2>), AGENTIVE = (e1, **move_act** (e1, <1>, <3>, <2>)). Typically consumption verbs involve this kind of ‘affected’ incremental Themes (Tenny 1987, Dowty 1991) and those location change or movement-involving alternation verbs also involve ‘affected’ derived Themes as their direct objects. A backgrounded moving object *two tons of hay*, with the oblique Instrumental case, as in (17d), does not seem to contribute to the concept of ‘affected,’ although it weakly retains quantization

⁶ In its creation reading, the sentence can be grammatical. Then, because there is no Goal no alternation is possible.

and contributes to quantizing *the truck* more specifically and blocking a durative adverbial modification (**for an hour*, but some people judge it as *??for an hour*). Here, ‘quantized’ is defined by proper part relation; we pay more attention to the state of the truck in the object position (the parts of the truck may matter, to reach the state of the truck being globally affected or (almost) ‘full’). Note that *two trucks* in the object position in (17c) as a derived Theme is quantized but the same NP in the PP in (17a) as a Goal is not for telicity. In particular, consider the Figure of numeral measure expression in the PP:

(23) *?*Mary loaded trucks with two tons of hay in an hour.*

This is contrasted with Jackendoff’s claim that ‘the theme (our Figure) can *always* measure out the event, regardless of its syntactic position.’ (23) is bad because *trucks* is not quantized, although the Figure in the PP has a numeral measure expression. It is different from the case of ‘well-loaded hay’ (Jackendoff 1996), where the manner process subevent is headed or paid more attention, with the state of the truck disregarded. If we say *Mary loaded two tons of hay onto the truck in an hour*, the object *two tons of hay* (or *the hay*), differently from the indefinite nonspecific *hay* in (17a), has parts and is quantized but not ‘affected.’ Pustejovsky (1995) does not provide any mechanism to represent this quantization effect on Figure (or change of state Theme to be discussed).

The counterpart of *pile* in K/J does not alternate, as in (20b). In K/J, the verbs corresponding to *load*, *pile*, and *spray* can be said to have a headed process (e1*) and that is why they cannot alternate and a durative can modify the process and hardly the result state.

But the verb class of ‘paint’/‘smear’/‘stuff’/‘pack’/‘wrap’ show alternation cross-linguistically, whereas the ‘pour’- class in all languages are non-alternating (Lee et al 1999, Kim 1999).

(24) a. Yumi-ka ppalkan pheinthu-rul pyek-ey chil-hae-ss-ta
Y-NOM red paint-ACC wall-on paint-PAST-DEC
‘Yumi painted red paint on the wall.’

b. Yumi-ka pyek-ul ppalkan pheinthu-ro chil-hae-ss-ta
Y-NOM wall-ACC red -with paint-PAST-DEC
‘Yumi painted the wall with red paint.’

(25) a. Yumi-ka sul-ul pyeng-ey pu-ess-ta
Y-NOM wine-ACC bottle-in pour-PAST-DEC
‘Yumi poured wine into the bottle.’

b. **Yumi-ka pyeng-ul sul-lo/-ul pu-ess-ta*
Y-NOM bottle-ACC wine-with pour-PAST-DEC
‘Yumi poured the bottle with wine.’

As in (24a), the Figure object such as ‘paint,’ ‘butter,’ ‘cotton,’ ‘books,’ or ‘cup’ moves to the Goal in the relevant event but the final state of the relation between the Figure and the Goal gains weight and if the Goal is regarded as directly ‘affected’ it becomes a derived Theme, as in (24b). This corresponds to Jackendoff’s (1996) ‘final-distributive’ as opposed to ‘Path-distributive’ of *spray*, which gives more weight on manner and Path and disallows alternation in other languages such as K/J. In contrast, the ‘pour’ class is heavily manner-process-oriented and alternation is disallowed in English and other languages.

An interesting kind of verb is ‘fill’ and its counterparts in K/J. A Figure/Ground case alternation typology must explain why the alternation in (26) is possible, unlike in English:

(26) a. Ywumi-nun swul-ul pyeng-ey chay-wu-ess-ta (K) /mitasi-da (J)
Y-TOP wine-ACC bottle-in get full-CAUS-PAST-DEC

Lit. ‘Yumi filled wine into the bottle.’ (impossible in adult English)

b. Ywumi-nun pyeng-ul mwul-lo chay-wu-ess-ta (K) /mitasi-da (J)
Y-TOP bottle-ACC water-INST get full-CAUS-PAST-DEC

‘Yumi filled the bottle with wine.’

In (26a) the process subevent regarding the Figure ‘wine’ wins, whereas in (26b) the result state subevent regarding the Ground or rather a derived Theme ‘bottle’ wins. We may be tempted to make use of the underspecification of headedness, showing the ‘globally affected’ change of state, which is not entailed but conventionally implicated. However, the denotation of (e2) in

(26a) is satisfied by the Figure's contact/central coincidence with the Ground, whereas the interpretation of (26b) requires the derived Theme's being 'globally affected.' This change of state can better be represented by co-composition of the verb with the container Theme, as shown for *load* in (17b), on the basis of the identical AGENTIVE quale. In adult English, only the (26b) type (translation) is allowed, although we must posit the same AGENTIVE quale of an Agent moving an object to a container as in (26a) for English. In spite of its motion process, 'fill' or *chae-wu-* seems to be more state-oriented. In Thai, the verb *term* 'fill,' however, has a non-alternating pattern of V + Figure *nam* 'water' + Prep *longnai* 'into' + Ground *kaew* 'gless,' with no derived Theme + Inst + Figure pattern, as opposed to the English pattern (Kim 1999). It is heavily manner-oriented. Language-specific parameterization is witnessed here.

In adult English, the [_ Figure to Goal] pattern with *fill* is impossible. Quite a few transitive motion verbs in Korean belong to this type of *chay-wu* 'fill.'

(27) * Mary filled water into the bottle.

(Reported to occur in child English, Gropen, Pinker, et al 1992)

This fact about the verb *fill* in English suggests that e1 (agentive process) has weight in child English just as in the action/manner-oriented verb *pour* and then it comes to lose its weight as the speaker grows up (Lee, 1997). For the type of verbs that can have Goal Themmatization both in Korean and English, we can consider applying the operation of co-composition of the basic verb with the affected direct object.

4. Enter/exit Verbs and Psychological Extension

Path verbs of 'enter' and 'exit' in K/J, i.e., *tul-ta* and *na-ta* (K)/*hairu* and *deru* (J) show interesting development. As pure Path verbs they hardly show any explicit motion/process meaning part in modern Korean but in Japanese they are freely used in the Path interpretation, as in (37), whereas in modern Korean their use is very limited, although in Middle Korean they were freely used just as in Japanese. Consider:

(28) Taro-ga heya-ni hait-ta / de -ta

T-NOM room-at enter-PAST /exit-PAST

'Taro entered/exited the room.'

This is impossible in Korean without deictic motion verbs *ka-* 'go' and *o-* 'come' attached (e.g. *Taro-ka pang-ey tul-e ka-ss-ta*). The verb *na-* 'exit' is not used in the Path interpretation at all and the use of *tul-* 'enter' is limited to contexts of entering an inn/bed and its progressive use is disallowed, though its volitional use is possible. *uma-ga saku -no naka-ni hai -te iru* Result.

(29) a. Ywumi-nun chel-i tul-ess-ta

Y -TOP sense-NOM enter-PAST-DEC

'Yumi became sensible'

b. Ywumi-ka cengshin-i na-ss-ta vs. na-ka-ss-ta

Y -NOM spirit-NOM exit-PAST-DEC out-go-PAST-DEC

'Yumi became sober' vs. 'got crazy'

c. na-nun Yumi-ka maum-ey tu-n-ta

I-TOP Y-NOM heart-at enter-DEC

'I am satisfied with Yumi.'

Mental state changes are expressed by (29a,b) and a psychological state by (29c). These new meanings are generated by co-composition of the verb with mental or psychological nominals, constituting a **I-process.state-lcp**, with the formal quale of the second argument **mental/psychological** or **abstract**.

Unergative (manner) verbs such as *run* and *tali-*(K) have internal causation (Levin and Hovav 1995) and agentive exertion of force and therefore can form a pseudo-reflexive in English and a hyperbolic resultative in K unlike unaccusative verbs. Observe:

(30) I ran myself exhausted.

(31) na-nun cuk-torok tali-ess-ta / *tochak-hae-ss-ta / *yekwan-ey tul-ess-ta

I–TOP die-to run-PAST-DEC / arrived / entered a hotel

Lit. 'I ran/*arrived/*entered an inn so as to die.' (J. Lee and C. Lee 2000)

Therefore, we can posit an implicit or void initial event (e1) and a result state event (e2) with the head on the second event for the pair of verbs *tul-* and *na-* (K)/*hairu* and *deru* (J) and other. Various psychologically extended uses of motion verbs are witnessed in Korean.

5. Metonymic Variation in Change/Creation and Polysemy

- (32) a. o -yu -o wakasu (J)
 HON-hot water-ACC boil 'make hot-water'
 b. ?*mizu-o wakasu
 water-ACC boil 'boil water'(Intended)
 cf. mizu-o futoo-saseru 'boil water'
 c. misoshiru-o tsukuru 'make (cook) miso'
 (33) Pekka keitt -i kahvi -n (Finnish).
 Peter boil -PAST coffee -ACC
 'Peter made the coffee.'

6. Degree Modification *very, well*

7. Concluding Remarks

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