'Magnet'-type Japanese and 'Chain'-type Korean(2) : A Preliminary Study on Linguistic Typology

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Abstract

This research aims to contribute to linguistic typology. Arai (2021) analyzed the behaviors of Japanese and Korean linguistic units and provided a new perspective on the contrastive study between the Japanese and Korean languages. Japanese has a 'magnet'-type linguistic structure, whereas Korean displays a 'chain'-type linguistic structure. The current study further discusses this perspective and applies it to other languages, such as Chinese and English. Furthermore, it intends to derive a 'linguistic magnet/chain' in linguistic typology based on the 'magnet/chain'-type linguistic structures in the linguistic studies on Japanese and Korean. Lastly, it aims to explore the validity of this perspective in linguistic typology.

1. Introduction

The Japanese and Korean languages (henceforth, Japanese and Korean) are typologically similar: both have the so-called subject–object–verb (SOV) structure, are agglutinative, and have honorific systems. These features, however, do not indicate that these languages have the same linguistic structures. For example, although some sentences exhibit the same syntactic structures in Japanese and Korean, one can be used and the other cannot (=(1))[1].

(1J) *kimi-wa kawaii me-da-naa.*
2.SG-TOP cute eye-COP-MRT
'You have cute eyes.' (lit. 'You are cute eyes.')
(1K) **ne-nun yeyppun nwun-i-kwuna.*
2.SG-TOP cute eye-COP-MRT
'You have cute eyes.' (lit. 'You are cute eyes.')

[cited from Ogoshi et al. (2018: 241)]

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Many studies have investigated the differences between Japanese and Korean from various viewpoints. Such contrastive studies have suggested that Japanese is an ambiguous language or has a nominal-oriented structure or an animation-type predication, whereas Korean is a clear language or has a verbal-oriented structure or a slide-type predication[2].

Arai (2021) focused on the linguistic structures behind ellipses in Japanese and Korean. An ellipsis presupposes the existence of certain syntactic and semantic structures that are unpronounced. Notably, from language to language, the type of linguistic units that can be left unpronounced differs. As a result of discussion, scholars suggested that, compared with Korean, Japanese enables ellipsis in many contexts. In other words, in Japanese, the relevant linguistic unit is relatively independent and acts as a magnet piece, which can be detached and rejoined relatively freely. On the other hand, the Korean counterpart is more liable to fuse with other elements and is more difficult to separate, which is similar to a chain. On the basis of this observed aspect in the two languages, Arai (2021) dubbed Japanese and Korean a 'magnet'-type language and a 'chain'-type language, respectively. In this manner, providing a uniform explanation for other differences between the two languages becomes possible.

However, further discussions are necessary. The primary point of discussion is whether this perspective can be applied to other languages. In other words, this study aims to apply this perspective to another field of linguistics, namely, linguistic typology.

The remainder of the paper is structured as follows. Section 2 reviews the notion of 'magnet'-type Japanese and 'chain'-type Korean. Sections 3 and 4 apply the notion to Chinese and English and develop the discussion. Section 5 provides a summary and explores the validity of this perspective of linguistic structures. Lastly, this study will derive the notion of 'linguistic magnet/chain' in linguistic typology based on the magnet/chain'-type linguistic structure in Japanese and Korean.

2. 'Magnet'-type Japanese and 'Chain'-type Korean: A Review

Arai (2021) analyzed ellipses in Japanese and Korean, especially the behaviors of linguistic units and inductively claimed that Japanese and Korean possess a 'magnet'-type and a 'chain'-type structure respectively. In addition, Arai (2021) applied this perspective to other language phenomena and deductively demonstrated the uniform accountability of this model. This section re-explains this model of the linguistic structures of Japanese and Korean. Furthermore, this study groups this model into five aspects, namely, connectivity, independence, connectivity and independence, attachment, and division[3].

2.1. Connectivity

Japanese and Korean have a two-value nominal sentence, which is formulated as 'NP-TOP + NP-COP'. In the case where two nominals have no logical relationship in a two-value nominal sentence, this sentence is called an eel sentence. I observe that eel sentences are used more freely in Japanese than in Korean. Although Japanese can express 'you have cute eyes' using an eel sentence, Korean cannot (=(1)). This phenomenon can be explained by the difference in linguistic structures as follows: 'magnet'-type Japanese can connect linguistic units, such as nouns or noun phrases, more freely using topic markers, whereas 'chain'-type Korean has constraints in such connections.

(1J) **kimi-wa kawaii me-da-naa.**

2.SG-TOP cute eye-COP-MRT

'You have cute eyes.' (lit. 'You are cute eyes.')

(1K) ***ne-nun yeyppun nwun-i-kwuna.**

2.SG-TOP cute eye-COP-MRT

[cited from Ogoshi et al. (2018: 241)]

Furthermore, a difference exists in constraints when placing topic words, although Japanese and Korean are well-known as being topic-prominent languages. In Japanese, the topic word can be placed more freely than it can be in Korean (=(2)). In this case, Japanese sentences formulated as 'NP-TOP + S' are acceptable but Korean ones not. This condition can be re-analyzed from the perspective of 'magnet/chain'-type linguistic structures as follows. The position of a topic word is free, because the linguistic units are independent in 'magnet'-type Japanese. Moreover, the topic word is easier to attach in Japanese than in Korean. Linguistic units, such as nouns, can be easily attached to larger linguistic units, such as sentences. By contrast, the position of a topic word must establish a syntactically close relationship, because linguistic units are fused in 'chain'-type Korean. Notably, the topic word is more difficult to detach and re-attach in Korean than in Japanese. As previously discussed, a difference exists in the connectivity between Japanese and Korean linguistic units.

(2J) **kono nioi-wa** gasu-ga more-teiru.

this smell-TOP gas-NOM leak-PROG

'This smell is from a gas leak.'

(2K) ***i naymsay-nun** kasu-ka say-ko iss-ta.

this smell-TOP gas-NOM leak-PROG-DECL

[cited from Ogoshi et al. (2018:241)]

2.2. Independence

Although Japanese and Korean both allow nominal-final sentences, a difference can be observed in their behaviors. The Korean 'adjective + noun' is not freely used and fixed compared with that of Japanese (=(3)). From the viewpoint of 'magnet/chain'-type linguistic structure, Arai (2021) re-analyze this difference as follows. 'Magnet'-type Japanese can use one linguistic unit (in this case, a noun phrase) more independently than 'chain'-type Korean can because Korean linguistic units are more fusional and more difficult to extract. Thus, the independence also differs between Japanese and Korean linguistic units.

(3J) *kireena hana!*
beautiful flower 'What a beautiful flower!'
(3K) #*cham yeyppun kkoch!*
really beautiful flower

[cited from Ogoshi et al. (2018: 237)]

2.3. Connectivity and Independence

Japanese and Korean are relatively 'free word order' languages. However, they differ in the degree of the free position of adverbs. Japanese adverbs are placed more freely, that is, in sentence-initial or sentence-medial, whereas Korean adverbs tend to be placed before the verb in sentence-medial (=(4)). Moreover, I can apply the notion of the 'magnet/chain'-type linguistic structures to this difference. Linguistic units can be detached and attached freely in 'magnet'-type Japanese. As such, the combination of connectivity and independence in Japanese linguistic units occurs. Conversely, linguistic units can be fused strongly in 'chain'-type Korean because its linguistic units are constrained in terms of connectivity and fusional in independence.

(4J) *(kooen-ni-wa)* <u>*takusan*</u> *hito-ga i-masu.*
(park-LOC-TOP) **many people-NOM be-PLT**
'There are many people in the park.'
(4K) *(kongwen-ey-nun)**<u>*manhi*</u> *salam-i iss-e-yo.*
(park-LOC-TOP) **many people-NOM be-DECL-PLT**
(4K′) *(kongwen-ey-nun) salam-i* <u>*manhi*</u> *iss-e-yo.*
(park-LOC-TOP) **people-NOM many be-DECL-PLT**
'There are many people in the park.'

[summarized from Kim (2015: 65)]

Arai (2021) summarized these behavioral differences between Japanese and Korean linguistic units and illustrated the linguistic structures diagrammatically, as shown in Fig 1.
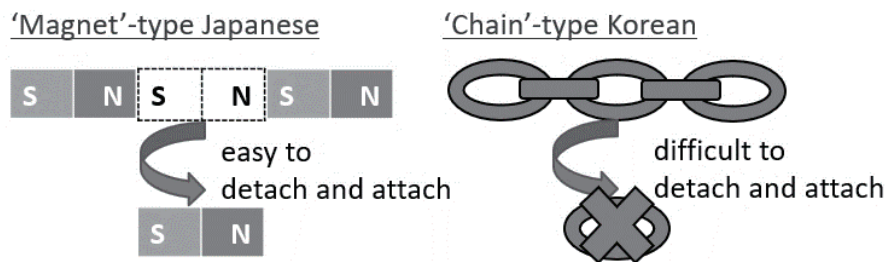

Fig 1. Basic model of 'magnet'-type Japanese and 'chain'-type Korean

2.4. Attachment

This model of linguistic structure cannot only explain the behavioral differences in connectivity and independence. Thus, this subsection focuses on attachment. Tsukamoto (2012) analyzed the differences in morphological and syntactic structures between the two languages. He demonstrated that Japanese has an ambiguous border between words and sentences/clauses, whereas the border of Korean is clear. Arai (2021) take an example from his study as follows: the Japanese '*tekina* [like]' can be placed after words and after sentences (=(5J)), whereas the Korean '*cekin* [like]' can be placed only after words (=(5K)). In an attempt to express Korean text that is similar in meaning to Japanese (5J), the sentence should be regarded as one word using quotation marks and placing '*wa kathun* [COM + same (=seem)]' (=(5K')). This finding suggests that words and clauses/sentences comprise an ambiguous border in Japanese but a clear border in Korean. Moreover, this behavioral difference in Japanese and Korean linguistic units can be compared to the 'magnet/chain' as follows. In 'magnet'-type Japanese, more than two linguistic units connect with one another, and the linguistic unit becomes similar to the original linguistic units. This notion can be formulated as '$N_i \infty$ NP/S containing N_i'. However, the opposite is true for Korean. This phenomenon is presented as if the attachment of magnets generates a larger, similar magnet whereas the attachment of chains does not generate a similar chain. The new chain is longer than the original chains but different. Fig 2 provides a diagram to represent this attachment.

(5J) *utagawasiki-wa bassuru-tekina* hoodoo
suspicious-TOP punish-like report 'the report that suspicious people are punished'
(5K) ***uysimsulewun kes-un pelha-n-ta-cekin* poto
suspicious thing-TOP punish-PRS-DECL-like report

(5K′) *'uysimsulewun kes-un pelha-n-ta'-wa kathun poto*

'suspicious thing-TOP punish-PRS-DECL'-COM same report

'the report that suspicious people are punished'
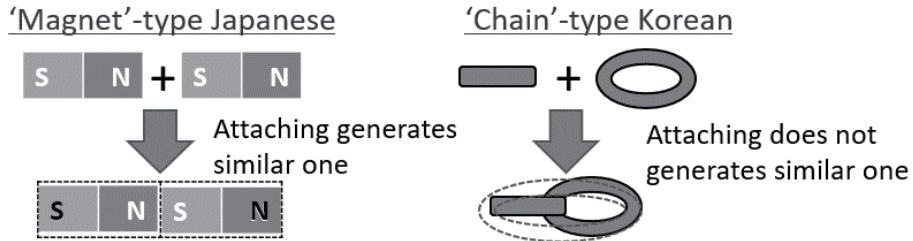
[summarized from Tsukamoto (2012: 310)]

Fig 2. Attachment model of 'magnet'-type Japanese and 'chain'-type Korean

2.5. Division

This section covers adjective stem expressions. Spoken Japanese can express mirativity using only adjective stems but Korean cannot in principle (=(6)). This difference can be compared to the difference between 'magnet' and 'chain' as follows. 'Magnet'-type Japanese can divide one linguistic unit into more than two smaller units but 'chain'-type Korean cannot. This phenomenon indicates that magnets can be divided, where the division of magnets generates smaller magnets, but not the parts of chains. If they can be divided, then no new parts of chains can be generated. Fig 3 illustrates this division.

(6J) *atu-i/∅*

hot-PRS/∅ '(It is) hot!'
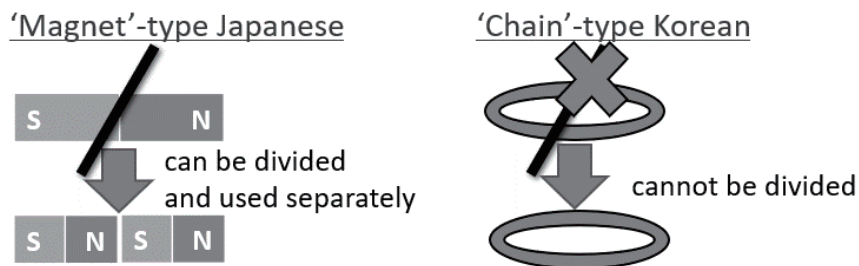
(6K) *ttukep-ta/*∅*

hot-DECL/∅ '(It is) hot!'

Fig 3. Division model of 'magnet'-type Japanese and 'chain'-type Korean

2.6. Section Summary

This section provided an overview of the Japanese 'magnet'-type linguistic structure and Korean 'chain'-type linguistic structure from five aspects with a focus on behavioral differences in both linguistic units. Table 1 summarizes these differences. This model of 'magnet/chain'-type linguistic structures can explain several differences between Japanese and Korean languages in a uniform manner.

Table 1. Differences between Japanese and Korean linguistic units

Japanese		Korean
◯	Connectivity	✕
◯	Independence	✕
◯	Connectivity and Independence	✕
◯	Attachment	✕
◯	Division	✕

◯ = possible; ✕ = (nearly) impossible

Although Arai (2021) clarified these linguistic structures from perspective of a contrastive study between Japanese and Korean, can this notion be applied to other fields of linguistics? In Sections 3 and 4, this study will expand this notion to two languages, namely, Chinese and English. Moreover, this study will explore the validity of this model of linguistic structures in linguistic typology.

3. Applicability to Chinese

Section 2 provided an overview of the Japanese 'magnet'-type and Korean 'chain'-type linguistic structures. This perspective may explain the differences between Japanese and Korean in a uniform manner. Sections 3 and 4 discuss the applicability of this perspective to other languages by comparing the translations of original Japanese and Korean sentences cited in the previous section[4]. In this section, I will first address the Chinese language, which will be followed by an analysis of the English language in the next section (henceforth Chinese and English). Lastly, this study aims to establish the 'linguistic magnet/chain' structure in linguistic typology.

China belongs to the Chinese character cultural sphere as well as Japan and Korea in East Asia. However, the Chinese language possesses features that differ from the features of Japanese and Korean. The Chinese language is classified as an isolating language, where each word contains a single morpheme. In addition, whereas Japanese and Korean are agglutinative languages and have the SOV structure, it has the so-called subject–verb–object (SVO) structure.

(7C) *wo suoyou de pengyou dou **yao chi** ji dan.*

I all GEN friend all **want eat** chicken egg 'My friends all want to eat eggs.'

Then, what types of results will be obtained if the notion of 'magnet/chain'-type linguistic structures is applied to Chinese? This study will discuss the linguistic structure of the Chinese language from the five aspects examined in Section 2.

Chinese is an SVO language. Therefore, two-value nominal sentences are generated by placing a copula '*shi*' between two nominals, which can be formulated as follows: 'NP *shi*[COP] NP'. From the aspect of connectivity, Chinese cannot connect nominals as freely as Japanese, which is similar to Korean. In this case, using '*you*[have]' (=(1)). However, in the case of connecting a nominal and a sentence, the result is different. Chinese can connect a nominal and a sentence as freely as Japanese, differently from Korean (=(2)). For example, 'NP *shi*[COP] S' is acceptable, whereas 'NP *shi*[COP] NP' has constraints. In other words, Chinese is intermediate between Japanese and Korean in terms of connectivity.

(1C) ***ni shi haokan de yanjing.***

2.SG COP cute GEN eye

(1C′) *ni **you** haokan de yanjing.*

2.SG **have** cute GEN eye 'You have cute eyes.'

(2C) ***zhe qiwei shi** meiqi zai lou.*

this smell COP gas PROG leak 'The smell is from a gas leak.'

This section addresses independence. Chinese allows nominal-final sentences, similar to Japanese and Korean. However, a difference in behaviors can be also observed. The Chinese 'adjective + noun' is not freely used compared with Japanese but similar to Korean (=(3)). By contrast, in the case of the 'NP *shi*[COP] NP' construction, Chinese can accept complex and free constructions similar to Japanese and compared with Korean (=(8)). In other words, Chinese is also intermediate between Japanese and Korea from the aspect of independence.

(3C) *#haokan de hua!*

beautiful GEN flower

(8J) *koko-wa kamisama-no iru kamaboko koozyoo!*

here-TOP god-GEN live Kamaboko factory

'This place is the Kamaboko factory where God lives!'

(8K) *kuke-n way?*

that-TOP why 'Why is it so?'

[cited from Ogoshi et al. (2018: 237)]

(8C) *zheli shi you shen de yugao gongchang!*

here COP have god GEN Kamaboko factory

'This place is the Kamaboko factory where God lives!'

Let us revisit the combination of connectivity and independence and discuss the translation of (4), where Japanese can place adverbs on two positions, namely, sentence-medial and sentence-initial but Korean cannot. '*Gongyuan li you hen duo ren* (park inside have very many people) [There are many people in the park]' is grammatically correct and acceptable as a Chinese translation. However, in this case, '*hen duo* [very many]' is an adjective, not an adverb. Therefore, other examples should be cited to illustrate the positions of adverbs. This study discuss the position of the temporal adverb '*jingchang* [frequently]' instead of the quantitative expression '*hen duo* [very many]'. In addition, Japanese can place temporal adverbs on both positions but Korean cannot[5].

The Chinese adverb '*jingchang* [frequently]' can only be placed before the verbal phrase '*zuo youxi* [do play]' and it cannot be put on the preposition of the subject. I rephrase that the Chinese adverb '*jingchang* [frequently]' cannot be put on the sentence-initial position. This case of Chinese is similar to that of Korean. Therefore, Chinese cannot freely attach and detach linguistic units. This combination of connectivity and independence are unacceptable in Chinese, which is similar to 'chain'-type Korean.

(4C) *(gongyuan li) *jingchang renmen zuo youxi*.

(park inside) **frequently people do play**

(4C′) *(gongyuan li) renmen jingchang zuo youxi.*

(park inside) **people frequently do play** 'People frequently play (in the park).'

In terms of attachment, 'magnet'-type Japanese can connect more than two linguistic units and generate a larger linguistic similar to the original linguistic units. This notion can be formulated as '$N_i \backsim NP/S$ containing N_i'. By contrast, the opposite is true for 'chain'-type Korean. In the case of Chinese, the genitive marker '*de*' can be used not only between the nouns exemplified as '*wo de shu* (1.SG GEN book) [my book]' but also between the sentence and noun exemplified

as '*wo mai de shu* (1.SG buy GEN book) [the book which I buy]' . The Chinese '*de*' can generate not only the genitive form but also the attributive form. Thus, the Chinese translation of (5) is acceptable. Scholars suggest that the border between word and clause/sentence is ambiguous in Chinese, which is similar in Japanese.

(5C) *chengfa you xianyi de ren de* baodao

punish have suspicion GEN people GEN report

'the report that suspicious people are punished'

Lastly, I consider division. An adjective stem can express mirativity in spoken Japanese language in contrast with Korean. Chinese retains the predicate form or uses no inflectional forms. Therefore, the adjective stem does not exist and cannot express mirativity. The adjective '*re* [hot]' in the Chinese translation of (6) is unable to extract the part of syllables because it is one syllable. However, extracting the first syllable from two-syllable adjectives cannot make a sentence (=(6)). In this point, Chinese is similar to Korean but not Japanese.

(6C) *piaoliang/*piao-ϕ*

beautiful/beau-∅ '(It is) beautiful!'

Table 2 provides a diagrammatic summary of the content of this section. In certain points, Chinese is similar to Japanese but in some other points similar to Korean. Therefore, Chinese is intermediate between Japanese and Korean from the viewpoint of the 'magnet/chain'-type linguistic structure.

Table 2. Differences between Japanese, Korean, and Chinese

	Japanese	Chinese	Korean
Connectivity	◯	△	×
Independence	◯	△	×
Connectivity & Independence	◯	×	×
Attachment	◯	◯	×
Division	◯	×	×

◯ = possible; △ = partially possible; × = (nearly) impossible

4. Applicability to English

Next, this study addresses English from the perspectives of 'magnet'-type Japanese and 'chain'-type Korean. In contrast to Japanese, Korean, and Chinese, English is a fusional language,

which changes the form or ending of certain words when the manner in which they are used in sentences changes. In addition, whereas Japanese and Korean follow the SOV structure, English has the so-called SVO structure as Chinese does.

(9E) *He **loves** her.*
3.SG.NOM **love.3.SG.PRS** 3.SG.ACC

This study applies the five aspects of the 'magnet/chain'-type linguistic structures to English and discuss connectivity by analyzing two-value nominal sentences. I place a copula between two nominals to make two-value nominal sentences, because English is an SVO language. In the case of (1E), the present form '*are*' is used in accordance with the nominative '*you*', which represents the second person. However, this sentence is not understandable by itself. Thus, '*have*' should be used to clearly indicate that the second person '*you*' owns beautiful eyes (=(1E′)). The copula cannot be used to connect two nominals in the case where two nominals lack a logical relationship. English cannot connect nouns as freely as Japanese. It is similar to Korean and Chinese (=(1)). Furthermore, if I connect a nominal and a sentence with a copula, then the help of the complementizer '*that*' may be required between the positions of a copula and a sentence in English. However, the 'NP + COP + *that*[COMP] S' construction is unacceptable in the case of (2E). If I express this sentence, then a nominal and a prepositional phrase should be connected with a copula (=(2E′)). Seemingly, English has constraints in connecting a nominal and a sentence, which is similar to Korean but not Japanese and Chinese. In terms of connectivity, English has more constraints than Japanese and Chinese and as many constraints as Korean.

(1E) **You **are** cute eyes.*
2.NOM **COP.2.PRS** cute eye.PL
(1E′) *You **have** cute eyes.*

(2E) **This smell is **that the gas is leaking**.*
this smell COP.3.SG.PRS **COMP the gas COP.3.SG.PRS leak.PRG**
(2E′) *This smell is **from a gas leak**.*

In terms of independence, English has nominal-final sentences, which is similar to other languages. I clarified that the English 'adjective + noun' is less freely used in contrast with Japanese but similar to Korean and Chinese, if I compare each nominal-final sentence in other languages (=(3)). In this case, English uses an exclamatory sentence, such as '*What a beautiful flower!*'.

Alternatively, English can accept more complex and more free 'NP + COP + NP' constructions similar to Japanese but in contrast with Korean (=(8)). This result is similar to Chinese. In other words, English is intermediate between Japanese and Korean but similar to Chinese from the perspective of independence.

(3E) *#Beautiful flower!*
beautiful flower

(8E) *This place is the Kamaboko factory where God lives!*
This place COP.3.SG.PRS the Kamaboko factory REL God live.3.SG.PRS

　　　　Next, I consider the combination of connectivity and independence. If I express the English translation of the original (4), it is then generally expressed using there-constructions, such as '*There are many people (in the park)'*. However, I will discuss whether English can place the adverb on the sentence-medial and sentence-initial similar to a magnet that can be attached and detached freely. Therefore, I consider the case of a temporal adverb, such as that discussed in the previous section regarding Chinese. The discussion clarified that English can place an adverb not only on the preposition of the verb, that is, the original position (=(4E)), but also on the preposition of the noun, that is, the sentence-initial (=(4E′)). Scholars suggested that English can detach a linguistic unit and attach it to a different part. Thus, the combination of connectivity and independence is acceptable in English, which is similar to 'magnet'-type Japanese.

(4E) *People <u>frequently</u> play (in the park).*
people frequently play.3.PL.PRS (LOC the park)
(4E′) *<u>Frequently</u> people play (in the park).*
frequently people play.3.PL.PRS (LOC the park)

　　　　In terms of attachment, 'magnet'-type Japanese can generate larger linguistic units similar to original ones from more than two linguistic units. However, the opposite is true for English, which is similar to 'chain'-type Korean. English requires the use of different expressions when a sentence modifies the noun compared with when a word does it. Taking the translation of (5) as an example, '*as*' can be used when a certain noun modifies another noun. I cannot place sentences after '*as*' (=(5E)) and need to use a relative '*that*' instead of '*as*'. Clearly, English differentiates a word from a sentence at the point of the modifier. This aspect is similar to Korean but differs from Japanese and Chinese. In other words, attachment does not exist in English.

(5E) *the report **as suspicious people are punished**

the report **as suspicious people COP.3.PL.PRS punish.PASS**

(5E′) the report **that suspicious people are punished**

the report **REL suspicious people COP.3.PL.PRS punish.PASS**

For division, English adjectives retain their predicate form but change the form of the copula at the post-position of adjectives according to person, tense and number, among others. Therefore, the adjective stem does not exist in English, similar to Chinese. In addition, I cannot extract certain syllables from an adjective that contains more than two syllables. The adjective '*hot*', which is the English translation of the original (6), is a one-syllable word. Thus, I will take '*beautiful*', which has more than two syllables, as an example. A well-known notion is that extracted syllables have no sense (=(6E)). Thus, English is similar to Korean and Chinese in terms of division.

(6E) *Beautiful!/*Beauti-ϕ!*

beautiful/beauti-∅

Table 3 provides a diagrammatic summary of the content of this section. The discussion indicated that Chinese is intermediate between Japanese and Korean from the viewpoint of the 'magnet/chain'-type linguistic structure. In addition to the three languages, I considered English. The results elucidated that not only Chinese but also English is intermediate between Japanese and Korean. However, concrete behaviors differ between Chinese and English. Specifically, Chinese is more similar to 'magnet'-type Japanese. By contrast, English is more similar to 'chain'-type Korean.

Table 3. Differences between Japanese, Korean, Chinese, and English

	Japanese	Chinese	English	Korean
Connectivity	◯	△	×	×
Independence	◯	△	△	×
Connectivity & Independence	◯	×	◯	×
Attachment	◯	◯	×	×
Division	◯	×	×	×

◯ = possible; △ = partially possible; × = (nearly) impossible

5. Conclusion

This study provided an overview of the Japanese 'magnet'- and Korean 'chain'-type linguistic structures (Arai 2021). This perspective of 'magnet/chain'-type linguistic structures can be divided into five aspects, namely, connectivity, independence, combination of connectivity and independence, attachment, and division. This study applied these aspects to other languages, namely, Chinese and English, by analyzing the translations. In this manner, the current study contributed to linguistic typology. The discussion elucidated that several differences exist in the behavior of each aspect. Chinese and English are intermediate between 'magnet'-type Japanese and 'chain'-type Korean. Looking closely at these two languages, however, Chinese is more similar to Japanese, whereas English is more similar to Korean (Table 3). Although this perspective of the 'magnet/chain'-type linguistic structures was offered from a contrastive study on Japanese and Korean, the possibility exists that it can explain the universality and diversity among the languages in a uniform manner from the viewpoint of linguistic typology. Japanese is the most 'magnet'-type language among the four languages, followed by Chinese and English, whereas Korean is the most 'chain'-type language. Thus, the study expanded the perspective of the 'magnet/chain'-type structures in Japanese and Korean to the 'linguistic magnet/chain' and contributed to linguistic typology.

In addition, I focused on the differences among the five aspects in the 'magnet/chain'-type linguistic structures. Table 4 illustrates a rearrangement. Particularly, independence is possible or partially possible in all languages except Korean. By contrast, division is possible only in Japanese. The combination of connectivity and independence is possible in Japanese and English. Although attachment is possible in the two languages, similar to the combination of connectivity and independence, it is possible in different languages. Attachment is observed in Japanese and Chinese. In addition, connectivity is possible or partially possible in Japanese and Chinese. Independence is the most observed aspect, followed by the combination of connectivity and independence, attachment, and connectivity. Lastly, division is the least observed aspect. Although Table 4 did not indicate the clear hierarchal relationship among the five aspects, the result suggested that these aspects work differently in the 'linguistic magnet/chain'.

Table 4. Four languages viewed from 'linguistic magnet/chain' perspective

	Magnet ⟵		⟶ Chain	
	Japanese	**Chinese**	**English**	**Korean**
Independence	○	△	△	×
Connectivity and Independence	○	×	○	×
Attachment	○	○	×	×
Connectivity	○	△	×	×
Division	○	×	×	×

○ = possible; △ = partially possible; × = (nearly) impossible

Evidently, several problems remain, such as the consideration of other languages. Additionally, this study discussed only a few translations, which can be considered a limitation. Therefore, detailed studies on each language and its phenomena are necessary. What was presented in this research note offers a chance to consider languages from this new perspective. As such, further discussions are required to elucidate the notion of the 'linguistic magnet/chain'.

Acknowledgements

Notes

1) For transliteration of languages apart from English, the romanizations are used as follows.
Japanese: *Kunrei* romanization, Korean: Yale romanization, Chinese: *Pinyin* romanization (without tone marks)
Additionally, the initials displayed with numbers in the sample sentences indicate the following languages.
J: Japanese, K: Korean, C: Chinese, E: English.
2) These studies are reviewed in Arai (2021).
3) This section largely follows Arai (2021). However, many English translations were changed with the help of a native speaker. In addition, several linguistic glosses were changed for illustrative purposes.
4) Certain parts use other sentences, not translations for illustrative purposes. I will add explanations.
5) In the case of temporal adverbs, the results are obtained similarly to the case of quantitative adverbs as follows.
(4J′) *(kooen-de-wa)* **_itumo_ _hito-ga_ _asobi-masu_**.
(park-LOC-TOP) **frequently people-NOM play-PLT** 'People frequently play (in the park).'
(4K″) *(kongwen-eyse-nun)* **_*cacwu_ _salam-i_ _nol-a-yo._**
(park-LOC-TOP) **always people-NOM play-DECL-PLT**
(4K‴) *(kongwen-eyse-nun)* **_salam-i_ _cacwu_ _nol-a-yo._**
(park-LOC-TOP) **people-NOM frequently play-DECL-PLT** 'People frequently play (in the park).'

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Abbreviations

1 first person, 2 second person, 3 third person, ACC accusative, COM comitative, COMP complementizer, COP copula, DECL declarative, GEN genitive, LOC locative, MRT mirative, NOM nominative, PASS passive, PL plural, PLT polite, PROG progress, PRS present, REL relative, SG singular, TOP topic