

Cognitive-Semantic Representation of Instrumentals: Crosslinguistic and Grammaticalization Perspectives*

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Rhee, Seongha. 2008. Cognitive-Semantic Representation of Instrumentals: Crosslinguistic and Grammaticalization Perspectives. *Studies in Modern Grammar* 54, 123-146. This research looks at six languages in three typologically-different language groups: agglutinating, isolating, and inflectional language groups, with special reference to the grammaticalization patterns of their grammatical devices marking the notion of instrumentality. A survey shows that the most frequently exploited known sources of instrumentals comprise four major semantic schemata: the action schema, the motion schema, the path schema, the association schema. In terms of typological generalization as to the grammaticalization patterns of instrumentals, the subject languages in agglutinating languages have the markers whose grammaticalization processes have already proceeded considerably and thus have a relatively high level of lexical opacity, whereas the two languages in the inflectional languages have highly grammaticalized instrumentals that nonetheless have a high level of lexical transparency. This state of affairs contrasts with the isolating languages where the instrumentals still bear similarities with, and sometimes are even indistinguishable from, their lexical counterparts. The differing degrees of lexical opacity have to do with the typological

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differences in that isolating languages are most conservative in formal changes (and thus in semantic transparency); agglutinating languages are least conservative; and the inflectional languages are in between these two polar extremes forming a continuum. This paper identifies the roles of typological characteristics in producing differences and commonalities in grammaticalization of instrumental markers. **(Hankuk University of Foreign Studies)**

Key words: instrumental, cognitive-semantic representation, language typology, grammaticalization

1. Introduction

The notion of instrumentality is salient experientially and conceptually. A natural consequence of this salience is that instrumentality surfaces as an important notion in grammar. This research looks at six languages in three typologically-different language groups: agglutinating, isolating, and inflectional language groups, with special reference to the grammaticalization patterns of their grammatical devices marking the notion of instrumentality. Building on a series of earlier research on instrumentals (Rhee 2004, 2006, Koo 2006, Koo and Rhee 2006, Rhee and Koo 2006, inter alia), two comprehensive lexicons (Heine et al. 1993, Heine and Kuteva 2002) and the references therein, this paper shows the different conceptual sources/paths taken by the grams of the instrumentals originating from their source lexemes, focusing on the characteristics of the six languages under investigation in terms of their typological relevance.

This paper is organized in the following way: Section 2 describes the grammaticalization processes of instrumental markers in general, focusing on major semantic sources, semantic schemata, and developmental paths attested crosslinguistically; Section 3 analyses typological characteristics in terms of semantic categories, lexical opacity/transparency, and morpho-syntactic characteristics; Section 4 attempts to identify the

functional networks formed by instrumentals, and Section 5 summarizes the discussion and concludes the paper.

2. Grammaticalization of Instrumental

2.1 Grammaticalization of Instrumentals across Languages

The six languages selected by three groups of typological classification are Korean and Japanese (the agglutinating type), English and Spanish (the inflectional type), and Chinese and Thai (the isolating type). The instrumentals in these languages, inclusive of primary and secondary adpositions, are as shown in (1).

- (1) Korean: *-lo, -ul kac(i)ko(se), -losse...*
Japanese: *-de, ni yotte, -o motte, -de motte, -o tsuyotte...*
English: *with, by, by means of, by way of, with the aid of, using, through...*
Spanish: *con, con el uso de, teniendo, utilizando...*
Chinese: *yòng, ná...*
Thai: *caak, duai, (chai)...*

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

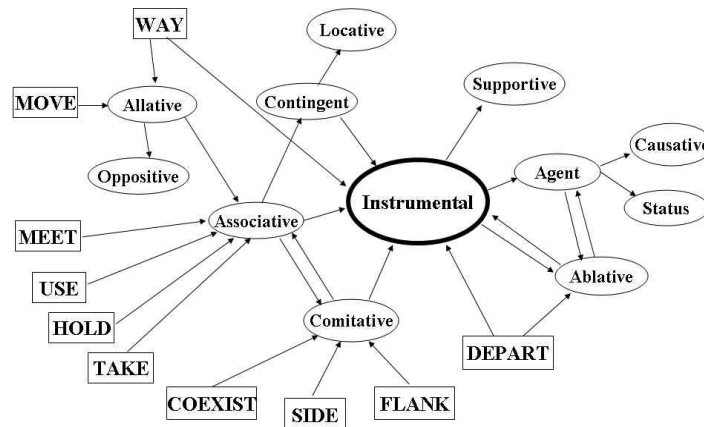
It has been suggested that the source lexemes may be grouped into several semantic categories. For instance, Rhee (2008), from a survey of cross-linguistic data, the lexicons of grammaticalized forms, and other

sources (eg., Lakoff & Johnson 1980; Lehmann 1995[1982]: 111; Heine et al. 1991a: 163ff; Heine et al. 1993; Heine & Kuteva 2002, Koo 2006, Koo & Rhee 2006, Rhee & Koo 2006, inter alia) shows the common sources of instrumentals as in (2).

- (2) a. Coexistence b. Grasping
- c. Body-parts d. Path
- e. Action ‘use’ f. Opposition

Furthermore, a survey shows that the most frequently exploited known sources of instrumentals comprise four major semantic schemata: the action schema (e.g. USE, TAKE), the motion schema (e.g. DEPART, MOVE, APPROACH, DIRECTION), the path schema (e.g. THROUGH, WAY), the association schema (e.g. WITH, BY, MEANS, AID). This is largely in consonance with the semantic network proposed in Rhee (2007: 138), shown in (3).

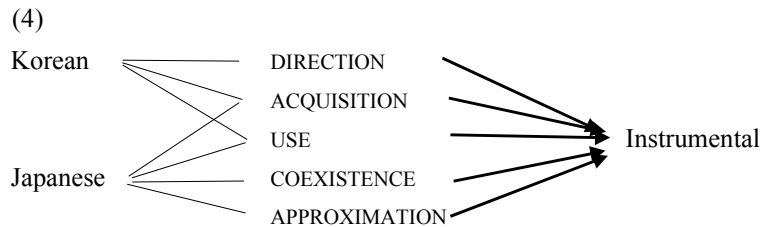
(3) Semantic Network of Instrumental



2.2. Agglutinating Languages: Korean & Japanese

The two agglutinating languages under survey, i.e. Korean and Japanese, have instrumentals developed from such sources as DIRECTION (*-lo* in Korean, the primary allative marker), ACQUISITION (*-ul kac(i)ko(se)* in Korean; *-o motte* and *de motte* in Japanese), USE (*-losse* in Korean; *-o tsukatte* in Japanese), ASSOCIATION/COEXISTENCE (*-de* in Japanese, the primary marker of location), and APPROXIMATION (*-ni yotte* in Japanese).

From these observations, the semantic characteristics of the source lexemes of the two inflectional languages may be diagrammatically presented as in (4).¹⁾



2.3 Inflectional Languages: English & Spanish

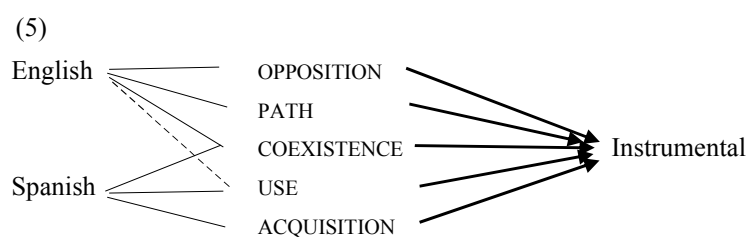
The two inflectional languages under survey, i.e. English and Spanish, have instrumentals developed from such sources as PATH ('means', 'aid', 'through' senses of *with* and *through* in English), ACQUISITION or USE (*teniendo, utilizando* and *con el uso de* in Spanish; marginally the participial *using* in English), and COEXISTENCE (*by* in English; *con* in Spanish).

As is well known, English *by* originated from the sense of 'side' which

¹⁾ It needs to be noted that this representation is simply based on the types recruited without consideration of each type's weight in usage.

is still well preserved in such expressions as *a home by a lake*, *the school is close by*, *stand by me*, *bystander*, etc.²⁾ It is also worth noting that English *with* developed from the 'opposition' sense from which the senses of interaction, coexistence and cooperation came into existence (Rhee 2004). Also worth noting is that the primary Spanish instrumental *con* developed from the togetherness (i.e. COEXISTENCE) or strengthening meanings.³⁾

From these observations, the semantic characteristics of the source lexemes of the two inflectional languages may be diagrammatically presented as in (5).



2.4 Isolating Languages: Chinese & Thai

The two isolating languages under survey, i.e. Chinese and Thai, also show source characteristics. Their instrumentals developed from

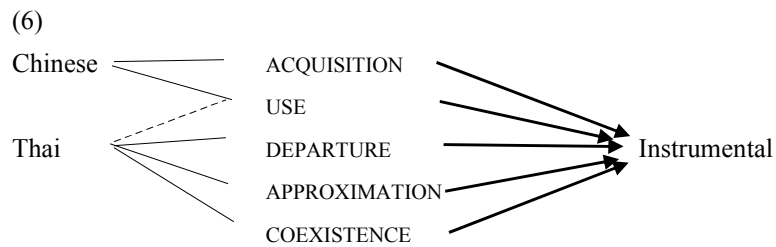
²⁾ English *by* is suspected to be cognate with second syllable of Greek *amphi* and Latin *ambi* and to mean 'about' (Oxford English Dictionary; Online Etymology Dictionary).

³⁾ Spanish *con* has the same root with English prefixes *con-* and *com-* in classical Latin *cum* 'together, together with, in combination,' whose origin goes back to PIE **kom-* 'beside, near, by, with' (Oxford English Dictionary, Online Etymology Dictionary). A fascinating case of *con-/com-* is found in English *companion* and Spanish *compaña*, both signifying 'friend,' whose literal origin is 'someone eating bread with; i.e. *com-* 'together' and *pan* 'bread.'

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ACQUISITION (*ná* in Chinese), USE (*yòng* in Chinese; marginally *chai* in Thai), DEPARTURE (*caak* in Thai, from the verbal notion of separation), and APPROXIMATION (*tam* in Thai) and COEXISTENCE (*caak* in Thai, a locative marker).

These semantic characteristics of the source lexemes may be diagrammatically represented as in (6).



3. Typological Characteristics

A survey of historical origins of the instrumentals in the six languages reviewed leads to an investigation as to presence/absence of any characteristics across language typology and according to their typological distinctions. Three major issues are selected for the investigation: semantic categories of source lexemes, the levels of lexical opacity of the sources, and the morpho-syntactic characteristics.

3.1 Semantic Categories

The discussion of the semantic characteristics of the source lexemes in the preceding section shows the selectional patterns of the source categories, which can be characterized as in the following, and leads to a discussion of commonalities and differences in the surveyed languages. The semantic categories recruited can be tabulated as in (7).

(7)

Typology	Agglutinating		Inflectional		Isolating	
	Korean	Japanese	English	Spanish	Chinese	Thai
DIRECTION	Y					
ACQUISITION	Y	Y		Y	Y	
USE	Y	Y	(Y)	Y	Y	(Y)
COEXISTENCE		Y	Y	Y		Y
APPROXIMATION		Y				Y
PATH			Y			
OPPOSITION			Y			
DEPARTURE						Y

What (7) reveals is that there is no much distinct characterization of the language types in terms of source semantic categories. Rather, it shows a universal tendency that instrumentals tend to recruit the concept of USE as the sources of instrumentals most frequently, followed by such concepts as ACQUISITION (i.e. 'taking') and COEXISTENCE (or ASSOCIATION, 'being together'). These frequently-utilized categories simply suggest that the connections between instrumentals and their lexical sources are motivated by the fact that an instrument in the physical world is closely related to such experiential notions as taking, using, and being together with an object to be used as an instrument.

This point brings up an important issue with respect to recruiting source concepts for the grammatical notion of instrumentality. 'Using' is so straightforwardly related conceptually to instrumentality that it may not require any explanation in this context.⁴⁾ In the cases of ACQUISITION and COEXISTENCE, however, the human propensity which is often a

⁴⁾ *Instrumentality* as derived from *instrument* originates from Latin *īnstrūmentum* 'tool,' a concept inherently involving 'use.'

driving force in semantic change, i.e. subjectification (Traugott 1982, 1989, Traugott and König 1991, Traugott and Dasher 2002), is manifested. For instance, in the states of affairs in the physical world, such actions as taking something (ACQUISITION), or being together with something (COEXISTENCE) do not necessarily mean that this 'something' is an instrument for an agent to make use of (cf. Stolz 1996, 1997, 2001a, 2001b, Stolz et al. 2006 for relation between instrumental and its closely-related conceptual categories; see Schlesinger 1979 for relation between instrumental and comitative). It is in the mind of the conceptualizer that such connection exists, through such pragmatic inferences as:

(8) Instrumentality from ACQUISITION

A takes B.

>> A's action of taking B is purposeful.

>> A will make use of B.

>> B is an instrument (for A).

(9) Instrumentality from COEXISTENCE

A is with B.

>> A has control over his/her environment.

>> A has control over B.

>> A will make use of B.

>> B is an instrument (for A).⁵⁾

⁵⁾ The pragmatic inference involving coexistence is reminiscent of the inference involving 'existence in the front' associated with English preposition *for* which began its life with the meaning of 'the front' and changed into a preposition primarily marking 'the benefit' in contemporary English (Rhee 2007c: 219):

A for B: A is at the front of B. >> A represents B. >> B is the cause of A. >> A supports B. >> B is the purpose of A. >> B is the destination of A. >> A/B is appropriate for A/B. >> A is advantageous

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In terms of differences, albeit very few, there is no semantic source category shared by the agglutinating languages, distinctively setting these languages apart from the other languages. However, the notion of DIRECTION in Korean is not found in other types.

The inflectional languages also do not display any distinct source category that separates them from other languages. It is noteworthy, however, that PATH and OPPOSITION are only found in English in this language type.

The two languages in the isolating group do not show much overlap between them: in fact, this group shows the least commonality within the category. The notion of DEPARTURE (typically, separation between people, or, less prototypically, departing from home, etc.) is only found in Thai.⁶⁾

From the preceding description it becomes clear that the recruitment patterns of lexical sources for instrumentals cannot be characterized by the language typology. This shows that the question of what lexical sources should be recruited for grammaticalization of a gram is more a matter of conceptualization than of language typology.

3.2 Lexical Opacity

The next issue that deserve an attention is lexical opacity, or reversely, lexical transparency, i.e. how visible is the meaning of the source meaning in the current gram. The issue of lexical opacity is significant in the discussion of grammaticalization, because it is the indirect indicator of the degree of grammaticalization. Since the secondary markers are uniformly visible in terms of lexical sources, the attention is largely

to B.

⁶⁾ Thanks go to Professors Sang Ho Cha and Han Woo Lee for Thai information. The author is solely responsible for interpretations of the data. Jung (2006) also addresses grammaticalization of *caak*.

limited to the primary markers only.

In terms of typological generalization as to the grammaticalization patterns of instrumentals and lexical opacity, the subject languages in agglutinating languages have the markers whose grammaticalization processes have already proceeded considerably. Therefore, the grams in this language type have a relatively high level of lexical opacity (Korean *-lo*; Japanese *-de*).⁷⁾ The lexical opacity of instrumentals, inclusive of primary and secondary classes, in the agglutinating type, can be tabulated as in (10), where the degree of opacity is iconically given on a scale of one X to five X's:⁸⁾

(10)

Language	Instrumental Marker	Source Meaning	Degree of Opacity
Korean	<i>-lo</i>	Direction Possession	XX XXXXX
	<i>-losse</i>	Use	XX
	<i>-(ul)kac(i)ko(se)</i>	Have	X
	<i>-ul iyonghay(e)</i>	Use	X
Japanese	<i>-de</i>	Location	XXXXX
	<i>-ni yotte</i>	Approach	X
	<i>-o motte</i>	Have	X
	<i>-de motte</i>	Have	X
	<i>-o tsukatte</i>	Use	X

On the other hand, the two languages in the inflectional languages have highly grammaticalized instrumentals that nonetheless have a high level of lexical opacity (e.g. English *with*, *by*; Spanish *con*) as shown

⁷⁾ The lexical origin of *-lo* in Korean is opaque, but Kim (1992, 2004: 205-207), drawing upon the data from Old Korean, suggests that it originated from a nominal denoting 'possession.'

⁸⁾ The assigned degree is not quantified by an experiment but by the author's and the informants' native speaker intuition. Therefore, the degrees marked here must be taken as a generalization only.

below in (11).

(11)

Language	Instrumental Marker	Source Meaning	Degree of Opacity
English	<i>with</i>	Opposition Coexistence	XXXXX X
	<i>by</i>	Coexistence	XXX
	<i>through</i>	Path	X
	<i>by means of</i>	Path	X
	<i>by way of</i>	Path	X
	<i>with the aid of</i>	Path	X
	<i>using</i>	Use	X
Spanish	<i>con</i>	Coexistence	XX
	<i>con el uso de</i>	Use	X
	<i>teniendo</i>	Have	X
	<i>utilizando</i>	Use	X

The state of affairs in inflectional languages contrasts with the isolating languages where the instrumentals still bear similarities with, and sometimes are even indistinguishable from, their lexical counterparts (Chinese *yong*; Thai *caak & tam*)⁹⁾ as shown in (12).

(12)

Language	Instrumental Marker	Source Meaning	Degree of Opacity
Chinese	<i>yong</i>	Use	X
	<i>na</i>	Take	X
	<i>ba</i>	Take	X
Thai	<i>caak</i>	Depart	X
	<i>duai</i>	Coexistence	XX
	<i>chai</i>	Use	X
	<i>tam</i>	Approach	X

The observations in the preceding discussion may be generalized as in

⁹⁾ Note, however, that the commonly used Thai instrumental *duai* does not have much lexical transparency.

(13) and can be diagrammatically presented as in (14).

(13) Generalizations:

- a. Secondary instrumentals are not opaque.
- b. Primary instrumentals are relatively opaque, and at differing degrees by the language types.

(14)

Isolating	Inflectional	Agglutinating
—————→		
Least opaque		Most opaque

The differing degrees of lexical opacity have to do with the typological differences in that isolating languages are most conservative in formal changes (and thus in semantic transparency); agglutinating languages are the least conservative; and the inflectional languages are in between these two polar extremes forming a continuum.

3.3 Morpho-syntactic Characteristics

The last issue addressed is that of morpho-syntactic characteristics of the secondary instrumentals, in particular. In the case of the Korean language in the agglutinating group, the syntagmatic strings containing the instrumental, together with their structural description and structural characteristics, are as shown in (15).¹⁰

¹⁰ There are multiple non-finite (NF) markers in Korean, among which *-e* and *-ko* surface as the major connectors. The NF *-e* has the 'consolidating' function for two or more events encoded by the two verb forms, whereas the NF *-ko* has the 'isolating' function. See Rhee (2007b) and Koo (1987) for more discussion.

(15) Korean¹¹⁾

Form	Morphemic Structure	Characteristics
NP- <i>lo</i>	NP-Inst	Inst: Direction/Selection
NP- <i>lul-kac(i)-ko-(se)</i>	NP-Acc-V-NF-Conn	V: 'have' NF: isolating
NP- <i>lo-ss-e</i>	NP-Inst-V-NF	V: 'use' NF: consolidating
NP- <i>lul-iyongha-y(e)</i>	NP-Acc-V-NF	V: 'use' NF: consolidating

Likewise, the syntagmatic strings in the Japanese language is as shown in (16).

(16) Japanese

Form	Morphemic Structure	Characteristics
NP- <i>de</i>	NP-Inst	Inst: Locative
NP- <i>o-motte</i>	NP-Acc-V-NF	V: have
NP- <i>de-motte</i>	NP-Loc-V-NF	V: have
NP- <i>ni-yotte</i>	NP-Dir-V-NF	V: approach
NP- <i>o-tsukkatte</i>	NP-Acc-V-NF	V: use

What surfaces as a common feature in the agglutinating languages is that the secondary forms in both languages make use of verb phrases combined with clausal connectors, thus suggesting that the elements that were originally clauses underwent structural upgrading. I.e., the structural status of the verbal phrases that constituted subordinate clauses/phrases was elevated to that of postpositional phrases in the main clause.

The English language in the inflectional language type has the structural characteristics as shown in (17).

¹¹⁾ Abbreviations used here are: Abl: ablative; Acc: accusative; AdpP: adpositional phrase; Conn: connective; Dec: declarative; Det: determiner; Dir: directional; Inst: instrumental; Neg: negation; NF: non-finite marker; NP: noun phrase; Part: participial; PNP: preposition-noun-preposition construction; Prep: preposition; Pst: past; Top: topic; and V: verb.

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(17) English

Form	Morphemic Structure	Characteristics
<i>with</i> NP	Inst-NP	(V: agentive, dynamic, interactive)
<i>by</i> NP	Inst-NP	(V: non-agentive, static, non-interactive)
<i>through</i> NP	Inst-NP	(V: agentive, dynamic, non-interactive)
<i>using</i> NP	V.Part-NP	V: agentive, Part: agentive, active
<i>by means of</i> NP	Inst-N-Prep-NP	(PNP) (with eroded N)
<i>with the aid of</i> NP	Inst-Det-N-Prep-NP	(Full NP embedded)

On the other hand, the Spanish language shows the structural characteristics as shown in (18).

(18) Spanish

Form	Morphemic Structure	Characteristics
<i>con</i> NP	Inst-NP	
<i>teniendo</i> NP	V.Part-NP	V: agentive, Part: agentive, active
<i>utilizando</i> NP	V.Part-NP	V: agentive, Part: agentive, active
<i>con el uso de</i> NP	Inst-Det-N-Prep-NP	(Full NP embedded)

The two languages in the inflectional group show interesting characteristics. For instance, both languages have exemplars of using participial verbal forms (*using* in English and *teniendo* and *utilizando* in Spanish). All these forms are (nearly) synonymous making reference to using or having, where the agent is the sentential subject and therefore the participial form appears in present participle contra past participle. Furthermore, both languages have prepositional phrases containing an NP (or its syntactically eroded form N) that develop into prepositions, thus the secondary prepositions.

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The languages in the isolating language type show interesting grammaticalization processes involved in the emergence of instrumentals. Thai has following morpho-syntactic characteristics.

(19) Thai

Form	Morphemic Structure	Characteristics
<i>caak</i> NP	Inst-NP	(From V-NP)
<i>duai</i> NP	Inst-NP	(???)
<i>chai</i> NP	Inst-NP	(From V-NP)
<i>tam</i> NP	Inst-NP	(From V-NP)

Likewise, Chinese has following morpho-syntactic characteristics as shown in (20).

(20) Chinese

Form	Morphemic Structure	Characteristics
<i>yong</i> NP	Inst-NP	From V-NP, V: agentive
<i>na</i> NP	Inst-NP	From V-NP, V: agentive
<i>ba</i> NP	Inst-NP	From V-NP, V: agentive

It seems straightforwardly clear that isolating languages, due to their typological characteristics, do not undergo formal change in the course of grammaticalization of instrumentals. They typically involve categorial reanalysis, whereby a verb that used to take a noun phrase as its argument is now reanalyzed as a preposition that takes a noun phrase as its argument. This phenomenon is applicable throughout all cases in the two languages with an exception of Thai *duai* whose origin is still not traceable.

The foregoing description of morpho-syntactic characteristics can be summarized as in (21).

(21) Generalizations:

a. Nominal sources: Full NP > Defective NP > Adposition

b. Verbal sources: (VP > AdpP)

V + NP >> Preposition-NP

NP + Part.V + Conn >> NP-Postposition

The grammaticalization of instrumentals from nominal sources typically involve a stage where a full NP changes into a N, which gradually loses 'nouniness' such as pluralizability, modifiability, separability, etc. (cf. Hoffmann 2005, Eom 2007, Baik 2006, and Ahn, to appear, for this type of development in English).

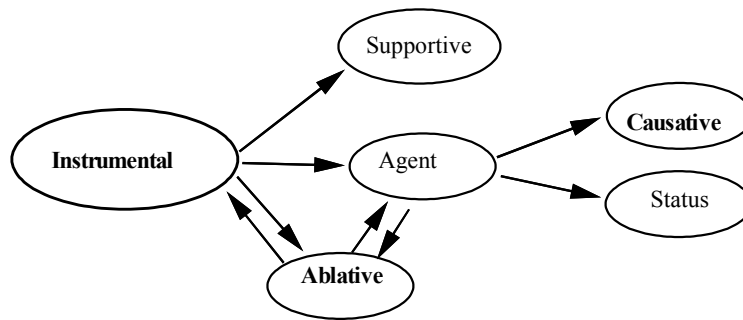
As for the verbal sources, the languages making use of them use syntactic reanalysis, i.e. from a verb phrase (VP) into an adpositional phrase (AdpP). Despite the common conceptual strategy being employed, the syntagmatic configurations are different depending on SOV or SVO word order (cf. Greenberg 1963, Hawkins 1983, and Dryer 1963 for relation between word order and selection between preposition and postposition).

4. Networks of Instrumentals

In order to view the grammatical status of instrumentals from a broader perspective, it is worth pursuing to identify the conceptual relations between instrumentals and other related categories.¹²⁾ The concepts that feed into instrumentals were presented in (3), and the concepts that develop from instrumentals are as shown in (22) below:

¹²⁾ See Park (1999, 2005) for functional extension of instrumentals in Korean and Lithuanian.

(22) Forward Directions of Extension



The notion of 'supportive' can be encoded by means of English instrumental *with*, which, as noted earlier, originally had the 'opposition' meaning. The supportive meaning is as shown in (23) (taken from Oxford English Dictionary).

(23) Supportive

He has usually voted with the Republican Party.

Instrumentals often develop into causatives (Rhee 2007a, 2008). The notion of agency seems critical in the functional transfer from instrumentals to causatives. Rhee (2008: 83) suggests that instrumentality gives rise to agency (agent, cause) through focus shift and subjectification of attributing the causality sense to instrumentality. The agency, as used in Oxford English Dictionary, is exemplified in the following example:

(24) Agent

This island is inhabited with monkeys.

Furthermore, instrumental is very closely related to ablative. Instrumentals, as shown in (22), has a mutual feeding relationship with

ablatives. Ablative may simply encode the departure point, but when instrumental is construed as the locus of existing force, whereby an event is enabled, the connection between ablative and instrumental seems straightforward. The following is an example in Korean.¹³⁾

(25) Ablative

Mathaypokum 5-cang 1-cel-lo 9-cel-kkaci
Gospel.of.Matthew 5-chapter 1-verse-Abl 9-verse-till
'Matthew Chapter 5, verses from 1 to 9'

Causatives, as noted earlier, have a very close relationship with instrumentals. Rhee (2008: 81) suggests that the functional shift from instrumental to causative (which is often mediated by the intervening 'agency') is enabled by metaphorization of CAUSE OF EVENT IS PHYSICAL INSTRUMENT, whereby the domain change of [Physical space > Epistemic Agency] is effected.

(26) Causative

- a. My hair is gray with years.
- b. Byoki-de ryoko-ni ike-nakatta.¹⁴⁾
illness-Inst travel-to go-Neg.Pst
'Because I was sick, I couldn't go on the trip.'
- c. ku-nun sako-lo kyelsekhay-ss-ta
he-Top accident-Inst be.absent-Pst-Dec
'He was absent because of an accident.'

¹³⁾ An idiosyncrasy of using *-lo* as an ablative marker is that it is typical of Christian church dialect.

¹⁴⁾ The example is taken from Chino (1991: 51) with its interpretation, but the morphemic gloss has been added.

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Finally, instrumental has a conceptual contiguity with status-marking. The instrumental-status relationship is widely attested (cf. Nichols and Timberlake 1991 for Russian and Rhee 2007a: 147-149 for Korean). Example (27) is from Korean.

(27) Status

ku-nun tokca-lo calana-ss-ta
he-Top only.son-Inst grow.up-Pst-Dec
'He grew up as the only son.'

In the preceding discussion it has been shown that the grammatical concept of instrumentality is closely related to other grammatical concepts such as 'ablative', 'agent', 'supportive', 'causative', and 'status'. The connections are enabled by cognitive mechanisms such as pragmatic inferences and metaphors.

5. Summary and Conclusion

This paper looked into the grammaticalization patterns of instrumentals in six different languages in the three language types. The analysis, though cursory and requiring future in-depth research, reveals that there is a prominent pattern of source selection, i.e. choosing USE, ACQUISITION and COEXISTENCE across languages and language types. It has been shown that there is no single semantic component that binds the member languages together (though only two languages), and sets the language type apart from other types. There are, however, peculiar semantic categories that are recruited in particular languages and form idiosyncrasy, which yet could not characterize the language types they belong to.

As for the lexical opacity/transparency of the primary markers of

instruments, the agglutinating languages display the highest level of lexical opacity, followed by the inflectional languages, and the isolating languages. This is not surprising, considering the fact that the isolating languages do not display much formal changes, the state of affairs often leading to ambiguity/fluidity across grammatical categories, whereas the agglutinating languages show the highest flexibility with respect to formal change, thus often obscuring the inter-morphemic boundaries.

As for the source constructions, there are two general characteristics worth noting. The primary instrumentals are largely opaque in terms of sources, with the isolating languages mostly showing verbal origin, involving structural reanalysis of [V-NP >> Prep-NP]. The secondary instrumentals typically recruit verbal and nominal sources, each in different syntagmatic configuration.

Instrumentals participate in functional extensions into supportive, causative (via agent), status (also via agent), and ablative. These are conceptually contiguous, and the extensions among these grammatical notions show that functional changes in grammar are fundamentally based on human cognition (Heine 1997).

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