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FORUM
XXXVII**

**Communication and Cognition:
Multidisciplinary Perspectives**

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LACUS FORUM XXXVII

**COMMUNICATION AND COGNITION:
MULTIDISCIPLINARY PERSPECTIVES**

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Lectures



2010 Presidential Address

DISCOURSE ANALYSIS AND GRAMMAR: FUNCTIONAL DIFFERENCES IN DISCOURSE BETWEEN HEAD-INITIAL AND HEAD-FINAL LANGUAGES

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Abstract. Grammatical differences between head-initial and head-final languages often display a mirror-image syntactic march in opposite directions. The head noun comes before the relative clause in English, a (weakly) head-initial language, while it comes after the relative clause in Korean, a strongly head-final language. Adverbial clauses of time, purpose, or reason in English may occur postposed after the main clause as well as preposed, while they occur only preposed in Korean. Such differences in syntactic order in the same type of construction may result in different information flow in discourse, e.g., who is introduced first in the story and which comes first, reason or result. This study compares functional differences between English and Korean relative clauses and adverbial clauses in their discourse context and finds that such differences are related to participant reference, foreground versus background information, focus and topic, right-dislocation versus left-dislocation, and inductive versus deductive reasoning preferences.

Keywords: English, Korean, Head-Initial, Head-Final, Relative Clauses, Participants, Participant Reference, Adverbial Clauses, Inductive, Deductive, Translation

Languages: English, Korean, Japanese

IN DOING DISCOURSE ANALYSIS, we ask different types of questions: *what* (forms and constructions), *how* (how a form is structured and formulated, and *why* (why the form is used).¹ While the first two questions, *what* and *how*, are closely tied to morphology and syntax, the *why* type is especially important in discourse. For what purpose and function is a form or construction used in discourse context? A native speaker of Korean (a strongly head-final language), I have been teaching grammar and discourse analysis to speakers of English (a weakly head-initial language), with English as the medium of instruction. During these years of teaching, I have been made aware of and have been doing research on functional differences between the two languages. Head-initial and head-final languages typically have the mirror-image syntactic march—they unfold in opposite directions. This may result in the differences in the presentation order of information in discourse, e.g., which participant is introduced first or which clause comes first, reason or result.

This paper addresses functional differences between the two typologically divergent languages in the context of discourse, dealing with some syntactic construc-

¹ I am grateful to Jan Allen, Bob Dooley, Marlin Leaders, Stephen Levinsohn, and Catherine McGuckin for their helpful comments.

tions. However, we first need to deal with the issue of cross-linguistic categories. We ask if syntactic categories like a relative clause are really comparable across languages, given the fact that the constructions differ (*what* and *how* questions) for the so-called same category in different languages. Are we comparing Gala apples with Fuji apples, or Gala apples with oranges? Once we establish that categories and constructions like a relative clause are indeed comparable regardless of the language type, we ask: what impact or function does the same construction in the two types of languages have in context (the *why* question)? The present paper covers functional differences between English and Korean in the use of relative clauses and adverbial clauses. The differences in information flow are related to such discourse considerations as participant reference, foreground versus background information, focus and topic, right-dislocation versus left-dislocation, and inductive versus deductive reasoning preferences.

The topics covered here are important not only in discourse analysis but also in functional linguistics, in the search for semantic and discourse motivations for structures, language universals and linguistic typology, and translation across different types of languages. Section 1 deals with the issue of cross-linguistic categories and argues that they are comparable across languages by considering both semantic and syntactic features. Section 2 compares the discourse functions of both relative clauses and adverbial clauses in the two languages. Section 3 highlights differences in rhetorical styles, inductive versus deductive, as they are related to headedness, and presents brief conclusions.

1. CROSS-LINGUISTIC CATEGORIES AND COMPARABILITY. This topic created a debate on the FUNKNET discussion list in March, 2010. Some asked the question: Is it valid to posit cross-linguistic categories when they are not the same across languages? Some linguists, like Croft, argue that cross-linguistic formal, grammatical categories do not exist, since they differ across languages. They propose that cross-linguistic comparison be based on semantic categories which are cross-linguistically valid. Others, like Haspelmath and Moravcsik, state that cross-linguistic grammatical categories can be posited. Things can be the same in some aspects and not the same in other aspects, and yet they can be assigned to the same category. I agree with the latter group that it is valid to posit the cross-linguistic categories. If not, we cannot talk about grammatical categories like adjective, ergativity, or tense as they are found in different languages. We need, however, to seek both cross-linguistic definitions of grammatical categories and language-specific definitions.

In comparing given grammatical constructions across languages, special care must be taken, especially in counting frequencies. I will illustrate this with studies on relative clauses. Fox (1987) presents a revision of the upper end of the NP accessibility hierarchy for predicting which grammatical roles in the relative clause can be relativized and are more frequent. She argues that the subject primacy hypothesis underlying the original scheme (Keenan & Comrie 1977) must be replaced by the absolutive hypothesis and proposes a revision at its upper end:

S/O > A > IO

instead of

S > O > IO

Part of her argument is based on the frequency of the grammatical relation O in the relative clauses in her English conversational data corpus. O relatives were far more frequent than the transitive subject A relatives, and similar to, or even slightly more frequent than, the intransitive subject S relatives in her data corpus.

Her data included a lot of relative clauses with the verb *have*, no doubt due to the nature of everyday conversation. Possession, however, is expressed in many languages, not predominantly by a transitive clause but by an existential clause like 'To me a car exists'. The car in that situation would not be counted as an O but an S. Thus we propose a scheme that combines both the subject primacy and the absolutive hypothesis.

S > O > A > IO

In the frequency counts of Japanese, Korean, and Indonesian data in published papers (Collier-Sanuki 1993, Hwang 1996, Ewing 1991), S was more than double or sometimes triple the counts of O. A, however, was slightly lower than O in all these studies, which causes the position of O in the NP accessibility hierarchy to be higher than A, but lower than S. So to repeat my view, for a grammatical construction we need both cross-linguistic criteria (broad enough to be applicable to all or most languages) and language-specific criteria to define the category. But we need to take special care in the statistical counts of the textual frequencies of a construction.

2. GRAMMATICAL CONSTRUCTIONS AND THEIR DISCOURSE FUNCTIONS. The grammatical features that present a mirror image between strongly head-initial (VO) languages and strongly head-final (OV) languages can be overwhelming. The radical difference in ordering of information in typologically diverse languages can be seen below (selected from Hwang 1994a).

	Head-Initial	Head-Final
	VO (VSO, SVO)	OV (SOV)
Adposition:	Preposition	Postposition
NP Modifier (Adj., Gen., Rel. Clause, Determiner, Numeral):	Noun-Modifier	Modifier-Noun
Main Verb & Auxiliary:	Aux-Main	Main-Aux
Affixation:	Prefixation (and Suffixation)	Suffixation
Question & Negation:	Q-Neg-Proposition	Proposition-Neg-Q
Complementation:	Verb-Complement	Complement-Verb
Title:	Title-Name	Name-Title
Name:	Given-Family	Family-Given
Conjunction:	Conj-Clause, ...	Clause-Conj, ...
Adverbial Clauses:	Postposed (and Preposed)	Preposed

Researchers in the area of universals and typology are mainly concerned with the adposition, and the order of the genitive, adjective, or relative clause relative to the head noun. Others deal with additional parameters, such as the title and name. I

believe, however, that the position of conjunctions, whether prepositional or postpositional, and that of adverbial clauses, whether preposed or postposed, have crucial relevance to their use in discourse.

Regardless of the typological type, there is a progression of information flow at different constituent levels that helps the reader understand the text. A topic sentence, clause, or phrase usually occurs at the beginning of a paragraph or sentence to orient the reader or hearer. Each paragraph tends to have an appropriate point of departure or topic to guide the reader. In (1) below from Pike (1982:8-9), the initial prepositional phrases identify the topics that are being compared.

- (1) a. In the inductive approach, some available data may be carefully classified as elements ... (2 more sentences)
 b. In a deductive, formal approach, one guesses, to reach an idea of a larger pattern ... (3 more sentences)

These topic phrases (marked off by a comma and their own intonation contour) need to be in the initial position of the first sentences in each paragraph in Korean as well as in English in order to give a proper orientation to the reader.

2.1. RELATIVE CLAUSES. From a cross-linguistic perspective, relative clauses (RC) may be defined broadly as a (restricting)² clause modifying a head noun, occurring inside (or embedded in) a noun phrase. In English, they follow the head noun, commonly using a relative-pronoun strategy, such as *who* and *whom*. In Korean, they may be defined as clauses with a modifying ending (*-un*, *-nun*, *-ul*), which precedes a head noun and whose coreferential noun is deleted in the clause (a gapping strategy). The restriction of coreferentiality is necessary to distinguish them from complement clauses (CC), since both RC and CC take the same modifying endings, which are glossed by linguists as relativizers or complementizers. This can apply to English as well, but with a slight difference between them.

- (2) a. The evidence that/which they used for the case was clear.
 b. The evidence that/*which he was present at the scene was clear.

The complement clause in (2b) may not take *which*, while the relative clause can. In languages with a gapping strategy, however, there may be no surface indicator for RC vs. CC.

The discourse functions of RCs are closely tied to syntactic forms and constituent orders: (1) postnominal vs. prenominal relativization, (2) grammatical role of the head noun in the main clause, and (3) GR of the coreferential noun in RC. The English RC is postnominal, which is a more common pattern cross-linguistically, while the Korean RC is prenominal, which occurs in some verb-final languages.³

² Some researchers (e.g., Andrews 2007) limit their discussion of RCs to restrictive RCs, which are the true RCs. In this paper we include nonrestrictive RCs that provide additional information as well, as in Fox and Thompson (1990) and Hwang (1990); the two types are not distinct syntactically in many languages.

³ Relative clauses are marked by brackets, and adverbial clauses by braces, with conjunctions in boldface. The gapped noun in the data is shown by Ø. The abbreviation MOD stands for modifying ending.

- (3) [Ø mok-eyse ppaynay-n] ket
throat-from pull.out-past.MOD thing
'the object [that (he) pulled out of the throat]'

Compare the discourse initial sentence of *The Three Little Pigs* in English and in Korean. In English, there is a relative clause (*Once upon a time there was a mother pig [who had three little pigs]*), but the Korean counterpart is not likely to have an RC, because then the three little pigs in the RC would be introduced before the mother pig. The children are not usually introduced before their mother in children's stories even though in this story the mother pig disappears from the stage quickly. Instead, a coordinate NP is used to introduce participants who are related, as in (4) from a Korean story and (5) for the story of the little pigs (cf. Hwang 1990).

- (4) hol emeni-wa atul ttal ilekhey
lone mother-and son daughter like.this
sey sikkwu-ka sal-ko.iss-ess-upnita.
three family.member-NOM lived
'There lived a family of three, a widowed mother, a son, and a daughter.'
- (5) emma twayci-wa aki twayci se mali-ka
mommy pig-and baby pig three classifier-NOM
sal-ko.iss-ess-upnita.
lived
'There lived a mother pig and three little pigs.'

The postnominal position of the English RC allows it to carry information temporally or logically sequential to that encoded in the main clause. These are necessarily non-restrictive RCs, giving additional asserted information.

- (6) Slowly he walked along the aisle and up the steps to the choir, [where he handed the plate to the priest, [who blessed the gifts and then reverently placed them on the altar]].

The two relative clauses in (6), taken from the Hans story (Gee 1955:107), clearly describe subsequent actions. If the sentence were given with RCs in Korean, the RCs in prenominal position would reverse the order of events and make a nonsensical sentence. The order of information flow needs to be kept the same in translation to make a coherent sentence in this case. So, in Korean, instead of an RC, we need to use a sentence with a clause chain. In (7) is an example from an expository discourse (Pike 1982:3) with logically subsequent information in the RC (e.g., reason-result, means-purpose, and condition-consequence); note the second RC.

- (7) The list and kind of things [men find] will vary radically if they adopt different theories as tools [with which to search for these units].

In the context of the sentence, they adopt different theories as tools and search for these units. Examples of this kind of RC in English are expressed as a clause chain in Korean, such as 'adopt different theories as tools and search for the units' (means-purpose).

Another difference results in frequency counts of the head noun between the two languages. In English, the head noun of the RC is the subject of the main clause only half as many times as it is the object (Fox and Thompson 1990:307):

S head : O head = 1 : 2

An RC modifying a subject interrupts the flow before the verb in SVO clause order, while an RC can modify the object (or the existential subject, predicate nominal, or oblique) without interruption. Sometimes a long RC occurs at the end of a sentence, even extraposed or right dislocated. The postnominal RC in English allows us to have long RCs at the end of sentences. In fact, right dislocation is a preferred structure in English in order to avoid interruption within the main clause. Notice that in (8c) the RC at the end of the sentence is extraposed and right dislocated. Since the head noun is the subject, *decisions*, the RC would make the subject quite far from the verb if it were not extraposed.

- (8) a. So he married a grand lady [who had two daughters of her own, and who, he thought, would be kind and good to his little one].
 b. The most effective writers may be those [who are intuitively sensitive to the constraints of thought and language flow].
 c. Every day decisions are being made by local officials in our communities [that could drastically affect the quality of our lives].

In Korean and Japanese, the frequency ratio is roughly the same for the S head and the O head, both of which occur before the main clause verb.

S head : O head = 1 : 1

While one might think that the O head with an RC might be interruptive, the arguments (S or O) in both Korean and Japanese are frequently deleted when they are accessible in discourse context. Long RCs often appear at the beginning of a sentence, and the argument with the RC may be left dislocated, sometimes changing the word order of the clause to be OSV, as in (9), to avoid having a long constituent in the middle of the sentence.

Thus, in Korean and Japanese, with prenominal RCs, long RCs occur at the beginning of sentences. Such left dislocation of lengthy constituents in Korean and Japanese is for the same purpose as right dislocation in English: both are to avoid interruption of the main clause. The Korean sentence in (9) starts with a long RC modifying the object, with OSV order.⁴

- (9) '[Silently at the edge of the yard as such still standing] [old] father and [young] child, only the flowing moonlight unusually was stroking.' ('Only the flowing moonlight was strangely bathing the old father and the young child [who were still standing silently at the edge of the yard].')

⁴ For the sake of brevity, only literal translations in English (in single quotes) are given for some Korean or Japanese data, instead of the complete data. Adjectives are marked in brackets when they are syntactically RCs, which is the case for most Korean adjectives.

The Japanese sentence in (10) (from Collier-Sanuki 1993:61) also starts with a long RC, modifying ‘I’, a personal pronoun.⁵

- (10) ‘Because it is I, [who had never drawn anything other than pictures of boas from the inside and boas from the outside due to the fact that I was made by the grown-ups to give up on pursuing my painter’s career when I was six years old].’

Common functions of RCs in both English and Korean are: (1) background information (which is often new information) about the head noun, as in ‘a person who is blind (=a blind person)’; (2) cohesion in discourse, summarizing or referring to earlier events and foreshadowing what will come later; and (3) minor or displaced events, as in a grand ball to which the prince invited all the people (from the English story Cinderella).

Beyond these common functions, RCs in English introduce participants who are related to the head noun, report subsequent events (temporally or logically), and add asserted information at the end of the sentence, sometimes, right dislocated. Due to sentence-final focus in English, often the information in RCs is more important than that in the main clause when there is no special intonation or focus particle like *even*. This is shown in examples (8b) and (8c) above.

Korean RCs have three different functions: (1) to provide an abstract theme or teaching, as in ‘mommy and daddy magpies, [who sacrificed their precious lives to return their favor]’; (2) to add long RCs preceding the head noun at the sentence-initial position; and (3) to back-reference by starting the sentence with an RC (tail-head linkage). This function of referring to the previous sentence is usually handled by preposed adverbial clauses in both English and Korean. Prenominal RCs can also serve this function in Korean, since the sentence starts with the RC, not with the head noun, as in English. Back-referencing in an adverbial clause normally has zero reference to the subject, but it will be explicit in an RC as its head.

2.2. ADVERBIAL CLAUSES. Adverbial clauses are those that modify another clause ‘in a way similar to the way in which an adverb modifies a proposition’ (Thompson, Longacre, & Hwang 2007:237). Most, if not all, languages have preposed adverbial clauses, which are crucial in text organization, showing discourse movement, and inter- and intra-paragraph cohesion. Postposed adverbial clauses in strongly head-final languages, however, may not occur or are limited in distribution (e.g., only in oral conversational style). Since the main clause is the head of the sentence, in head-final languages the sentence ends with the main clause, not with any subordinate or adverbial clause.

In head-initial languages like English an adverbial clause may come before or after a main clause, as in (11):

- (11) a. {**When** you picked me up,} you knew what I was.
b. You knew what I was {**when** you picked me up}.

⁵ The head noun in Japanese and Korean may be a singular pronoun, a phenomenon rare in many languages including English (Dixon 1994:222).

Is there any functional difference between the two positions? In (12), the sentence is shown in the context of discourse (Cody 1988:32-33), and the adverbial clause is postposed.

- (12) a. The youth resisted a while, but this was a very persuasive snake with beautiful markings.
 b. At last the youth tucked it under his shirt and carried it down to the valley.
 c. There he laid it gently on the grass, {**when** suddenly the snake coiled, rattled and leapt, biting him on the leg}.
 d. “But you promised . . .” cried the youth.
 e. “You knew what I was {**when** you picked me up},” said the snake as it slithered away.

The *when* clause in (12e) encodes information relating only to the main clause rather than contributing to discourse organization or movement across sentences. If the other order were used in this context, the temporal clause would be interpreted as setting the stage for the main clause. Compare it with (13) below, which has a preposed *when* clause, setting the stage for the main clause (Gee 1955:191).

- (13) ... {**when** I caught sight of you from the window this afternoon} I daren't open the door {**because** I thought you'd come for the rent}.

The postposed *because* clause provides the reason for the main clause, within the overall setting established by the *when* clause. Preposed clauses tend to have an orienting or cohesive function linking larger constituents like sentences and paragraphs, while postposed clauses provide information of a narrower scope relating to its main clause only. Some previous studies have noted similar functional differences of adverbial clauses by position in English, e.g., Givón (1987, 1989, 1990), Thompson (1985, for purpose clauses), Hwang (1994b), and Thompson, Longacre, & Hwang (2007).

But what about the *when* clause in (12c), which is preceded by a comma? It is in fact this *when* clause that reports a highly significant event, the biting of the snake, information more significant than that in the main clause. It is skillfully placed in the postposed clause as a surprising, dramatic happening after the placid main clause reporting an expected action by the youth (*laid it*), which is sequential to the previous sentence in (12b). It is so surprising an action that not only is there a punctiliar adverb *suddenly* but also the reference form to the snake shifting from *it* (in the main clause) to *the snake* (in the following postposed clause).

That *when* clause may not be preposed since it results in a nonsensical sentence with the events reversed in order (*‘{When suddenly the snake coiled, rattled and leapt, biting him on the leg}, there he laid it gently on the grass’). If we prepose the *when* clause to keep the temporal order right and reverse the status of main and adverbial clause, the surprise effect would be reduced (‘{When there he laid it gently on the grass}, suddenly the snake coiled, ...’).

A similar example occurs in the Hans story (Gee 1955:106-07) when he agonizes over not having any money at the offering time; he only has an apple which he had received from a girl earlier.

- (14) What was he to do? Others were giving money—he could hear it. He had nothing ... nothing to give God except his apple, and he could not give *that*. He dare not. What would all the people say? What would the man in the fine clothes say—the one standing on the steps amid all the bright candles at the far end? And wouldn't God be angry, too? It seemed to Hans as if all eyes were fixed on him {**when**, in an agony of fear, he timidly placed the red apple on the plate}.

The postposed *when* clause again encodes a surprising event after the main clause, which continues the internal thoughts of Hans. This event is foreground information; in fact, it is the most significant event in the story.

We propose that such postposed clauses function to create a dramatic surprise effect by hiding a significant event in the postposed clause after the non-eventful information in the main clause and to convey globally crucial information and mark a turning point or peak in some texts (cf. Thompson, Longacre, & Hwang 2007).

The functions of preposed clauses are similar in English and Korean although the two languages are typologically very different, so these similarities in function probably apply to most languages. But how can we reflect the functional difference between preposed and postposed adverbial clauses in a language in which there is no choice of the alternative position? We propose that there are several devices in Korean that serve equivalent functions to postposed clauses in English. The first two involve adverbial clauses in Korean, too, but the third one uses a different structure.

In Korean, the adverbial clause (which would be postposed in English) may be inserted after the main clause subject, as in (15) and (16). In that position, the clause is now inside the main clause, certainly creating the more-integrated effect equivalent to the English postposed clause. The main clause subject is marked by the topic particle *nun* so that it can apply to the whole sentence, hopping over the inserted adverbial clause. If it were marked by *ka*, the nominative particle, it would be understood to be within the scope of the adverbial clause in both examples, thereby requiring that the clause be preposed to the main clause.⁶

- (15) ne-nun {na-lul cipess-**ul.ttay**} nay-ka muessinci alatta.
 you-TOP I-ACC picked.up-**when** I-NOM what.is knew
 'You, {when (you) picked me up,} knew what I was.'

⁶ The general rule for the use of the particles is *ka* for new information and *nun* for old information. One of the several sub-rules to account for exceptions is that the subject of subordinate clauses (adverbial and embedded clauses) is marked by *ka* regardless of its information status (Hwang 1987:129-131). This sub-rule would trigger the interpretation of 'you' or 'theory' in (15) and (16) as the subject of the adverbial clause if they were marked by *ka*. It is, however, more natural and common for the same subject to occur with the main clause after zero anaphora in the adverbial clause when they are identical in the two clauses: '{Ø me picked.up-**when**.} you knew what I was'. *ka* in (17) clearly marks *Shim Chung* as the subject of the inserted adverbial clause although, as the central participant, she is old information.

- (16) ilon-un {towum-i twey-lye-myen} hyensil-pota
 theory-TOP help-NOM become-to-if reality-than
 kantan.hay-ya.hanta.
 be.simple-must
 ‘A theory, {if it is to be helpful,} must be simpler than reality.’

Example (17) comes from the story about Shim Chung and her father Shim Bongsa. After the main clause subject, marked by *nun*, a sizable adverbial clause is inserted before the rest of the main clause, which starts with ‘finally’, is resumed.

- (17) Sim Pongsa-nun, {Sim Chengi-ka payt salam-tul-ul ttala
 Shim Bongsa-TOP Shim Chung-NOM sea person-PL-ACC follow
 cip-ul ttena-l.ttay-ey-ya,} pilose cwukum-uy kil-lo
 house-ACC leave-when-at-only finally death-GEN way-to
 ttenanta-nun kes-ul alkey.toyessupnita.
 leave-MOD fact-ACC came.to.know
 ‘Shim Bongsa, {when Shim Chung was leaving home with the seamen,} finally realized that
 (she) was going to die.’

The dramatic use of postposed adverbial clauses in English, as illustrated in (12c) and (14), does not follow the normal coding pattern of having supportive or background information in subordinate clauses and mainline or foreground information in main clauses (Labov 1972, Givón 1990). It is exactly because of this type of general rule that the dramatic effect is created, since the rule is skillfully broken and skewed.

The second type of functional equivalence in Korean applies to such dramatic cases, where the main clause becomes an adverbial clause and vice versa. We may have an analogous function of this type of surprise simply by reversing the status of the main and adverbial clauses. The postpositional conjunction in Korean is attached to the end of the verb (and clause), ‘there (he) gently (it) laid-when’, which does not give the orienting or setting feeling that English *when* would at the beginning of the sentence. The dramatic effect of surprise may not be as strongly expressed as in the English postposed clause, but the surprising information can still occur in the main clause in Korean, with ‘suddenly’ and the explicit reference to ‘the snake’ after the zero reference to it in the adverbial clause: ‘{There gently Ø laid-when}, suddenly **the snake** coiled, rattled, and leapt ...’.

The third type of functional equivalence in Korean is to use an equational sentence, as in (18), which links two clauses together with a linking verb. Compare, for example, an English equational sentence *The fact that he couldn't come was because there was an accident with He couldn't come {because there was an accident}*.

- (18) kulena nay-ka te nollan kes-un nelpun kangtang-ul
 but I-NOM more surprised fact-TOP wide auditorium-ACC
 twiepnun tut.han ku hwanyeng ttaymun ita.
 overthrowing seem that reception reason is
 ‘But **the fact** that I was more surprised **is because** of the reaction which is sweeping through the wide auditorium.’ (The tenses here reflect the Korean example.)

In 1 John in the New Testament, there are three verses (2:12-14) with postposed clauses. The first two sentences appear in (19) in English, which reflect the same clause order from the source language, Koine Greek, which is also a head-initial language.

- (19) I write to you, dear children, {**because** your sins have been forgiven on account of his name.}
 I write to you, fathers, {**because** you have known him who is from the beginning.}

This pattern is problematic in Korean because of the postposed clauses. We compare different Korean versions to see what the functional equivalents might be for the first verse, 1 John 2:12.

- (20) a. ‘Dear children, (**the fact**) that I write to you **is** that your sins are forgiven for his sake.’
 b. ‘Dear children, **the reason** I write to you **is because** your sins are forgiven for his sake.’
 c. ‘Dear children, {**because** your sins are forgiven for his sake}, I write to you.’

The first one, (20a), uses an equational sentence, and is from an older style in the earliest version. The sentence in (20b), from a later translation, also uses an equational sentence, in which the reason is made explicit and focused. In (20c), the reason clause is preposed. Although it fits the head-final pattern, the focused assertion is the main clause ‘I write to you’. This seems to be odd, especially when it is actually repeated six times in a row in this passage. The first two translations focus on the reason, and they use not an adverbial clause but an equational sentence.

Frequently, the clause that is postposed in English occurs in a new sentence in Korean, with each clause making its own assertion.

- (21) a. sunim-un tanghwang.haytta.
 monk-TOP was.embarrassed
 ‘The monk was embarrassed.’
 b. suto-ha-nun mom-ulo kyelhon.hal.swu-ka
 asceticism-do-PRES.MOD body-as can.marry-NOM
 ep-ki ttaymun ita.
 not.exist-NOMZ reason is.
 ‘(It) **is because** (he) cannot marry (her) as a person who practices asceticism.’

Sometimes the second sentence starts with *ku kkataalk-un* (‘the reason-TOPIC’) or *way-nya ha-myen* (‘why-QUESTION do-if’), which explicitly connects it to the previous sentence as its reason. Pairs of sentences of this type, thesis and reason, occur frequently in natural texts. The next example set provides the reason in the second sentence without using the word like ‘reason’ or ‘because’. Note that the earliest translation version in (20a) similarly includes no word of that type.

- (22) a. *noin-un kuman te chukungha-l yongki-ka epsetta.*
 old.man-TOP at that more press-FUT.MOD courage-NOM not existed
 ‘The old man did not have the courage to press anymore.’
- b. *Kwen sepong po-ki-ka pukkulewetten kes ita.*
 Kwon Mr. see-NOMZ-NOM ashamed fact is
 ‘**The fact is** that (he) was ashamed to look at Mr. Kwon.’

In the Korean story called “The Beauty and the Monk”, such a pairing of sentences occurs three times in a row in the peak episode, given here with a literal translation in English in (23). (The Korean data for e and f are shown above in (21))

- (23) a. ‘The monk advised the woman to go to Seoul immediately.’
 b. ‘(It **is because** (people) at home would be worried that (she) must have died, being captured and taken by a tiger.’
 c. ‘However, the girl refused to do so.’
 d. ‘**The fact is** that (she) wants to spend (her) life together with the monk who saved her life.’
 e. ‘The monk was embarrassed.’
 f. ‘(It **is because** (he) cannot marry (her) as a person who practices asceticism.’

After hearing how the monk revives the girl brought in by a tiger, we hear the reason for each action, not in the same sentence but in separate sentences. Also note that these sentences giving reasons are in the present tense (instead of the usual past tense), further supporting the inference that the section is the peak episode with grammatical turbulence.

3. RHETORICAL STYLES IN SENTENCE AND PARAGRAPH: INDUCTIVE VERSUS DEDUCTIVE. Head-initial and head-final features are related to different rhetorical styles in argumentation or logical reasoning in which the head may be the conclusion or thesis statement based on supporting statements. Thus it is likely that the thesis occurs first in head-initial languages, thereby resulting in a deductive reasoning style. Likewise, it is likely that the thesis comes last in head-final languages, resulting in an inductive reasoning style. As seen above in the section on adverbial clauses, main clauses occur at the end of the sentence in Korean in an inductive style. Thus the translation of a postposed reason clause must adjust to one of the three functionally equivalent ways to maintain the strong head-final feature of Korean. In all three, the sentence ends in the main clause.

It has been noted, however, that the use of the equational construction may actually stretch over two sentences, as shown in (21)-(23). These examples show that the constraint on having the thesis last is not a necessary or strongly-held restriction across sentence boundaries. That is, we may have the thesis in the first sentence, followed by the supporting arguments such as the reason or evidence in the following sentences. It is true that the supporting sentence may take a slightly marked form reflective of the second part/clause of an equational sentence, with the expressions like ‘the reason is ...’ or ‘that is the reason...’

For Amele, a Papuan language with head-final features which are opposite to New Testament Greek structures at both the syntactic and discourse levels, Roberts (1997) proposes that some clauses and verses in Bible translation must be reordered to fit the inductive style of Amele. Similarly, Levinsohn (2006) addresses the problem of having a deductive style in translated material in head-final languages, which goes against the usual presentation order in such languages. Example (24) comes from Exodus 20:7, which has the thesis-supportive order⁷ (the prominent sentence label is in small caps as in Levinsohn 2006:7).

- (24) 7a THESIS: ‘You shall not misuse the name of the Lord your God.’
 7b SUPPORTIVE: ‘For the Lord will not hold anyone guiltless who misuses his name.’

When the sentences are given in this order, he is worried that naïve readers in OV languages may misinterpret it, e.g., (7a) as the thesis for the preceding material, rather than for (7b). One option he proposes is to add expressions like ‘the reason is’, which, however, may also lead to misinterpretation by treating the supportive information in (7b) as prominent due to the marked expression.

- (25) 7a THESIS: ‘You shall not misuse the name of the Lord your God.’
 7b SUPPORTIVE: ‘**The reason is** the Lord will not hold anyone guiltless who misuses his name.’

He suggests another option, a cyclic (or inclusio) structure that repeats the thesis at the end. Then it will be clear which sentence is the thesis.

- (26) 7a THESIS: ‘You shall not misuse the name of the Lord your God.’
 7b SUPPORTIVE: ‘**The reason is** the Lord will not hold anyone guiltless who misuses his name.’
 7a THESIS’: ‘So you shall not misuse his name.’

In the three Korean translations I checked, the original order of thesis-supportive is kept with no modification. In this case, I believe (7a) is clearly the thesis, being in the imperative mode in the context of the Ten Commandments, and (7b) with its future tense is supportive information. Again, deductive order can be used in logical arguments in Korean, although the language is strongly head final, and it presents little problem here, since the status of the thesis is clearly marked by the modal form.

In the book of Amos in the Bible, a deductive pattern occurs seven times from 1:3 to 2:4 within sentence boundaries. In the New American Standard Bible, verse 3 has *For three transgressions of Damascus and for four I will not revoke its punishment, {because they threshed Gilead with implements of sharp iron}*, and v. 4 begins with: *So I will send fire upon the house of Hazeal...*

In the same three Korean translations, an equational sentence is used: ‘I will not turn back my wrath ... **this is** **because.**’ Thus the information flow is the same as the deductive order, with the grammatical structure modified. While Roberts considers this type of modification to be quite unusual, giving undue prominence to the

⁷ Biblical Hebrew is a strongly head-initial language with the basic word order VSO (Longacre 1995).

reason, it is frequent in Korean in naturally occurring texts as well as in the Bible. In most of these cases, the slight prominence of the reason may not be unwarranted.

Keyes (2001) has examined rhetorical styles of hortatory texts in Qazaq, a Turkic language with SOV word order. He found that the ordering of rhetorical relations correlates primarily with pragmatic function rather than with word order. While Qazaq tends to use a quasi-inductive approach, he states that the inductive order of the supportive-thesis correlates only at the inter-clausal level within the sentence. It is noteworthy that his observations on Qazaq rhetorical styles are similar to what I have observed in Korean texts. It may be that Papuan languages (as discussed in Roberts) display a more strict inductive style at both inter-clausal and inter-sentential levels, while deductive order is more tolerated in Korean and Qazaq at the inter-sentential level.

By way of conclusion, we may return to the three types of questions that were mentioned at the beginning of this paper. *How* questions deal with structural issues (*how* are they constructed), *what* questions relate to cross-linguistic categorization and comparison (*what* are they), and *why* questions relate to functional issues (*why* are they used in texts). Certainly, these questions are tied together, and for a thorough study of a language, all three types of questions need to be asked and addressed.

Discourse structure is closely tied to the grammar of a language. Grammatical differences across languages are relatively well known, but differences in discourse structure across languages are less well recognized. Discourse analysis may provide wings to linguists to better understand morphosyntax, e.g., how variations in tense, aspect, and modality are tied to their discourse functions.

Head-initial and head-final languages can use different grammatical constructions to keep information flow right for the discourse context. Grammatical constructions, like relative clauses and adverbial clauses, and rhetorical styles have been discussed in this paper with examples from English and Korean as representative samples from head-initial and head-final languages.

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