

Cognitive-Semantic Network: The Case of Korean Instrumental*

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Koo, Hyun Jung, and Seongha Rhee. 2006. Cognitive-Semantic Network: The Case of Korean Instrumental. *The Journal of Linguistic Science* 38, 93-119. In this paper the semantic network of the Korean instrumental *-lo* is investigated with special focus on the conceptual chains, the relationships among the semantic domains, and the semantic change mechanisms. In terms of semantic structure, Direction, Selection, Association, and Departure are the four major categories that cut across all the semantic designations of the instrumental, forming a conceptual chain with metonymic relationship on the movement schema. The Direction and Departure are in antonymic relationship as a result of the blindly-operating frame-of-focus variation. In terms of cognitive mechanisms of semantic extension, metaphor and metonymy are among the most often cited mechanisms. It is argued, however, that metaphorization across semantic domains is a theoretical necessity, because semantic domain identification inevitably involves the selection of 'domains' and any conceptual change across these domains is an instance of metaphorization. It is further argued that, if the semantic structures are

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divided into macro- and micro-structures, metaphORIZATION and metonymization are both attested in each level, contrary to the commonly accepted view of large-scale metaphor and small-scale metonymy. The two considerations are proposed in this paper: parameterization of categories and *post hoc* metaphor. The first calls for more thorough investigation of semantic categorization, the latter calling for refreshed emphasis on metonymy for its significance in semantic change. (Sang Myung University and Hankuk University of Foreign Studies)

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1. Introduction

The instrumental case as a grammatical category shows interesting interrelation between the language and the mind, and has been the object of study by the researchers from various persuasions. Among notable advances are those made by the studies from the grammaticalization and cognitive linguistic approaches.

The significance of an investigation into the instrumental draws support from the conceptual salience of the instrumental as a grammatical category, a fact mirrored in real-life language use across languages. For instance, the Korean instrumental, the subject of this study, ranks 13th out of the 184 total number of particles (*a la* list by National Academy of Korean, 2002), and similarly, English instrumental *with* ranks 14 from a large number of prepositions (*a la* LOB Corpus as presented in Johansson & Hofland 1989).¹⁾

Another aspect of the instrumental marker that warrants a serious

1) Cf. that the English prepositions listed in Oxford English Dictionary (1991, 2nd edition) total 404, among which relatively small number are in active use.

attention is that instrumentality is inextricably connected with other grammatical notions such as Path, Resultative, Status, Time, Cause, Material, Aspect, Direction, etc. as has been illustrated in Choe (1961), Nam (1993), Park (2005), and many others. This is also the case with other languages: Spanish instrumental is closely related with Means, Accompaniment, Comparison, etc. and Japanese instrumental with Accompaniment, Enumeration, Contrast, Comparison, Change-of-State, etc. (Chino, 1991). Such aspects have received attention with reference to either a single language or multiple languages in contrast (cf. Schlesinger 1979, Bennet 1975, Rhee 2004, for English; Nichols & Timberlake 1991, Wierzbicka 1980, Janda 1993, and Nichols 1973 for Russian and other Balto-Slavic languages, Park 1999 for Korean; Matsumoto 1998, and Yamauchi 1968 for Japanese; Park 2005 for Korean and Lithuanian; Shin 2004 for Korean and German; Janda 1993 for Czech and Russian; and numerous others).

As for the source of instrumentals, it has been attested across languages that instrumental case marker develops from diverse lexical sources such as those designating coexistence, grasping, body-parts, and path (Heine & Kuteva 2002), and the diversity of sources contributes to the diversity of the grammatical notions that are associated with the instrumental.

The research objective of this paper is threefold: (i) to present the multifarious functions associated with the instrumental in Korean; (ii) to construct the semantic network formed by the related grammatical functions, as analogous to Koo (1999) for conditionals; and (iii) to identify the motivating semantic change mechanisms that enabled the emergence of diverse, yet systematic, meanings and calls for reconsideration of the mechanism issues in view of the findings presented here.

In pursuit of these research objectives, this paper is organized in the following way: a brief overview of the instrumental in Korean along with the pertinent data is given in Section 2; semantic networks are constructed in view of the diverse semantic designations with special reference to conceptual chains, cognitive mechanisms of semantic change, and the relationships among the semantic domains, and some of the major theoretical issues involving characteristics of the development of Korean instrumental in Section 3. Section 4 summarizes the major findings and concludes the study.

2. Instrumental in Korean

2.1 General Characteristics

The instrumental case in Korean is *-lo*. It has a periphrastic counterparts *-ul kaciko* and *-ul kacko*, the latter being the more reduced variant of the former, both of which developed from the verb of possession, *kaci-* 'to have'. The grammaticalization process involving this verb of possession is an interesting research topic, but the current research restricts its focus to the primary instrumental marker *-lo* only.

This marker shows opaque lexical origin, and yet it is hypothesized to have developed from a nominal whose meaning was 'possession' according to Kim (2004). If this hypothesis proves correct indeed, the pattern in Korean should resemble Lahu, Chinese, Nupe, Efik, and Ijo languages, where the instrumentals were developed from the verbs denoting 'to seize' according to the lexicon by Heine and Kuteva (2002).

Of particular interest for the present research, however, is the fact that the Korean instrumental departs from the instrumentals in other languages in that the extent of its grammatical functions is unparalleled

by any instrumentals that have been discussed in any specific language to date. It is the exemplar *par excellence* that vividly shows the intricate relationship among its related functions. It is for this reason that this paper intends to show these diverse semantic functions and analyze how these meanings were developed in the course of grammaticalization of this versatile grammatical marker, the instrumental.

2.2. Data

In presenting data the first practical issue is how to categorize the varieties of senses in a theoretically sound way. In principle, there can be any number of sense designations depending on how fine-grained the semantic categorization is intended to be. This type of dilemma is inherent in all attempts of categorization (cf. the discussion on the prominent problem of 'semantic domains' in Fillmore 1975, Langacker 1987, Lakoff 1987, Croft 1998, Barcelona 2003, Taylor 1995, Rhee 2004, among numerous others).

Following Clausner and Croft (1998), Rhee (2004), and Baik (2006), the sense designation grouping presented here largely makes use of the way lexicographers subscribe, particularly those of function-oriented dictionaries, with some additional help from the corpus data. In the following, 17 different semantic designations of instrumental are given, though it is not an exhaustive listing and is undoubtedly subject to dispute. These semantic designations are grouped together in four major categories. However, the categories are not mutually exclusive and rather they form a kind of family resemblance category (Rosch 1973, 1978). Therefore, the categories are not clearly delineated; they form a continuum with the semantic designations forming clusters by virtue of their respective strengths in the given semantic parameters.

The instrumental, in its prototypical usage, carries the meaning 'by the use of', 'by means of', and the like. However, the Korean instrumental departs from this prototype in that the primary sense, or rather, the predominant sense-group, relates to 'Direction', as shown in the following examples:²⁾

(1) a. directional-goal (= allative)

ku-nun hakkyo-lo ka-n-ta
 he-Top school-Inst go-Pres-Dec
 'He goes to school.'

b. directional-dynamic (= directional)

ku-nun pata-lo talli-ess-ta
 he-Top sea-Inst run-Pst-Dec
 'He ran toward the sea.'

c. directional-static (= orientation)

uyca-ka twi-lo kwup-ess-ta
 chair-Nom back-Inst bend-Pst-Dec
 'The chair is bent backward.'

As shown in the above, the three instances of semantic designations form a category for having the 'directional' component at its core. The directional-dynamic may be said to be the true directional for its being the most unmarked case, and thus the neutral case, whereas the directional-goal and directional-static either lack or have additionally a further semantic specification. For instance, directional-dynamic has the achievement of arrival as its secondary semantic component, as a result of inference from the communicative situation. The attainment, however,

2) For transliteration of the Korean data, the Yale Romanization System was used. The abbreviations used in the interlinear gloss are as follows: Acc: accusative; Cop: copula; Dec: declarative; Inst: instrumental; Nom: nominative; Pres: present; Pst: past; and Top: topic.

may not be a fully conventionalized implicature since it still seems to be cancellable (in which case, the usage warrants the directional-dynamic interpretation). Its attainment force is not as strong as the locative *-ey* (as evidenced by the uncancellability of its implicature). In case of the directional-static, it lacks the motional concept, thus simply showing the orientation of a Figure with reference to the Ground.

The second group constitutes the largest category of meanings, as illustrated in the following examples:

(2) a. path

ku-nun twismwun-ulo tomangka-ss-ta
 he-Top back.door-Inst run.away-Pst-Dec
 'He ran away through the backdoor.'

b. manner

ku-ka emswukhan thayto-lo nao-n-ta
 he-Nom solemn attitude-Inst come.out-Pres-Dec
 'He begins an interaction with a solemn attitude.'

c. aspect

ku-nun nul cencang chalim-ulo cikcang-ey ka-n-ta
 he-Top always suit outfit-Inst work-to go-Pres-Dec
 'He always goes to work in suit (fully dressed-up).'

d. resultative

mwul-i cungki-lo pyenhay-ss-ta
 water-Nom vapor-Inst change-Pst-Dec
 'The water changed into vapor (evaporated).'

e. similiative

ku sonyen-un cangkol-lo sayngki-ess-ta
 the boy-Top sturdy.frame-Inst be.shaped-Pst-Dec
 'The boy resembles a strong warrior.'

f. selective

na-nun hamburger-lo cenghay-ss-ta
 I-Top hamburger-Inst decide-Pst-Dec
 'I decided on hamburger.'

g. temporal locative

yocum-un achimcenyek-ulo ssanulha-ta
 these.days-Top morning.evening-Inst be.chilly-Dec
 'It is chilly in the morning and evening.'

h. contingency

ikes-un ilcong-uy swul-lo kamca-lo mantu-n-ta
 this-Top a.kind-Gen liquor-Inst potato-Inst make-Pres-Dec
 'A kind of liquor, this is made from potatoes.'

i. emphatic

thongtalk-ul thongccay-lo ta mek-ess-ta
 fried.chicken-Acc in.entirety-Inst all eat-Pst-Dec
 '(He) ate the fried chicken in its entirety.'

This second group has the "Selection" component in common. The abstract notion 'selection' may be realized in various ways. However, all of them crucially involve the availability of options, i.e. choosing one among other options (in fact, the presence of alternative options often sets the instrumental apart from other competing forms for the identical/similar function).

One that is rather weakly related to the selection meaning is contingency as in (2h), where the contingent state of affairs does not have a direct relationship with the main-clause predicate, but rather constitutes a peripheral element in predication. In terms of its interpretation it bears close resemblance with the 'status', to be addressed below. This contingency, however, in the right conceptualization, may claim its membership in the selection group, in that the contingent event or state is usually chosen to form the selective thematic background for

the comment that follows.

The next group of semantic designations comprises the uses making reference to 'Association' as shown in the following examples:

(3) a. material

kukes-un silk-lo mantun os-i-ta
 it-Top silk-Inst made dress-Cop-Dec
 'It is a dress made of silk.'

b. instrument

khal-lo kwail-ul calu-ass-ta
 knife-Inst fruit-Acc cut-Pst-Dec
 '(I) cut the fruit with a knife.'

c. status

ku-nun iltung-ulo tangchemtoy-ess-ta
 he-Top first.place-Inst become.winner-Pst-Dec
 'He won the first prize (in the lottery).'

The examples in (3) all make reference to association. The most prominent aspect of association is the 'means'-function of the referenced entity. This notion of 'means' is responsible for the enabling force associated with the entity, thus, in example (3a), the dress comes into existence by means of silk. Instrument is also easily derivable from association, largely due to the human subjectification that brings 'A being with B' and 'A using B' in close connection. The 'status' is a rather unique case with this respect. This sense in fact is closely related to the resultative if the predicate is procedural. However, the status is different in that it either implicitly or explicitly involves the power derivable from the status.³⁾

The final group of semantic designation has the shared semantic

3) The conceptual affinity between the status and the agentivity is in fact well manifested in the shared status/agent marking by the particle *-se* in Korean.

component of 'Departure', as shown in the following examples.

(4) a. cause

ku-nun sako-lo kyelsekhay-ss-ta
 he-Top accident-Inst be.absent-Pst-Dec
 'He was absent because of an accident.'

b. temporal ablative

ku-ka cwukun hwu-lo seysang-i tallaci-ess-ta
 he-Nom dead after-Inst world-Nom change-Pst-Dec
 'The world changed since his death.'

The examples in (4) contains different types of the 'departure' notion, i.e. in (4a) the departure is on a causal chain, whereas in (4b) the departure involves the starting point on a temporal plane. The departure on the causal chain develops into the cause or reason meaning, the former being more mechanical and the latter being more rational; and the one on the temporal chain develops into the temporal ablative.

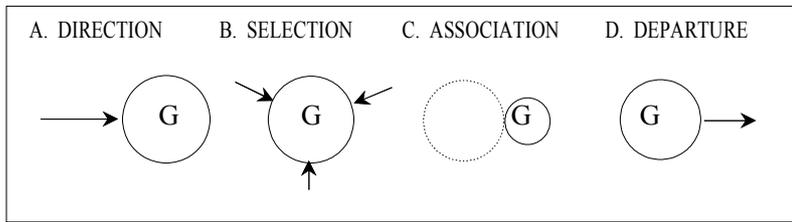
This section presented numerous examples involving the instrumental case marker by four major categories. The next section addresses the issue as to how these semantic designations form a semantic network.

3. Semantic Network

3.1. Conceptual Chain of Major Categories

The first issue derivable from the diverse semantic designations relates to the conceptual chain among Direction, Selection, Association, and Departure, as shown in the following diagram, in which "G" signifies Ground (whereas Figure is not explicitly marked):

(5) Diagrammatic Representation



In the simplified diagrams in (5), the dynamism intended to be presented involves a Langackerian Figure and Ground. All movements in principle involve two entities Figure and Ground notions of image schema. Typically, it is the Figure that receives the focus, for its usual dynamism of movement or its potential to move, as is widely accepted in the studies of cognitive psychology. Figure, however, does not have a graphic representation in the diagram given in (5), since the focal notion is the nature of the 'relation' with respect to the Ground rather than the two participating entities *per se*. The first represents a case in which the Figure is either in the motion, or in the orientation, toward the Ground. This is the primary event/image schema of the Korean particle *-lo*.

The second category, as illustrated in (5), is Selection. Since human construal of the world affairs is anthropocentrically biased, we are inclined to think that a direction is motivated by the intention of reaching the goal. Therefore, direction is often conceptualized as a preparatory stage of arrival. This very act of arriving at the goal is Selection.

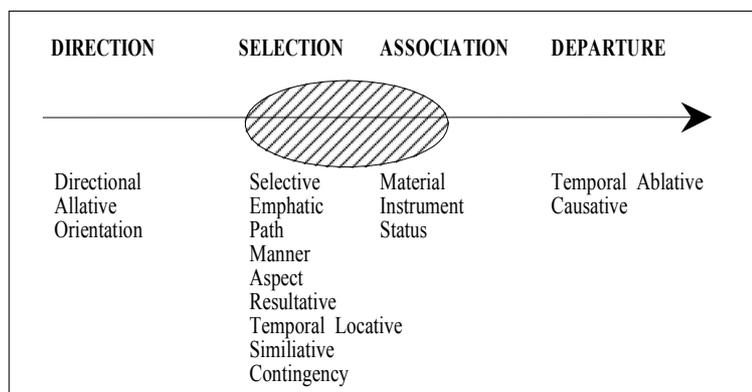
The third category is Association. The emergence of the Association sense is largely due to the conceptual addition of the secondary entity brought into the scene, represented with a dotted circle, who is primarily

in simple association with the Ground but also may assume the power to make use of the referenced entity, thus eventually creating the instrumentality sense. This scene is unique in that a new entity, e.g. instrument-user, is brought in and this alien entity is usually of higher thematic salience, even though, from the perspective of the semantics of the particle, the Ground still receives the practical focus.

The last case is rather intriguing: the Departure. Considering that it is the Figure that receives focus, rather than the Ground, for its movement potential, the departure scene reverses the Mover-Goal roles, transforming the former Ground into something likened to a Figure, despite the fact that it still does not engage in actual movement. This reversal scene is by no means common, but it has been attested in many grammatical aspects across languages (Rhee 2000 for FFV (Frame-of-Focus Variation), cf. also Lakoff 1987 for IST (Image-Schema Transformation)).

The various components in diagram (5) can be collapsed into one as in (6).

(6) Semantic Extension Patterns



The collapsibility of multiple components as in (6) is because, as noted earlier, the core semantics of Korean instrumental *-lo*, that cuts across domains, is primarily "Directional" rather than "Instrumental" *per se*, which is historically supported, and this central notion is applicable to all instances of image schema.

Therefore the motivating event schema as the basis of the instrumental case is a "movement" of the Figure whose trajectory is represented as an arrow in the diagram. In the diagram this movement has four major phases along the procedural time-line for the four major semantic domains, according to which the data under investigation were presented in the preceding discussion. The Figure's movement, like all movements in principle, has a direction as a defining characteristic, and when this directional movement is fruitful, the selection and, consequently, the association occur. When the Figure receives the discourse focus on what it is in association with, the Figure is seen as "coming from" the entity, whereby the departure notion arises.

In this context, it is interesting to note that despite the fact that directionality was the historical source of instrumentality, in synchronic Korean instrumentality, which is closely related with selectivity, is the primary semantic notion, as is evidenced by the numerous grammatical concepts clustered around Selection and Association in the diagram.

The benefit of using this type of event schema to account for the genesis of grammatical markers from a single source is well captured in the notion of frame-of-focus variation (FFV), whereby the conceptualizer varies the frame of focus, sometimes telescopically and sometimes microscopically. Depending on the frame of focus variation, sometimes the distance between the figure and the ground is highlighted, and sometimes their togetherness is highlighted. This provides an explanation as to how a single word can develop into two antonymous meanings.

This type of antonymic semantic change is attested with Korean *-lo*, as shown in the fact that the allative ("to") and the ablative ("from") were developed from a single source (cf. Rhee 2000 for a discussion on antonymization and FFV).

3.2 Cognitive Mechanisms of Semantic Extension

There have been many different kinds of semantic extension mechanisms proposed by the historical semanticists. But as Traugott suggests, everything can be collapsed into two mechanisms, metonymy and metaphor, depending on whether the domain has been crossed over in the course of semantic extension.

Metonymy is basically a mechanism that enables the extension of meaning through contiguity, whether that contiguity be physical, conceptual or even teleological. Metaphor is a mechanism that enables the extension across domains through similarity. Another important concept is Subjectification as suggested by Traugott in many of her works (Traugott 1982, 1988, 1989, 2003, Traugott & Dasher 2002, see also Stubbs 1986). Subjectification is a process whereby an objective meaning is changed to subjective meaning with the involvement of the speaker's attitude.

As shown in Diagrams (5) and (6), there are four major semantic domains, Direction, Selection, Association, and Departure. Since all these are derived from a single basic concept of a movement, at different phases, by virtue of having the contiguity relationship, they may be considered as being metonymically related. This metonymization may also involve frame-of-focus variation, or merely focus change. The macro-structure relationship may be summarized as in (7):

(7) Macro-Structure Relationship

Direction > Selection: teleological contiguity ← metonymy

Selection > Association: teleological contiguity ← metonymy

Association > Departure: focus shift ← metonymy, FFV

More prominently, and more productively, there are micro-structure relationships among the grammatical notions grown out of the image schema, as illustrated by the partial list in (8).

(8) Micro-Structure Relationship

a. Metonymy

- Orientation > Directional: procedural contiguity
- Directional > Allative: procedural contiguity
- Path > Resultative: procedural contiguity
- Material > Instrument: focus on concomitance of enabling force

b. Metaphor

- Selective > Temporal Locative: domain shift to time
- Path > Manner: shift to behavioral/attitudinal domain
- Temporal Ablative > Causative: shift to causal chain

c. Subjectification

- Material > Status: focus on association and enabling condition
- Selective > Emphatic: contrastive focus on result
- Selective > Material: attribution of homogeneity of composition

The partial list of the examples of the semantic changes in (8) shows how the shifts are motivated and what kind of semantic change mechanisms are involved. For the interest of limited space it may not be plausible to go into detailed discussion on each and every case of semantic change and its enabling mechanism. However, there are several

aspects that warrant a further discussion.

Metonymy is a cognitive mechanism triggered by the contiguity relationship, as noted earlier. One caveat is that since this is a reconstruction the direction may be reversible in certain cases. Since metonymy is direction-blind, this reversibility does not affect the validity of the analysis with any significance. For example, the instances of [Part > Whole] and [Whole > Part], the latter being less frequently, have been attested across languages and are labeled as 'meronymy' or 'synecdoche', as subtypes of metonymy. Whether the direction of change is from big to small or from small to big does not matter in the discussion of metonymy as a semantic change mechanism.

As for metaphorization, there are instances which involve domain changes between spatial and temporal domains, a widely attested, possibly universalistic, phenomenon across languages. Since semantic change is inherently complex and cannot be captured in a mono-linear mapping, the direction of change, in principle, cannot be easily established. I.e. the direction of change from [spatial > temporal] as suggested here in the change from Selective to Temporal Locative may possibly in fact be the reverse. However, subscribing to the panchronic reconstruction methodology (cf. Heine et al. 1991, Hopper & Traugott 2003[1993]), the cross-linguistically valid space-to-time direction may be safely hypothesized (cf. Heine et al.'s (1991) ontological continuum of metaphors).

The metaphorization from Temporal Ablative to Causative involves a domain change from the temporal to causal domains. This type of change is in fact quite common for the human construal pattern, as is often pointed out as an instance of logical fallacy of *post-hoc-ergo-propter-hoc* 'after-this-therefore-because.of-this'. I.e., humans tend to interpret two temporally juxtaposed events as having

causal relationships: the former as the causer and the latter, the caused (cf. e.g. English *since*, *after*, etc. and Korean *-se*).

The metaphorization from path to manner involves a domain change from the physical domain of path to the behavioral/attitudinal domain, i.e. from the concrete to abstract domains. This type of metaphorization is also amenable with the subjectification interpretation, since the new domain into which the new meaning enters involves more attitudinal, thus more 'subjective', component.

As for the subjectification, the change from Material to Status involves the speaker's selective focus on the association and enabling condition as a result of the association. Since all materials can be said to have potential force by virtue of having the mass, the enabling condition may be an inherent component of all materials in physical form, thus qualifying the material-force relationship as an instance of metonymization. However, the act of selective focusing on the enabling condition, among other semantic and/or physical properties, is a clear instance of subjectification, for the notion 'enabling condition' unavoidably involves a subjective judgment of the construer.

Likewise, the change from Selective to Emphatic qualifies to be an instance of subjectification, because emphasis *per se* bears the speaker's decision to bring something to the addressee's special attention or the speaker's emotive state that the speaker opts to convey.

Another type of subjectification is the change from Selective to Material. This change may be characterized as one involving attribution of homogeneity of composition. In other words, when something is chosen, the state of the composition of the entity and the relation of the two entities in terms of the composition are open to question. For instance, if a dress is said to have been made of silk (cf. Example (3a)), and if the argument 'silk' does not receive the material-interpretation but

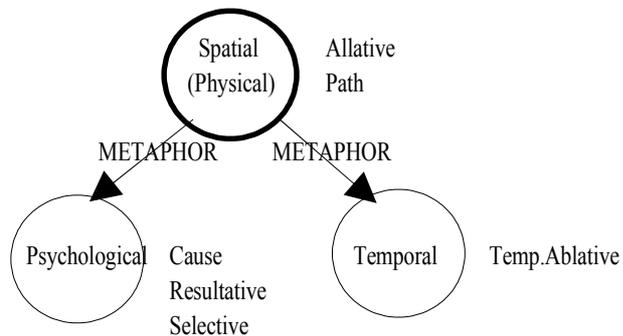
the selective-interpretation, there is nothing that guarantees the dress being entirely consisting of silk (cf. the scenarios where a piece of silk is instrumentally used in the dress-making process). However, *silk-lo mantun os* 'a dress made of silk' invites the material-interpretation, i.e. the dress entirely made of silk. This interpretive decision, consequently its representation in grammar as well, is an act of subjectification of the speaker.

3.3 Semantic Domains

The issue that surfaces prominently in all discussions of semantic characterization of linguistic formants is that of domains. The discussion of semantic domains divides up the entire semantic designations into three major domains, which in turn, comprise of other sub-domains. The three major domains, according to the dynamicity parameter, are dynamic, static, and intermediate.

In the dynamic semantic domains the instrumental has a network representation as in (9).

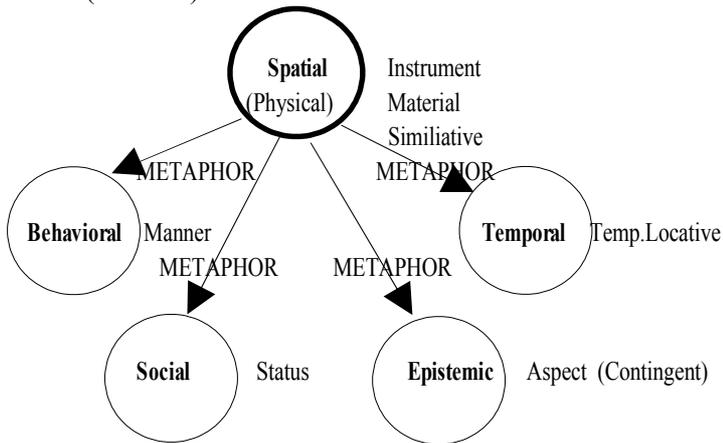
(9) Dynamic (Movement)



As shown in (9) the Dynamic Movement of the instrumental largely involves Spatial, Temporal and Psychological, which are in fact broad domains encompassing diverse grammatical concepts. There are different kinds of subfunctions developed in each domain. The links between these domains are motivated by metaphor.

Likewise, a similar cognitive network can be reconstructed in the Static domain, i.e. non-dynamic locative as in (10).

(10) Static (Locative)



There are different kinds of semantic domains like Spatial (Physical), which is most basic, as indicated by thicker-lined circle. There are other static sub-domains, such as Behavioral, Social, Epistemic, and Temporal. The inter-domain extension is characterizable as metaphor, because the semantic extension crossed over the domains. The location of a trait in the behavioral domain is equivalent with manner; whereas the location of a person or other entity in a social domain can refer to the referenced entity's status. The location of an entity in the epistemic domain can be an aspect of an entity or event, which is contingent to

the event being described. The temporal location of an event is simply the point in time where the event takes place. Since humans construe space and time as being ontologically distinct yet practically inseparable concepts, based on the human experience of spatial locomotion unavoidably involving temporal lapse as a concomitant aspect, this spatial-temporal relationship is not only natural but also very productive across languages (Bybee et al. 1994).

There is yet another domain: Intermediate. As the name clearly suggests, the intermediate domain lies between the dynamic and the static categories as in (11).

(11) Intermediate

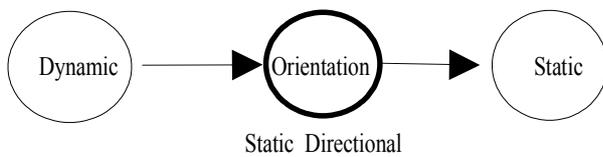


Diagram (11) shows the Intermediate domain, which is Orientation. Orientation is Dynamic in part in the sense that it has a kind of will for movement toward the goal object, but it is at the same time Static in part in the sense that it is not engaged in locomotion.

3.4 Semantic Change Mechanisms Revisited

In the preceding discussions, the issues relating to semantic-cognitive networks were addressed with special focus on conceptual chains among the major categories, semantic change mechanisms, and the relationships among the semantic domains. There is an issue that deserves a further discussion, i.e. semantic change mechanisms with respect to semantic domains.

It has been noted that semantic extension is often based on metaphor and metonymy, and either on the same or separate plane, subjectification may operate in order to create more subjectified meanings for a linguistic form. Extended senses form networks across different conceptual domains, and the links between domains are metaphorically motivated, as has been noted, e.g. in the inter-domain relationship among Spatial, Temporal, and Psychological domains in the case of Dynamic semantic domains. The same holds true with the Static semantic domains. This is inevitable, considering that the semantic domains are conceptualized as separate entities, and metaphorization, by definition, involves transfers across domains. Therefore, metaphorization on the large-scale domains is a theoretical necessity.

It is worth noting, however, that the semantic change mechanisms have different characteristics depending on the nature of the planes on which they operate. For instance, it is common to find that the relationship among the domains in the macro-structure is metaphorically motivated for the reasons stated above, i.e. large-scale structure being more likely to form semantic domains, and the change across these domains being more easily characterizable as metaphorization. However, those four major semantic domains proposed in the preceding discussion as the central domains, such as Direction, Selection, Association, and Departure, (cf. 3.1) have a relationship among them that can be best characterized as metonymic relationships. This can pose a problem as to the widely accepted idea of semantic change mechanisms.

Furthermore, in terms of level of conceptualization, what is expected is that in the micro-structure of semantic designations, where "small-step" changes are supposedly at work, metonymy, which is based on the contiguity relation, operates, rather than metaphor does. However, as was discussed in 3.2 the cognitive motivation in the micro-structure

is not through a single mechanism of metonymy. At this level, metonymy and metaphor play a role together. Again this is something not normally expected, and requires an explanation.

In answer to the problems presented here, the following two aspects should be considered. The first is the fact that categorization is possible along many different kinds of parameters. This is immediately reminiscent of the dispute revolving around the Unidirectionality Principle in grammaticalization, which has been a topic of controversy between pros and cons for the past decade. There can be cases that seemingly proceed in the reversed direction of attested grammaticalization. However, this problem can be easily solved if the planes where the grammatical changes occur are all parameterized, such as sound, meaning, function, category, etc., and define the Unidirectionality in terms of tendency rather than an exception-free principle. Likewise, returning to the current issue of the semantic domains, the domains can be set up depending on the ontological categories, or other conceptually valid categories. In case of ontological categories, such as Person, Object, Process, Space, Time, and Quality (Heine et al. 1991) or other similar versions, there are no intermediate categories, and consequently all changes across these domains qualify as metaphorization. However, if the categories are set up along other conceptual categorizations, the inter-categorial relationship can be in any relationships, and as was the case with the Korean instrumental, the categories may indeed have metonymic relationships, as Direction, Selection, Association, and Departure along the single eventual timeline of movement.

The second consideration is related to the notion of "post hoc metaphor". Post hoc metaphor refers to the instance, which looks like an instance of metaphor, when considering the end result as compared with

the beginning; which, however, is not valid in the procedural terms. In other words, the end result looks like a work of metaphor, but in reality it is simply a cumulated effect of small-step metonymy. This type of semantic change is well captured by the Metonymic-Metaphoric Model by Heine et al. (1991). Therefore, all instances of metaphor are to be potentially re-analyzed as the works of metonymy that operated repeatedly, bringing forth a cumulated effect to cross the domain boundaries eventually. A theoretical implication from this *post hoc* metaphor is that metonymy may qualify as the only, or rather the most frequent and significant, mechanism in actual semantic change and all the metaphORIZATION is nothing but an epiphenomenon.

4. Conclusion

In this paper the semantic network of the Korean instrumental *-lo* was investigated based on the multifarious semantic designations. Discussions focused on the conceptual chains which lie across all the semantic characterizations of the Korean instrumental, the relationships among the semantic domains, the semantic change mechanisms that motivated the emergence of diverse significations.

An idiosyncrasy of the Korean Instrumental *-lo* is that its primary sense is not instrumentality *per se*, but the directionality. In terms of semantic structure, Direction, Selection, Association, and Departure are the four major categories that cut across all the semantic designations of the instrumental. These categories form a conceptual chain with metonymic relationship on the movement schema. The Direction and Departure are in antonymic relationship which is due to the frame-of-focus variation.

In terms of cognitive mechanisms of semantic extension, metaphor

and metonymy are among the most often cited mechanisms. However, metaphorization across semantic domains is a theoretical necessity, because semantic domain identification inevitably involves the selection of 'domains' and any conceptual change across these domains is an instance of metaphorization.

Furthermore, if the semantic structures are divided into macro- and micro-structures, metaphorization and metonymization are both attested in each level, contrary to the commonly accepted view of large-scale metaphor and small-scale metonymy.

The two considerations are proposed in this paper: parametrization of categories and *post hoc* metaphor. The first calls for more thorough investigation of semantic categorization considering all possible candidate categories amenable for semantic characterization. The latter calls for refreshed emphasis on metonymy for its significance in semantic change, which draws support from the fact that semantic change is actualized in discourse through interlocutors' meaning negotiation that is subject to very local adjustments in the given discourse situation.

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