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Dimensions of honorific meaning in Korean speech style particles

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In this paper we analyze a set of sentence final particles in Korean that express information on clause type and on the relation between speaker and addressee. Our focus is the latter type of information, known as SPEECH STYLE; we argue that it involves two distinct dimensions, hierarchy and formality. Hierarchy expresses the respective position of speaker and addressee relative to a scale based on a certain social relation (for example, boss-subordinate). We argue that formality is a way of classifying the social relation that forms the basis, or source, for the hierarchical relation. We extend the PARTICIPANT STRUCTURE ANALYSIS of hierarchy from Portner, Pak, and Zanuttini (2019) to capture formality in a way that explains not only how the two dimensions are distinct, but also how they are related.

1 Introduction

One well-known yet striking property of Korean is that every sentence ends with a sentence final particle. Such sentence final particles can be seen as the grammatical encoding of two types of meaning. On the one hand, they convey information about CLAUSE TYPE: they tell us whether a sentence is a declarative, an interrogative, an exclamative, or an imperative. On the other hand, they also give us information about the relation between the speaker and the person that the speaker is addressing, which we will refer to as the *interlocutor* or *addressee*. In the Korean linguistic tradition, this type of information goes under the label of SPEECH STYLE or SPEECH LEVEL.

In this work, we will focus on speech style. One way to let the information about speech style stand out is by keeping the clause type constant. When we do this, we can clearly see meaning differences among particles that have to do with speech style only. This allows us to ask whether the notion of speech style should be further dissected — which is exactly what we will do in this paper. In (1) we show three particles that mark their clause as interrogative:

(1)　　a.　o-si-ess-**supnikka**?
　　　　　come-HON-PAST-INT.DEFERENTIAL
　　　　　'Did you arrive?'

　　　　b.　o-si-ess-**eyo**?
　　　　　come-HON-PAST-INT.POLITE
　　　　　'Did you arrive?'

　　　　c.　o-ass-**ni**?
　　　　　come-PAST-INT.PLAIN
　　　　　'Did you arrive?'

While they all mark the sentence as interrogative, each particle marks a different speech style. The so-called DEFERENTIAL STYLE particle in (1a), *-supnikka*, conveys that the speaker is lower than or equal to the addressee along some dimension (an office worker speaking to the boss, for example) and it is typically used in settings that can be described as 'formal'. (Examples of how each particle is used will be given below.) The so-called POLITE STYLE particle that we see in (1b), *-eyo*, also conveys that the speaker is lower than or equal to the addressee along some dimension; however, unlike the deferential style particle, it is used in informal settings. In other words, the contribution of the particles in (1a) and (1b) differs minimally in relation to formality. Finally, the so-called PLAIN STYLE particle in (1c), *-ni*, conveys that the speaker is (not lower than, but rather) higher than or equal to the addressee along some dimension, and is used in informal situations. So, (1c) minimally contrasts with (1b) in expressing a different relation

between speaker and addressee along a hierarchical dimension. Overall, we see that particles can differ from one another only in hierarchy, only in formality, or in both.

The semantic analysis that we will provide for hierarchy and formality can be expressed informally as follows:
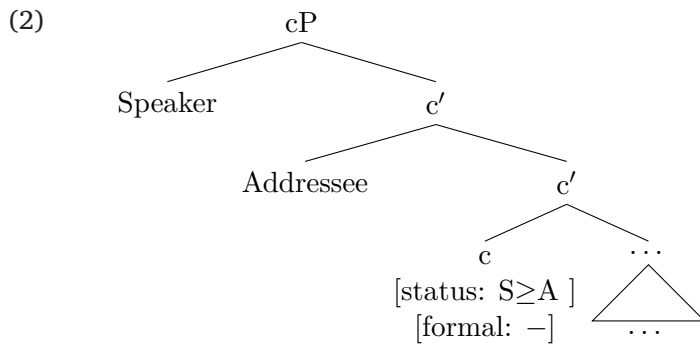
- **Hierarchy** concerns the hierarchical relation between speaker and addressee, along some socially relevant scale (e.g. seniority, age, kinship, etc.)
- **Formality** has to do with the type of relation between the interlocutors that is highlighted in a given conversation.

Our approach is related to notions like "respect", "deference", and "honorificity" invoked in previous work on Korean (Ahn 2002; Choe 2004; Choi 2010), but it is more precise and leads us to a better understanding of how these concepts are built up from different aspects of the context. Specifically, the present paper differs from the previous literature, including our own previous work, in that it gives a detailed analysis of formality. Though formality has figured as a syntactic feature in some previous analyses of Korean (Yun 1997; Kim-Renaud & Pak 2006, a.o.), as far as we know our theory is the first to provide a detailed model of formality within semantics/pragmatics. Through this analysis of speech style, our work connects to research on honorification and allocutivity, and it thus makes a contribution to the more general topic of the grammatical representation of social meaning.

Our work is relevant not only to issues in semantics and pragmatics but also to proposals concerning the representation of speaker and addressee in syntax. The basic idea that speech acts, including the speech act participants *speaker* and *addressee*, are represented at an abstract level in the syntactic representation goes back at least to Katz & Postal (1964) and Ross (1970). This insight has been revived, building on Rizzi's (1997) and Cinque's (1999) influential proposals that clausal structure consists of multiple layers, some of which encode notions like topic, focus and force, previously considered outside the syntax. A number of authors have suggested that speaker and addressee are encoded in the syntactic representation, and provided evidence for this from different empirical domains (cf. Speas & Tenny 2003; Sigurðsson 2004; Bianchi 2006; Zanuttini 2008; Miyagawa 2012; Zanuttini et al. 2012; Haegeman 2014; Haegeman & Hill 2013; Hill 2014; Alok & Baker 2018; Haddican 2018; Alok & Baker 2019; Portner et al. 2019; Alok 2020; Alok & Baker 2022, among others). The present work builds on the insights of this family of proposals, and in particular on our previous work Portner, Pak, and Zanuttini (2019), in that it assumes the existence of a functional head *c* that takes speaker and addressee as its arguments:[1]

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[1] In Portner et al. (2019), we use 'Interlocutor' instead of 'Addressee', because we are concerned with the distinction between specific and non-specific addressee.

(2)

```
           cP
         /    \
   Speaker     c′
             /    \
      Addressee    c′
                 /    \
                c      ...
       [status: S≥A ]   /\
       [formal: −]     /__\
                        ...
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The most significant difference between the proposal in Portner et al. (2019), which we assume here, and previous ones is the relational semantics assigned to *c*. In this approach, *c* expresses the relation between its arguments, i.e. the speaker and addressee in root clauses. We will see that it provides a suitable framework for the semantic/pragmatic analysis of the contribution of speech style particles.

Our paper is organized as follows. In Section 2 we provide some basic information about the particles under discussion and describe the different speech styles found in Korean. In Section 3, we discuss the two dimensions of meaning that make up speech style, namely hierarchy and formality, and highlight their dynamic nature. In Section 4 we put forth our semantic/pragmatic proposal, which builds on and extends the PARTICIPANT STRUCTURE ANALYSIS of Portner, Pak, and Zanuttini (2019). We also discuss another semantic/pragmatic analysis of formality that has been proposed in the literature, the EXPRESSIVE INDEX ANALYSIS of McCready, and argue that it has difficulty accounting for the richness of meaning that characterizes speech style particles in Korean. Finally, in Section 5, we offer concluding remarks and raise some issues for future work.

2 Overview of speech style in Korean

In this section, we start by discussing the different labels used for the particles that we investigate and provide an informal description of the various speech styles found in Korean.

As mentioned in Section 1, all sentences in Korean must end with a particle. These particles are associated with a number of grammatical functions and meanings, and are referred to with a number of different labels. They are sometimes called 'sentence final particles' (or 'sentence end particles') because they have the function of marking the end of a sentence. They are also called 'clause-typing particles', because they mark each sentence as belonging to a certain clause type (declarative, interrogative, imperative, etc.). Others call them 'speech style particles' for their function of marking the relation between the speaker and addressee. Since the term 'speech

style' roughly covers the meanings of hierarchy and formality that we argue to be crucial to understanding their meaning and use, we adopt this label, namely SPEECH STYLE PARTICLES.[2]

The speech style particles of Korean mark a sentence as belonging to a certain 'speech style'. The literature on Korean is divided on exactly how many speech styles need to be distinguished, with some linguists arguing for as few as two – honorific and non-honorific (Choo 2006) – and others as many as six (Martin 1992; Suh 1996; Sohn 1999; Pak 2008; Brown 2011).[3]

What follows is a brief description of the various speech styles, based on a six-way classification (modified slightly from Pak 2008):

- The *deferential style*, also commonly known as the *formal style*, is used to express the speaker's deference to an addressee who is of higher social status, such as a high official, a professor, one's employer or superior, etc. It can be used between two individuals of the same status in heavily formal situations, such as the presidents of two companies in a business meeting. It is the only style used in certain formal occasions and interactions, such as news broadcasting, job interviews and public lectures. It can be intermixed with the polite style.
- The *polite style* is very commonly used by both adults and children in daily conversations. Adults use this style to strangers and also to familiar people, and children use it to address adults in a polite manner. This style can also be adopted by people regardless of age difference to express politeness. Hence, adults can use it when talking to children to treat them politely. When talking to someone who is socially superior in non-official and informal settings, it can interchangeably be used with the deferential speech style.

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[2] The honorific system in languages like Japanese and Korean distinguishes two different classes:

- 'performative honorifics' (Harada 1976), also called 'addressee/hearer honorifics' (Comrie 1976), 'utterance honorifics' (McCready 2019), or 'utterance-oriented markes of politeness' (Portner et al. 2019): they index the relation between the speaker and addressee of the utterance.
- 'propositional honorifics' (Harada 1976), also called 'referent honorifics' (Comrie 1976), 'argument honorifics' (McCready 2019) or 'content-oriented markers of politeness' (Portner et al. 2019): they index the relation between the speaker of the utterance and the referent(s) of the subject or object noun phrase ('subject honorifics' and 'object honorifics', respectively).

The speech style particles belong to the first class, as they index the relation between speaker and addressee. In conveying such information, they are similar to allocutive markers in Basque (Oyharçabal 1993; Miyagawa 2012; Haddican 2018 a.o.), Magahi (Alok & Baker 2019; Alok 2021; Alok & Baker 2022), Tamil (McFadden 2020), and other languages.

[3] While Choo (2006) claims that there are only two types of speech styles, honorific and non-honorific, these are further classifed into heavily formal, gently formal, soft casual and non-conversational or plain casual. Different number of styles are proposed by Kwon (1992), who gives three speech styles (Hierarchy 1, 2, and 3) and by Nam (2001), who argues for four speech levels (very polite, polite, low, and very low).

- The *semiformal style* (also sometimes referred to as *blunt style*) is hardly used nowadays and is gradually disappearing from daily usage. It is a special style used by middle aged or elder male speakers when talking to another man (or men) of similar age. Sometimes it is used by a husband of the aforementioned age group speaking to his wife in a polite manner.
- The *familiar style* is generally used by a male adult to a younger male or to their son-in-law, or between older men who became friends in adulthood. This speech style is less widely used by women.
- The *intimate style* (a.k.a. *half-talk style*) is commonly used between people who are in a close relationship to one another. It is used by both children and adults. It conveys closeness and is typically used among family members and close friends without regard to hierarchy. This style is frequently intermixed with the plain or polite style in casual speech.
- The *plain style* is usually adopted by adults to speak to children and younger siblings, and between intimate friends. Hence, in terms of hierarchy it is used by a speaker who is either equal to or higher than the addressee. It is also often used in self-directed exclamative sentences and monologues. But its most typical use is in written texts such as personal journals, as well as professional expositions, essays, and newspapers, i.e., writings for general readers.

As mentioned in Section 1, speech style involves two separate but interrelated dimensions of meaning, namely hierarchy and formality. The relevance of hierarchy is explicit in the descriptions above,[4] but formality may be less clear. Traditionally, the deferential, semi-formal, familiar, and plain styles are classified as formal, while the polite and intimate styles are considered informal (Martin 1992; Suh 1996; Sohn 1999; Choo 2006; Kim-Renaud & Pak 2006; Pak 2008; Brown 2011). In the case of the deferential style, for example, the reason for this classification is clear; it is considered formal because of the fact that it is typically used in job interviews and public lectures. But why is the pattern of usage we see with the familiar style, which is described in terms of the identities of the interlocutors (rather than the setting), considered formal? In Sections 3.2 and 4.2, we provide an analysis of the meaning conveyed by the use of (in)formal styles. Our analysis aligns in a general way with the traditional classification, but it provides a more precise explanation of the nature of formality that focuses on the speaker-addressee relation in context (rather than the setting of the conversation).

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[4] We assume that the intimate style, which does not make distinctions of hierarchy, marks the neutral relation "speaker is below, equal to, or higher than the addressee", notated below as *S~A*. It could also be considered to not mark hierarchy at all; this way of looking at it would also be in accord with our point that hierarchy and formality are separate features of meaning.

The two dimensions of meaning that we use to analyze speech style are closely related to ideas in the pragmatics literature. The classic work of Brown & Gilman (1960) uses the term 'power' and 'solidarity' to discuss different forms of second person pronouns, while Brown & Levinson (1987) calculate the weight of face threatening acts on the basis of 'power' and 'distance'. Power is related to our concept of hierarchy and solidarity/distance to formality. We see our terms as more descriptive of the way that speech style particles are used in Korean; for example, an individual with more power but lower on a social scale like age would typically use the form indicating the relative position in that hierarchy, and in Section 3.3 we see a case where the use of familiar style goes along with a close but formal relation. Nevertheless, we think that it is useful to keep in mind the connections to concepts that have been used extensively in pragmatics, sociolinguistics, and sociology.

3 Dimensions of speech style: Hierarchy and formality

There are some works in the literature on honorifics that recognize the two dimensions of meaning that speech style particles express, those of hierarchy and formality (Yun 1997; Choo 2006; Kim-Renaud & Pak 2006, a.o.). While these works agree on the hierarchy expressed by each speech style particle, they have different views on which speech styles mark formality and which do not (these papers are of a more theoretical nature, and don't fall under the "traditional" view mentioned above).

For example, Choo (2006) classifies speech styles broadly into two types, honorific and non-honorific, based on the hierarchical relation between the speaker and addressee. The deferential and polite speech styles belong to the honorific category and the intimate and plain styles to the non-honorific category. Further distinguishing these to a more fine-grained classification based on formality, she claims that the deferential and polite styles are formal, with the deferential style being "heavily formal" and the polite style being "gently formal". The intimate and plain styles, on the other hand, are informal; she specifically labels them "soft casual" and "non-conversational/plain casual", respectively. This contrasts with Yun (1997) and Kim-Renaud & Pak (2006) who argue that the deferential and plain styles are formal, while the polite and intimate styles are informal.[5] These works, despite their differences, share our intuition that speech style is not only about hierarchy.[6] In what follows, we will discuss hierarchy and formality in more detail, with specific illustrations of speech style particles used in various conversational situations.

[5] Yun (1997) and Kim-Renaud & Pak (2006) propose syntactic features ($[\pm \text{Formality}]$ and $[\pm \text{Formal}]$, respectively) to represent the meaning component related to formality that is expressed by speech style particles.

[6] Kim-Renaud & Pak (2006) specifically states "We propose that they [speech style particles] reflect the relationship in two dimensions, power and solidarity, meaning (respectively) hierarchy and intimacy or familiarity between the speaker and the addressee, following Brown and Gilman (1960)." (p. 552) It is further suggested that solidarity, intimacy or familiarity can be represented in syntax with $[\pm \text{Formal}]$ feature, suggesting that they are more or less similar to the meaning that we refer to as 'formality' in this paper. See Kim-Renaud & Pak (2006) for more details.

3.1 Hierarchy

Let us first consider HIERARCHY. In our view, this notion has to do with the relative position of speaker and addressee along a scale determined by some social factor, such as seniority (at school or work), age, or kinship. The speaker may be higher than, equal to or lower than the addresee on such a scale. For example, on a scale determined by age, the speaker may be higher (older), lower (younger) or equal to (of the same age as) the addressee. Similarly, on a scale determined by kinship, the speaker could be higher (for example, a parent talking to a child), lower (a child talking to a parent) or equal to the addressee (a sibling talking to a sibling).

Consider the examples in (3), where seniority in grade at school (which usually correlates with age) determines the hierarchical relation between speaker and addressee:

(3)   a.   senpay-**nim**,   **ce**-to   ka-to toy-**eyo**?
              senior-ADD.HON, I.HUMBLE-too go-ok-INT.POLITE
              'Senior, can I come too?' (younger student talking to an older one)

      b.   kulay,   **ne**-to   o-**ala**.
              yes,   you.PLAIN-too come-IMPERATIVE.PLAIN
              'Yes, you come too!' (older student talking to a younger one)

(3a) is an utterance that is appropriate if spoken by a student in a lower grade to one in a higher grade. In this example, there are a number of elements that illustrate the speaker's status relative to the addressee, namely *senpaynim*, *ce* and *-eyo*, bolded in the sentence; they all express that the speaker has lower status than the addressee. The 1st person pronoun *ce*, in the subject position, is the humble form of the pronoun. The vocative noun, *senpaynim*, with the honorific address particle *-nim*, shows that the addressee is someone of a higher status.[7] The sentence final particle, *-eyo*, is the polite speech style particle that is usually adopted by a speaker of lower status.[8,9] In

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[7] In this paper, we focus on speech style particles and do not attempt to analyze all of these other forms indicating hierarchy. It is an open question whether they are to be modeled in precisely the same way. Portner et al. (2019) argue that the form of a second person pronoun in Italian is determined by the same features in *c* that are realized in Korean as speech style, but they do not apply this analysis to Korean pronouns. A different position is staked out by Kaur & Yamada (2021), who argue that pronouns in Japanese express a different type of meaning from the allocutive *-mas*.

[8] The polite speech style particle *-eyo* (with the allomorphs *-ayo* and *-yo*) presents a slightly complicated case. It can be used not only as a sentence final particle, but also within the clause, as in (i):

(i) ce-nun-**yo**   yocum   yenge-lul   kongpwuha-nuntey-**yo** acwu eleywu-**eyo**.
     I.HUMBLE-TOP-POLITE these days English-ACC study-CONN-POLITE   very difficult-DEC.POLITE
     'I'm studying English these days and it's very difficult.'

We assume that in its adnominal use within the clause, it only expresses politeness, in the sense of mitigating a potentially face-threatening speech act, while in its sentence-final use, it expresses hierarchy and (in)formality. Here we only aim to analyze its use as a sentence final particle.

[9] The polite speech style can also be used by a speaker to express politeness towards a stanger. In such cases, we believe that this politeness comes from the performative marking of the $[S \geq A]$ relation in a context where no spe-

contrast, (3b) is an utterance that is appropriate if spoken by a student in a higher grade to one in a lower grade. It exhibits the plain form of the 2nd person pronoun *ne*, which can only be used to refer to a lower (or equal) addressee. Similarly, the speech style particle *-ala* belongs to the plain speech style, which is generally used toward an addressee of equal or lower status.

In the previous scenario, seniority in school and age go hand in hand in determining hierarchy, with the (usually older) student in a higher grade being higher than the (usually younger) student in a lower grade. However, when there is a conflict between seniority and age, it is seniority that takes precedence. Hence, one can imagine (3a) uttered by a student in a lower grade addressing a student in a higher grade, even if the former is older than the latter.

To see a scenario where age is the factor that determines hierarchy, imagine two customers, a child and an adult woman, talking in a supermarket. The child is new to this supermarket and doesn't know his way around. Seeing another customer, an adult, the child asks where ramen can be found, as shown in (4):

(4)   a.   acwumeni, yeki ramyen-I   eti   iss-**eyo**?
                older.lady, here ramen-NOM where exist-INT.POLITE
                'Ma'am, where is ramen?'

          b.   ceki 7 pen   thonglo-ey iss-**e**.
                there 7 number aisle-LOC   exist-DEC.INTIMATE
                'It's in aisle 7.'

Because the child is younger, he uses the polite speech style particle *-eyo* in his question, and the woman, being older, uses the intimate style *-e* particle to respond to the child. While the intimate speech style is typically used to express close relations between the discourse participants (for example, family members or close friends), it can also be used between strangers when there is a significant age gap, such as an adult and a child. In such cases, it marks hierarchy rather than closeness (power rather than solidarity, in Brown & Gilman's 1960 terms). In this conversational context, since the discourse participants do not know one another, the single factor that determines the relevant hierarchical order between them is age.

Let us now discuss cases where kinship is the factor that determines hierarchy by looking at speech styles that can be used among family members. Usually a parent uses the intimate style to a child, as shown in (5a). A child, on the other hand, often adopts the polite style to address a parent, as shown in (5b):[10]

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cific relation exists between the interloctors. Intuitively, in such cases, the polite style is considered "safe" (for this reason, it is the first style taught to foreign language students).

[10] A child (especially a young child) may also adopt the intimate style when addressing a parent, highligthing a close relationship with them. When used with people who are close, such as family members, the intimate style often does not indicate any hierarchical ordering and only conveys a close relation.

(5)   a.   atul,   **ne**   o-ass-**e**?
                 son,   you.PLAIN   come-PAST-INT.INTIMATE
                 'Son, did you arrive?' (a parent talking to a child)

        b.   emma,   o-**si**-ess-**eyo**?
                 mom,   come-HON-PAST-INT.POLITE
                 'Mom, did you arrive?' (a child talking to a parent)

Starting with (5b), note that it contains two elements that indicate the lower status of the speaker (the child): the honorific form of the verb *o-si* and the polite speech style particle *-eyo*. In contrast, (5a) exhibits the plain form of the 2nd person pronoun *ne*, and the intimate speech style particle *-e*. While the intimate speech style particle by itself may not indicate any hierarchical ordering between the speaker (parent) and addressee (child), the second person pronoun *ne* is a clear indication that the parent is higher than the child, as this pronominal form can only be used to refer to an addressee who is lower than or equal to the speaker. By using the plain form of the 2nd person pronoun along with the intimate speech style particle, the parent's speech conveys that the speaker is superior (or equal) to the addressee on a scale determined by a kinship relation.

A clearer case of hierarchy in kinship can be illustrated by the following conversation between a niece and an aunt who happen to be the same age:

(6)   a.   imo,   cemsim   mek-ess-**eyo**?
                 aunt,   lunch   eat-PAST-INT.POLITE
                 'Aunt, have you eaten lunch?' (a niece talking to an aunt)

        b.   ung,   ne-nun?
                 yes,   you-TOP
                 'Yes, how about you?' (an aunt talking to a niece)

Despite being of the same age, the aunt is higher than the niece in terms of the hierarchy, hence the niece asks in the polite speech style while the aunt's utterance contains the plain form of the 2nd person pronoun *ne* and the intimate form of 'yes' (*ung*, as opposed to the polite form *ney*). (6) clearly demonstrates that in this case kinship (not age) is what determines the appropriate speech style, reflecting the hierarchical status between the interlocutors.

In sum, we have shown through some examples that hierarchy is a relative ranking between the speaker and addressee that is determined by some social factor, such as seniority in school, age or kinship. Such ranking manifests itself in a few different ways, including the form of the 1st and 2nd person pronouns, the plain or polite form of lexical items (e.g., *ung* vs. *ney*), and the speech style particles. In the next section, we will discuss formality, the other dimension of meaning that is expressed by the speech style particles.

3.2 Formality

In this section, we argue that FORMALITY is a property of the currently active social relation between the speaker and addressee. We provide reasons why we think that it reflects the salient active relation between individuals and not simply the social setting in which the conversation takes place (for example, office vs. home).

We have already discussed several different social relations and how they determine hierarchy. Now we ask how they relate to formality. We can make progress on this question by comparing the usage of the deferential vs. the intimate style. The literature agrees that the deferential style is formal, and that the intimate style is informal. If we think about relations between individuals where the deferential style and other markers of formality are commonly used, and relations where the intimate style and other markers of informality are used, we come up with the groupings we see in **Table 1** (some of the categories will be refined later, and the relations in parentheses should be ignored for now, as they will be discussed in Section 3.3).

Formal relations	Informal relations
Boss – Subordinate	Peer co-workers
Soldiers of different ranks	Soldiers of the same rank
Students in different grades	Students in the same grade
(Older male friends)	Friends
(Parents-in-law – Son-in-law)	Family
High officials in different organizations	Strangers

Table 1: Simplified classification of relations in Korean.

This classification is justified by considering which grammatical forms would be used in simple cases where two individuals have a single type of relation to one another — they are only colleagues at work, or friends in school, or two siblings, for example. To begin with the formal column, we observe that individuals in these relations can use the deferential style and other markers of formality such as the honorific vocative marker -*nim*. Thus, two Presidents of different countries would most likely use the deferential speech style with one another, as would a subordinate to their boss, a lower ranked soldier to an officer, or a younger student to an older one.[11] Turning now to the informal column, individuals in the relations specified would normally use the intimate and polite styles and the vocative markers that are compatible with these styles.

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[11] The higher-ranked individuals in these latter three relations (the boss, officer, or elder student) could use the deferential style, too. However, they also have other options: they may also use the familiar style (which will be discussed in Section 3.3), or informal styles to "performatively" establish solidarity or claim intimacy, as we discuss below.

A classification like the one in **Table 1** works in cases where individuals stand in one type of relation to one another, and therefore consistently use a certain speech style when they have a conversation. However, matters become more complex and interesting in cases where the same individuals may stand in more than one relation to one another and use different speech styles on different occasions. Consider the case of two friends who happen to work together. If one of them is an assistant and the other is the assistant's boss, they can adopt a speech style at the office that is different from the one they use when they talk to each other when off work in a private setting, such as a night on the town:

(7)   a.   At the office (work setting)
        sacang-nim,   cikum chwulpalha-si- eya ha- **pnita**.
        boss-ADD.HON, now   leave-HON   must   DEC.DEFERENTIAL
        'Boss, you must leave now.'

      b.   At a bar (private setting)
        ya,   ne   cikum ka- ya ha- **e**.
        hey, you now   go   must   DEC.INTIMATE
        'Hey, you must leave now.'

In the work setting, the assistant uses the honorific marker *-nim* on the vocative and the deferential particle *-(su)pnita*. At the bar, the assistant expresses the same content with the non-honorific vocative *ya* and the intimate particle *-e*, even though the addressee is of a higher rank at work. In our view, the shift in speech style reflects the shift in the relation that is active: the boss-subordinate relation or the friend relation.

One may wonder if examples like (7) should be taken to show that we should analyze formality, at a semantic level, in terms of the social setting in which the interaction takes place. If so, the workplace would be a formal environment, and the bar scene an informal environment. We do not think so, however, because of cases like the following. First, we can contrast the scenario in (7) with one where the office goes out for a drink after work, but none of the subordinates are personal friends with the boss (and so they use deferential style at work). In this case, they would not use the polite or intimate style, even though they are in a bar; if speech style marked the formality of the situation, this would imply that the bar setting is not *per se* informal.[12] Second, remember that peer coworkers can use the intimate style in the workplace; again, if speech style marked the formality of the situation, this would mean that the workplace is not *per se* formal. These examples show that we cannot give a consistent classification of the

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[12] The choice of style might change if the participants get sufficiently drunk. Though it might seem unserious to even raise it, we are able to explain such a shift in terms of our theory. The idea would be that being drunk provides a social license to temporarily make active an informal, more personal relation. Indeed, the function of team-building may depend on sometimes encouraging this shift.

settings (bar, office, etc.) into formal and informal ones. Hence it is not possible to analyze formality as marking such a distinction.

Within our approach to formality, we view these cases as follows: the environment in which an interaction takes place can lead interlocutors to mark and highlight a particular social relation they have, which is just one aspect of their more complex overall relationship. For example, in (7a), the speaker uses a formal speech style to indicate that they are performing the assistant role in the boss-assistant relationship, while in (7b) they use an informal speech style to indicate that they are in the friend role. In a well-functioning interaction, participants coordinate on the same social relations (so we expect the other interlocutor to choose a matching speech style).

In addition to the type of shift illustrated above, we also observe that it is possible to shift from one speech style to another within a single conversation. This type of switch is intentional and carries a pragmatic function. Let us again imagine the two friends mentioned above, one in the role of assistant and the other in the role of boss, at the office. The friend who is the assistant can begin addressing the friend who is the boss with a deferential speech style particle and then switch to the intimate speech style, as shown in (8):

(8) Asst: sacang-nim,   cikum chwulpalha-si- eya ha- **pnita**.
            boss-ADD.HON,   now   leave-HON   must   DEC.DEF
            'Boss, you must leave now.'
     Boss: alkeyss-eyo.
            okay-DEC.POLITE
            'Okay.'
     [*after a certain amount of repetition*]

     Asst: **ya**, **ne** cikum ka- ya ha- n-ta-ko   malha-ess-canh-**a**!
            hey, you now   go   must   PRS-DEC-CMP   say-PST-CANH-DEC.INTIM
            'Hey, I said you have to go now!'

The vocative term *ya* and the plain form of the second person pronoun *ne* are a hallmark of the intimate speech style, indicating that the assistant has shifted away from the use of the deferential speech style. The assistant's choice to switch to the intimate speech style has the pragmatic function of appealing to solidarity with the addressee.[13] This case clearly cannot be explained with a simple formula like "the office is a formal setting". Rather, it shows that the choice of speech style contributes in a performative way to creating the relation between speaker and addressee on a local, moment-to-moment level.

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[13] By avoiding an indication of subordinate status, the assistant is able to indirectly imply a directive meaning, 'Go!', which requires a certain amount of authority by the speaker over the addressee.

There are other cases in which variation in the formality of speech style used between two individuals can only be understood in terms of more profound features of Korean culture. Recall that a child can use the polite speech style and even the intimate style to a parent at home, both typically used in the case of informal speaker/addressee relations. However, a formal speech style like the deferential style might also be used by a child to a parent at a wedding banquet, as shown in (9):

(9)   Child arriving at a wedding banquet, to mother:
        emeni,   ce   o-ass-**supnita**.
        mother, I.HUMBLE come-PAST-DEC.DEF
        'Mother, I came.'

Another example is (10a), which would be appropriate in a situation in which a child who is leaving to join the army says goodbye to his parents or grandparents with the deferential style. One can imagine the child performing a formal bowing as well, especially if the farewell is said to the grandparents. This contrasts with what the same individual, the child, may say to his mother or grandmother when he is going out to meet friends (10b):

(10)   a. ememi/halmeni,   ce cal   tanyeo-kyess-**supnita**.
          mother/grandmother, I   well go.and.come.back-will-DEC.DEF
          'Mother/grandmother, I will be back safely.'

       b. ememi/halmeni,   ce kassta   o-lkey-**yo**.
          mother/grandmother, I   go.and come-will-DEC.POL
          'Mother/grandmother, I will be back.'

These examples show that the parent-child relation (or grandparent-grandchild relation) can be formal or informal, depending on whether the emphasis is on the respect and deference that children owe their parents/granparents, or on the closeness and emotional bonds they have.[14] The examples in (9) and (10a) make the formal version of the parent-child relation more salient, in as much as it is important to enact the traditional value of filial piety in these settings. In contrast, the example in (10b) makes the informal version of the parent-child relation more salient. The formal parent-child relation is a component of traditional Confucian culture that continues to play a role in Korean society, while the informal parent-child relation is more modern and responsible for determining the choice of speech style in most circumstances. Note that the hierachy between a parent and a child stays the same regardless of the setting where the

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[14] For comparison, some speakers of American English would use *ma'am* and *sir* with their parents when hierarchy and respect are emphasized, but not when closeness is emphasized. (Some speakers do not use these forms with parents at all.)

conversation takes place: a parent is always higher than a child on the kinship hierarchy. The examples in (9)–(10) show that formality can change even when hierarchy and the place where the conversation takes place stay constant. Thus, they provide additional evidence for our view that hierarchy and formality are independent features of the speaker-addressee relation.

3.3 Close but formal relationships

In this section, we discuss one speech style that indicates a close but formal relationship between individuals. The FAMILIAR STYLE is used between middle-aged (or older) males friends and by parents-in-law when speaking to their son-in-law. Individuals in these relations typically do not use the informal speech styles, namely the polite and intimate styles, which would be used in most other cases between friends and between family members.[15] We will analyze the familiar style in these cases as marking formality within a close, personal relationship. The familiar style can additionally be used by an older man to an adolescent or to an individual of much lower status, such as a CEO to an employee in their company, where it also marks formality.

(11) exemplifies the use of the familiar speech style in exchanges between older male friends:

(11)   Friend A: caney   cenyek   mek-ess-**na**?
                   you   dinner   eat-PAST-DEC.FAMILIAR
                   'Have you eaten dinner?'

       Friend B: ung,   mek-ess-**ney**.
                   yes,   eat-PAST-DEC.FAMILIAR
                   'Yes, I ate.'

As for the in-law relationship, suppose a couple invites the wife's parents to a casual dinner at home. The parents-in-law would use the intimate style with their daughter, but the familiar style with their son-in-law, as shown in (12):

(12)   Son-in-law: apenim,   cenyek   masisskey   tusi-ess-**supnikka**?
                       father   dinner   deliciously eat.HON-PAST-INT.DEF
                       'Father, did you enjoy your dinner?'

       Father-in-law: ung,   acwu   masisskey   mek-ess-**ney**.
                       Yes   very   deliciously eat-PAST-DEC.FAMILIAR
                       'Yes, I enjoyed it very much.'

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[15] The SEMIFORMAL STYLE (also sometimes referred to as BLUNT STYLE) is a special style for middle aged to elder male speakers talking to one another. Sometimes it is used by a husband in this age group speaking to his wife in a polite manner. However, as mentioned in Section 2, it is gradually disappearing from daily usage and not much used in Contemporary Korean, and for this reason, we set it aside.

The setting is the same (and, intuitively, not "formal"), but the parents-in-law show respect towards the son-in-law with the familiar speech style, even though in the kinship scale the father-in-law is higher than the son-in-law.[16] The formal relation is also attested in the son-in-law's utterance in the deferential style with -*supnita*. This case, therefore, makes the important point that a single category of relationship (e.g. family) can be considered formal or informal, depending on the specific individuals that it relates.

Given the above discussion, we analyze the familiar speech style as marking formality. There is additional evidence for classifying it as formal: it co-occurs with other markers of formality, such as the formal second person pronoun *caney* in (11), and the son-in-law's question in the deferential speech style, which is formal, in (12). We consider the social relations between older male friends and between parents-in-law and son-in-law as formal (belonging in the left hand column of **Table 1**). These two relations do have something in common. Intuitively, they are both personal, yet respectful relations — personal because the individuals are friends or family members, and respectful in that a certain distance or respect is required.[17]

3.4 Dependencies between hierarchy and formality

Looking closely at **Table 1**, we can see that there is an interaction between the concepts of hierarchy and formality: unequal hierarchical relations are more often marked when the relation is formal than when it is informal. For example, when the relevant formal relation is between 'students in different grades', the difference in grade will correspond to a hierarchical difference that must be marked. In contrast, when the relation is between 'students in the same grade', no hierarchical difference is relevant. This tendency is seen in other formal relations, e.g., boss/subordinate, parents-in-law/son-in-law, and soldiers of different ranks. It is also seen in the fact that informal relations include peers in school or office, and strangers of a similar age.

It makes sense that there is a correlation between hierarchy and formality. Formal relations typically have to do with relationships that are established by society at large, where the individual has little power to shape them; such relationships are naturally hierarchical in the modern world. Informal relations, by and large, have to do with private life, and involve relationships that are shaped by the individuals (like friendships) and based on emotional bonds (like family, in ideal cases, at least). Informal relations typically establish a sense of closeness or connection; that is, they can mark solidarity, in the sociological sense (Brown & Gilman 1960). Since solidarity and

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[16] There is a traditional saying that sons-in-law are "hundred year guests", meaning they are like guests, even though they have become part of the family by law. This speech style is not used to daughters-in-law.

[17] As an alternative to the view that the familiar style marks formality, it would be reasonable to propose that there are three values on the formality parameter: formal, informal, and close-respectful (with familiar style marking this last one). However, because of the evidence we discussed, and in accord with the traditional view, we classify the familiar style as formal.

associated feelings of closeness are symmetrical, it follows that hierarchy may be less relevant or less likely to be highlighted. In this way, many social factors can become involved in the choice of speech style particles and of forms that mark similar concepts across languages. Nevertheless, in our view, the core of what is marked are the two dimensions of hierarchy ($<$, $>$, $\leq$, etc.) and formality ($+$ or $-$), corresponding to the categories of relation as in **Table 1**. The other pragmatic meanings, such as closeness and solidarity, are fluid and derived in context from these.

Despite this connection between hierarchy and formality, the latter cannot be reduced to the former. This can be seen in the following (see also (5b) and (9)), where a child uses the polite style at home, but the deferential style at a formal banquet:

(13)   a.   Child arriving at home, to mother:
       emma,   ce   o-ass-**eyo**.
       mom,   I.HUMBLE   come-PAST-DEC.POLITE
       'Mom, I came.'

       b.   Child arriving at a banquet, to mother:
       emeni,   ce   o-ass-**supnita**.
       mother,   I.HUMBLE   come-PAST-DEC.DEFERENTIAL
       'Mother, I came.'

Therefore, formality must be recognized as a distinct feature from the hierarchy that influences speech style.

Moving beyond the specifics of Korean, the analysis predicts that it is possible that some language has forms that mark only formality or only hierarchy. Suppose that a morpheme marks only $S<A$. This form would indicate that the salient social relation places the speaker below the addressee, without placing any constraints on what that social relation is: it could be formal, informal, or unclassified as either, if a particular culture were not to make such a distinction. Thus, the use of this form would indicate nothing about formality. Conversely, suppose that a form marks informality, [-*formal*], without a feature for hierarchy. This form would indicate that the source relation is informal, without placing the interlocutors in any specific hierarchical relation. The intimate style in Korean could in principle be analyzed this way, though we treat it as marking the neutral hierarchy $S \sim A$ for consistency with other forms in the Korean speech style paradigm.

4 The participant structure analysis of formality

We have seen that speech style particles indicate both hierarchy and formality, and also that formality is related to the particular social relation that is most salient in a conversation at a point in time, e.g., friends at work or at home, and a parent and child at home or at a formal

setting such as a formal banquet. There is a wide range of social relations; some of them are classified as 'formal' and some as 'informal', as we see in **Table 1**. Our goal in this section is to present an analysis of speech style particles that can explain, in an integrated way, the fact that they express information about both the hierarchical relation between interlocutors and the formality of the salient relation.

The main intuition behind our proposal is that hierarchy and formality are intimately related; hence it makes sense that the two notions would be expressed together. More specifically, we claim (i) that the hierarchical relation is defined in terms of a social relation and (ii) that this social relation forms the basis on which formality is determined. In a nutshell, the speech style particles mark meanings like $<_{\text{boss-sub}}$, showing both the salient social relation (for example, boss-subordinate) and the hierarchy ($<$) between speaker and addressee in that social relation. Different particles will mark different hierarchical relations (i.e. $<_R$, $\leq_R$, $=_R$, $>_R$, $\geq_R$, $\sim_R$) and the formality or informality of the social relation R that serves as its basis.

We introduce the term SOURCE for the social relation R salient in context that determines the relative hierarchical relation between speaker and addressee. Our analysis of formality, then, amounts to the claim that **formality is a way of classifying or describing the salient source in conversation**. In this section, we aim to develop an analysis of formality that instantiates this intuition. Because we see formality as marking something (i.e. source) that is intimately tied to the hierarchy component, our analysis must connect the two dimensions in the right way. Therefore, we turn next to a brief discussion of the analysis of hierarchy from Portner, Pak and Zanuttini (2019) that serves as the basis for our analysis of formality.

4.1 Background on the participant structure

Our analysis for formality will build on the PARTICIPANT STRUCTURE ANALYSIS. This analysis was proposed by Portner et al. (2019) to give an account of polite and familiar second person pronouns in Italian and of sentence final particles in Korean, but that work focused only on the hierarchical aspect of their meanings, not formality. In this section, we give the necessary background on this approach, so that we can then extend the framework to account for the role of formality.

Following much work in semantics and pragmatics, the Participant Stucture Analysis assumes that the context should be modeled as a structure with several component parts. In the recent literature, some of those parts are the common ground (Stalnaker 1974), QUD (Roberts 2012), the To-do List (Portner 2004), the Table (Farkas & Bruce 2010), among others. The main proposal of this analysis is that the formal model of the context should include a component that represents the relation between the speaker and addressee. This component is to be known as the PARTICIPANT STRUCTURE.

The participant structure is encoded in syntax by the functional head *c* and its associated projections. Specifically, the hierarchical relation is encoded in a grammatical feature *status*, which has possible values: $S<A, S>A, S \leq A, A \geq A, S = A, S \sim A$.[18] These values represent the hierarchy between speaker and addressee (e.g. $S<A$); $\sim$ represents the open relation compatible with any hierarchy. We represent the feature with its value as [*status: value*], e.g. [*status: S<A*].

To see how the analysis of hierarchy works in this framework, let us consider the deferential speech style particle *-supnita*. As described in Section 2, it is generally used by a speaker who is of lower status toward an addressee who is of higher status. (We set aside the relevance of formality for now.) Portner et al. (2019) encode the meaning behind this pattern of usage by associating *-supnita* with the following feature specification:

- [*status: S* $\leq$ *A*] $\implies$ *-supnita*

Thus, when this speech style particle is present, *c* encodes the meaning that the speaker is lower than or equal to the addressee.
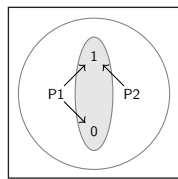
Figure 1: The Participant Structure.

The Participant Structure itself can be visualized as in **Figure 1**. The numbers 1 and 0 represent the two hierarchical ranks available in a context with two participants, and the arrows show the possible assignments of participants P1 and P2 to ranks. This Participant Structure models a context in which P1 is less than or equal to P2 in the hierarchy. It would therefore be appropriate for a speaker as P1 to use the deferential form *-supnita*, with its feature specification of [*status: S* $\leq$ *A*], in a context with this Participant Structure.

Portner et al. (2019) argue that the meaning of speech style particles is PERFORMATIVE, in that the use of a given particle changes the Participant Structure to be compatible with the hierarchical relation it indicates, should it be necessary. According to this position, if the

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[18] In Portner et al. (2019), terms referring to the speaker and addressee, *S* and *A* respectively, are filled in compositionally, thus leaving room for the *status* feature to mark the hierarchy between different individuals. Because the speech style particles of Korean always mark the relation between the speaker and addressee, we do not discuss the compositional details here. The work of Alok & Baker (2019); Alok (2020), and Alok & Baker (2022) investigates embedded allocutive markers, arguing that in Magahi the individuals whose hierarchical relation is marked by *status* can be shifted in embedded contexts.

Participant Structure is incompatible with [*status: S ≤ A*] when -*supnita* is used, the context is updated to one that is compatible, such as that represented in **Figure 1**. Such a performative semantics may be compared with a presuppositional analysis, according to which the utterance of a given sentence is only felicitous if the style encoded in *c* matches the participant structure that is in place at the time of utterance.[19]

With this background, let us now turn to formality. Our task is to see whether the key components of the Participant Structure Analysis that were proposed to explain the role of hierarchy in the meanings of pronouns and speech style particles can also be used to provide an analysis of the role played by formality.

4.2 Capturing formality

We have argued that formality, as an aspect of speech style, marks how the salient social relation is classified, i.e. where it falls in **Table 1**. In this subsection, we aim to integrate this idea into the Participant Structure Analysis. Within the figures that graphically represent a participant structure, we will indicate whether a given social relation is formal or informal with colors, using a warm color (red) for informal relations and a cool color (blue) for formal ones.

To see how this works, let us begin by considering the two examples in (10), where a son is leaving either to hang out with friends, or to fight in a war. In these contexts, the hierarchy is fixed: the child is below the grandmother in both contexts; however, formality differs. In the case where the son is going out to meet friends, (10b), the relation that is salient is the more modern, intimate family relation, and he uses the polite style. This speech style indicates a $S \leq A$ hierarchy based on an informal social relation as source. The actual participant structure is shown in **Figure 2**. This Participant Structure is compatible with the requirements of the polite style: the hierarchical relation ($S < A$) is compatible with the particle's status feature ([*status: S ≤ A*]), and the source of this relation (family) is compatible with [*formal:* -]. The message that the speaker is leaving can be added to the common ground without incident.
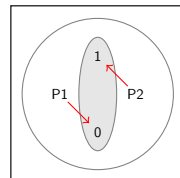

Figure 2: Son to grandmother, going out to meet friends.

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[19] Under the presuppositional approach, changes to the Participant Stucture triggered by an infelicitous speech style would be accounted for as cases of presupposition accommodation. The choice between the performative and presuppositional approaches is independent, as far as we can tell, of the issues that are the focus of this paper.

In the case of (10a), the son says farewell to his grandmother on leaving to fight in the army. Because of the momentous nature of this situation, the child may choose to highlight the more traditional and respectful Confucian family relation. The Participant Structure for this case is shown in **Figure 3**. In this case, the son uses the deferential style, which is [*status: S ≤ A*], like the polite style, but differs from the polite style in being [*formal: +*]. The actual source, the traditional Confucian family structure, is shown in blue to indicate that it counts as formal. Therefore, the Participant Structure matches the requirements of the particle.
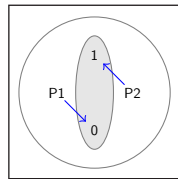

Figure 3: Son to grandmother, leaving for war.

Next we look at an example that illustrates in a different way the role of formality within this analysis. In (14), we have a man speaking to his daughter and to his son-in-law. In (14a), when speaking to his daughter, he uses an informal style (intimate). But in (14b), when speaking to his son-in-law, he uses a formal style (familiar):

(14)　a.　Father to daughter:
　　　　　ttal,　　　o-ass-**e**?
　　　　　daugher,　come-PAST-INT.INTIMATE
　　　　　'Hey daughter, did you arrive?'

　　　b.　Father-in-law to son-in-law:
　　　　　caney-to　o-ass-**na**?
　　　　　you-too　　come-PAST-INT.FAMILIAR
　　　　　'Did you arrive too?'

The actual participant structures are shown in **Figure 4**. The contemporary blood-kin family relation is informal, and so represented with red, but the in-law relation is formal, so represented in blue. The participant structure on the left is compatible with the features of the intimate style, namely [*status:S ~ A*][20] and [*formal: -*]. The one on the right is compatible with familiar style ([*status:S ≥ A*] and [*formal: +*]).

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[20] As mentioned above, we use ~ to indicate the neutral hierarchical relation, one that is compatible with $S < A$, $S = A$, or $S > A$. The fact that intimate style is [*status:S ~ A*],[*formal:-*] encodes the fact that it marks only that two individuals are related to one another within an informal social relation.
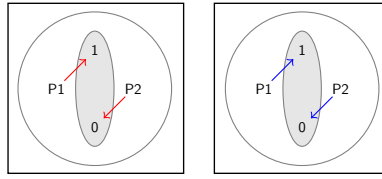
Figure 4: Father to daughter (left) and father to son-in-law (right).

Next we look at example (7), repeated as (15), which illustrates a change of both formality and hierarchy. Recall that this example involves two friends who are in a superior-subordinate relation at work:

(15)   a.   At the office:
       sacang-nim,   cikum   chwulpalha-si-   eya ha-   **pnita**.
       boss-ADD.HON,   now   leave-HON   must   DEC.DEFERENTIAL
       'Boss, you must leave now.'

   b.   At a bar:
       ya,   ne   cikum   ka-   ya ha-   **e**.
       hey,   you   now   go   must   DEC.INTIMATE
       'Hey, you must leave now.'

In (15a), spoken at work by the friend who is the other's assistant, the source is the formal boss-sub social relation, according to which the speaker is below the addressee ($S < A$). The deferential particle marks [*status: $S \leq A$*] and [*formal: +*], and is compatible with this situation. In (15b), spoken by the same individual to the same addressee but in a private setting (at a bar), the source is the informal friends social relation, and the same two individuals are at the same level according to this source. The intimate style is compatible with this friends relation.

We see the relation between two friends playing out in a different way in (11), repeated as (16). Here we see the use of the [*formal: +*] familiar style among older male friends:

(16)   Friend A: caney   cenyek   mek-ess-**na**?
           you   dinner   eat-PAST-DEC.FAMILIAR
           'Have you eaten dinner?'

   Friend B: ung,   mek-ess-**ney**.
           yes,   eat-PAST-DEC.FAMILIAR
   'Yes, I ate.'

We've seen that the relation between older male friends can be classified as 'close but formal', so here we do not have the generic friends relation, but a special one, friends$_{om}$ (for "older male"). In terms of hierarchy, the familiar speech style marks [*status: $S \geq A$*], which is compatible with

the relation of equality ($S = A$) within the friendship. Recall the convention that the relationship between older men can be classified as formal; when it is classified this way, the [*formal:+*] familiar speech style marks this fact. In this way, the use of the familiar style by male friends reflects (and perhaps reinforces) an aspect of the difference between men and women in traditional society.

The performative nature of speech style is illustrated by our final example, (8), repeated here as (17). In this case, the assistant switches from the deferential style to the intimate style within a single conversation:

(17) Asst: sacang-nim, cikum chwulpalha-si- eya ha- **pnita**.
              boss-ADD.HON, now leave-HON must DEC.DEF
              'Boss, you must leave now.'

      Boss: alkeyss-eyo.
             okay-DEC.POLITE

             'Okay.'

      [*after a certain amount of repetition*]

      Asst: **ya**, **ne** cikum ka- ya ha- n-ta-ko malha-ess-canh-**a**!
             hey, you now go must PRS-DEC-CMP say-PST-CANH-DEC.INTIM
             'Hey, I said you have to go now!'

This change of style reshapes the participant structure in the way illustrated in **Figure 5**. Here, P1 is the assistant and P2 the boss; the starting participant structure (boss-subordinate) has the assistant below the boss under a formal source. In the first turn, the assistant uses the deferential style; this is compatible with the Participant Structure in the context, and so the Participant Structure is unchanged. In the second turn, the boss uses the polite style, and this is also compatible with the preexisting Participant Structure. However, in the final turn, the assistant uses the intimate style, making active the informal friends relation. Because they are on equal footing under the friends relation, the participant structure changes to the one illustrated, where neither is above the other in terms of hierarchy. This amounts to the assistant invoking their right to be heard within the friendship.
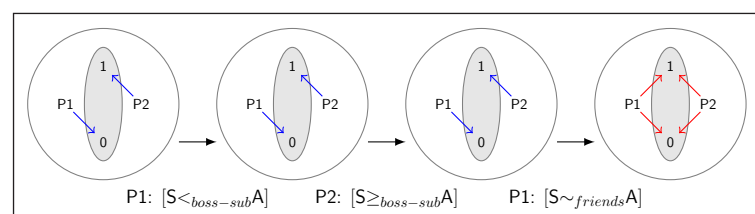
Figure 5: A performative update due to style switch.

4.3 Comments on formal implementation

Portner et al. (2019) gave an analysis of the *status* feature, and we have seen that an intuitive meaning for the *formal* feature can be given by treating (in)formality as a property of the source of the hierarchical relation marked by *status*. As a first step towards giving a more precise and complete theoretical model of the formal feature, we must consider what it means for two individuals to be in a particular ordering relation like $X < Y$ or $X = Y$. Clearly, individuals can be in multiple distinct ordering relations with respect to one another; for example Y could be richer than X even though they are the same height. So, an ordering relation between individuals can only be defined relative to some property that lets them be measured. This 'measure' is standardly represented as a subscript on the relation, so that we have, for example, $X <_{\text{rich}} Y$ but $X =_{\text{height}} Y$. More generally, the order defined by measure R is notated as $\leq_R$, with other relations like $<_R$, $=_R$, and $\geq_R$ defined from $\leq_R$ in the usual ways.

In our proposal, the source social relation provides R for the hierarchy. Therefore, we can write $\leq_{\text{boss-sub}}$ to represent the hierarchy of the office and $\leq_{\text{friends}}$ for the "hierarchy" between friends (which ranks them as equal). However, this notation is somewhat imprecise. Though we do not attempt to give a complete formalization in this paper, we would like to note two points:

- A relation like boss-sub is too general, since the same two individuals can stand in different work-hierarchies to one another at different times. (For example, two individuals were colleagues at the same level at one time, and then one was promoted to be the other's boss.) The source needs to be at least relative to a world and time, as boss-sub(*w,t*), so that boss-sub per se is seen as a function from world-time pairs to sources. In fact, a parameter even more fine-grained than world-time pairs may be required, because of the possibility of two people being involved in distinct social relations of the same kind at the same time in the same world (e.g. a junior faculty member and a Dean in the same university co-own a company together, where they work as peers). Thus, we have boss-sub(*e*), for some eventuality *e*, for example the state of some individuals being employed by the same organization. In root contexts, *e* is an eventuality that temporally overlaps the actual situation in which the speaker is addressing their interlocutor.[21]
- We have described the source as a social relation, but the full-fledged social relation that holds among employees in a company (at a given point in time) is not merely an ordering (hierarchy) among individuals. While it does imply a hierarchy, a social relation is much more than that. So, when expressed precisely, our claim is that a function like boss-sub maps *e* to an ordering implied by the salient, active social relation present in *e*.

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[21] As noted above, speech style particles only occur in root contexts in Korean, so we do not need to consider any other cases. However, in languages like Magahi (Alok & Baker 2019) where allocutive markers can be embedded, an important issue will be how *e* gets its value in those structures.

On the basis of the above reasoning, we have the following definitions and notation:

(18)   A SOURCE FUNCTION is a (partial) function from eventualities to partial orderings of individuals who are participants in that eventuality. Example: boss-sub

(19)   A SOURCE is the value of a source function, when applied to a particular eventuality in its domain. Example: boss-sub(e)

(20)   A SOCIAL HIERARCHY is a source that reflects socially relevant dimensions of e, for example the presence of authority or expectations of deference, respect, responsibility, or care. Example: boss-sub(e)
    - We write $X \leq_R Y$ to indicate the hierarchical relation between X and Y according to source (social hierarchy) R.
      Example: *Speaker* $\leq_{\text{boss-sub}(e)}$ *Addressee*

With these concepts in place, we can see that hierarchy and formality are really two aspects of the same thing. Formality and informality are properties of the source function, and hierarchy is the result of applying the source function to a particular eventuality argument. In other words, formality helps to narrow down what source function is relevant (in simplistic terms, whether it is in the first or second column of **Table 1**), and then, when the source function is applied to a specific eventuality, the result is a social hierarchy that can be used to relate the speaker and the addressee to one another. In our view, this explains why these two dimensions of meaning are expressed together on speech style particles.

4.4 An alternative: The expressive index analysis

In this section, we compare our analysis to another important approach to social meaning in the literature, the EXPRESSIVE INDEX ANALYSIS. The expressive index analysis is based on the theory of conventional implicature developed in Potts (2007), and was adopted by Potts (2007); Potts & Kawahara (2004); McCready (2014; 2019), among others, to account for addressee-oriented politeness forms like politeness pronouns and Japanese -*mas*. In this theory, the context associates the pair of the speaker and an individual x with an interval of real numbers I, a subinterval of $[-1,1]$. The higher values in I encode greater respect or politeness. For the cases of interest to us, the individual x is the addressee, and so the tuple $\langle S, I, A \rangle$ models the speaker S's level of respect towards addressee A. For example, a high range for the value of I like $\langle S, [.8,1], A \rangle$ represents a situation where S is highly respectful towards A, while a mid-range value for I like $\langle S, [-.5,.5], A \rangle$ expresses and average or normal level of respect.

In much work within the tradition of the expressive index analysis, it is left vague what pragmatic or interactional properties of the context correlate with higher or lower levels of respect; in other words, the parameter I is used as a formal model of the intuition that some

linguistic form is respectful or honorific, but the concept of respect itself is understood to be outside of the domain of semantic and pragmatic theory. However, we see in the work of McCready (2014) a significant attempt to go beyond this limitation. According to McCready, multiple aspects of the context can go into determining the value of I; she proposes that I is the average of three more basic components, namely "psychological distance", "social distance", and "formality". Within this analysis, it is assumed that the Japanese addressee honorific *-mas*, for example, restricts the value of I in $<S, I, A>$ to a relatively high (=polite or respectful) range. This amounts to saying that *-mas* indicates that the actual relation between speaker and addressee is one of the infinitely many that will result in the average of the three components being very high; it might be that social distance is extremely high, combined with moderate psychological distance and formality; or it might mean that the three components are similar and moderately high. McCready's approach therefore has some capacity to describe the separate roles of hierarchy and formality in speech style. For example, she could say that the use of *-mas* can be triggered by a large difference in hierarchy (great social distance) or by a high level of formality, provided that the other two components are not too low. In this way, *-mas* could express meanings covered by both the polite ($S \leq A$, informal) and the deferential ($S \leq A$, formal) speech styles of Korean.

Notwithstanding the important contribution that the expressive index analysis has made towards our understanding of social meaning and the valuable enhancements of the approach made by McCready, we believe that this approach cannot fully explain the two dimensions of honorific meaning we have identified in Korean. Although multiple aspects of the conversational context can go into determining the value of I, the system incorrectly implies that honorific meaning is ultimately reduced to a single dimension.

The problem for the expressive index analysis can be seen most clearly by considering the intimate style, which according to our analysis expresses only informality ($S \sim A$, informal). It can be used by either parents towards a child or vice versa. According to McCready's enriched version of the expressive index analysis, we could say that it expresses a value for I that is entailed whenever the formality of the situation has a very low value. Let us assume that normal family interactions have a formality level of –1. Then, if nothing else is assumed, the maximum possible value for I in family interactions is $\frac{1}{3}$ (the average of {–1,1,1}), so we might set the meaning for the intimate style as $\langle S, [-1, \frac{1}{3}], A \rangle$.

Given such a meaning for the intimate style, under the version of the expressive index analysis we are considering, one would expect that this style can be used when other aspects of the context imply a low value for I. This consequence leads to problems. To make this point, we must begin with the preliminary observation that if we are going to make the expressive index analysis work for Korean, the notion of social distance must be directional, in the sense that the distance between a superior and a subordinate is greater than the distance between the subordinate and the superior. We see this in the use of the polite style, which can be used by a child towards a

parent but not vice versa, in one and the same informal situation (cf. (5a) vs. (5b)). Within the version of the expressive index approach that we are considering, this means that the polite style marks a low value for *I*, with the precise range chosen so that the social distance between a child (as *S*) and mother (as *A*) is low enough to put the actual value for *I* into that range. Since the distance between the mother (as *S*) and child (as *A*) is not enough to allow use of the polite style, this means that *distance*(*mother, child*) > *distance*(*child, mother*). For purposes of illustration, we might have distances like the following:

- Distances
    - *distance*(*mother, child*) = .2
    - *distance*(*child, mother*) = –.2
- Meaning of polite style: ⟨*S,* [–1,–.1]*, A*⟩

Given these assumptions, it will be relatively easy for a context to support the use of the polite style by the daughter towards the mother, but harder for it to support the use the polite style by the mother towards the daughter. It is also important to note that this way of understanding social distance begins to bring the notion of hierarchy into the system. We would naturally calculate the values above from the assumption that the mother has a position in the family represented as .5 on some scale and the daughter has a position represented as .3.[22] This is very close to our assumption, on the Participant Structure analysis, that the mother is ranked higher than the daughter according to the source family.

 Given the asymmetric character of social distance and our conclusion that the intimate style indicates a low value for *I*, we can make further predictions about the use of the intimate style. We would predict that a very low value for social distance would allow the use of the intimate style. This is so, because the expressive index is an average of three components, and the same average can be obtained in many different ways. We saw above that a low value for formality allows the use of intimate style. A low value for social distance should also be able to trigger this style if it leads to the overall average being the same. For example, we might expect that a low-ranking employee could use the intimate style towards a senior executive to show that *distance*(*S,A*) has a low value. (The distance is low in the sense of being close to –1, representing their being far below the executive; the absolute value of the distance could be high, i.e. close to 1.) Such uses of the intimate style are not possible, however.[23]

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[22] These ideas about the polite style that we are sketching on behalf of the expressive index analysis are a bit odd, in that they lead to the conclusion that the polite style indicates a low value for *I*, not a high value as one might expect given that it is perceived as very polite. It would be possible to repair this oddness by reversing all of the numbers in the example, so that the distance from mother to daughter is negative, and the distance from daughter to mother is positive. But this would imply an underlying family structure which puts the daugher above the mother, e.g. daughter = .5 and mother = .3. So, however we proceed, the approach leads to some level of unintuitivenesness.

[23] This use of intimate style would be more likely to be interpreted as flirtatious than deferential.

One might think that further assumptions about the nature of the familial relations could solve the problem for the analysis of the intimate style we have been sketching. Suppose that social distance as well as formality has a very low value in a conversation between blood relatives. For example, assume that the social distance between blood relatives in a family is –1. Then, even at very high levels of psychological distance, I will never rise above $-\frac{1}{3}$. So we might propose that the intimate style marks $\langle S, [-1, -\frac{1}{3}], A \rangle$. Yet this will not work for the same reason. A low-ranking employee can never use the intimate style towards an executive to indicate deference, even in a context of mid-level formality (like an office party), no matter how close they are in terms of "psychological distance".[24]

Another difference worth noting between the expressive index analysis and ours concerns the number of possible, grammatically relevant distinctions among social relations. We can illustrate this point by considering those speech style forms that are tied to particular participants. Recall, for example, the discussion in Section 3.3 which showed that the familiar style is mainly used by adult male speakers among themselves, towards younger males and towards sons-in-law. It is very difficult to see how this specific range of use could be determined by a uni-dimensional expressive index. In Section 3.3, we treated these as formal, but within the participant structure analysis, one could easily follow another approach. Instead of thinking of sources as falling into just these two groups (formal and informal), we can incorporate additional classes. Suppose that we have three types of sources: (i) general informal, (ii) general formal, and (iii) special formal, the last of which includes specifically the social relations between older males, on the one hand, and other older males, younger males, and sons-in-law, on the other. Then, on the Participant Structure analysis, the familiar style can have the feature values [*status: S ≥ A*], [*formal: (iii)*]. It is difficult to see how to capture the same intuition about the familiar style on the expressive index analysis.

Given the issues we have outlined in this section, we conclude that a framework that uses at least two independent dimensions to encode honorific, politeness-related meanings is superior to one that reduces all of the relevant factors to a single dimension.[25] This is the problem with the expressive index analysis as it currently stands. If that approach were to be modified so as to allow for two-dimensional expressive indices (for example, expressive indices that are pairs of intervals, the first of which represents distance or hierarchy and the second of which represents formality), the resulting framework would accept the main claims of the present paper, and for that reason, it might well be adequate.

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[24] McCready's notion of psychological distance is unclear to us.

[25] It is of course possible that different languages require different analyses of formality, and in particular that the expressive index analysis is correct for some languages (for example, Thai as discussed by McCready).

5 Conclusion

Beyond the topics discussed in this paper, our proposals raise a number of issues concerning allocutivity and other grammatical and lexical means of expressing politeness. First, we should ask how speech style markers relate to such other forms within Korean. Korean indicates the social relation between the speaker and other individuals in multiple ways, including honorifics, forms of pronouns, vocatives, and case markers. Kaur & Yamada (2021) investigate interactions between pronouns and the politeness marker *-mas* in Japanese, and similar questions can be raised about Korean.

A different set of questions is raised by the fact that many languages make a two-way distinction in politeness, for example T/V pronouns (French *tu/vous*) and the presence or absence of *-mas* in Japanese. In these cases, are the same two dimensions relevant, and if so, how are they reduced to a simple two-way contrast? It could be that a form of averaging, as on McCready's proposal, is used, or it could be that the forms are ambiguous. The classic work by Delisle (1986) discusses two different meanings that the German pronouns *du* and *Sie* can express (what she calls solidarity and formality),[26] and she argues that the social relevance of the two dimensions has changed over time. If Delisle's way of looking at matters is on the right track, the explanation would seem to be not averaging, but rather ambiguity or context-dependency.

Regardless of how these types of issues affect the theory of allocutivity and politeness marking, we believe that the two main claims of this paper are well-supported. We can summarize them as follows. First, the Korean system of speech style particles provides evidence that the relation between speaker and addressee involves two dimensions: hierarchy and formality. Second, these dimensions are distinct but closely connected in that the hierarchical ranking is based on social relations (like boss-subordinate and friends) that can be classified as formal or informal.

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[26] Delisle's (1986) two uses are not equivalent to our two dimensions, and so we cannot make any assumptions about whether her findings are compatible with ours. It seems to us that her solidarity is similar to our formality, and her formality is a combination of our formality and hierarchy. The nature of the German system and the changes it has undergone will certainly require further study.

Abbreviations

ACC = accusative; ADD = address term; CMP = complementizer; CONN = connective; DEC = declarative; DEF = deferential; HON = honorific marker; INT = interrogative; INTIM = intimate; LOC = locative; NOM = nominative; POL = polite; PRS = present tense; PST = past tense; TOP = topic

Competing interests

The authors have no competing interests to declare.

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