The discourse functions and syntax of vocative markers in Fuyang Wu

Kento Tanaka
Advisors: Raffaella Zanuttini and Jim Wood

Submitted to the faculty of the Department of Linguistics
in partial fulfillment of the requirements for the degree of
Bachelor of Arts

Yale University
May 2020

Abstract

This essay examines the vocative marking system of the Fuyang variety of Wu Chinese. The first part of the essay is descriptive; I introduce three types of vocative markers in this language, explicate the discourse contexts in which each type of vocative is felicitous, and interpret these restrictions in terms of the discourse functions fulfilled by each type of vocative. Specifically, I propose that the vocatives manage different roles in the discourse, for instance by adding members to the set of participants and/or addressees. The second part of the essay proposes a syntactic analysis for these vocatives. I claim that [± participant] and [± author] person features as theorized by Harbour (2016) help capture the distinctions between each type of vocative. Further, I argue that Fuyang Wu vocative markers are realizations of the head of RoleP, a phrasal constituent proposed by Hill (2007, 2013, 2014) that merges high in the clause. Role° takes the vocative noun as its complement. The interpretation of each type of vocative stems from the person features with which it is associated and pragmatic factors arising from the general requirement that the vocative refers to the addressee.

Acknowledgments

Contents

1 Introduction

In the Fuyang variety of Wu Chinese, there are three ways in which vocatives can be marked as such:

(1)   a.   **阿明,**   尔   何里   去   嘚?
            aʔ.miŋ,   ņ   ga.i   tɕʰi   diə?

        b.   **阿明⁺ 哎,**   尔   何里   去   嘚?[1]
            aʔ.miɛŋ,   ņ   ga.i   tɕʰi   diə?

        c.   **阿明喂,**   尔   何里   去   嘚?
            aʔ.miŋ.ue,   ņ   ga.i   tɕʰi   diə?
            Aming.voc,   you   where   go   PTCL?

            '**Aming**, where have you been?'

Although each example can be glossed identically, the three types of vocatives make distinct contributions to the discourse and, as a result, are used in different discourse contexts. This essay describes and analyzes the vocative marking system of Fuyang Wu, focusing on ways in which the syntactic structure can derive the conditions for felicitous use of vocatives. I argue that each type of vocative marker corresponds to a different discourse function fulfilled by the vocative. Specifically, vocatives are used to express information about or change the roles of participants in the discourse, with the felicity of each vocative marker in a given context depending on how exactly the speaker is changing the roles of each discourse participant. Syntactically, I use the [± participant] and [± author] person features, most fully elaborated by Harbour (2016), to derive the distinct discourse functions of each vocative marker. Further, I draw from Hill (2007, 2013, 2014) in arguing that the vocative markers associated with these person features are realizations of Role° that take vocative nouns as complements; RoleP merges somewhere high in the clausal structure.

     More broadly, this essay is concerned with ways in which the roles of discourse participants, that is, the speaker and addressee(s), are encoded in the syntactic structure. Within this topic of inquiry, the syntax of vocatives has previously been discussed by Zwicky (1974), Moro (2003), Hill (2007, 2013, 2014), and Slocum (2016), among others. However, prior investigations have examined a wide variety of phenomena other than vocatives, including but not limited to allocutive agreement (Oyharçabal 1993), imperatives (Zanuttini 2008), discourse particles or discourse markers (Haegeman and Hill 2013; Haegeman 2014), confirmationals (Wiltschko and Heim 2016; Yang and Wiltschko 2016), presentatives (Zanuttini and Wood 2018), and politeness markers (Portner et al. 2019). Thus, I hope that the current investigation can yield some insights not just into the syntax of Fuyang Wu vocatives, but more generally into the syntactic representations of discourse participants across a variety of phenomena and languages.

     The structure of this essay is as follows: Section 1 lays out background information for my analysis. I clarify what I mean by the term *vocative*, provide context on Fuyang Wu, and elaborate

---

[1]I follow Li (2019) in using a superscript to indicate this type of vocative marker, which I call the rhyme-change marker.

on the sources of my data. Section 2 describes the vocative marking system of Fuyang Wu. After providing an overview of the three types of vocative markers in this dialect, I use results from an oral survey to summarize the conditions for the felicitous use of each vocative marker. Then, I propose discourse functions for each vocative marker that explain these felicity conditions. In section 3, I present my syntactic analysis of Fuyang Wu vocatives, integrating the idea of vocative phrases as RolePs proposed by Hill (2007, 2013, 2014) and the [± participant] and [± author] person features posited by Harbour (2016). I provide concluding thoughts in section 4.

1.1   What are vocatives?

Vocatives are forms of direct address in which the speaker refers to the addressee. Two taxonomies, which are not necessarily mutually incompatible, help me distinguish vocatives from related phenomena. First, Slocum (2016:4) proposes the following taxonomy for nominals referring to the addressee. Example sentences, mostly borrowed from Slocum (2016:3), are provided with the element referring to the addressee in bold.

(2)   a. *Second person arguments*:
           I gave **you** the cookie.

       b. *Imperative subjects*:
           Paul fetch the blankets and **Jessica** start a fire.

       c. *Vocatives*:
           i. *Calls*:
               Paul! Where have you been?
           ii. *Addresses*:
               So, **Paul**, how are you?

Unlike second person arguments and imperative subjects that also refer to the addressee, vocatives are not arguments of the main proposition of the sentence. The distinction between calls and addresses as described by Zwicky (1974) and Slocum (2016) is discussed in section 2.2. In general terms, calls attract the attention of the addressee while addresses "maintain or emphasize contact between the speaker and the addressee" (Zwicky 1974).

Hill (2014:6) provides another taxonomy to distinguish vocatives from other often sentence-initial elements. First, Hill distinguishes forms of address, which include vocatives, from exclamations, which do not refer to the addressee. The distinction is illustrated in the following pair of sentences, borrowed from Hill (2014:5):

(3)   a. **Dear God**, please hear my prayer.   Address

       b. **Oh my God**, I can't believe it!   Exclamation

Hill further distinguishes between direct and indirect address, as illustrated in the following pair of sentences, again borrowed from Hill (2014:6):

(4)   a. **John**, would you please come here?   Direct address (vocative)

       b. Would **the gentleman** like another glass?   Indirect address

The focus of this essay is on vocatives, that is, forms of direct address.

1.2   Background on Fuyang Wu

The Fuyang dialect (富阳话) is spoken by about 600,000 people in Fuyang District, Hangzhou City, Zhejiang Province, China (Li and Bisang 2012; Li 2013, 2015). This variety belongs to Wu Chinese, a Sinitic language spoken in Shanghai, Zhejiang, and southern Jiangsu provinces. Many Wu Chinese varieties are unintelligible with each other, let alone with better known languages like Mandarin and Cantonese. Fuyang Wu specifically belongs to the Linshao subgroup (临绍小片) of the Taihu group (太湖片) of Northern Wu (Li and Bisang 2012; Li 2013, 2015). The locations of Zhejiang Province within China and Fuyang District within Zhejiang are shown in figures 1.1 and 1.2, respectively.

Although Fuyang Wu has no standardized writing system separate from Standard Mandarin Chinese, some of the language data in this essay include Chinese characters for reference. Additionally, all of the Fuyang Wu examples provide IPA transcriptions. Although Fuyang Wu has phonemically contrastive tone, the tones do not impact vocative marking. Therefore, I omit these tones from the examples for ease of reading.

1.3   Sources of the data

Unless otherwise noted, all of the data ultimately come from XuPing Li, a bilingual speaker of Mandarin Chinese and Fuyang Wu and Professor in the Department of Chinese Language and Literature at Zhejiang University in Hangzhou. The description of the basic morphophonological behavior of Fuyang Wu vocative markers in section 2.1 is modified from an unpublished handout that Professor Li wrote based on his own judgments (Li 2019). I collected the majority of the remaining data during summer 2019 at Zhejiang University under the supervision of Professor Li, who provided judgments through an oral survey. I discuss the survey methods in section 2.2.1. Finally, Professor Li provided supplementary data during the 2019–2020 academic year via email. Given that I only consulted one native speaker of Fuyang Wu, this essay can be considered an attempt to describe part of the grammar of the idiolect spoken by Professor Li, though I expect that this idiolect is similar to others spoken in the Fuyang District.

Figure 1.1: Location of Zhejiang Province within China. Source: https://commons.wikimedia.
org/wiki/File:Zhejiang_in_China_(%2Ball_claims_hatched).svg

Figure 1.2: Location of Fuyang District, circled in blue, within Zhejiang Province. Source: https:
//club.kdnet.net/dispbbs.asp?id=13178734&boardid=44

2 The vocative marking system of Fuyang Wu

This section introduces and discusses the vocative marking system of Fuyang Wu. In section 2.1, I describe the morphophonological behavior of three types of vocative marker in Fuyang Wu. Section 2.2 discusses an oral survey I conducted, elaborating upon and explicating the felicity conditions for the use of each type of vocative marker. In section 2.3, I argue that these felicity conditions correspond to different discourse functions associated with each type of vocative.

2.1 The morphophonology of Fuyang Wu vocatives

In Fuyang Wu, vocatives can be marked in one of three ways. First, vocatives can occur without an overt marker; I call this phonologically null morpheme the *zero marker*. Second, vocatives can be marked by replacing the vowel of the last syllable of the vocative phrase or by changing this vowel into a diphthong. In this case, the vocative phrase has the same number of syllables as the corresponding phrase used elsewhere in the sentence. I call this set of vocative markers *rhyme-change markers*. The rhyme-change markers surface as multiple allomorphs which seem to be phonologically conditioned. Third, vocatives can be marked with a suffix pronounced as a separate syllable. I call this last set of vocative markers *suffix markers*. There seem to be two distinct suffix marker morphemes, one of which undergoes phonologically-conditioned alternations. Example (5) shows a sentence using the name Aming (阿明) as an argument, while example (6) shows sentences with the same name used with each of the three types of vocative marker.

(5) **阿明** 何里 去 嘚?
aʔ.miŋ ga.i tɕʰi diə?
Aming where go PTCL?
'Where has Aming gone?'

(6) a. **阿明,** 尔 何里 去 嘚?
aʔ.miŋ, n̩ ga.i tɕʰi diə?   Zero marker

b. **阿明+哎,** 尔 何里 去 嘚?
aʔ.miɛŋ, n̩ ga.i tɕʰi diə?   Rhyme-change marker

c. **阿明喂,** 尔 何里 去 嘚?
aʔ.miŋ.ue, n̩ ga.i tɕʰi diə?   Suffix marker
Aming.voc, you where go PTCL?
'**Aming**, where have you been?'

In the example, the zero-marked vocative has no overt morphology distinguishing it from the corresponding form used as an argument in the sentence. However, 'Aming' is clearly an argument in sentence (5) and a vocative in sentence (6a). Marked with the rhyme-change marker, /aʔ.miŋ/ becomes /aʔ.miɛŋ/, with an epenthesized vowel. Finally, /aʔ.miŋ/ with a suffix marker becomes /aʔ.miŋ.ue/; the vocative marker is a separate syllable /ue/.

7

The data and description of vocative marking strategies in Fuyang Wu in Li (2019) provide the basis for section 2.1. Li (2019) distinguishes between two sets of vocative markers, as opposed to the three-way distinction proposed here; the first set of vocative markers described in Li (2019) correspond to rhyme-change markers and the second set of vocative markers correspond to suffix markers. Zero markers are not examined as a separate category in Li (2019).

2.1.1 Zero marker

As indicated by their names, zero-marked vocatives have no overt marking differentiating them from nouns in other positions in the sentence, such as those used as arguments. Nonetheless, zero-marked vocatives constitute their own category distinct from vocatives with rhyme-change or suffix markers. As I show in subsequent sections, they are subject to felicity conditions just as the other types of vocatives are. Moreover, the conditions in which zero-marked vocatives are felicitous differ from those of the other types of vocatives.

2.1.2 Rhyme-change markers

The second type of vocative markers are called rhyme-change markers because they usually change the rhyme of the last syllable of the vocative noun by replacing or adding the vowel /ɛ/ or /ɔ/. Unlike suffix markers, described in the next section, rhyme-change markers do not change the number of syllables of the vocative phrase, and are thus more phonologically integrated into the vocative noun in some sense. A few nouns are provided below with and without the rhyme-change marker. The unmarked form is listed in (a) and the form with the rhyme-change marker is listed in (b).

(7) 阿明 'Aming' (a name)
    a. /aʔ.miŋ/
    b. /aʔ.miɛŋ/

(8) 阿德 'Ade' (a name)
    a. /aʔ.təʔ/
    b. /aʔ.tɛ/

(9) 金树 'Jinshu' (a name)
    a. /tɕin.ʐy/
    b. /tɕin.ʐyɔ/

(10) 阿婆 'grandma'
    a. /aʔ.bu/
    b. /aʔ.bɔ/

Table 2.1 shows the difference between rhymes in their unmarked and marked forms more systematically. The first column lists some Fuyang Wu rhymes. The second column lists the corresponding rhyme with the rhyme-change marker. The last column provides examples of morphemes, usually those commonly used in personal names, that have the rhyme in question. Although not every possible rhyme in Fuyang Wu is included in the table, the general pattern is that front vowels tend to add or be replaced by /ɛ/, while back vowels tend to add or be replaced by

Table 2.1: Fuyang Wu syllable codas with and without the rhyme-change marker

Rhyme, without marker	Rhyme, with marker	Examples
a	a	爸 /pa/ 'dad'
ɛ		贵 /kuɛ/ 'expensive, noble', 梅 /mɛ/ 'plum'
ɿ		寺 /dzɿ/ 'temple', 猪 /tsɿ/ 'pig'
i	ɛ	娣 /di/ 'younger sister, sister-in-law', 飞 /fi/ 'to fly'
ei		豆 /dei/ 'bean', 刘 /lei/ 'Liu' (a surname)
əʔ		德 /təʔ/ 'virtue'
iŋ	iɛŋ	明 /miŋ/ 'bright', 英 /iŋ/ 'hero', 平 /biŋ/ 'flat'
ɔ		宝 /pɔ/ 'treasure', 涛 /tʰɔ/ 'large wave'
o		花 /huo/ 'flower'
ʊ	ɔ	哥 /kʊ/ 'older brother', 娥 /ŋʊ/ 'pretty young woman'
u		婆 /bu/ 'old woman'
u	ɔ, ɛ	富 /fu/ 'wealth, abundance'
uɔʔ	uɔ	国 /kuɔʔ/ 'nation'
y	yɔ, yɛ	树 /ʐy/ 'tree', 渔 /y/ 'to fish'
Ṽ	Ṽ	山 /sã/ 'mountain', 干 /kẽ/ 'Gan' (a surname)

/ɔ/. A few of the rhymes, or individual morphemes with a certain rhyme (such as 富 /fu/ 'wealth, abundance'), can take either /ɛ/ or /ɔ/. Additionally, some rhymes, including /a/ and those with nasalized vowels, do not differ between their unmarked and marked forms. Thus, forms with the zero marker and rhyme-change marker in vocatives with these rhymes in their final syllables are superficially indistinguishable. Regardless of the precise rules, the data show that the alternations displayed by the rhyme-change marker are mostly governed by the phonology of the rhyme to which it attaches. Further, the roughly complementary distribution between the various forms of the rhyme-change marker suggest that they are likely allomorphs of the same underlying morpheme.

2.1.3 Suffix markers

The third and final type of vocative markers in Fuyang Wu are suffix markers, which are separate syllables that do not impact the segmental phonology of the noun to which they attach. There seem to be two distinct morphemes in this category: the first takes the form 喂 /ue/ regardless of the noun to which it attaches, and the second takes the form 唉 /e/ or 嘞 /le/ depending on the last segment of the syllable to which it attaches. The /e/ allomorph attaches to nouns ending in /y, u, ɿ, i, ei, ŋ/ or nasalized rhymes. The /le/ allomorph attaches to vocative nouns ending in /a, ɛ, ɔ, o, ʊ, ʔ/.[1] The generalization seems to be that the /e/ allomorph generally attaches to high

---

[1]In Fuyang Wu, as well as many other Wu varieties, syllables with shortened vowels ending in a glottal stop, such as 国 /kuɔʔ/ and 德 /təʔ/, are categorized as *checked tones* or *entering tones* 入声 in Chinese linguistics.

vowels while the /le/ allomorph generally attaches to nonhigh vowels. Li (2019) does not observe differences in the contexts for which the /ue/ and /e, le/ suffix markers are felicitous. Thus, for this investigation I focus on the /ue/ marker and assume that the same felicity conditions also apply to the /e, le/ marker.

2.2 Effect of discourse context on vocative felicity

In order to examine the syntactic representation of each vocative marker, it is first necessary to delineate how each of the vocative markers differs from the others. Each type of vocative marker in Fuyang Wu is felicitous in a distinct set of discourse contexts; these felicity conditions arise from the different discourse functions performed by each type of vocative. Li (2019:4) provides a preliminary sense of what conditions are relevant to determining the felicity of vocative markers in a given discourse context. According to Li (2019), the determining factor is whether the addressee is present in the discourse environment, or more precisely, whether the speaker and addressee are within sight of each other. He claims that suffix markers are used when the addressee is not present in the discourse environment or when the speaker and addressee are not making direct eye contact. By contrast, he says that the rhyme-change marker can be used regardless of whether the addressee is present.

These observations provide a useful basis to understand the differences between each type of vocative. However, the current proposal suggests refinements to Li's initial observations. As a starting point, consider situations where two interlocutors communicate via telephone or through a closed door. In such situations, the interlocutors might be considered present in the same discourse environment even if they are not within sight of each other. There could be other situations in which one of the discourse participants can see the other, but not vice versa. In such cases where the speaker and addressee are not making eye contact, it is unclear whether we can consider them to be within sight of each other.

In order to delineate these conditions more clearly and determine whether any additional factors in the discourse context influence the felicity of each type of vocative, I conducted an oral survey posing hypothetical situations involving the use of vocatives to a native Fuyang Wu speaker. Professor XuPing Li, who initially described his own judgments and observations in Li (2019), served as both the advisor and native informant for the survey. The following sections describe the survey methodology and analyze its results, identifying the relevance of a variety of discourse factors in determining the felicity of vocative markers. Afterward, I recast these patterns in terms of the discourse functions fulfilled by each type of vocative, departing from the approach of the survey which focused on the discourse environment in which each vocative is uttered.

2.2.1 Survey methodology

The goal of the oral survey was to determine which conditions in the discourse context were relevant to the felicity of each type of vocative. The survey included around fifty questions; each question presented a hypothetical situation corresponding to a specific combination of discourse variables, such as visibility of the speaker to the addressee or physical distance between the addressee and the speaker. The variables considered in the survey drew from the observations in

Li (2019) and prior literature on vocatives, including Zwicky (1974), Schaden (2010), Hu and Lei (2015), and Slocum (2016). Each of the variables is introduced below:

- **Visibility of the addressee to the speaker**: This factor considers whether the speaker sees the addressee or not.

- **Direct eye contact between the speaker and the addressee**: This is a stricter condition than the previous one; if there is direct eye contact between the speaker and the addressee, this means that the speaker sees the addressee and the addressee sees the speaker.

- **Speaker knowledge of the location of the addressee**: This factor considers whether the speaker knows where the addressee is. Other fine-grained distinctions that came up over the course of conducting the survey included speaker knowledge of whether the addressee is present. For example, in some situations the speaker may know that the addressee is present in the vicinity, but may be unaware of the exact location of the addressee.

- **Physical distance**: This factor considers the physical distance between the speaker and addressee in relative terms (long distance vs. short distance). According to Hu and Lei (2015), the variety of Gan Chinese spoken in Anfu County, Jiangxi Province, distinguishes between two types of vocative based on the physical distance between the speaker and addressee.

- **Semantic function**: Schaden (2010) distinguishes between three semantic functions that vocatives may fulfill: identifying the addressee out of a larger set of potential addressees; predicating something on the addressee, such as a specific characteristic; and activating the addressee in the discourse context. One example situation in which a vocative may be used for the activation function is when the addressee is already paying attention to the speaker, but the speaker wishes to emphasize that the information in the utterance is particularly relevant to the addressee. These categories are discussed in more detail in subsequent sections.

- **Pragmatic function**: Zwicky (1974) divides vocatives into calls and addresses based on the pragmatic functions they fulfill; according to Zwicky (1974:787), "calls are designed to catch the addressee's attention, addresses to maintain or emphasize the contact between speaker and addressee." However, vocatives might also fulfill the function of greeting the addressee, which can occur regardless whether the address is paying attention. Vocatives can also be used even if the speaker is unsure whether they will receive a response. For instance, calls might be used to determine whether the addressee is present; the presence of the addressee would be a prerequisite to successfully catching the addressee's attention. The survey questions incorporated a variety of these situations, informally categorizing their pragmatic functions roughly following Zwicky's call/addressee dichotomy.

The survey also included situations in which there was more than one addressee and phone-call situations. In situations with multiple addressees, the speaker might refer to each addressee individually or refer to them with a collective noun, like *students*. The results of these questions are discussed in appendix B.3. During phone calls, it is usually the case that the speaker and addressee are not visible to one another and perhaps do not know each other's location, but can

still engage in discourse almost as if they were in the same physical discourse environment. Thus, these situations were investigated in order to help disambiguate between some of the variables above.

Some of the combinations of variables are unrealistic and were therefore omitted from the survey. For example, it is difficult to imagine a situation where the speaker is making eye contact with the addressee but is unaware of the location of the addressee.[2] Overall, the survey scenarios were constructed with the goal of being simple and realistic, so that the informant could easily understand and imagine the scenario and provide a clear response.

The survey questions were presented in English. Each question included a narrative description of a realistic discourse context. The last sentence of the description provided a sentence containing a vocative that the speaker might utter given the context. The informant was instructed to imagine that they were the speaker of that utterance and judge the felicity of each vocative marker in that situation. The following is an example from the survey, including the narrative description, sample utterance, and informant judgments:

(11) *You visit your friend Aming at their home. You knock on the door and they open it. You say, "Aming, how are you?"* (Survey question #1)

    a. /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

The informant, instructed to imagine that they were uttering the Fuyang Wu equivalent of "Aming, how are you?," responded that the zero marker and rhyme-change marker are felicitous and the suffix marker is infelicitous. Infelicity is noted with the number/pound sign #. Note that the examples indicate which vocatives are felicitous in the sample utterance provided, rather than which vocatives would be felicitous in a response to the question "How are you?" The informant was also aware of the variables being considered in each question. For instance, when presented the question above, the informant was explicitly told that in the situation, the speaker can see the addressee, both parties are making eye contact, the speaker knows the location of the addressee, and both parties are physically close to each other.

I provided further clarifications to each question when necessary in a combination of Mandarin Chinese and English. The informant responded in Fuyang Wu, clarifying his answers in Mandarin Chinese and sometimes English. In the vein of Henry (2005), who describes a methodology to collect syntactic judgments for nonstandard language varieties, the atmosphere was informal. As a linguist himself, the informant often qualified his responses to certain questions with additional intuitions and sometimes provided his own examples to illustrate the distinctions in question, providing the survey with richer qualitative data. A minor caveat is that the pragmatic judgments from the survey are educated guesses about what the informant *would* say in a given context rather rather than judgments of real scenarios or linguistic input. As a result, there is the possibility that these judgments differ from what the informant would provide in a real-life setting. Noveck and Sperber (2007) provide further discussion of the limits of pragmatic judgments in advocating for adding experimental methods to the pragmatics repertoire.

All examples provide the survey question number in parentheses. The wording of the examples are edited for internal consistency of names and pronouns. Note that the utterances listed

---

[2]Perhaps a video call could fit this description.

in each scenario do not correspond perfectly to the utterances the informant actually provided in response to each survey question. For instance, example (11) provides "Aming, how are you?" as the sample utterance. However the informant may have instead provided judgments on the felicity of vocative markers in "Aming, where have you been?," which is a more natural greeting for the given context in Fuyang Wu. The exact content of the utterance is not significant as long as the scenario is the same. The full survey data are included in appendix A.

2.2.2 Survey results

The survey results mostly confirmed the empirical observations of Li (2019), with some caveats described below. The factors which seem not to influence the felicity of vocative markers include speaker knowledge of the location of the addressee, physical distance between the speaker and the addressee, and semantic/pragmatic function as framed in the survey. Although the visibility of the addressee to the speaker did not seem to influence vocative marker felicity per se, direct eye contact between the speaker and the addressee did seem to do so. Other relevant conditions were not initially explored in the survey, but came out over the course of the session through the informant's judgments and observations. These include the whether the vocative was discourse initial and what I call the *social distance* between the speaker and addressee. Each of these variables is discussed in detail below. Keep in mind that in section 2.3, I argue that the conditions determining vocative marker felicity described here are better understood as secondary effects of the discourse functions performed by each vocative. Thus, whether each type of vocative can be used in a given context depends on the felicity of performing each particular discourse function, rather than on the discourse environment per se.

Speaker knowledge of the location of the addressee

The speaker's knowledge of the location of the addressee does not influence the felicity of any of the vocative markers. In the following pair of questions, the main difference is whether the speaker knows the location of their friend Aming. However, the felicity of each of the vocative markers is the same for both situations.

(12)   *You are downstairs in a building and your friend Aming is upstairs, but you cannot see them. From the bottom of the stairs, you call up to them, "Aming, can you come downstairs?"* (Survey question #14)

    a.   # /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. /aʔ.miŋ.ue/   Suffix marker

(13)   *You are downstairs in a building and want to talk to your friend Aming. You are unsure where they are or whether they are in the building. From downstairs, you call upstairs, "Aming, are you upstairs?"* (Survey question #18)

    a.   # /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. /aʔ.miŋ.ue/   Suffix marker

In both situations, the zero marker is infelicitous while the rhyme-change and suffix markers are felicitous.

In another set of questions, the speaker stands outside the door of the addressee's classroom or office, and knocks on the door to enter or to inquire whether the addressee is present.

(14) *You know that your friend Aming is inside their room/office, but the door is closed. You go to their door and call them, "Aming, can I come in?"* (Survey question #13)

    a.   # /aʔ.miŋ/   Zero marker

    b.   /aʔ.miɛŋ/   Rhyme-change marker

    c.   /aʔ.miŋ.ue/   Suffix marker

(15) *You want to talk to your friend Aming but are unsure where they are. You go to their room/office to check, but the door is closed. You call them, "Aming, are you inside?"* (Survey question #17)

    a.   # /aʔ.miŋ/   Zero marker

    b.   /aʔ.miɛŋ/   Rhyme-change marker

    c.   # /aʔ.miŋ.ue/   Suffix marker

(16) *You are meeting some classmates for a school project. They are already waiting for you in a classroom. You reach the room and the door is closed. You knock on the door and say, "Classmates, I am coming in!"*[3] (Survey question #35)

    a.   # /di.ɕioŋ/   Zero marker

    b.   /di.ɕiɔŋ/   Rhyme-change marker

    c.   /di.ɕioŋ.ue/   Suffix marker

(17) *You want to talk to your friends Aming and Afu but are unsure where they are. You go to their room/office to check, but the door is closed. You call them, "Aming and Afu, are you inside?"*[4] (Survey question #29)

    a.   # /aʔ.miŋ/   Zero marker

    b.   /aʔ.miɛŋ/   Rhyme-change marker

    c.   /aʔ.miŋ.ue/   Suffix marker

In examples (14) and (16), the speaker knows the location of the addressee(s), whereas in examples (15) and (17), they do not. With the exception of example (15), the informant provided the same judgments for all of the questions above. I am unsure why he judged the suffix marker to be infelicitous for example (15) in contrast to the other survey questions; however, for this question he did hesitate giving judgments at first. Later, he clarified that the suffix marker would be preferred over the other markers in a slightly different situation where the speaker is calling from the corridor in a hallway with many rooms, as opposed to the given situation where the speaker is calling from directly in front of a specific door. In any case, the generalization seems to stand that speaker knowledge of the location of the addressee does not impact felicity judgments for any of the vocative marker types.

---

[3]The word for 'classmates' is 老同学 /lɔ.doŋ.ɦiaʔ/, which does not differ between its forms with the zero and rhyme-change markers. Therefore, it was replaced with 弟兄 /di.ɕioŋ/ 'brothers', which can also refer to close male friends that are not biologically related.

[4]The example only shows the 'Aming' part of the vocative.

Physical distance between the speaker and the addressee

The physical distance between the speaker and the addressee does not seem to influence the felicity of any of the vocative markers. For example, the following pair of situations is similar in many ways, except for the physical distance between the speaker and the addressee. The speaker and addressee are relatively close in the first situation and relatively far in the second situation. The felicity of the vocative markers does not differ between the two situations.

(18) *You visit your friend Aming at their office, home, or room. The door is open so you can see them. However, they are busy looking at their computer screen, so they do not see you. You say, "Aming, how are you?"* (Survey question #5)

    a. # /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. /aʔ.miŋ.ue/   Suffix marker

(19) *You are walking down the street and see your friend Aming sitting on a bench in the distance. They are looking at their phone and do not see you approaching. From the distance, you shout, "Aming, how are you?"* (Survey question #6)

    a. # /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. /aʔ.miŋ.ue/   Suffix marker

While these situations are not entirely identical, they are similar in that in both cases, the speaker can see the addressee while the addressee does not see the speaker, the speaker is initiating a new conversation with the addressee such that the utterance is discourse initial, and the speaker is using the vocative to attract the attention of the addressee. In this way, the situations form a near "minimal pair" in terms of their discourse contexts, with their main difference being the physical distance between the speaker and the addressee. Other situational minimal pairs which differ only in this variable, and which yield the same felicity judgments for all three types of vocative marker, include the following survey question number pairs: 13/14, 23/24, 25/26, 27/28, 29/30, 31/32, and 33/34. The felicity of the zero marker differs for question number pairs 1/2, 17/18, and 21/22; however, as noted previously in discussing example (15), the speaker initially struggled to provide clear judgments for survey question #17. Question number pairs 1/2 and 21/22 are discussed further in examples (43) and (44).

Semantic function

Schaden (2010) proposes a three-way classification for the semantic functions of vocatives. The first function is to *identify* the addressee from a larger set of possible addressees. For instance, Schaden (2010:181) discusses a hypothetical scenario where the speaker is having a meal with George, Harriet, Gregory, and Margaret, who constitute the set of potential addressees in the discourse context. If the speaker says, "George, could you pass me the salt, please?," the vocative serves to identify George as the addressee, rather than Harriet, Gregory, or Margaret.

    A second function of vocatives is to *predicate* a property upon an already defined set of addressees. For instance, if a speaker says, "Friends, let's go to the park!" to a group of people, this predicates the property of being friends of the speaker onto the set of addressees. In this case, the

vocative cannot be used to select a subset of people that the speaker considers to be friends out of a larger group of potential addressees; instead, the vocative must refer to (and confer friendship status upon) all those present in the discourse context.

The third function of vocatives proposed by Schaden (2010) is harder to pin down, seemingly grouping together any vocatives that are neither identificational nor predicational. Schaden refers to these as activational vocatives, which *activate* the addressee as relevant to the discourse context. The survey included scenarios involving each of these three semantic functions of vocatives; however, the semantic function did not appear to influence the speaker's choice of vocative markers.

(20) *You are walking down the street and see your friend Aming sitting on a bench in the distance. They look up and see you, so you shout, "Aming, how are you?"* (Survey question #2)

    a. # /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

(21) *You are walking down the street and see a group of your friends approaching from the distance. They also see you, so you shout, "Friends, what are you doing here?"* (Survey question #32)

    a. # /di.ɕioŋ/   Zero marker

    b. /di.ɕiɔŋ/   Rhyme-change marker

    c. # /di.ɕioŋ.ue/   Suffix marker

The vocative in example (20) is either activational or identificational, whereas the vocative in example (21) is predicational. However, the same vocative markers are felicitous and infelicitous in both situations. Other pairs of questions illustrating the irrelevance of semantic function to the felicity of vocative markers include: 1/43, 5/33, 6/34, and 13/35.

Pragmatic function

Zwicky (1974) divides vocatives into two categories: *calls*, which "catch the addressee's attention," and *addresses*, which "maintain or emphasize contact between the speaker and the addressee." Thus, Zwicky frames the call/address dichotomy in terms of differences in the pragmatic functions of vocatives. The following examples, borrowed from Slocum (2016:3), demonstrate the distinction between calls and addresses:

(22)   a. **Paul**! Where have you been?   Call

      b. So, **Paul**, how are you?   Address

The vocative in example (22a) is a call because it serves to catch the addressee's attention, while that in example (22b) is felicitous in contexts that are not discourse initial and emphasizes a connection between the speaker and the addressee. Slocum also discusses prosodic diagnostics to differentiate between calls and addresses; calls are prosodically separated from the clause by which they are followed, while addresses are prosodically integrated with these clauses. Slocum shows this prosodic distinction orthographically by marking calls with exclamation marks and addresses with commas. However, the following example might blur the call/address dichotomy:

(23)   **(Hey) Paul**, how are you?

In this example, *(Hey) Paul* may be used discourse initially to greet the addressee or catch their attention; therefore, it seems to be a call. However, the vocative is prosodically integrated with the clause by which it is followed, and thus does not satisfy the diagnostic for calls described by Slocum.

In the survey, I included vocatives in a variety of contexts, including canonical calls used to catch the attention of the addressee and canonical addresses used to maintain or emphasize contact with the addressee in contexts that are not discourse initial. Additional pragmatic functions of vocatives, or perhaps of the utterances in which they were uttered, may be classified as either calls or addresses depending on the author, or may have been overlooked by prior authors. These include vocatives used in friendly greetings, as in example (23), in utterances to determine whether the addressee is present, and in utterances to interrupt the addressee. These categories are neither mutually exclusive nor exhaustive, but provided an informal way to ensure that the survey included vocatives in a wide variety of discourse contexts. The survey questions helped determine whether pragmatic function generally, or the call/address dichotomy specifically, influenced the felicity of vocative markers in Fuyang Wu.

In the survey, the felicity of vocative markers sometimes remained constant and sometimes varied when factors such as mutual eye contact, physical distance between the speaker and the addressee, and semantic function as proposed by Schaden (2010) were held constant. This suggests that other factors were relevant beyond those directly tested in the survey. One set of questions is provided below as a starting point to discuss other considerations that revealed themselves over the course of conducting the survey. In these examples, the pragmatic function, as informally defined above, was varied while the other directly tested discourse variables, including eye contact between the speaker and the addressee, speaker knowledge of the location of the addressee, physical distance between the speaker and the addressee, and the semantic functions of the vocative, were kept constant.

(24) *You visit your friend Aming at their home. You knock on the door and they open it. You say, "Aming, how are you?"* (Survey question #1=39)

    a. /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

(25) *You are talking with your friend Aming face to face, waiting for the bus. They are talking about something when you see the bus approach. You interrupt them while they are talking, and say, "Aming, the bus is coming!"* (Survey question #40)

    a. /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

(26) *You are talking with your friend Aming about your favorite restaurant, saying, "My favorite thing is their noodles. Aming, have you been to that restaurant?"* (Survey question #41)

    a. /aʔ.miŋ/   Zero marker

    b. # /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

In these examples, the speaker and addressee are making eye contact, the speaker knows where the addressee is, the speaker is physically close to the addressee, and the semantics of the vocative seem to fall into the Schaden's "activation" category. However, the pragmatic functions of the vocatives differ across the three examples. In example (24), the utterance/vocative is a greeting, in example (25), the utterance/vocative is used to interrupt the addressee, and in example (26), the utterance/vocative is used to maintain the attention of the addressee or indicate that the upcoming utterance is of special relevance to the addressee, since it is a question for which the speaker expects a response. While the felicity of each vocative marker is the same for examples (24) and (25), the felicity of the rhyme-change marker differs for (26). I argue in section 2.3 that the observed differences here are neither due to the call/address dichotomy nor due to other pragmatic functions as discussed in this section, but instead result from the distinct discourse participant management functions performed by each type of vocative.

Direct eye contact

Whether the speaker and addressee have direct eye contact with each other correlates with the felicity of suffix markers. In the following pair of examples, the felicity of the zero marker and rhyme-change marker do not change regardless of whether the speaker and addressee have direct eye contact; in both cases the zero marker is infelicitous and the rhyme-change marker is felicitous. However, the suffix marker is felicitous when there is no direct eye contact between the speaker and addressee, and infelicitous when there is direct eye contact between the speaker and addressee.

(27) *You are walking down the street and see your friend Aming sitting on a bench in the distance. They look up and see you, so you shout, "Aming, how are you?"* (Survey question #2)

    a.   # /aʔ.miŋ/   Zero marker

    b.   /aʔ.miɛŋ/   Rhyme-change marker

    c.   # /aʔ.miŋ.ue/   Suffix marker

(28) *Same as the previous situation, except Aming is looking at their phone and does not see you approaching.* (Survey question #6)

    a.   # /aʔ.miŋ/   Zero marker

    b.   /aʔ.miɛŋ/   Rhyme-change marker

    c.   /aʔ.miŋ.ue/   Suffix marker

The important distinction is between the infelicity of the suffix marker in example (27c), in which suffix the speaker and addressee have direct eye contact, and its felicity in example (28c), in which the speaker and addressee do not have direct eye contact.

In section 2.3, I show that what seems to be a visibility condition on the felicitous use of the suffix marker can be explained in terms of the function of suffix-marked vocatives in adding participants to the discourse. Thus, the visibility condition can be explained through the overlap between contexts in which the speaker initiates a new conversation and contexts in which the speaker and addressee are not making direct eye contact.

Social distance between the speaker and the addressee

For some questions in the survey, the informant had the intuition that the felicity of each vocative marker depends on the social relationship between the speaker and the addressee and the affective purpose for which the vocative or utterance was being used. For instance, the informant characterized specific vocative markers as only being felicitous if the speaker and addressee are familiar with each other, or if the speaker intends the utterance to be a friendly persuasion, request, suggestion, or piece of advice.

I am uncertain whether these effects belong to the same phenomenon; however, for the purposes of this description, I group this set of intuitions together as a reflection of the *social distance* between the speaker and the addressee.[5] By social distance, I mean the degree of intimacy, familiarity, or friendliness between the interlocutors. Speakers may use certain vocative markers to either reflect their perceptions of the social distance between themselves and the addressee, or to actively create and perform the desired social distance, "pulling" the addressee in to achieve a greater sense of familiarity or "pushing" them away to achieve a lesser sense of familiarity. In the latter case, the performative function of vocatives to mediate social distance could explain examples from the survey in which the informant perceived use of a certain marker as indicating the utterance as a request, suggestion, or piece of advice. However, from the limited survey data I cannot draw broader generalizations on the patterns specific to each vocative marker. Additionally, I leave a detailed analysis of these social distance effects as a topic for further investigation. Tentatively, it seems that some of the social distance intuitions may be secondary effects of the discourse functions I propose in the next section, while others require additional explanations.

In the following example, also discussed earlier as example (25), the speaker's choice of vocative marker reflects either their perceived or desired social distance from the addressee:

(29) *You are talking with your friend Aming face to face, waiting for the bus. They are talking about something when you see the bus approach. You interrupt them while they are talking, and say, "Aming, the bus is coming!"* (Survey question #40)

    a. /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

While both the zero marker and rhyme-change marker can be used in this situation, the choice of which marker to use depends on how the speaker perceives the situation, and therefore would be received differently by the addressee or other listeners. The zero marker comes off as cold or unfriendly, indicating greater social distance, while the rhyme-change marker comes off as neutral or friendly, indicating less social distance. The suffix marker is infelicitous regardless of speaker-addressee social distance.

The idea that social distance is relevant to the choice of vocative marker is supported by a similar survey question. Example (30) differs from example (29) only in that the speaker refers to the addressee as "friend" rather than by their name.

(30) *You are talking with your friend face to face, waiting for the bus. They are talking about*

---

[5]In the context of the ongoing COVID-19 pandemic, the term *social distance*/*social distancing* has taken on a newly salient meaning. Please forgive the way I use the term in this section, which was mostly written prior to the pandemic.

something when you see the bus approach. You interrupt them while they are talking, and say, "Friend, the bus is coming!" (Survey question #49)

a. ? /di.ɕioŋ/   Zero marker

b. /di.ɕiɔŋ/   Rhyme-change marker

c. # /di.ɕioŋ.ue/   Suffix marker

In this situation, the felicity of the rhyme-change marker does not differ from that in example (29) because referring to the addressee as 'friend' makes sense in a situation where there is relatively less social distance between the interlocutors. However, the zero marker is only marginally felicitous in contrast with example (29) because referring to the addressee as 'friend' is incongruous with the greater social distance implied by using the zero marker.

In a similar vein, the relative social status, formality of the situation, and degree of familiarity between the speaker and the addressee also influenced the perceived felicity of each vocative marker. According to the informant, when the speaker has a lower social status than the addressee, the rhyme-change and suffix marker are preferred over the zero marker. Conversely, when the speaker has a higher social status than the addressee, the zero marker is preferred while the rhyme-change marker tends to be infelicitous. The informant provided no intuitions about the suffix marker in the latter case. Regarding the formality of the situation, the informant claimed that in informal settings overt markers are more appropriate, while in formal settings the zero marker is more appropriate. Finally, regarding the degree of familiarity between the speaker and addressee, the informant said kinship terms used as vocatives can take the rhyme-change or suffix markers, but sound strange with the zero marker:

(31) 阿婆 /aʔ.bu/ 'grandma'

a. # /aʔ.bu/   Zero marker

b. /aʔ.bɔ/   Rhyme-change marker

c. /aʔ.bu.ue/   Suffix marker

Generally, these examples suggest that the zero marker is preferred in contexts where the speaker is higher in social status and does not need to be as polite, where the situation is formal, and where there is less familiarity between the speaker and the addressee. All of these generalizations seem compatible with the idea that the zero marker indicates greater social distance.

Although the suffix marker is infelicitous in both examples (29) and (30), social distance does seem to impact its felicity in other situations. For instance, in the following situation, the suffix marker is felicitous only in situations where the speaker feels close to the addressee:

(32) *At the dinner table, you are sitting with a group of friends and Aming is sitting across from you. You want Aming to pass the water to you. You say, "Aming, can you pass the water to me?"* (Survey question #42)

a. # /aʔ.miŋ/   Zero marker

b. /aʔ.miɛŋ/   Rhyme-change marker

c. /aʔ.miŋ.ue/   Suffix marker

If the speaker does not feel socially close to Aming, then the suffix marker would be inappropriate for this situation. The informant said that generally, speakers use suffix-marked vocatives when they want to "shorten their psychological distance" from the addressee (拉近心理距离), such as

if you have a favor to request of the addressee or if you have something in particular you want to discuss.

In English, similar distinctions in social distance can be expressed through whether speakers can use *hey* in a given vocative phrase, as in the following example:

(33) **(Hey) Sarah**, what time is dinner today?

The syntactic similarities between English *hey* and vocative elements in other languages are discussed later in the essay; what is interesting for the current discussion is that the felicity of *hey* depends on factors like the formality of the situation and the relationship between the speaker and the addressee. Consider the following sentences:

(34) a. **Sarah**, what time is dinner today?
      b. **Hey Sarah**, what time is dinner today?
      c. **Hey**, what time is dinner today?

Example (34a) is appropriate across a variety of situations as long as it is appropriate to refer to the addressee as *Sarah*. For instance, it is usually inappropriate for a student to call a school administrator by their first name. Example (34b) is acceptable in usually informal settings, again as long as the addressee is of equal or lower social status to the speaker. Finally, example (34c) is the most informal and suggests a great deal of familiarity between the speaker and addressee.

Position in the discourse

Although this was not explicitly tested in the survey, the position of the vocative within the discourse influences the felicity of vocative markers. Specifically, zero markers are felicitous mainly in contexts that are not discourse initial and rhyme-change markers are used to begin new turns in the discourse or attract the attention of the addressee.

Of the sixteen questions in the survey for which the zero marker was felicitous, nine questions involved contexts in which the vocative was not discourse initial. Most of the remaining seven examples that seem to be apparent exceptions to this pattern will be explained in the following section. Informally, a vocative is discourse initial if it occurs at the beginning of the sentence in an utterance at the beginning of the discourse. For example, vocatives which occur in the second or third sentences of a longer utterance are not discourse initial by this measure. Since I did not systematically investigate the position of vocatives within the sentence (e.g. at the beginning, middle, or end of the sentence) or in relation to other sentence-peripheral elements like discourse particles, I am uncertain how these factors figure into whether a vocative is considered discourse initial. However, as I show in subsequent sections, this question turns out to be less significant for my final analysis.

The canonical non-discourse-initial contexts in which the zero marker was felicitous include conventional turn-taking, vocatives used within a multi-sentence utterance, and vocatives used to interrupt the other interlocutor.

(35) *You are talking to your friend Aming through the door. They are deciding which outfit to wear, and you are outside helping them to decide. They say, "What color clothes should I wear?" You say, "Aming, you can wear blue or black."* (Survey question #55)

      a. /aʔ.miŋ/   Zero marker

b. /aʔ.miɛŋ/   Rhyme-change marker

c. /aʔ.miŋ.ue/   Suffix marker

In this example, the speaker uses the vocative to initiate a new turn in the discourse in response to a question from Aming, the other interlocutor.

(36) *You are talking with your friend Aming about your favorite restaurant, saying, "My favorite thing is their noodles. Aming, have you been to that restaurant?"* (Survey question #41)

    a. /aʔ.miŋ/   Zero marker

    b. # /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

In this example, the speaker uses the vocative within a multi-sentence utterance as a way to maintain the attention of the addressee and indicate that the upcoming sentence is of particular relevance to the addressee. In this case, the sentence is a question for which the speaker expects a response from the addressee. Similar questions in the survey include questions 50 and 58.

(37) *You are with sitting at a table with a group of friends, one of whom is Aming. They are talking but you want to say something. You interrupt them, saying, "Aming, can I say something?"* (Survey question #45)

    a. /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

In this example, the speaker uses the vocative to interrupt the other interlocutor. Similar questions in the survey include questions 40, 49, 53, and 57.

The felicity of rhyme-change markers also depends on their position in the discourse. Specifically, they are mostly used to initiate new turns in the discourse or to attract the attention of the addressee. Rhyme-change markers are felicitous in situations where a new turn was initiated in the discourse, whether this was in discourse-initial contexts or in situations following the turn of another interlocutor. Since position in the discourse was not explicitly tested for in the survey, the initial part of the survey from questions 1 through 38 inadvertently included only scenarios in which the vocative was used discourse initially. The rhyme change marker was felicitous in all of the questions, such as the following:

(38) *You are walking down the street and see your friend Aming sitting on a bench in the distance. They look up and see you, so you shout, "Aming, how are you?"* (Survey question #2)

    a. # /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

The rhyme-change marker was also allowed in other contexts that were not discourse initial, but still initiated new turns within an already ongoing discourse, such as the following examples in which the speaker initiates a new turn in response to a question or interrupts another interlocutor, respectively. These examples are the same as examples (35) and (37) above.

(39) *You are talking to your friend Aming through the door. They are deciding which outfit to wear, and you are outside helping them to decide. They say, "What color clothes should I wear?" You say, "Aming, you can wear blue or black."* (Survey question #55)

    a. /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. /aʔ.miŋ.ue/   Suffix marker

(40) *You are with sitting at a table with a group of friends, one of whom is Aming. They are talking but you want to say something. You interrupt them, saying, "Aming, can I say something?"* (Survey question #45)

    a. /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

Other survey questions in which the speaker interrupts another interlocutor, and the rhyme-change marker is felicitous, include questions 40, 49, 53, and 57.

Crucially, rhyme-change markers are infelicitous in contexts when the speaker continues an ongoing turn in the discourse, such as the following example, which is the same as example (36):

(41) *You are talking with your friend Aming about your favorite restaurant, saying, "My favorite thing is their noodles. Aming, have you been to that restaurant?"* (Survey question #41)

    a. /aʔ.miŋ/   Zero marker

    b. # /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

Other examples like this include survey questions 50 and 51. The informant also noted that the rhyme-change marker can be used in situations like this if the addressee is not paying attention.

Summary

Briefly summarizing the survey results, the data suggest the following general felicity conditions for each type of vocative marker:

- Zero markers are usually felicitous in non-discourse-initial contexts and usually infelicitous otherwise.

- Rhyme-change markers are felicitous at the beginning of new turns in the discourse, functioning to attract the attention of the addressee either when initiating new conversations or starting new turns in an ongoing conversation.

- Suffix markers are felicitous when there is no direct eye contact between the speaker and the addressee, or when the addressee is not paying attention to the speaker.

Additionally, the use of each type of vocative marker came with certain interpretations regarding the social distance between the speaker and the addressee, which had to do with the perceived or desired relationship between these parties, their relative social status, their mutual familiarity, and the formality of the situation.

2.3 The discourse functions of vocative markers

The discussion in section 2.2 showed ways in which the discourse context correlates with the felicity of each type of vocative. However, these patterns can be understood as secondary effects of the discourse functions these vocatives perform. As I show below, this way of understanding the felicity conditions of vocative markers succeeds at capturing some of the discrepancies in the generalizations described above. Thus, the patterns observed in the survey data arise from correlation between certain discourse contexts and the discourse functions that can be fulfilled by a vocative in those contexts, rather than from any inherent encoding of information like visibility or physical distance in the grammar of the speaker. Understanding the felicity of different vocatives in this way captures the intuitions of earlier proposals like Zwicky (1974) and Schaden (2010) that vocatives are used to perform certain semantic and pragmatic functions, not just to express information about the situation; however, the specific functions I propose differ from these earlier works. Specifically, I propose that each type of vocative in Fuyang Wu is used to manage discourse roles by maintaining the set of participants and addressees as it already stands or changing the members of these sets.

In order to discuss the ways in which vocatives perform discourse participant management functions, I first posit a simple model of the discourse information known to, or at least knowable by, each of the participants at any given time in the conversation. Minimally, the following information is sufficient to capture the patterns of vocative marking in Fuyang Wu:

1. P = the set of *participants* in the discourse

2. A = the set of *addressees* in the discourse

3. T = the discourse *topic*

A few notes of clarification are in order for each of these items. Following Slocum (2016:13-14), I distinguish between hearers, people other than the speaker present in the discourse environment, and addressees, the subset of hearers to whom the speaker directs their utterance. The set of participants includes the speaker and the addressee(s). However, I assume for the purposes of the current proposal that the set of participants does not include hearers that are not the addressee(s). In our discourse model, set A is by definition a subset of P. Given the assumption that participants include the speaker and addressee(s) but not other hearers, the set P−A is the set containing the speaker. Making this assumption provides an easy way to distinguish between speakers and addressees using syntactic features, as I attempt in section 3.

Also note that I use *topic* in the sense of *discourse topic* rather than in the sense of *sentence-topic*, following the distinction made in van Dijk (1977) and Reinhart (1981). The crucial contrast is that discourse topics span larger units, indicating what the conversation is about, whereas sentence-topics often change from sentence to sentence, indicating what each sentence is about. The purpose of specifying the topic in this discourse model is to ensure that the speaker and addressee are "on the same page," so to speak, about what they are discussing. There are situations in which the addressee may be participating in *some* discourse; however, crucially, they may not be participating in the *right* discourse intended by the speaker. A survey question illustrating just such a situation is discussed in more detail below as example (47).

In conversation, the participants each have a sense of who the participants are, who the addressee(s) is/are, and what the discourse topic is at any given moment. Each of these is subject to frequent change over the course of conversation: people may join or leave the set of participants; each participant may take turns speaking and listening, moving in and out of the set of addressees; and the discourse topic may change. In an ideal conversation without miscommunication, the representation of discourse in the mind of each participant updates as these changes occur; moreover, the representation of discourse is ideally identical for each participant at any given moment.

Given this simple discourse model, the functions performed by each type of vocative can be stated as follows, with x denoting the person or people to which the vocative refers:

1. *Zero marker*: Express the members of set A, without changing the discourse roles, that is, the membership of sets P and A.

2. *Rhyme-change marker*: Move x into A. This also entails moving x into P, if x is not already a member of P.

3. *Suffix marker*: Move x into P for a discourse with topic T.

Note that I am not claiming that the vocative markers themselves perform the functions described, but that they are overt realizations of different types of vocatives in Fuyang Wu that perform these functions. The syntactic status of the vocative markers themselves is explored in section 3.

According to the functions as stated above, zero-marked vocatives cannot be used in situations where the relevant aspects of discourse, that is, the set of participants or the set of addressees, are being changed. Instead, zero-marked vocatives can be thought of as a reminder of who the addressee is. For instance, the zero marker is infelicitous if the vocative is used to bring new participants into the discourse or to change the membership of the set of addressees, as in examples which correspond to the semantic identification function proposed by Schaden (2010). As a result, zero-marked vocatives were infelicitous for most questions in the first part of the survey, from question 1-38, because these questions involved vocatives in discourse-initial contexts where presumably the entity referred to by the vocative is being brought into the discourse as both a participant and addressee. The zero marker was felicitous in the following general types of situations: when the vocative was used in the middle of a multi-sentence utterance, to take turns in the discourse, to interrupt the other interlocutor, and with certain greetings, including those used to initiate phone calls. In the context of multi-sentence utterances, turn-taking, and initiating certain greetings or phone calls, the zero-marked vocative is felicitous because it does not change the set of discourse participants or addressees. In all of these situations, the discourse is either ongoing without any changes to these sets, or it is clear from the context who is expected to speak, and therefore who is the addressee. In examples where the speaker interrupts the other interlocutor, it is less clear how this fits into the generalization. However, these examples come with a specific discourse effect described above, where their use comes off as cold-hearted or rude. Perhaps this perception arises from a minor violation of the expected discourse function of zero markers in general.

The rhyme-change marker is felicitous when it is used to initiate new turns in the discourse or attract the attention of the addressee. In both of these situations, use of a vocative with the rhyme-change marker serves to change the entity denoted by the vocative into an addressee.

Finally, the suffix marker is felicitous when the vocative is used to invite the entity denoted by the vocative to participate in discourse on a certain topic. This accords with the informant's intuition that using vocatives with the suffix marker serves as an invitation for the addressee to "enter the group" and that this marker is particularly felicitous when the speaker has something particular to discuss or request of the addressee. As discussed earlier, the suffix marker is generally felicitous in discourse-initial contexts if the addressee is not visible. Here, visibility is not the key factor determining the felicity of the suffix marker per se, but a factor which correlates to discourse contexts in which the addressee was not paying attention or was otherwise not already established as a participant in the discourse. The suffix marker was also felicitous in certain non-discourse-initial contexts. Here, the generalization seems to be that the suffix-marked vocative invites the entity denoted by the vocative to participate in the specific discourse topic desired by the speaker. Thus, these non-discourse-initial uses correspond to situations where the speaker modifies the topic of the conversation.

Next, I provide examples to demonstrate how framing the different types of vocative markers in terms of the discourse functions listed above helps capture some problematic survey data. First, if we assume the above discourse functions to be correct, we expect the following felicity conditions for each discourse marker:

(42)   Felicity conditions for Fuyang Wu vocative markers

   a. *Zero marker*: Infelicitous if x is not already a member of set A, or if the utterance changes the membership of set A and/or set P, felicitous otherwise.
   b. *Rhyme-change marker*: Infelicitous if x is already a member of A, felicitous otherwise.
   c. *Suffix marker*: Infelicitous if x is already a member of P in a discourse with topic T, felicitous otherwise.

Given the felicity conditions listed above, we would expect that zero markers and rhyme-change markers occur in complementary distribution. Indeed, this is generally the case. However, this pattern has a few exceptions. Some instances in which both or neither of the markers are felicitous for a given situation represent genuine counterexamples to my analysis, while others can be explained by a certain level of accommodation and flexibility in how the speaker understands the structure of the discourse for a given situation.

First, I address seeming exceptions to the generalization that zero markers are used in non-discourse-initial contexts. One group of exceptions to this generalization were phone calls and certain greeting situations in which the zero marker was felicitous despite the vocative being discourse initial. An example is given below:

(43)   *You visit your friend Aming at their home. You knock on the door and they open it. You say, "Aming, how are you?"* (Survey question #1=39)

   a.   /aʔ.miŋ/   Zero marker
   b.   /aʔ.miɛŋ/   Rhyme-change marker
   c.   # /aʔ.miŋ.ue/   Suffix marker

Although many of the situations in the survey involved discourse-initial vocatives that could be construed as greetings of sorts, the examples in which zero markers are acceptable are all similar in that the speaker and addressee are already making eye contact. In such situations, perhaps the speaker and the addressee are already aware of each other's intent to engage in discourse

with one another. Since the identity of the addressee is already established, the zero marker is licensed in this specific context. This is in contrast to other discourse-initial contexts where there is no established eye contact between the speaker and the addressee. In this case, it is not known to the addressee that they are the addressee until after the speaker initiates the conversation, so the zero marker is not licensed in those situations. This explanation can also apply to phone call situations, where expectations on who is the speaker and who is the addressee are established prior to the first verbal exchange between interlocutors, by virtue of the fact that phone calls are initiated by one party and directed toward a specific other party.

However, note that this interpretation does not fully explain judgments like the following:

(44) *You are walking down the street and see your friend Aming sitting on a bench in the distance. They look up and see you, so you shout, "Aming, how are you?"* (Survey question #2)

    a. # /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

Since the speaker and addressee have established direct eye contact in this situation, the above interpretation would also be expected to apply to this situation. However, the zero marker is not licensed for this situation. Perhaps this can be explained by a further caveat on the physical distance between the speaker and the addressee, where beyond a certain physical distance it is less clear to the interlocutors that conversation is about to commence.

In some contexts, the vocative occurs non-discourse initially, but the zero marker is still infelicitous. An example is given below:

(45) *You are sitting with a group of friends, telling them about the importance of sleep. One of your friends in particular, Aming, often stays up late at night and doesn't sleep enough. You have been talking for a while but want to make sure that Aming understands what you are saying. After giving your explanation, you say, "Aming, sleep is indeed very important, isn't it?"* (Survey question #46)

    a. # /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

In this example, the vocative is not discourse initial since it is in the last sentence of an extended utterance. The generalization that the zero marker is felicitous is non-discourse-initial contexts seems not to apply in this case. However, if we understand the zero marker in terms of its discourse function, to express the members of the set of of addressees, then it seems possible to explain this discrepancy. In the example, the first part of the utterance is directed toward the entire group of friends present. In the last sentence, the speaker indicates that the utterance as a whole has some special relevance to one specific person within the group of addressees by directing a pointed question toward that individual. The vocative in this case could be interpreted as a way to change the set of addressees from the larger group containing Aming, to just Aming. Since the vocative is not simply expressing the set of addressees as it was up to that point in the utterance, but actively changing the set of addressees, the zero marker is infelicitous in this context. Survey question #47 uses the vocative at the end of the sentence instead of the beginning, but the question and judgments are otherwise identical.

Given this way of interpreting the felicity conditions of zero markers, examples discussed earlier in which the vocative marker can be used to interrupt another interlocutor seem problematic. One question discussed earlier as example (25) is reproduced below:

(46) *You are talking with your friend Aming face to face, waiting for the bus. They are talking about something when you see the bus approach. You interrupt them while they are talking, and say, "Aming, the bus is coming!"* (Survey question #40)

    a. /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. # /aʔ.miŋ.ue/   Suffix marker

In general, the speaker observed that vocatives with the rhyme-change marker come across as friendly relative to zero-marked vocatives, though this contrast had varying degrees of salience in different survey examples. Thus, in the context provided in example (46), a speaker who chooses to use a zero-marked vocative may come off as emotionally cold, or perhaps even annoyed. Given these speaker judgments, it seems that use of the zero marker, while technically felicitous, may be some sort of violation of politeness in the discourse. Perhaps this judgment can be derived from the generalization that zero markers are only felicitous when the speaker does not change the membership of set P or A. When the speaker uses a zero-marked vocative to interrupt the other interlocutor, perhaps this comes off as a suggestion that the other interlocutor was not supposed to be speaking in the first place, and therefore its use would come off as cold-hearted.

Finally, the following example demonstrates the discourse function of suffix markers in adding the person to which the vocative refers to the set of discourse participants.

(47) *You visit your colleague Aming at their office. They are very busy with their work so they are looking at their computer and not at you. They still do not look at you, but begin talking about how busy they are and how they do not have time to talk. You interrupt them, saying, "Aming, can you please take a break? It is something important."* (Survey question #53)

    a. /aʔ.miŋ/   Zero marker

    b. /aʔ.miɛŋ/   Rhyme-change marker

    c. /aʔ.miŋ.ue/   Suffix marker

Here the speaker and addressee are already in a conversation with each other. However, the addressee is not engaging with the speaker on the topic that the speaker wishes to discuss. Thus, using the suffix-marked vocative indicates the speaker's request for the addressee to join a different discourse, that with the topic preferred by the speaker.

As the examples in this section show, the distinct discourse functions of each type of vocative result in their respective felicity conditions. Briefly reviewing the conclusions from this section, the discourse functions performed by each type of vocative in Fuyang Wu are the following:

1. *Zero marker*: Express the members of set A, without changing the discourse roles, that is, the membership of sets P and A.

2. *Rhyme-change marker*: Move x into A. This also entails moving x into P, if x is not already a member of P.

3. *Suffix marker*: Move x into P for a discourse with topic T.

In section 3, I examine the syntactic encoding of these vocative discourse functions.

3 The syntax of vocative phrases in Fuyang Wu

This essay falls within a growing body of literature examining the syntax of vocatives, including Osenova and Simov (2003), Moro (2003), Hill (2007), Haegeman and Hill (2013), Sonnenhauser and Noel Aziz Hanna (2013), Hill (2014), and Slocum (2016). In this section I propose an analysis for the syntax of Fuyang Wu vocative phrases based on the distinctions in discourse functions of zero, rhyme-change, and suffix markers. I argue that the person features [± participant] and [± author], as discussed by Harbour (2016), can derive the discourse functions of each type of vocative marker. Further, I claim that Fuyang Wu vocative markers are realizations of a RoleP head along the lines of vocative clitics analyzed by Hill (2007, 2013, 2014). If the vocative markers merge with values for person features, that is, [+participant] and/or [−author], then the vocative phrase performs the function of adding the entity to which the vocative refers to the set of participants and/or addressees. Otherwise, if the vocative marker merges without values for [± participant] and/or [± author], then felicitous use of the vocative depends on the success of the presupposition that the entity to which the vocative refers is the addressee. In other words, the vocative must be compatible with prior assumptions about the participant and author status of the entity to which the vocative refers.

In section 3.1, I show how to account for the distinct discourse functions of Fuyang Wu vocative markers using Harbour's (2016) person features. In section 3.2, I summarize Hill's (2007, 2013, 2014) proposal for vocatives as RolePs and claim that Fuyang Wu vocative markers belong to Role°. In section 3.3, I briefly examine prior proposals regarding the location of the vocative phrase with respect to the main spine of the clause, concluding that any of the analyses are potentially compatible with the current proposal. Finally, in section 3.4, I discuss how my proposal combining person features and RoleP works for each type of Fuyang Wu vocative marker.

3.1 Person features to encode discourse functions

As discussed in section 2.3, the patterns of felicity of zero, rhyme-change, and suffix markers in Fuyang Wu derive from their differing functions in mediating the participants and addressees in the discourse. The model of discourse proposed earlier draws from the types of discourse roles discussed by Noyer (1992:146), whose typology of discourse roles is as follows:

(48)

discourse roles
/ \
participants   nonparticipants
/ \
speaker   hearer
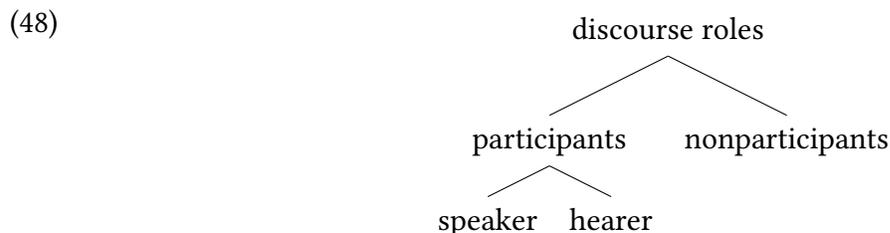
The conventional categorizations of 1st person, 2nd person, and 3rd person map onto speaker, hearer, and nonparticipants, respectively. Note that Noyer's use of the term *hearer* here corresponds to *addressee* throughout the current proposal. By contrast, I treat hearers that are not the

addressee(s) as a subset of nonparticipants. Noyer supports the idea of participants as a natural class of discourse roles corresponding to the feature [± participant] with several empirical examples. For instance, he claims that the Ho-Chunk (also known as Winnebago) language, a Siouan language spoken in the Midwestern United States, has a two-way personal pronoun distinction corresponding to participants (speakers and hearers) versus nonparticipants (Noyer 1992:151).

Harbour (2016:41) follows this three-way partition of discourse roles, distinguishing between the author, hearer, and others, corresponding to Noyer's (1992) speaker, hearer, and nonparticipants. Further, Harbour claims that there are only two person features, [± participant] and [± author], eschewing previous proposals that also include [± hearer].

I suggest that the [± participant] and [± author] features provide a way to encode the discourse functions that Fuyang Wu vocatives perform in managing the set of participants and addressees. In the current proposal, the person features are interpreted as functions on the discourse structure, rather than indicators of the discourse roles as they are at a given moment. In other words, in using vocatives specified with values for each feature, the speaker performs the act of adding members to or removing members from the set of participants and/or the set of addressees. Specifically, specification as [+ participant] adds the referent to the set of discourse participants and specification as [− author] adds the referent to the set of addressees and removes them from the set of speakers. I propose the following mapping between the person feature valuations and each type of vocative marker:

(49)   a. Zero marker: not associated with person features
       b. Rhyme-change marker: [− author]
       c. Suffix marker: [+ participant]

The zero marker is not associated with valued person features at all; thus, it does not and cannot perform changes to the set of participants or addressees. For vocatives with the rhyme-change marker, valued as [− author], the entity denoted by the vocative is moved into the set of addressees. Similarly, for vocatives with the suffix marker, valued as [+ participant], the entity denoted by the vocative is moved into the set of participants.

The relations between the features values and discourse functions for each type of vocative can be explained with appeals to notions from the field of pragmatics. In using zero-marked vocatives, the speaker presupposes that the person/people to which the vocative refers is/are already members of the set of participants and members of the set of addressees. The felicity of using a zero-marked vocative depends on the felicity of making this presupposition. Consequently, the zero marker is felicitous in contexts where the set of discourse participants is already established and the set of addressees is either not changing, such as cases where the speaker continues an ongoing utterance, or predictable from the context, such as cases where the discourse participants are taking turns speaking. As the survey results show, these contexts are often non-discourse initial.

In using vocatives with the rhyme-change marker, the speaker performs the act of adding the referent(s) to the set of addressees. Since the set of addressees is a subset of the set of participants, adding the referent(s) to the set of addressees entails adding them to the set of participants if they are not already members of this set. Crucially, although the referent being added to the set of participants is entailed, this is not a primary function of the vocative. The distinction I draw here is something akin to the difference between what is asserted and what is entailed when speakers make utterances, although in this case the vocative does not in itself convey a complete

proposition. In contrast to the current proposal in which rhyme-change markers are associated with the [− author] feature and not [+ participant], let us briefly consider an alternative in which the rhyme-change marker is associated with both of these features. If that were the case, then the vocative would add the referent to both the set of addressees and the set of participants. The latter action would be redundant in contexts where the referent is already a discourse participant. In fact, we might expect from such a valuation that the rhyme-change marker would be infelicitous in such contexts, as is the case for suffix markers. The fact that this restriction applies to suffix markers but not to rhyme-change markers suggests that the rhyme-change marker is associated with [− author], but not with [+ participant].

In using vocatives with the suffix marker, the speaker performs the act of adding the referent(s) to the set of discourse participants. With regard to the zero marker, I discussed how the lack of valued person features results in the inability of the zero marker to be used in contexts where the set of discourse participants and addressees is being changed, such as in discourse-initial contexts where new entities are being added to both the set of participants and the set of addressees. Like the zero marker, suffix markers are also not associated with the feature [− author]. Yet, suffix markers can be used in contexts where new entities are being added to the set of addressees, such as in some discourse-initial contexts. Perhaps the contrast between the felicity of suffix markers and infelicity of zero markers despite their similar lack of the [− author] feature can also be explained pragmatically; in these discourse-initial contexts, the speaker or addressee status of the entity to which the vocative refers, although not previously established by the context, may be conversationally implicated by the speaker's use of the suffix-marked vocatives.

In the current proposal, vocative markers may merge with or without associated [± participant] and/or [± author] features. Now I briefly consider alternative proposals in which vocative markers merge with a full set of person features, some valued and some unvalued. For instance, the rhyme-change marker might merge with a valued [− author] feature and unvalued [_participant] feature. The features that merge unvalued would receive their value later in the syntactic derivation. In later sections, I argue that vocative markers are realizations of Role heads that take vocative nouns as their complements. Setting aside the relevant but inconclusive question of whether these vocative nouns are DPs or NPs, let us consider where in the syntactic derivation vocative markers might satisfy their unvalued person features. If we assume downward probing into the c-command domain, in the vein of Chomsky (2000, 2001), any person features on the Role head unvalued by the vocative marker itself would receive their values from the vocative D or N head. For example, in order to derive a rhyme-change marked vocative phrase, a vocative noun referring to some participant in the discourse would be associated with a D or N head valued as [+ participant]. This valued person feature would then satisfy the unvalued [_participant] feature of the rhyme-change marker on the Role head. If this were the case, we might expect additional evidence for such an Agree relation, such as movement of the vocative noun to spec-RoleP or overt morphology on the vocative noun. Indeed, the former might help explain the word order of vocative nouns in relation to vocative markers in Fuyang Wu; meanwhile, there does not seem to be evidence for the latter. Since the vocative noun refers to the addressee, we also might expect more second person morphology to occur in vocative phrases. For instance, if the vocative noun entered valued as [+ participant] and [− author], as may be the case for zero-marked vocatives, we might expect something like 'you' or 'hey you' to be a valid vocative phrase. However, such vocatives using second-person pronouns are marked in Fuyang Wu.

If we instead assume upward probing, following Wurmbrand (2011) and Zeijlstra (2012), the Role head might receive its feature valuations from some projection in the spine of the clause associated with the addressee, such as VocP (Moro 2003), SAhP (Hill 2007, 2014), or AddrP (Slocum 2016), as discussed in section 3.3. However, note that the heads of these projections as proposed by their original authors do not c-command the vocative phrase (i.e. RoleP in the current proposal), so further modifications to Moro (2003), Hill (2007, 2014), and Slocum (2016) may be necessary to accommodate an upward probing analysis. In the absence of conclusive evidence for or against the downward and upward probing Agree-based analyses, I assume what I think is simpler than either of these alternatives: vocative markers merge associated with a reduced subset of the person features, and the Role head in which vocative markers merge does not agree with any other projections.

In the current proposal, in which each vocative marker enters associated with a reduced subset of person features, I still assume that the vocative markers are associated with other features that contribute to their interpretation; otherwise, there would be no purpose for them in the syntax. Exploring the possibilities for what these other features may be, I appeal to the proposals of Hill (2013, 2014) that posit pragmatic features relevant to the interpretation of vocatives. Hill (2013:136-137) proposes [specificity] and [i-p], which encode the addressee and the inter-personal relation between the speaker and the addressee, respectively. The [specificity] feature ensures that the vocative phrase is compatible with the overall speech act by making sure that vocative nouns are interpreted as specific, despite the absence of other indicators like definite articles. The [i-p] feature syntactically encodes varying degrees of (in)formality associated with each vocative particle. Chapter 3 section 2 of Hill (2014) expands upon the functional features associated with vocatives. Though she retains the [i-p] feature she proposed earlier, she seems to replace the [specificity] feature with [2nd person], which like its theoretical predecessor "ensures compatibility of nouns with addressee semantics" (Hill 2014:53). The contribution of Hill's [2nd person] feature to the interpretation of vocatives bears similarity to that of [± author] in the current proposal. However, the logic of Harbour (2016) that rules out the [± hearer] feature as theoretically redundant might similarly apply here to rule out [2nd person] in favor of [± author].

Meanwhile, Hill's (2013, 2014) [i-p] feature that encodes the interpersonal relationship between the speaker and the addressee may be relevant to the interpretation of different types of vocatives in Fuyang Wu as marking greater or lesser social distance between these parties. Although, as discussed in 2.3, some of these social distance effects might be secondary effects of the discourse functions I have proposed for each type of vocative, using the [i-p] feature is an enticing alternative approach to deriving the same social distance effects. In any case, the crucial point is that, in the absence of person features, there are still other features related to the interpretation of vocatives that, for example, render the zero marker syntactically relevant.

Finally, given the types of vocatives and respective person feature valuations proposed, it is worth considering whether other person feature valuations are possible, whether in Fuyang Wu or other languages. One immediate possibility that comes to mind is the combination [+ participant] and [+ author]. This combination of person features may be appropriate for situations similar to the following:

(50)   I can't decide between sushi and ramen for dinner tonight. What do you think, **Alex**?

In this situation, the sentence-final vocative indicates that the speaker is ending their turn in the conversation, passing the position as speaker to the then-addressee, Alex, from whom they

expect a response to the question. The vocative marks the person to which it refers as the next speaker.

3.2 Vocative phrases as RoleP

Turning to the syntactic projection on which the features identified in the previous section are encoded, I look to evidence from languages other than Fuyang Wu as a starting point. As Hill (2007, 2013, 2014) shows, syntactic elements indicating the status of the noun as a vocative occur in a variety of languages. Hill (2007) calls these elements particles of direct address. I follow the example of Hill's later work and call them vocative particles (Hill 2013, 2014). One of the vocative particles described by Hill, *bre* from Romanian, is provided as an example. The sentence is borrowed from Hill (2007:2081).

(51) **Bre** mamaie, vin și eu.
You gran'ma.VOC, come and I.

'Gran'ma, I'm coming too.'

The vocative particle here is a grammaticalized form of the second person pronoun. The behavior of these particles varies from morpheme to morpheme and from language to language. For instance, vocative particles may be optional or obligatory, free or bound morphemes, and may precede or follow the noun. In the example provided, Romanian *bre* is optional, a free morpheme, and precedes the noun. Additionally, the vocative may simply consist of *bre* without including the noun. In this regard, *bre* is similar to English *hey*, as shown in the next example. Although Hill (2007:2080) claims that vocative particles have no direct English equivalent, *hey* at least serves as a useful point of comparison:

(52)   a. **Hey Sarah**, how are you?
       b. **Hey**, how are you?
       c. **Sarah**, how are you?

Similar to Romanian, the vocative phrase in example (52) may include either *hey* or *Sarah* or both.[1]

I claim that vocative markers in Fuyang Wu are, in fact, vocative particles. However, in contrast with Romanian *bre* and English *hey*, vocative markers in Fuyang Wu are obligatory, bound morphemes that follow the noun. Hill accounts for the varying syntactic behavior of vocative particles by claiming that they occupy different syntactic positions within the vocative

---

[1]In fact, many varieties of Chinese have an element with similar behavior to English *hey* or Romanian *bre* used as a greeting to answer phone calls. In Fuyang Wu this element is 喂 /ue/, pronounced the same as the suffix marker.

(1)   (喂) 阿明, 尔 何里 去 嘚?
      (ue) aʔ.miŋ, n̩ ga.i tɕʰi diə?
      (UE) Aming, you where go PTCL?

      '(Hey) Aming, where have you been?'

This particle, like Romanian *bre* and English *hey*, is optional and can also be used by itself without naming the addressee. This particle was briefly examined in the oral survey, in questions 15, 16, 19, and 20. According to the survey, all three vocative markers are felicitous when the phone-call /ue/ is absent. However, when phone-call /ue/ is present, the zero marker is infelicitous; only the rhyme-change and suffix markers are allowed.

phrase. Hill (2007:2078) analyzes vocative phrases as functional domains, which she calls RoleP, in which pragmatic Role markers select DPs. Hill (2013, 2014) follow the same line of analysis, though Hill (2014) calls the same functional domains vocative phrases, VocP, rather than RoleP. Based on example (22) in Hill (2007:2089), example (6) in Hill (2013:140), and example (28) in chapter 3 of Hill (2014:75), the general structure of RoleP is as follows:

(53)

```
              RoleP
             /     \
          Spec     Role′
                  /     \
               Role°    DP
```
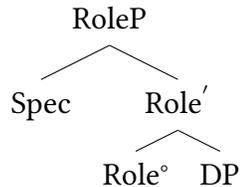
Following Moro (2003:255) and Hill (2007:2079, 2084), I assume that nouns in the vocative phrase are DPs rather than bare NPs, though this is not an essential assumption for the current proposal. For further discussion of this question, see chapter 3 section 3 of Hill (2014).

According to Hill, some of the differences in the syntactic behavior of vocative particles across languages stem from whether they occupy spec-RoleP or Role°. The main difference is that clitic markers occupy Role° while nonclitic markers occupy spec-RoleP (Hill 2007:2087). I claim that Fuyang Wu vocative markers occupy the head Role° rather than spec-RoleP, which accounts for the fact that they are obligatory, bound morphemes. Movement of the DP, for instance into spec-RoleP, can account for the fact that they follow rather than precede the noun. Placing Fuyang Wu vocative markers in Role° is also compatible with Hill (2013, 2014) in that she proposes Role° as the locus of the [i-p] and [specificity]/[2nd person] features relevant to the interpretation of vocatives. Thus, it makes sense to claim that Fuyang Wu vocative markers, and by extension the person features with which they are associated, are also located in Role°.

3.3   The external distribution of vocative phrases

Determining the position of vocatives relative to the spine of the clause was not the primary focus of this investigation. Nonetheless, this section briefly examines prior work on this topic and speculates how those proposals might relate to the current one. Some work examining the position of vocative phrases within the left periphery has been based on the split CP hypothesis proposed by Rizzi (1997). Based on the distribution of vocative phrases relative to topic, focus, and force heads in Italian, Moro (2003) claims that vocative phrases occur in the specifier of a VocP projection that takes ForceP as a complement. Moro's (2003:262-263) proposed hierarchy is shown below:

(54)   **Voc°** > Force° > (Top° > Foc° > Top°) > Fin° ...
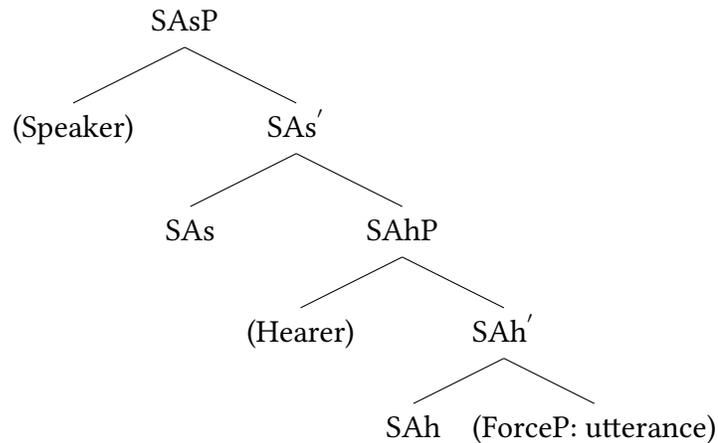
Still working from Rizzi's split CP, Slocum (2016) claims that vocatives belong within the topic domain based on her investigation of mid-sentential vocatives in English. Slocum's (2016:100) proposed hierarchy is shown below:

(55)   Force° > (Top° > **Addr°** > Foc° > Top°) > Fin° ...

Note that Slocum calls the functional head associated with vocatives Addr° instead of Voc°.

In contrast with Slocum (2016), who argues for a placement of vocative phrases within the CP domain, Hill (2007, 2014) argues for a higher placement within the Speech Act Phrase proposed by Speas and Tenny (2003). Based on evidence from Romanian discourse particle *hai*, Hill proposes a modified version of the Speas and Tenny Speech Act domain. The modified hierarchy is shown below, based on example (39) in Hill (2007:2099) and example (14) in chapter 5 of Hill (2014:147):
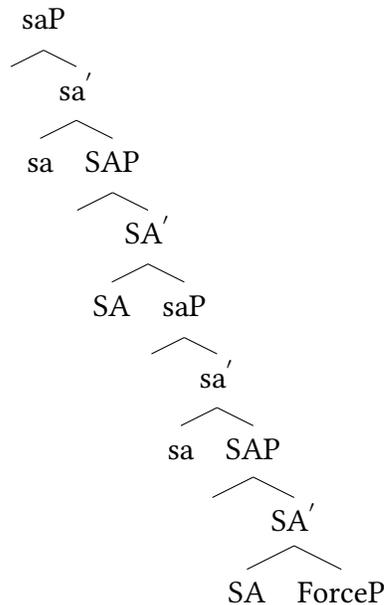
(56)

```
                        SAsP
                       /    \
               (Speaker)    SAs′
                           /    \
                         SAs    SAhP
                               /    \
                        (Hearer)    SAh′
                                   /    \
                                 SAh   (ForceP: utterance)
```

The upper Speech Act shell encodes the speaker while the lower Speech Act shell encodes the hearer, or possibly more precisely, the addressee. According to Hill (2007, 2014), RoleP, or as Hill (2014) calls it, VocP, merges in the specifier of SAhP. Slocum (2016:97) rejects Hill's positioning of the vocative within a SAP above the CP domain based on the inability of this proposal to account for mid-sentential vocatives. Perhaps the position of vocatives relative to the spine of the sentence varies across languages.

Hill (2007, 2014) uses the position of vocatives relative to discourse particles like Romanian *hai* as evidence for her placement of the vocative phrase within the SAP domain. Along similar lines, Haegeman and Hill (2013) propose a syntactic analysis for pragmatic markers of direct address in Romanian and West Flemish, such as *nè*, *wè*, and *zé*/*zè*. They are concerned with the distribution and co-occurrence of these particles as well as their ordering relative to vocative phrases. In order to account for these patterns, the authors postulate two Speech Act layers, each of which also has independent projections for the speaker and addressee. The general structure they seem to propose is shown below:

(57)

```
                          saP
                         /  \
                          sa′
                         /  \
                       sa   SAP
                            /  \
                           SA′
                          /  \
                        SA   saP
                             /  \
                              sa′
                             /  \
                           sa   SAP
                                /  \
                               SA′
                              /  \
                            SA   ForceP
```

While the labels they use are slightly different, they essentially seem to propose a doubling of the Speech Act domain shown in example (56). Although this proposal succeeds at capturing the word order restrictions described, it is unclear how well the double SAP proposal of Haegeman and Hill (2013) fits into Hill's overall body of work related to vocatives.
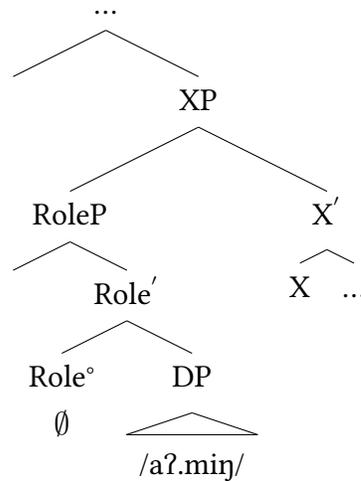
In order to evaluate proposals on the position of vocative phrases within the left periphery, it would be necessary to investigate the distribution of Fuyang Wu vocatives with respect to topicalized and focalized elements (à la Moro 2003) and discourse particles (à la Haegeman and Hill 2013). Since I lack the appropriate data, I leave this as an open question.

3.4 Bringing it all together: The syntax of three types of Fuyang Wu vocatives

Bringing together the [± participant] and [± author] person features, discussed in section 3.1, and the claim that vocative markers merge as the head of RoleP, discussed in section 3.2, this section explicates the ways in which the features and syntactic structure together result in the distinct discourse function of each type of vocative in Fuyang Wu. The general pattern is that if the vocative merges with a valued person feature, that is, [+participant] or [−author], then the vocative phrase performs the function of adding the referent to the corresponding set of people. Otherwise, if the vocative merges without either or both of these features, then felicitous use of the vocative depends on the success of the presupposition that the entity to which the vocative refers is already a participant and/or the addressee.

First, the basic derivation for zero-marked vocatives is as follows:

(58)

```
                          ...
                    ┌──────┴──────┐
                            XP
                      ┌──────┴──────┐
                  RoleP              X′
              ┌────┴────┐        ┌───┴───┐
                   Role′          X    ...
              ┌─────┴─────┐
           Role°          DP
             ∅          ╱────╲
                       /aʔ.miŋ/
```
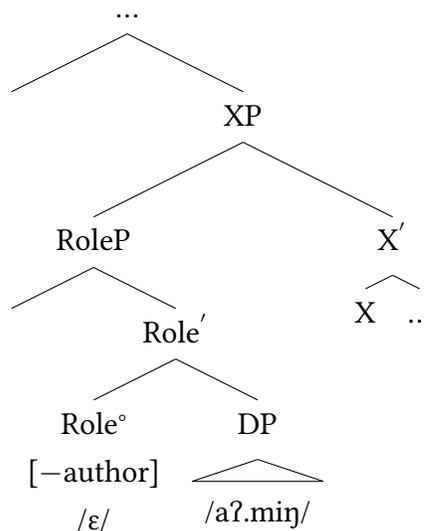
In this and subsequent trees, I include a generic XP as a stand-in for whatever projection is associated with the addressee in the main spine of the clause, perhaps Moro's (2003) VocP, Hill's (2013, 2014) SAhP, or Slocum's (2016) AddrP. Because the zero marker does not merge with any person features, it does not perform any functions changing the participant or addressee status of the entity to which the DP refers. Instead, the vocative can only reflect the discourse status as it already stands. This restriction arises because the zero-marked vocative must be compatible with the presupposition that the entity to which the DP refers is the addressee; this presupposition stems from the fact that the RoleP merges as the specifier of this clausal projection associated with the addressee.

Although the zero marker is unspecified with respect to the features [± participant] and [± author], this does not mean that the RoleP layer is entirely absent or inactive. According to Hill (2013:141), vocative phrases have this projection regardless whether there is an overt Role marker. The current proposal is compatible with the Role° head being the locus of features other than the person features discussed here, such as the [i-p] feature discussed in section 3.1.

Next, I show the basic derivation for vocatives with the rhyme-change marker.

(59)

```
                          ...
                    ┌──────┴──────┐
                            XP
                      ┌──────┴──────┐
                  RoleP              X′
              ┌────┴────┐        ┌───┴───┐
                   Role′          X    ...
              ┌─────┴─────┐
           Role°          DP
         [−author]      ╱────╲
            /ɛ/        /aʔ.miŋ/
```

The rhyme-change marker, specified as [−author], performs the function of moving the entity

to which the DP refers into the set of addressees. In contexts where the entity to which the DP refers is not already a discourse participant, they become a participant even if this is not a function performed by the vocative itself. Instead, this is a straightforward consequence of the entailment that if someone is an addressee, then they are also a participant. The realization of the vocative in this example as /aʔ.miɛŋ/ from underlying /aʔ.miŋ/+/ɛ/ may result from a combination of morphophonological processes and movement of DP into spec-RoleP. A similar explanation would apply to the suffix-marked vocative in the next example. Hill (2013:144-152) and chapter 4 section 3 of Hill (2014) provide more detailed explorations of movement within RoleP.

Finally, here is the basic derivation for vocatives with the suffix marker:

(60)
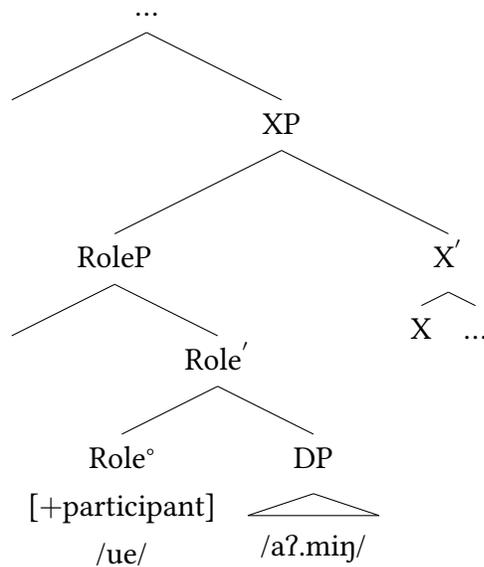
The suffix marker enters the derivation valued as [+ participant], thereby adding the entity to which the DP refers to the set of discourse participants. The exact status of the person within the discourse is a result of pragmatic factors, such as the obligatory interpretation of the vocative as referring to whoever the addressee is at that moment and inferences made by the newly added discourse participant. For instance, in being added to the discourse, the person might reasonably assume that they are expected to listen to what the speaker is saying or to subsequently provide an answer to a question. Thus, the discourse participants infer their expected roles as speakers and addressees at any given moment based on contextual indicators.

In summary, Fuyang Wu vocative markers are Role markers that merge in Role°. The discourse functions of the vocatives arise from a combination of the features associated with each type of vocative and pragmatic phenomena like presupposition. In general, vocatives merging with a valued person feature perform the function of adding the entity to which the DP refers to the corresponding set of people. Vocatives merging without one or both of these features are felicitous when the presupposition that the entity to which the vocative refers is already a participant and/or the addressee is satisfied.

4   Conclusion

In this essay, I have done the following:

- Described the vocative marking system of Fuyang Wu, distinguishing between three types of vocative markers and showing the discourse contexts in which each type of marker is felicitous.

- Shown that the felicity conditions for each type of vocative marker can be understood in terms of the discourse role management functions fulfilled by each type of vocative.

- Proposed an analysis for the syntax of vocatives in Fuyang Wu, building on person features [± participant] and [± author] (Harbour 2016) and previous proposals by Hill (2007, 2013, 2014).

The vocatives of Fuyang Wu seem to differ significantly from those in other languages, such as those described in Hill (2014), in that there are multiple types of vocative marker, each of which has distinct discourse functions. As I show, Hill's proposal for a RoleP projection in the vocative phrase is compatible with observations from Fuyang Wu. However, other questions remain open, including the DP or NP status of vocatives and the position of the vocative phrase within the left periphery. This essay has also examined the discourse functions of vocatives beyond the two-way distinction between calls and addresses proposed by Zwicky (1974) and elaborated by Slocum (2016), suggesting a need to re-evaluate prior taxonomies of vocatives, perhaps by incorporating data from languages other than English. More broadly, this project sheds light on the syntactic encoding of discourse participants. Further work on Fuyang Wu might contribute other insights to this topic of study. For example, the effect of social distance on each vocative marker might be investigated and connected to work concerned with the syntactic encoding of politeness, formality, and other social variables. On the empirical side, studies of grammatical diversity in Sinitic languages are still lacking (Chappell 2015). As far as I know, this project is the first investigation of the syntax of vocatives in any Sinitic variety. Thus, I hope this project has contributed an additional path through which to approach this growing field, bringing attention to the theoretical and empirical value in investigating syntactic variation in less-studied linguistic varieties.

Bibliography

Chappell, Hilary. 2015. *Diversity in Sinitic languages.* Oxford: Oxford University Press.

Chomsky, Noam. 2000. Minimalist inquiries. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka, 89–155. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.

Haegeman, Liliane. 2014. West Flemish verb-based discourse markers and the articulation of the speech act layer. *Studia Linguistica* 68:116–139.

Haegeman, Liliane, and Virginia Hill. 2013. The syntacticization of discourse. *Syntax and its limits* 48:370–390.

Harbour, Daniel. 2016. *Impossible persons*, volume 74. Cambridge, MA: MIT Press.

Henry, Alison. 2005. Non-standard dialects and linguistic data. *Lingua* 115:1599–1617.

Hill, Virginia. 2007. Vocatives and the pragmatics–syntax interface. *Lingua* 117:2077–2105.

Hill, Virginia. 2013. Features and strategies: The internal syntax of vocative phrases. In *Vocative!: Addressing between system and performance*, ed. Barbara Sonnenhauser and Patrizia Noel Aziz Hanna, 133–156. Berlin: Walter de Gruyter.

Hill, Virginia. 2014. *Vocatives: How syntax meets with pragmatics, empirical approaches to linguistic theory*, volume 5. Leiden/Boston: Brill.

Hu, Lizhen, and Dongping Lei. 2015. 江西安福方言的呼格形态 [Vocative case morphology in the Jiangxi Anfu dialect]. 语言研究 *[Studies in Language and Linguistics]* 35:96–98.

Li, XuPing. 2013. *Numeral classifiers in Chinese: The syntax-semantics interface*, volume 250. Berlin: Walter de Gruyter.

Li, XuPing. 2015. Complex pronouns in Wu Chinese: Focalization and topicalization. In *Diversity in Sinitic languages*, ed. Hilary Chappell, 226–247. Oxford: Oxford University Press.

Li, XuPing. 2019. 富阳话的呼语标记系统 [The vocative marking system of Fuyang-hua].

Li, XuPing, and Walter Bisang. 2012. Classifiers in Sinitic languages: From individuation to definiteness-marking. *Lingua* 122:335–355.

Moro, Andrea. 2003. Notes on vocative case: A case study in clause structure. *Amsterdam Studies in the Theory and History of Linguistic Science Series 4* 247–262.

Noveck, Ira, and Dan Sperber. 2007. The why and how of experimental pragmatics: The case of "scalar inferences". In *Advances in pragmatics*, ed. Noel Burton-Roberts, 184–212. London: Palgrave.

Noyer, Robert Rolf. 1992. Features, positions and affixes in autonomous morphological structure. Doctoral Dissertation, Massachusetts Institute of Technology.

Osenova, Petya, and Kiril Simov. 2003. Bulgarian vocative in HPSG. In *The Proceedings of the 9th International Conference on HPSG*, 233–244. Stanford, CA: Stanford University, CSLI Publications.

Oyharçabal, Bernard. 1993. Verb agreement with non-arguments: On allocutive agreement. In *Generative studies in Basque linguistics*, ed. José Ignacio Hualde and Jon Ortiz de Urbina, 89–114. Amsterdam/Philadelphia: John Benjamins.

Portner, Paul, Miok Pak, and Raffaella Zanuttini. 2019. The speaker-addressee relation at the syntax-semantics interface. *Language* 95:1–36.

Reinhart, Tanya. 1981. Pragmatics and linguistics: An analysis of sentence topics. *Philosophica* 27:53–94.

Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of grammar: Handbook in generative syntax*, ed. Liliane Haegeman, 281–337. Dordrecht: Kluwer.

Schaden, Gerhard. 2010. Vocatives: A note on addressee-management. *University of Pennsylvania Working Papers in Linguistics* 16:20.

Slocum, Poppy M. 2016. The syntax of address. Doctoral Dissertation, The Graduate School, Stony Brook University: Stony Brook, NY.

Sonnenhauser, Barbara, and Patrizia Noel Aziz Hanna, ed. 2013. *Vocative!: Addressing between system and performance*, volume 261. Berlin: Walter de Gruyter.

Speas, Peggy, and Carol Tenny. 2003. Configurational properties of point of view roles. *Asymmetry in Grammar 1* 315–345.

van Dijk, Teun Adrianus. 1977. *Text and context: Explorations in the semantics and pragmatics of discourse*. London: Longman.

Wiltschko, Martina, and Johannes Heim. 2016. The syntax of confirmationals. *Outside the Clause: Form and function of extra-clausal constituents* 178:305–339.

Wu, Yicheng, and Adams Bodomo. 2009. Classifiers ≠ determiners. *Linguistic Inquiry* 40:487–503.

Wurmbrand, Susi. 2011. Reverse agree. Ms., Storrs: University of Connecticut.

Yang, Xiaodong, and Martina Wiltschko. 2016. The confirmational marker *ha* in Northern Mandarin. *Journal of Pragmatics* 104:67–82.

Zanuttini, Raffaella. 2008. Encoding the addressee in the syntax: Evidence from English imperative subjects. *Natural Language & Linguistic Theory* 26:185–218.

Zanuttini, Raffaella, and Jim Wood. 2018. The syntax of presentatives: Evidence from English and Italian. November 2018.

Zeijlstra, Hedde. 2012. There is only one way to agree. *The Linguistic Review* 29:491–539.

Zwicky, Arnold M. 1974. Hey, Whatsyourname! In *Chicago Linguistic Society*, volume 10, 787–801.

A   Survey data

The survey questions are edited to clarify wording and maintain consistency of names and pro-nouns. Some numbered survey questions correspond to discourse contexts for which there are no realistic scenarios; these are included in the table for completeness but were not asked to the informant. Additionally, some questions were skipped after it became clear that they would not yield any insights that were not already demonstrated by previous questions.

Key to survey abbreviations

Q#	Question number
Vis.	Visibility of the addressee to the speaker
EC	Direct eye contact between the speaker and the addressee
Kn.	Speaker knowledge of the location of the addressee
Dist.	Physical distance between the speaker and the addressee
Sem.	Semantic function as categorized by Schaden (2010)
I	Identification function
P	Predication function
A	Activation function
Prag.	Pragmatic function, informally categorized, building on Zwicky (1974) and Slocum (2016)
Gr.	Greeting the addressee
AA	Attracting the attention of the addressee
Det.	Determining whether the addressee is present
Int.	Interrupting the addressee
MA	Maintain the attention of the addressee
∅	Zero marker
RC	Rhyme-change marker
Suf.	Suffix marker
U	Unrealistic discourse context

1/0 respectively correspond to:

Addressee {is / is not} visible to the speaker.

The speaker and the addressee {are / are not} making direct eye contact.

The speaker {knows / does not know} the location of the addressee.

The physical distance between the speaker and the addressee is relatively {short / long}.

The zero/rhyme-change/suffix marker is {felicitous / infelicitous}.

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		$\emptyset$	RC	Suf.	
1	1	1	1	1	A	Gr.	You visit your friend Aming at their home. You knock on the door and they open it. You say, "Aming, how are you?"	1	1	0	
2	1	1	1	0	A	Gr.	You are walking down the street and see your friend Aming sitting on a bench in the distance. They look up and see you, so you shout, "Aming, how are you?"	0	1	0	
3	1	1	0	1	–	–	–	–	–	–	U
4	1	1	0	0	–	–	–	–	–	–	U
5	1	0	1	1	A	Gr., AA	You visit your friend Aming at their office/home/room. The door is open so you can see them. However, they are busy looking at their computer screen, so they do not see you. You say, "Aming, how are you?"	0	1	1	
6	1	0	1	0	A	Gr., AA	You are walking down the street and see your friend Aming sitting on a bench in the distance. They are looking at their phone and do not see you approaching. From the distance, you shout, "Aming, how are you?"	0	1	1	
7	1	0	0	1	–	–	–	–	–	–	U
8	1	0	0	0	–	–	–	–	–	–	U
9	0	1	1	1	–	–	–	–	–	–	U
10	0	1	1	0	–	–	–	–	–	–	U
11	0	1	0	1	–	–	–	–	–	–	U
12	0	1	0	0	–	–	–	–	–	–	U

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		$\emptyset$	RC	Suf.	
13	0	0	1	1	A	AA	You know that your friend Aming is inside their room/office, but the door is closed. You go to their door and call them, "Aming, can I come in?"	0	1	1	
14	0	0	1	0	A	AA	You are downstairs in a building and your friend Aming is upstairs, but you cannot see them. From the bottom of the stairs, you call up to them, "Aming, can you come downstairs?"	0	1	1 (?)	
15	0	0	1	0	A	Gr.	You need to talk to your friend Aming who is in the room next to you, but you are too lazy to go there in person. You use your phone to call them. When they answer, you say, "Aming, can I ask you a question?"	1	1	1	Phone call
16	0	0	1	0	A	Gr.	You need to talk to your friend Aming who is in the room next to you, but you are too lazy to go there in person. You use your phone to call them. When they answer, you say, "Ue Aming, can I ask you a question?"	0	1	1	Phone call, with 喂 /ue/ greeting
17	0	0	0	1	A	Det.	You want to talk to your friend Aming but are unsure where they are. You go to their room/office to check, but the door is closed. You call them, "Aming, are you inside?"	0	1	0	[1]

---

[1]If the speaker is not at a specific door, but calling the addressee from the corridor, then only the suffix marker is

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		∅	RC	Suf.	
18	0	0	0	0	A	Det.	You are downstairs in a building and want to talk to your friend Aming. You are unsure where they are or whether they are in the building. From downstairs, you call upstairs, "Aming, are you upstairs?"	0	1	1	
19	0	0	0	0	A	Gr.	You need to talk to your friend Aming and you don't know where they are. You use your phone to call them. When they answer, you say, "Aming, can I ask you a question?"	1	1	1	Phone call
20	0	0	0	0	A	Gr.	You need to talk to your friend Aming and you don't know where they are. You use your phone to call them. When they answer, you say, "Ue Aming, can I ask you a question?"	0	1	1	Phone call, with 喂 /ue/ greeting
Situations with multiple addressees[2]											
21	1	1	1	1	A	Gr.	You visit your friends Aming and Afu at their work office. You knock on the door and both of them come to open it. You say, "Aming and Afu, how are you?"	1	1	0	
22	1	1	1	0	A	Gr.	You are walking down the street and see your friends Aming and Afu sitting on a bench in the distance. They both look up and see you, so you shout, "Aming and Afu, how are you?"	0	1	0	

felicitous.

[2]See appendix B.3 for further details.

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		$\emptyset$	RC	Suf.	
23	1	1/0	1	1	A	Gr., AA	You visit your friends Aming and Afu at their office. The door is open so you can see them. Aming looks up and sees you. However, Afu is busy looking at their computer screen so they do not see you. You say, "Aming and Afu, how are you?"	0	1	0	
24	1	1/0	1	0	A	Gr., AA	You are walking down the street and see your friends Aming and Afu sitting on a bench in the distance. Aming looks up and sees you approaching. However, Afu is looking at their phone and does not see you approaching. From the distance, you shout, "Aming and Afu, how are you?"	0	1	0	
25	1	0	1	1	A	Gr., AA	You visit your friends Aming and Afu at their office. The door is open so you can see them. However, they are both busy looking at their computer screens so they do not see you. You say, "Aming and Afu, how are you?"	0	1	1	
26	1	0	1	0	A	Gr., AA	You are walking down the street and see your friends Aming and Afu sitting on a bench in the distance. They are talking to each other and do not see you approaching. From the distance, you shout, "Aming and Afu, how are you?"	0	1	1	

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		$\emptyset$	RC	Suf.	
27	0	0	1	1	A	AA	You are visiting your friends Aming and Afu at their home. You know that they are inside their home, but the door is closed. You knock on their door and call them, "Aming and Afu, I am here!"	0	1	1	3
28	0	0	1	0	A	AA	You are downstairs in a building and your friends Aming and Afu are upstairs, but you cannot see them. From the bottom of the stairs you call up to them, "Aming and Afu, can you come downstairs?"	0	1	1	
29	0	0	0	1	A	Det.	You want to talk to your friends Aming and Afu but are unsure where they are. You go to their room/office to check, but the door is closed. You call them, "Aming and Afu, are you inside?"	0	1	1	
30	0	0	0	0	A	Det.	You are downstairs in a building and want to talk to your friends Aming and Afu. You are unsure where they are or whether they are in the building. From downstairs, you call upstairs, "Aming and Afu, are you upstairs?"	0	1	1	

---

[3]In this situation, the physical distance between the speaker and the addressees is not known by the speaker because the addressees are not visible.

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		$\emptyset$	RC	Suf.	
31	1	1	1	1	P	Gr.	You are meeting your friends for lunch and everyone is waiting for you. When you near them, they all see you approaching. Once you reach the group, you say, "Friends, sorry I am late!"	0	1	0	[4]
32	1	1	1	0	P	Gr.	You are walking down the street and see a group of your friends approaching from the distance. They also see you, so you shout, "Friends, what are you doing here?"	0	1	0	
33	1	0	1	1	P	Gr., AA	You are meeting your friends for lunch, and they are already waiting for you. When you approach, you see them standing outside the restaurant. However, they do not see you approaching, so you sneak up on them. Once you are behind them, you say, "Friends, I am here!"	0	1	1 (?)	
34	1	0	1	0	P	Gr., AA	You are walking down the street, and see a group of your friends walking down the street ahead of you in the same direction. Since you are behind them, they do not see you approaching. From the distance, you call out to them, "Friends, where are you going?"	0	1	1	

[4]The informant used 弟兄 /di.ɕioŋ/ 'brother' instead of 'friend' and 'classmate.'

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		∅	RC	Suf.	
35	0	0	1	1	P	AA	You are meeting some classmates for a school project. They are already waiting for you in a classroom. You reach the room and the door is closed. You knock on the door and say, "Classmates, I am coming in!"	0	1	1	
36	0	0	1	0	P	AA	You are hanging out with your friends in a large house. They are upstairs and you are downstairs. When it is dinner time, you call them down, "Friends, come down! Dinner is here!"	–	–	–	Skipped
37	0	0	0	1	P	Det.	You are meeting some classmates for a school project. They are already waiting for you in a classroom. However, you forgot which classroom so you have to knock on the door to check. You reach one possible room and the door is closed. You knock on the door and say, "Classmates, are you in here?"	–	–	–	Skipped
38	0	0	0	0	P	Det.	You are meeting with your friends, who are waiting together at a large mall. However, you are not sure where they are. You are downstairs and call to the floor above, "Friends, are you upstairs?"	–	–	–	Skipped
Situations with varying semantic & pragmatic functions											

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		$\emptyset$	RC	Suf.	
39	1	1	1	1	A	Gr.	You visit your friend Aming at their home. You knock on the door and they open it. You say, "Aming, how are you?"	1	1	0	= Q#1
40	1	1	1	1	A	Int.	You are talking with your friend Aming face to face, waiting for the bus. They are talking about something when you see the bus approach. You interrupt them while they are talking, and say, "Aming, the bus is coming!"	1	1	0	[5]
41	1	1	1	1	A	MA	You are talking with your friend Aming about your favorite restaurant, saying, "My favorite thing is their noodles. Aming, have you been to that restaurant?"	1	0	0	
42	1	1	1	1	I	AA	At the dinner table, you are sitting with a group of friends and Aming is sitting across from you. You want Aming to pass the water to you. You say, "Aming, can you pass the water to me?"	0	1	1	[6]

---

[5]Using the zero marker comes of as unemotional, which depending on the context may even be interpreted as cold or annoyed.

[6]The suffix marker is felicitous despite the speaker eye contact with the addressee because the speaker has a friendly request. However, it is only felicitous when the speaker and addressee are familiar with each other.

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		∅	RC	Suf.	
43	1	1	1	1	I	Gr.	You are walking down the road when you encounter a group of people from your school or workplace walking from the opposite direction. Once they are in front of you, you greet one of them, who is your friend Aming, saying, "Aming, how are you?"	1	1	0	
44	1	1	1	1	I	Gr.	You are walking down the road when you encounter a group of people from your school or workplace walking from the opposite direction. Once they are in front of you, you greet one of them, who is your friend Aming, saying, "Hello Aming, how are you?"	–	–	–	7
45	1	1	1	1	I	Int.	You are with sitting at a table with a group of friends, one of whom is Aming. They are talking but you want to say something. You interrupt them, saying, "Aming, can I say something?"	1	1	0	

[7]This question was not answerable because there is no suitable 'hello' equivalent in Fuyang Wu.

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		$\emptyset$	RC	Suf.	
46	1	1	1	1	I	[8]	You are sitting with a group of friends, telling them about the importance of sleep. One of your friends in particular, Aming, often stays up late at night and doesn't sleep enough. You have been talking for a while but want to make sure that Aming understands what you are saying. After giving your explanation, you say, "Aming, sleep is indeed very important, isn't it?"	0	1	0	Sentence-initial[9]
47	1	1	1	1	I	[10]	You are sitting with a group of friends, telling them about the importance of sleep. One of your friends in particular, Aming, often stays up late at night and doesn't sleep enough. You have been talking for a while but want to make sure that Aming understands what you are saying. After giving your explanation, you say, "Sleep is indeed very important, isn't it, Aming?"	0	1	0	Sentence-final
48	1	1	1	1	P	Gr.	You visit your friend at their home. You knock on the door and they open the door. You say, "Friend, how are you?"	0	1	0	

---

[8] The speaker identifies a specific addressee from a larger set of previous addressees, indicating that the utterance has special relevance for that individual.

[9] The vocative carries a persuasive, advice-giving tone.

[10] The pragmatic function here is the same as that for the previous question.

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		$\emptyset$	RC	Suf.	
49	1	1	1	1	P	Int.	You are talking with your friend face to face, waiting for the bus. They are talking about something when you see the bus approach. You interrupt them while they are talking, and say, "Friend, the bus is coming!"	1 (?)	1	0	
50	1	1	1	1	P	MA	You are talking with your friend about your favorite restaurant, saying, "My favorite thing is their noodles. Friend, have you been to that restaurant?"	1	0	0	[11]
51	1	1	1	1	P	AA	At the dinner table, you are sitting with your friend, who is looking at you but not saying anything. You say, "Friend, do you have something on your mind?"	1	0	0	[12]
52	1	0	1	1	A	Gr., AA	You visit your friend Aming at their office/home/room. The door is open so you can see them. However, they are busy looking at their computer screen so they do not see you. You say, "Aming, how are you?"	0	1	1	= Q#5

---

[11]The rhyme-change marker is felicitous if the addressee is not paying attention to the speaker.
[12]Same note as above.

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		$\emptyset$	RC	Suf.	
53	1	0	1	1	A	Int.	You visit your colleague Aming at their office. They are very busy with their work so they are looking at their computer and not at you. They still do not look at you, but begin talking about how busy they are and how they do not have time to talk. You interrupt them, saying, "Aming, can you please take a break? It is something important."	1	1	1	13
54	1	0	1	1	A	MA	You are hanging out with your friend Aming, who is playing video games facing away from you. You can see his screen and are discussing what he is doing. You say, "Wow, you are so good at this game. Aming, you should play in a competition some time!"	0	1	0	14
55	0	0	1	1	A	MA	You are talking to your friend Aming through the door. They are deciding which outfit to wear, and you are outside helping them to decide. They say, "What color clothes should I wear?" You say, "Aming, you can wear blue or black."	1	1	1	15

---

[13]The zero marker is felicitous if the illocutionary force of the utterance is that of a command, while the suffix marker is felicitous if the utterance is advice or a suggestion.

[14]The rhyme-change marker is felicitous despite the vocative not initiating a new turn because it is a specific suggestion to the addressee following a general comment.

[15]The suffix marker implies that color red does not look good on the addressee, so they should wear a different color.

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		$\emptyset$	RC	Suf.	
56	0	0	1	0	A	AA	You are downstairs in a building and your friend Aming is upstairs, but you cannot see them. From the bottom of the stairs you call up to them, "Aming, can you come downstairs?"	0	1	1	= Q#14[16]
57	0	0	1	0	A	Int.	Your are in the living room while your parents are in the kitchen. They are lecturing you about how you should stop playing video games are start doing your homework. You interrupt them, saying, "Mom/dad, I already finished my homework for today!"	1	1	1	[17]
58	0	0	1	0	A	MA	You are in the living room while your friend Aming is in the kitchen. You are discussing what to eat for dinner. They say, "Should we eat out or should I cook something?" You say, "Let's eat out. Aming, do you know whether my favorite restaurant is open today?"	1	1	1	[18]

[16]The zero marker is felicitous if the utterance is a command.

[17]All three vocative markers are felicitous, but they each have a different interpretation. The zero marker is used when the speaker is neutrally describing the situation. The rhyme-change marker is used with a tone suggesting "Stop nagging me!" The suffix marker expresses even more frustration with the addressee.

[18]The zero marker is only felicitous in face-to-face contexts.

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		$\emptyset$	RC	Suf.	
59	0	0	1	0	P	AA	You are downstairs in a building and your friend is upstairs, but you cannot see them. From the bottom of the stairs you call up to them, "Friend, can you come downstairs?"	–	–	–	Skipped
60	0	0	1	0	P	Int.	Your are in the living room while your friend is in the kitchen. They are lecturing you about how you should stop playing video games are start doing your homework. You interrupt them, saying, "Friend, I already finished my homework for today!"	–	–	–	Skipped
61	0	0	1	0	P	MA	You are in the living room while your friend is in the kitchen. You are discussing what to eat for dinner. They say, "Should we eat out or should I cook something?" You say, "Let's eat out. Friend, do you know whether my favorite restaurant is open today?"	–	–	–	Skipped
62	0	0	1	0	I	AA	Both of your parents are in the kitchen while you are in the living room. You need to ask your father a question, so you say, "Dad, can you come here?"	–	–	–	Skipped

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		$\emptyset$	RC	Suf.	
63	0	0	0	0	A	Det.	You are downstairs in a building and want to talk to your friend Aming. You are unsure where he is or whether he is in the building. From downstairs, you call upstairs, "Aming, are you upstairs?"	–	–	–	= Q#18, skipped
64	0	0	0	0	A	Gr.	You need to talk to your friend Aming and you don't know where they are. You use your phone to call them. When they answer, you say, "Aming, can I ask you a question?"	–	–	–	= Q#19, skipped
65	0	0	0	0	A	Int.	You are talking to your friend Aming on the phone. They have been telling you about something when you suddenly receive another phone call. You interrupt them, saying, "Aming, I received another phone call! I will call you again!"	–	–	–	Skipped
66	0	0	0	0	A	MA	You are talking to your friend Aming on the phone. You have been talking about some difficulty with work. You say, "As you can see, work has been quite difficult. Aming, do you have any suggestions for me?"	–	–	–	Skipped

Q#	Discourse context						Situation	Type of marker			Notes
	Vis.	EC	Kn.	Dist.	Sem.	Prag.		∅	RC	Suf.	
67	0	0	0	0	A	Det.	You are talking to your friend Aming on the phone. You have been discussing your difficulties at work, but your friend hasn't spoken in a while. You ask, "Aming, are you still listening to me?"	–	–	–	Skipped
68	0	0	0	0	A	Det.	You are talking to your friend Aming on the phone. They are on vacation and visiting many different cities so you do not know where exactly they are. While they are telling you about what they have done so far, you ask them, "Aming, I forgot. Where are you right now?"	–	–	–	Skipped
69	0	0	0	0	I	–	–	–	–	–	U

B Additional syntactic restrictions on the use of vocatives

This section discusses additional syntactic restrictions on the use of vocatives. While these restrictions were not the primary focus of the survey, they provide additional empirical data with which to compare to syntactic behavior of Fuyang Wu vocatives against those described in other languages, such as in Hill (2014). These observations can also serve as a starting point for further study of the syntax of vocatives in other Sinitic languages. Specifically, vocatives in Fuyang Wu are restricted with regard to their position in the sentence, the illocutionary force of the sentence in which they are uttered, their use when referring to multiple addressees, and their use of noun classifiers.

B.1 Position in the sentence

Zwicky (1974) observes that vocatives in English can occur in a variety of positions, as in the following examples, where vocatives are used in the beginning, middle, and end of sentences:

(61) a. **Jacquie**, your grammar leaks.   Zwicky (1974:787), ex. (1)
      b. Henry will probably storm out of the apartment, **June**.   Zwicky (1974:798), ex. (86b)
      c. Look, **sonny**, I need that monkey wrench.   Zwicky (1974:789), ex. (26)
      d. I'm afraid, **sir**, that my coyote is nibbling on your leg.   Zwicky (1974:787), ex. (6)

Building on Zwicky's observations, Slocum (2016) focuses on mid-sentential vocatives in particular to motivate her analysis of the syntax of vocatives.

In Fuyang Wu, vocatives can occur at least at the beginning or end of the sentence. All but one of the English-language survey questions provided sentence-initial vocatives; as a result, the native speaker similarly tended to respond to the survey questions with sentence-initial vocatives. However, sentence-final vocatives were specifically targeted in one of the questions, provided below:

(62) *You are sitting with a group of friends, telling them about the importance of sleep. One of your friends in particular, Aming, often stays up late at night and doesn't sleep enough. You have been talking for a while but want to make sure that Aming understands what you are saying. After giving your explanation, you say, "Sleep is indeed very important, isn't it, Aming?"* (Survey question #47)

      a. # /aʔ.miŋ/   Zero marker
      b. /aʔ.miɛŋ/   Rhyme-change marker
      c. # /aʔ.miŋ.ue/   Suffix marker

The speaker provided the same judgments on the felicity of each vocative marker regardless whether the vocative was at the beginning or end of the sentence. However, it is an open question whether the pattern holds generally that for a given context, the same vocative markers

are felicitous in sentence-initial and sentence-final vocatives. The question itself may be flawed; sentence-initial and sentence-final vocatives may be used to perform different discourse functions, so they may not be felicitous in the same set of discourse contexts in the first place.

The speaker had more trouble coming up with examples of mid-sentential vocatives. For instance, he judged translations of example sentences with mid-sentential vocatives from Zwicky (1974) and Slocum (2016) to be unnatural. However, in subsequent email correspondence he suggested that mid-sentential vocatives are possible after at least some topicalized elements, as in the following example:

(63)　上日子，　**阿明，**　尔　到何里　去　嘞?
　　　　zəʔ.n̩ʑiʔ.tsɿ, **aʔ.miŋ**, n̩　tɔ　ga.i　tɕʰi diə?
　　　　Yesterday,　**Aming**, you to where go　PTCL?

'Yesterday, Aming, where did you go?'

It would be interesting to examine cross-linguistic variation in the grammaticality of mid-sentential vocatives and to examine whether their behavior in languages other than English are compatible with Slocum's (2016) proposal.

B.2　Illocutionary force and choice of vocative marker

The survey included vocatives in utterances with a variety of illocutionary forces. Although a variety of vocative markers were felicitous with statements, requests, suggestions, and questions, if the utterance was a command, then only the zero marker was felicitous, even if the discourse context was compatible with the use of other types of vocative markers. The following example demonstrates this restriction:

(64)　*You visit your colleague Aming at their office. They are very busy with their work so they are looking at their computer and not at you. They still do not look at you, but begin talking about how busy they are and how they do not have time to talk. You interrupt them, saying, "Aming, can you please take a break? It is something important." (Survey question #53)*

　　a.　/aʔ.miŋ/　　　　　　　　　　　　　　　　　　　　　　　　Zero marker
　　b.　/aʔ.miɛŋ/　　　　　　　　　　　　　　　　　　　　Rhyme-change marker
　　c.　/aʔ.miŋ.ue/　　　　　　　　　　　　　　　　　　　　　　Suffix marker

While each of the types of vocative markers can be felicitous in such a context, this depends on what illocutionary force the speaker intends with the utterance. If the speaker utters a command, then only the zero marker is felicitous. The speaker could also use the rhyme-change marker or suffix marker depending on the specific emotional affect intended by the utterance, with the suffix marker coming off as a friendlier suggestion. Note that the relevant distinction seems not to be the syntactic clause type of the utterance as an imperative, but the intended illocutionary force of the utterance. In this example, even if the syntactic form of the utterance is interrogative, the illocutionary force could be interpreted with varying degrees of strength as a command, request, or suggestion.

B.3 Vocatives referring to multiple addressees

The survey included questions in which there were multiple addressees. The following sentences provide examples in English of vocatives referring to multiple addressees:

(65) a. **Ladies and gentlemen**, please take your seats.
      b. **Alex and Robin**, how are you doing this evening?
      c. **Friends**, let's grab dinner tomorrow!
      d. **Children**, please pay attention during class.

In examples (65a) and (65b), each member of the set of addressees is listed out and coordinated with a conjunction. In examples (65c) and (65d), the DP itself denotes a set of addressees with multiple members.

In Fuyang Wu, conjunctions cannot be used to coordinate lists of addressees in vocative phrases. This is the case regardless which vocative marker is used.

(66) **阿明** (*则) **阿富,**　尔　何里 去 嘚?
      aʔ.miŋ (*tsəʔ) **aʔ.fu**,　n̩　ga.i　tɕʰi diə?
      Aming (*and) **Afu.voc**, you where go　PTCL?

      '**Aming and Afu**, where have you been?'

If the speaker lists each addressee, the vocative marker must occur either with each noun or with just the last noun. Vocative phrases cannot have more than one type of vocative marker; for instance, it is ungrammatical for the first noun in a vocative phrase to have a rhyme-change marker and the second noun to have a suffix marker. Thus, a suffix-marked vocative referring to two addressees, Aming 阿明 and Afu 阿富, can take the following forms:

(67) a. 阿明　阿富喂
         aʔ.miŋ aʔ.fu.ue
         Aming Afu.voc

      b. 阿明喂　　阿富喂
         aʔ.miŋ.ue　aʔ.fu.ue
         Aming.voc Afu.voc

      c. *阿明喂　　阿富
         aʔ.miŋ.ue　aʔ.fu
         Aming.voc Afu

The speaker may also refer to just one or the other person, effectively selecting that individual as the addressee representing all the hearers present in the discourse context.

Although the previous examples seem to show that English allows conjunctions in vocatives where Fuyang Wu does not, there also seem to be at least some instances in English where coordination of multiple addressees in a vocative phrase is marked:

(68) *You are walking down the street and see your friends Alex and Robin walking ahead of you with their backs turned toward you. You shout:*

      a. **Alex! Robin!** Where are you going?
      b. ? **Alex and Robin!** Where are you going?

Perhaps the restriction against conjunctions in vocative phrases has to do with the formality of the situation. In English, example (68) provides an informal context whereas the vocative phrases with conjunctions in examples (65a) and (65b) seem to be appropriate in more formal settings. Where Fuyang Wu is spoken, Mandarin Chinese is more likely to be used in formal contexts, so it is difficult to determine whether formality impacts the grammaticality of conjunctions in vocative phrases in this language.

The conditions for the felicitous use of each of the vocative markers were basically identical regardless whether there were one or more addressees. Most of the survey questions involving multiple addressees assumed that the situation of each of the addressees with respect to the speaker was the same. For instance, I did not include situations where the speaker was physically close to one addressee and far from the other or situations where the speaker knew the location of one addressee but not the other. This was in line with my general goal of keeping the situations as common and simple as possible in order to elicit clearer and more reliable judgments from the speaker. However, I did include one pair of questions in which the speaker can see both addressees but is only making eye contact with one. Based on the generalization that the suffix marker tends to be infelicitous when the speaker and addressee are making eye contact, the speaker said that if the speaker is making eye contact with at least one addressee, then the suffix marker is infelicitous.

B.4   Restrictions on noun classifiers

Similar to other Sinitic languages, Fuyang Wu has numeral classifiers that are obligatory when numerals modify nouns, as in the following example from Li and Bisang (2012):

(69)　一　*(只) 狗
　　　 iʔ　　*(zəʔ) kiʊ
　　　 one (*CL) dog
　　　 'one dog'

In Fuyang Wu, classifiers can also be used without a numeral, as in the following example, again from Li and Bisang (2012):

(70)　**个** 老板　买　勒　**部** 车子。
　　　 kɣ lɔ.pan ma　lə　 **bu** tsʰo.tsʰɿ.
　　　 CL boss　buy PFV **CL** car.
　　　 'The boss bought a car.'

However, these classifiers cannot occur in vocative phrases, as in the following:

(71)　(* **个**) **老板,**　尔　何里　去　　diə?
　　　 (* **kɣ**) **lɔ.pan**, ņ　　ga.i　　(*tɕʰi) diə?
　　　 (* **CL**) **boss**,　you where go　　PTCL?
　　　 'Boss, where have you been?'

Although classifiers are not determiners (Wu and Bodomo 2009), they are similar to determiners, such as definite articles, in fulfillling some (in)definiteness marking functions (Li and Bisang 2012; Li 2013). Thus, the restriction against classifiers in Fuyang Wu vocative phrases may be

understood in light of restrictions against definite articles in vocatives in some other languages, like English:

(72) **(*The) waiter**, can we have an extra plate?

Further discussion of definiteness and vocatives can be found in chapter 3 section 3 of Hill (2014) and chapter 3 section 2 of Slocum (2016).