The principle of proportionality
Consequentiality and promises in Mandarin conversation

Yan Zhou
University of California, Los Angeles

In Mandarin conversation, utterances about future actions with severe consequences are observed to correlate with bigger promises, marked by devices indicating greater illocutionary force, as compared with those about actions with less serious consequences. Applying the principle of proportionality proposed by Goffman (1971), I argue that participants’ design of promise is proportional to the severity of the action consequences, which is evaluated by the participants on a moment-by-moment basis. The ad hoc construction of promises shows that promising is a dynamic process, rather than a one-time action. The proportionality principle may also account for the differences between promises in institutional discourse and ordinary conversation.

Keywords: Interactional Linguistics, interactional action, promising, Mandarin conversation

1. Introduction

How do speakers evaluate the weight of a promise and design a promise in interaction accordingly? One of the possible rules is the principle of proportionality proposed by Goffman (1971), which refers to the relationship between an apology and the virtual offense it addresses: the effect of an apology should be proportional to the seriousness of the offense it is designed to remediate. A similar discussion appears in Brown and Levinson’s (1987) theory of politeness: the seriousness of a face-threatening-action (FTA) is proportionally relative to the nature of the FTA (p. 76) and participants should follow the balance principle by providing adequate reparations proportional to the damage their FTAs have caused to the interlocutor’s face.
Brown and Levinson (1987) also provide an equation to evaluate the “seriousness” of a particular FTA with variables including social distance, power dynamics, and culture-specific norms. This approach aligns with the role-expectation model proposed by earlier sociologists, such as Parsons (1951), who argues that members of a society are socialized with a set of “institutionalized expectations and the corresponding sentiments and sanctions” (p.436). He has also mentioned that rewards are proportional to achievements. These approaches to the principle of proportionality or the balance principle are “from without” (Heritage et al. 2019, p.30) and external to the interactional situations where a particular action is designed.

In their study of responses in request-for-action sequences in English conversation, Thompson, Fox and Couper-Kuhlen (2015) categorize responses into five classes: particle (alright, okay, and sure), lexical/phrasal, minimal clausal (I will and I won’t), expended clausal (I will X/I won’t X), and graded clausal (I’ll Y/I won’t Y). It is argued that particles tend to occur in minimal complying responses to requests, whereas minimal clausal, expended clausal, and graded clausal responses display the requestee’s increasing agency and deontic rights – they have the right “to say what will be done in the future” (Enfield 2011; Thompson, Fox and Couper-Kuhlen 2015, p.264–265). Although not specified in the study, this proposal is compatible with the principle of proportionality: the size of responses to requests is proportional to the speaker’s deontic rights and agency. The study most relevant to the proportionality principle in conversation is Heritage and Raymond’s (2016) examination of apologies. Based on Thompson, Fox and Couper-Kuhlen’s (2015) response categories and Goffman’s (1971) original hypothesis, they propose a typology of apology formats and categorize virtual offenses into two major types: local and endogenous offenses (small offenses), especially those in repair sequences, tend to receive minimal apologies; offenses distal and exogenous to the interaction itself (big offenses) tend to receive bigger apologies with explicit acknowledgment of agency, naming of the offenses, and even accounts for them. Data in their study, however, provides mixed support for this argument. In their most recent study, Heritage et al. (2019) revisit the proportional relationship between apologies and offenses with a different approach: they treat the “severity” of virtual offenses as a constitutive feature that is emerging and overtly expressed by participants’ reflexive construction of apologies following participants’ orientation in interaction, rather than as a “local” or “distal” fixed feature. In other words, the relationship between the offenses and apologies is invisibly constructed by participants’ orientation based on their assessments of the severity of the offenses in interaction, which is part of the whole interaction and is by no means intrinsic, objective or stable, as previously assumed. Taking this constitutive approach, or “from within” approach (p.31), Heritage et al. (2019) argues that the principle of proportionality is preserved in a certain context as the participants normalize departures from
the principle and recalibrate their apologies with various recourses as their assessments of the severity change in an “ad hoc fashion.” Heritage et al. (2019) point out that as an interactional rule among other social norms, the principle of proportionality is not limited to absolutions and that a similar “from within” constitutive analysis should apply to other actions as well. Following this line of research, the current study is interested in investigating whether the principle of proportionality can be applied to promising, a social action that is relatively less discussed in Conversation Analysis (CA) and Interactional Linguistics (IL).

Compared to backward-looking apologies that enable the participants to remediate interactional or real-life offenses, promises are forward-looking and place speakers under future obligations (Austin 1962; Searle 1969). The forward-looking feature of promises has real-world consequences, regardless of the performance or nonperformance of the promised actions, unlike actions like assessments and apologies, which are more associated with interpersonal consequences. In addition, the promisor is accountable for the promised obligations (Haugh 2013), which then leads to moral consequences that affect the promisor’s personal and/or institutional credibility. Considering the dual consequences of promises, I propose to use the severity of consequences as a correlation variable of promises: the formulation of promises is normatively proportional to the consequences they will lead to, such that bigger promises are made to events with severe consequences, and smaller promises are made to events with less serious consequences. Following Heritage et al. (2019)’s constitutive approach, the severity of consequences in the current study is not measured as an objective or intrinsic feature of the particular event but is invisible to the analyst and reflexively expressed by the participants based on their assessment of the situation as they orient to promises. Another useful distinction is the one between speech event – the actual situation of speaking where the participants find themselves – and narrated event – the state of affairs being talked about (Jakobson 1957, Enfield 2011). Namely, participants in conversations formulate their actions based on their evaluations of the two dimensions: the dual real-world consequences – including the result of performance or nonperformance of the promised actions and the promisor’s credibility in the future – are evaluated in the narrative event where the participants decide the explicitness and size of promises in proportion to the severity of the consequences; at the same time, the participants evaluate the interactional situation and context in the speech event where they determine whether a promise is due and what size of promise best fits the situation.

Previous studies have measured the size of apologies or the weight of deontic rights (in response-to-request sequences) based on the size of grammatical formats, which indeed are the most routinized patterns speakers rely on in recognizing and implementing social actions (Thompson and Couper-Kuhlen 2005).
The present study will expand this scope to a wider range of *illocutionary force indicating devices* (IFIDs) (Searle 1969; Levinson 1983) that are used to specify participants’ commitments in promises. “Big promises” in the present study is a relative notion that refers to promises with more IFIDs and hence more explicit and forceful (Austin 1962). In contrast, “small promises” refers to those relatively implicit and unspecified promises with fewer IFIDs.

Given the fact that the unique interactional dimensions of promising have yet to be explored in Interactional Linguistics, the present study tries to initiate the discussion by examining the proportional relationship between the severity of consequences and the linguistic and prosodic formats of promises in Mandarin conversation, which is an application of applying Goffman’s (1971) proposal of proportionality principle and Heritage et al.’s (2019) constitutive approach to a different action in a different language. After a brief literature review in Section 2, I will examine three types of IFIDs of big promises – explicit performative verbs (Section 4), intensifying emphasis (Section 5), and claiming the result of the promised actions (Section 6) – observed in both institutional talk and ordinary conversation in the current dataset. My analyses of the extracts in these three sections will: 1. Illustrate how the proportionality principle functions in promising situations, 2. Reveal the dynamic features of the promising process, and 3. Explain the genre differences between institutional talk and ordinary conversation in light of the proportionality principle. Section 7 will conclude the paper with a brief summary of findings and future directions.

2. Literature review

Promising is a ubiquitous social action in both institutional talk and ordinary conversation. Building on Austin’s (1962) speech act typology, Searle (1969, 1975) proposes a set of constitutive rules and felicity conditions for promising and other illocutionary acts. Defining a promise as a proposition that expresses the speaker’s intention to do something in the future that the hearer wishes, Searle (1969) emphasizes the importance of *intention* and the degree of commitment in a sincere promise. Since it’s not obvious to both participants that the action will be completed by the promisor in the normal course of events (Searle 1969, p.59), the promisor needs to explicitly say the committed action (Brandom 1994, p.163) or to make it “on-record” (Brown and Levinson 1987). Brandom (1994) believes that social practices are games of *discursive commitment* in which participants exhibit and alter their two deontic statuses (commitment and entitlement) through various performances. In terms of promising, when a promisor undertakes a commitment, they are also licensing the promisee an entitlement to hold
them accountable, including by instituting possible sanctions in cases of nonperformance (p.164). Clark (1996) treats promising as a joint activity, or joint commitment, because promises need to be heard, understood, and recognized by the addressees; otherwise, the action is incomplete and might be treated only as an attempt. Both Brandom (1994) and Clark (1996) highlight the agency of the recipient in a promise, which supports the emerging feature of participants’ assessments of consequences and interactional situations. In Brown and Levinson’s (1987) politeness theory, promises (and offers) are made with the good intention to cooperate and to satisfy the hearer’s positive-face needs, even if some promises are false. Various discourse analysis studies were later conducted following the speech act theory to explore the speaker’s intention and cognitive state of promises made in different registers (e.g. Kibble 2006; Kissine 2008). However, these studies have mostly focused on written discourse; little attention has been paid to the formulation of promises in interaction. The socio-pragmatic discussions of promising enable researchers to understand the action from more perspectives, which might be relevant to participants’ turn designs in interaction but lack the grounding of conversational data. The present study will build on the previous studies on promising and examine the proportionality principle between the format of promising and the severity of its consequences in Mandarin conversational data.

Although the number of Conversation Analysis and Interactional Linguistics studies on Mandarin data has grown in recent years, still only a few researchers have studied actions in Mandarin conversation, with assessment (Yue 2016; Fang. 2017) and question-answer sequences (Turk 2006, Xie 2016) receiving the most attention. Yu and Wu (2018) analyze inviting – an action that also involves a commitment to future actions – and report that the distribution of invitation forms is related to “the inviter’s anticipation of the likelihood of the success of an invitation” (Yu & Wu 2018: 147). Existing literature on promising in Mandarin is mainly based on speech act theory and traditional pragmatics (e.g. Dong 2010).

Regarding the IFIDs of promising, there are two types of conventional devices according to speech act theory: explicit performative formulae (e.g. I promise) and primitive (or indirect) devices that express the illocutionary force with more ambiguity and equivocation (Austin 1962, p.73–77). Austin mentions various types of primitive devices that can be combined to specify and qualify illocutionary force in utterances. In the case of promising in spoken language, those include the mood of the sentence (usually declarative, sometimes imperative, such as let me...see Levinson’s (1983) example), the combination of first-person pronouns and modal verbs (e.g. I will and I shall), tone of voice/cadence/emphasis, adverbs and adverbial phrases (e.g. definitely and without fail), connecting particles (e.g. hereby), non-verbal accompaniments of utterances (e.g. gestures and gazes), and the circumstances or context of the utterance.
Among these IFIDs, prosodic devices are less discussed in the literature and will be given more attention in this study. Prosodic features such as pitch, loudness, duration, and timing have been found to express speakers’ intentions (Hellbernd & Sammler 2016), emotions (Pell et al. 2009), and sincerity (Fish et al. 2017) in perception experiments and acoustic analyses. The problem of these studies is that they rely heavily on the native speaker’s intuition in recognizing these abstract senses, overlooking the interactional aspects of social actions. In the fields of Conversation Analysis and Interactional Linguistics, there is a growing body of research exploring acoustic aspects of interaction (e.g. Selting 1996b, Walker 2010; Local & Walker 2004). Studies have found that pitch and loudness can convey affect-related stances; for instance, other-repair initiations with high pitch and extra loudness in German conversation can display astonishment and disbelief (Selting 1996b); a lengthened extra high and pointed freestanding oh (with rising-falling pitch contour) in English displays surprise following an unexpected informing (Reber 2012), whereas oh with reduced pitch and loudness in response to a counter-to-expectation informing can display disappointment (Couper-Kuhlen 2009). Ogden (2012) proposes the notion of Intensifying Emphasis (IE) to cover the prosodic-phonetic practice of highlighting a lexical item as extreme/unexpected/intense in interactional actions. IE is often realized by “extremely long and untypical values for closure duration and VOT in plosives” in English (Ogden 2012: 49–50) and is often found in upgraded assessments with extreme case formulations (Pomerantz 1986). Turn-constructional units (TCUs) with intensified lexical items are often recognized as displaying a specific stance (Couper-Kuhlen & Selting 2017: 40; Ogden 2012). These findings might not be directly related to promising, but have provided powerful evidence that participants’ prosodic design is associated with their affective stances in interaction. What’s not known is whether such an association is a proportional relationship, as the relationship between the syntactic format of an apology and the offense it addresses, or the format of response and the degree of commitment in response-to-request actions. More particularly, I’m interested in whether the principle of proportionality is reflected in the prosodic design of promising in Mandarin conversations.

In the present study, three IFIDs will be presented to test the principle of proportionality in promising: Section 4 examines explicit performative verbs, Section 5 focuses on prosodic intensifying emphasis, and Section 7 discusses the strategy of claiming the result of the promised actions to formulate a bigger promise.
3. Data and methodology

In this study, I will follow the CA and IL traditions and ground my analysis in conversational data. In particular, I will adopt the “from within” approach mentioned in the introduction section to examine participants’ orientation in interaction. Prosodic software Praat will be used to analyze prosodic features of intensified lexical items in promising. Considering the possible differences among different genres and communication modes, data used in the present study includes both institutional talk and ordinary conversation.

Institutional talk in this study is represented by a local-government accountability TV program regularly produced by a growing number of local TV stations across China, Dianshi Wenzheng ‘Questioning officials on TV’ (DSWZ). Senior officials in the local government are invited to the live broadcasts to address issues of accountability, such as food safety, environmental pollution, and low government efficiency. Other participants include hosts (turn allocators and the main questioners in some episodes), journalists, experts (commentators), and local residents. The stated goal of DSWZ is to facilitate government-mass communication and to promote government transparency (Xinhuanet 2018). For the present study, a collection of 124 promising segments are extracted from ten episodes of Nanning DSWZ broadcast from 2014 to 2018. Videos and clean transcripts of DSWZ were downloaded from the official website of the Nanning DSWZ program, and transcripts were manually refined by the author.

Ordinary conversation data in this study consists of two subsets: 100 promising segments extracted from approximately 12 hours of face-to-face interaction among family and friends collected by the author and 69 promises extracted from the CALL HOME (Canavan and Zipperlen 1996a) (approximately 18 hours) and CALL FRIEND (Canavan and Zipperlen 1996a) (approximately 24 hours) corpora hosted by Linguistics Data Consortium.

4. Explicit performatives

The first IFID under discussion is explicit performative verbs, the syntactic format of which could be represented by [Pro PROMISE P] with Pro representing pronoun and P representing the promise proposition. Dong (2010) argues that explicit performative verbs were not developed until pre-modern Chinese and that they are rarely used in Mandarin conversation. For instance, the Chinese equivalent of ‘promise’ or ‘commit’, chengnuo appears in Early Modern Chinese and did not develop its explicit performative usage until contemporary Modern Chinese (p.28). In addition, Dong (2010) reports that these explicit performative
promises occur more often in formal talk than in casual ordinary conversation in Chinese. Observations in the present study are consistent with these arguments. Among the explicit performative verbs, only chengnuo and baozheng are found in my dataset, mostly in the DSWZ subset; only one occurrence is observed in ordinary face-to-face conversation; and no occurrence of an explicit performative verb was found in CALLHOME or CALLFRIEND telephone call conversations. Although the differences between formal and casual registers might have a certain influence on such a distribution, the principle of proportionality could explain it from a different perspective.

Extract (1) is extracted from a DSWZ episode in which government officials are held accountable for failure to supervise construction companies that did not provide mandatory occupational accident insurance for their construction workers. Prior to the extract, the official has acknowledged his department’s responsibility. The host elicits a “next-step” promise in line 01 with an account that the department has not achieved the previous goal set by the government last year. After the delay of a 0.8-second pause and a filler e, the official provides a big promise beginning with an explicit performative verb (line 07). In this example, a big promise is due in the speech event, although it might be difficult for the official to produce one (see the 0.8-second pause resistance). The official also evaluates the real-world consequences (its social impact and the effect on credibility for him personally, the department and the government) as severe. Therefore, a big promise is made and is registered by the recipient (line 14, ‘OK’).

Extract (1) DSWZ-NN-2018-3-1 Occupational accident insurance

01 HST: 那 下一步 怎么办 呢。Na xia-yi-bu zenme-ban ne.
   "That next-one-step how-do Q "
   ‘So in the next step, how would you solve (this problem)?’

02 我们 市 里面 也有 清明 的 要求。Women shi limian ye you mingque de yaoqiu,
  ‘Our municipal government has clearly required,’

03 (.) 其实 早在 2017 年底 的 时候。Qishi zao zai 2017 niandi de shihou
   ‘Actually, as early as the end of year 2017,’

04 .hh 就 对于 新建 项目 达到 百分百 的 参保率。.hh jiu duiyu xinjian xiangmu dadao baifenbai de canbaolv,
   ‘the municipal government has required newly approved construction projects to achieve a 100% insurance participation-rate,’

05 我们 也 没有 这个 要求。Women ye meiyou (.) zhe ge yaoqiu.
   ‘We did not meet this requirement either,’

06 (0.8)

07 OFF: 呃, 我 这里 (. ) 向 各位 承诺。 呃, E, wo zai zheli (. ) xiang gewei chengnuo, a
   ‘Eh, I hereby promise everyone,’

08 (0.4) 在 一个 月 的 时间 里面 (. ) 把 这个 问题 解决。 (0.4) zai yi yue de shijian limian (. ) ba zhe ge jieju,
   ‘in one cl month ATT time inside  BA this cl problem solve
   ‘within one month, (we will) solve this problem.’

09 (0.8) 啊, 就 在 6 月 底。 (0.8) ah, jiu zai liuyue di
   ‘By the end of June,’
Extract (2) is the only example of a big promise in ordinary conversation. In this conversation happening at the lunch table among family members, the wife (WF) is complaining about a minor appearance issue of her husband’s lips to her cousin (CS). The husband is present and is eating his lunch. The promise occurs in line 16 where an explicit performative verb baozheng is used and the result of the promise is specified. The first part of this extract (line 01 to line 08) is the continuation of the complaint the wife begins earlier. After a 2-second long pause in line 09, the cousin changes the topic and initiates a jocular activity by suggesting a possible solution in lines 10, ‘In that case (you) should talk less’, followed by her own loud laughter. The wife considers the teasing inconsequential to her face and plays along with the cousin in her next turn by initiating another tease to her husband’s personality (‘is this the reason why you didn’t like talking before?’) (Attardo 2001, Kotthoff 2003, Shardakova 2017). Note the wife’s teasing is originally addressed to her husband as she uses the second person singular pronoun ni and gazes at her husband, who is engaged in eating. Without a noticeable gap, the cousin self-selects and registers the new information (‘oh, that’s why, Dongdong’). By addressing the husband with his name, Dongdong, the cousin attempts to return the floor to the originally selected speaker and to pack her participation in the wife’s activity of teasing. The self-select move, although similar to the affiliative co-teller and team-up cases mentioned in Hayashi (2013), nonetheless violates turn-taking norms (Sacks, Schegloff and Jefferson 1974) and interrupts progressivity (Heritage 2007). Indeed, in line 13, the wife initiates a sanction with a jocular tease towards the cousin (‘you know too much’) (Drew 1987, Haugh 2017).

Notice the utterance is a common pop cultural reference originally used as a warning on occasions when a secret is exposed. Such a choice of teasing content indicates the sanction is directed not merely to the cousin’s self-select move but her inappropriate participation in the couple’s private interaction. At this point, since the wife has not displayed her absolution, some action is due to remediating the offenses just occurred. With such an assessment, the cousin replaces the subject of the assertion and makes a modified repeat, ‘I know too much’ (Stivers...
2005), followed by a voluntary big promise with an explicit performative verb in line 16, '(I) promise I won’t spread the words.' In addition, she adds the positive result of her promise, 'no one will know' and then self-corrects to a more specified format 'there won’t be a fourth person who knows this thing' (line 17). The self-corrected version is also a pop-cultural reference corresponding to the wife’s warning, which helps emphasize the wife’s ownership of the secret and makes the promise more precise and playful.

In this example, a big voluntary promise is made to remediate the exposure of a secret and a misplaced self-select move. The objective consequence of exposing a personal secret might not be as severe as that of the occupational accident insurance case in Extract (1), but in the current speech event, especially with the cultural reference, the consequence is evaluated more severely than usual (the reference is commonly used in dramas when the possibility of a murder is involved). In proportion to the severity, participants orient to a big promise.

Extract (2) GH040250 Lips

01 WF: 他 这 条 缝 跟 那 个 牙齿 是 不 对 起 来 的 好 伐 啦 (0.7) 有点 弯 的 啦。Ta zhe tiao feng gen na ge yachi shi bu dui-qilai de hao fa la (0.7) youdian wai de la.
3SG this CL gap with that CL tooth BE NEG align PRT OK PRT PRT a little curved NOM PRT
'The gap (between his lips) misaligns with his teeth, OK? It's a little bit curved.'

02 [住- 住 书房] ((XXX)).
Wang- wang youbian ((XXX)).
to to right-side to right-side 'it curves) towards- towards the right side ((XXX)).'

03 CS: 那 要 看 得 多 仔细 [才 看 得 出 来 啦。Na zao kan de duo zixi cai kan de chulai la.
That need to look COMP how carefully only look COMP out PRT
'You wouldn’t notice it unless you looked super carefully.'

That as husband 1sg of course look COMP carefully PRT
'But he’s my husband and of course I look carefully and will notice it.'

05 CS: [我: 看 不 出 来。][Wo kan bu chulai.
1sg look neg out 'I can’t see it.'

06 WF: hhhhh 本来 是 不 发现 的 他 不 说话 的 时候 就 没有 感觉 的。hhhh Benlai shi bu faxian de, ta bu shuohua de shihou jiu meiyou ganjue de.
Originally BE NEG discover PRT 3SG NEG talk NOM time just NEG feeling COMP
'It's not obvious. You can't see it when he doesn't talk.'

07 CS: 恩。En.

08 WF: 但是 他 一 说话 一 吃 东西 就 很 明显。Danshi ta yi shuohua yi chi dongxi jiu hen mingxian.
But 3SG once talk once eat thing just very obvious

09 (2.0)
10 CS: 那 就 少 说话 吧。hhhhh
Na jiao shuo shuhua ba. hhhhh
That just little talk COMP
'In that case (you) should talk less, haha.'

11 WF: hhh 难道 这 就 是 你 以前 不 爱 说话 的 原因？ [hhhh
hh nandao zhe jiu shi ni qian bu ai shuohua de yuanyin. [hhhh
Is it this just be 2SG before NEG like talk NOM reason
'It is the reason why didn’t like talking before?'

12 CS: =我, 是 这样子 的 啊, 哈哈。[Wo, shi zheyangzi de a, hahahaha.
PRT BE this way PRT PRT NAME
'Oh, that's why, Dongdong.'

13 WF: hhh (0.6) 你 知道 得 太 多 了 hhh
hh, (0.6) ni zhidao de tai duo le. hhh
2SG know COMP too much PRT
'You know too much, haha.'

14 CS: 我 知道 得 太 多 了。Wo zhidao de tai duo le.
1sg know COMP too many PRT
'I know too much.'
This section has shown examples where explicit performative verbs are used to formulate big promises when the participants assess the consequences of their promised actions as severe and the interactional situation makes a big promise relevant. The principle of proportionality helps explain why explicit performatives are rarely used despite being the most precise and efficient for promising (Searle 1969 p.68). Explicit performative promises are treated as inappropriate and face-threatening because the illocutionary force they express is beyond what’s needed in many ordinary conversations (e.g. promising to visit a friend or promising to make dinner). The consequences of institutional actions, such as government officials’ promises in the present study, in contrast, are severe, because the performance or nonperformance of the promised actions have concrete effects on people’s lives in the real world, impact the public face of officials as individuals, and most importantly, influence the accountability and credibility of the government. Institutional settings such as live broadcasts further aggravate the severity level and the risks of promising. Having such an assessment of the consequences, government officials’ use of explicit performatives and “big promises” such as in Extract (1) is actually proportional to the severity of the consequences of their actions. For participants in ordinary conversations like Extract (2), explicit performative verbs are less frequently used, but can also be used to formulate big promises in situations where the participants evaluate their actions as having severe consequences and in which big promises are due in the interaction. In most situations, however, indirect promises are more preferred in ordinary interaction (Brown and Levinson 1987).

5. Intensifying emphasis: Lexical prosodic marking of big promises

The second IFID used in proportion to the severity of consequence is the lexical-prosodic practice of intensifying emphasis (IE). As with explicit performatives,
IE is more common in government officials’ promises in DSWZ than in ordinary conversations. In the DSWZ subset, a large range of lexical items, such as quantifiers, adverbial intensifiers and time adverbs in officials’ promises, are intensified with noticeable features of pitch, intensity, time duration, and speech tempo. In contrast, officials’ smaller promises, as recognized by the host (recipient), tend to lack these IE features. Consistent with the proportionality principle, lexical quantifiers and intensifiers are rarely used in promises in the ordinary conversation subsets, although prosodic stress might be added to modal verbs and other items for various reasons. This section will present two extracts from the DSWZ subset in which a quantifier, *quan* ‘all’ and an adverbial phrase *yigeyige* ‘one by one’, respectively, are intensified with IE to formulate big promises. An extract lacking IE will also be presented as an example of a smaller promise.

Labov (1984) has pointed out that universal quantifiers are often combined with other marks of intensity such as prosodic contrast (stress on the quantifier and laughter), adverbs of intensity (e.g. *really*), repetition in rapid succession, negative concords (e.g. *any, ever, either* in English) and inversion (shifting placement of the quantifier from its normal position) (p. 57). *Quan* ‘entire’ (Chao 1968; Tomioka and Tsai 2005; Lee et al. 2013) is one of the quantifiers found to be frequently intensified in government officials’ promises. In the following Extract (3), *quanxian* ‘whole county’ and *quanmian* ‘all-aspects’ are emphasized to formulate a big promise.

**Extract (3)**

DSWZ-NN-2015-5 Health record

01 HST: 那今后呢，长效机制呢，怎么来监管它。
那今后呢，长效机制呢，怎么来监管它。

02 不要再出现手机号码多一位，少一位。
不要再出现手机号码多一位，少一位。

03 而且还有，其中一个重要问题。
而且还有，其中一个重要问题。

04 有些重点关注的病人，
有些重点关注的病人，

05 比方说，精神障碍的联系电话和联系人都出现了错误。
比方说，精神障碍的联系电话和联系人都出现了错误。

06 我觉得这真的是不应该。
我觉得这真的是不应该。

07 OFF: 右，今天。
OFF: 右，今天。

08 HST: 如果一旦出现了问题，责任可大了。
如果一旦出现了问题，责任可大了。

09 OFF: 对，今天的问题，解决了以后，马上要组成督察组。
OFF: 对，今天的问题，解决了以后，马上要组成督察组。

10 Labov (1984) has pointed out that universal quantifiers are often combined with other marks of intensity such as prosodic contrast (stress on the quantifier and laughter), adverbs of intensity (e.g. *really*), repetition in rapid succession, negative concords (e.g. *any, ever, either* in English) and inversion (shifting placement of the quantifier from its normal position) (p. 57). *Quan* ‘entire’ (Chao 1968; Tomioka and Tsai 2005; Lee et al. 2013) is one of the quantifiers found to be frequently intensified in government officials’ promises. In the following Extract (3), *quanxian* ‘whole county’ and *quanmian* ‘all-aspects’ are emphasized to formulate a big promise.

**Extract (3)**

DSWZ-NN-2015-5 Health record

01 HST: 那今后呢，长效机制呢，怎么来监管它。
那今后呢，长效机制呢，怎么来监管它。

02 不要再出现手机号码多一位，少一位。
不要再出现手机号码多一位，少一位。

03 而且还有，其中一个重要问题。
而且还有，其中一个重要问题。

04 有些重点关注的病人，
有些重点关注的病人，

05 比方说，精神障碍的联系电话和联系人都出现了错误。
比方说，精神障碍的联系电话和联系人都出现了错误。

06 我觉得这真的是不应该。
我觉得这真的是不应该。

07 OFF: 右，今天。
OFF: 右，今天。

08 HST: 如果一旦出现了问题，责任可大了。
如果一旦出现了问题，责任可大了。

09 OFF: 对，今天的问题，解决了以后，马上要组成督察组。
OFF: 对，今天的问题，解决了以后，马上要组成督察组。

10 Labov (1984) has pointed out that universal quantifiers are often combined with other marks of intensity such as prosodic contrast (stress on the quantifier and laughter), adverbs of intensity (e.g. *really*), repetition in rapid succession, negative concords (e.g. *any, ever, either* in English) and inversion (shifting placement of the quantifier from its normal position) (p. 57). *Quan* ‘entire’ (Chao 1968; Tomioka and Tsai 2005; Lee et al. 2013) is one of the quantifiers found to be frequently intensified in government officials’ promises. In the following Extract (3), *quanxian* ‘whole county’ and *quanmian* ‘all-aspects’ are emphasized to formulate a big promise.

**Extract (3)**

DSWZ-NN-2015-5 Health record

01 HST: 那今后呢，长效机制呢，怎么来监管它。
那今后呢，长效机制呢，怎么来监管它。

02 不要再出现手机号码多一位，少一位。
不要再出现手机号码多一位，少一位。

03 而且还有，其中一个重要问题。
而且还有，其中一个重要问题。

04 有些重点关注的病人，
有些重点关注的病人，

05 比方说，精神障碍的联系电话和联系人都出现了错误。
比方说，精神障碍的联系电话和联系人都出现了错误。

06 我觉得这真的是不应该。
我觉得这真的是不应该。

07 OFF: 右，今天。
OFF: 右，今天。

08 HST: 如果一旦出现了问题，责任可大了。
如果一旦出现了问题，责任可大了。

09 OFF: 对，今天的问题，解决了以后，马上要组成督察组。
OFF: 对，今天的问题，解决了以后，马上要组成督察组。

Yan Zhou
As Figure 1 shows, the time duration of the two tokens *quanxian* ‘whole-country’ and *quanmian* ‘all-aspects’ (line 10) is longer than other syllables in the same line. Moreover, the second token of *quan* is uttered with a longer duration (0.42s compared to 0.38s) and higher mean pitch (152 Hz compared to 136 Hz), which displays the official’s moment-by-moment upgrading commitment. In the following turn, the host registers this promise and expresses her positive expectation of the future result (lines 15-16). The sequence is then closed in line 16.

Figure 1. Waveform, pitch and intensity contour of line 08
In Extract (4), the official initiates a voluntary promise after acknowledging the existing problems. The solution he orients to involves multiple steps, beginning with ‘one thing is to’ (line 07). The inhaled in line 08 projects his utterance of ‘the second step’ or ‘another thing is’ but is interrupted by the host as she doubts the current promise due to the failure of a previous one (lines 10-13). After recognizing the host’s orientation at this moment and reevaluating the consequences, the official upgrades his promise with the adverbial phrase ‘one by one’ (lines 14 and 15) and an explicit performative formula ‘we promise’ (line 17), as well as a specific schedule ‘next month’, ‘the third season, October’.

Extract (4) DSWZ-Nanning-2018-3 Nursing home

06 OFF: 那下一步 我们 针对 这些 存在 的 问题，
Na xiayibu women zhengdui zhexie cunzai de tuchu wenti.
That as next step 1pl focus these exist att prominent problems
‘So in next step, we will focus on these existing severe problems.’

07 一个 就是我们 民政局 还有 建设局
yi ge jiushi yao women minzengju haiyou zhujesjju
One cl that is need 1pl Bureau of Civil Affairs still have the Housing and Urban-rural Development Department
‘One thing is to have the Bureau of Civil Affairs and the Housing and Urban-rural Development Department’

08 进一步 的 就是 督促 建设 单位 尽快 做好
jinyi bu de jiu yao women jianjianshe danwei jiakuan zhenggai
Further step now that is urge construction company as soon as possible rectify
‘urge the construction companies rectify their wrongdoings as soon as possible.’

09 OFF: 啊 .hhh
A hh
prt ‘And,’

10 HST: 那 像 您 前面 说 的，您们 之前 也 督促 它 矫正 了，修修补补， 对 吧。
Na xiang nin gangcai shuo de, nimen zhiqian ye ductu ta zhenggai le, xiu xiububu, dui ba.
That as 2sg just now say the problem has been rectified by 1pl before work right patt
‘As you said just now, you have urged them to rectify before, (they just) made some minor changes, right?’

11 OFF: 对。现在 看来，以前 的 督促 效果 是 不 明显 的。
Dui. xianzai kanlai, yiquan de ductu xiugou shi bu mingxian de.
‘Right. Now see before ATT urge effect is no significant PR.

12 HST: 对 啊。
Dui a.

13 所以 我们 很 希望 也是 打 一个 大 大 的 问号 啊。
Suoyi women dui xia de chengguo ye shi yi ge dada de wenhao a.
Therefore 1pl to 2sg as promise also be make one cl big att question-mark PR
‘So we also highly doubt your current promise.’

14→ OFF: 这次 我们 回去 就 将 这些 存在 的 问题 一个一个 列 出 来。
Zheci women huiqu jiujia jiang zhexie cunzai de tuchu wenti yi ge yi ge liulai.
This time 1pl return as soon as 2pl these exist ATT promiment problem one by one list out
‘Upon returning from this event, we will list out all the existing prominent problems one by one.’

15 yige yige wenti rang ta daopai gongzi.
yige yige wenti rang ta daopai gongzi.
‘One by one problem make 3pl reverse-schedule construction-time,
‘(Have the companies) make construction schedules for all problems one by one.’

16 我们 一定 要 在 下 个月 完成 修整。
Men yi wei yao zai xia ge yue wanqian zhenggai.
‘We must to at next cl month complete rectification
‘We must complete the rectification in the next month.’

17 我们 承诺 第三 个 季度 就 要 完工。
Men yi wei chengnuo san ge jiushi jiu yao wankong.
‘We promise the third cl season as soon as will complete-construction acceptance check
‘We promise it will be completed and receive acceptance check in the third quarter.’

18 10 月份 要 引入 运营 的 14 个 单位。
10 yue fen yao yinr yunying de 14 ge danwei
October’s will introduce operation ATT 14 cl company
‘in October we will introduce the 14 operating companies.’

Note ‘one by one’ is used twice with an intensifying emphasis in lines 14 and 15. As shown in Figure 2, the non-IE use of yige ‘one (thing)’ in line 07 has a lower pitch range (57 Hz), lower intensity range (19dB) and weaker mean intensity (67dB). The intensifying emphasized yige yige ‘one by one’ shown in Figure 3
is produced with a noticeably higher pitch range (163Hz), higher intensity range (32dB), and stronger energy (77dB mean intensity). The average time duration of a single token *yige* in lines 14 (0.42s) and 15 (0.37s) is also longer than *yige* in line 07 (0.27s). These prosodic features, as well as those in Extract (3), have shown that government officials make bigger promises using IE in proportion to severe consequences of their actions.

Figure 2. Waveform, pitch trace, and intensity contour for *yige* in line 07

On the other hand, prosodic features can also reflexively reveal small promises, especially in cases where the syntactic and lexical devices are misleading. In the following Extract (5), the official is accountable for not fixing a broken and tilted electric pole in a neighborhood. The host’s question is prefaced with the severity of the situation and the question itself (line 05) consists of two interrogative TCUs both directly addressing the official. Such a question design has made an accountable response relevant (Clayman and Heritage 2002), yet the official does not provide one. After a few different forms of delay that indicate the official’s resistance to the accountability question (a short pause, a filler (*uh*), and an increment of topic (demonstrative *zhege* + *ne* ‘regarding this’), the official initiates a voluntary promise with the first-person pronoun subject, *women* ‘we’, a specific
Figure 3. Waveform, pitch trace, and intensity contour for *yige* in line 13

time reference *mingtian* 'tomorrow', an intensifier *liji* 'immediately' and a clear claim of the promised action (lines 07 and 08).

Extract (5)  DSWZ-Nanning-2018-1-3 Electric pole

01 HST: 好的, 短片 看完了 我 相信 刚才 看到, Hao de, duanpian kanwan le wo xiangxin gangcai kandao, 'OK, we have seen the short video. I believe that what we just saw,'
02 那么 粗 的 一个 电线杆 已经 倾斜 成 这样, name cu de yi ge dianxiangan yijing qingxie cheng zheyang, 'Such a big electric pole has been titled like this,'
03 现在 呢, 仅仅 是 用 一个 梯子 支撑 着. xianzai ne jinjin shi yong yi ge tizi zhicheng zhe
04 我 就 想 问 一下 我们 的 魏 副主任 了, Wo jiu xiang wen yixia women de Wei Fuzhuren le,
05 您 敢不敢 从 底下 通过 呢, 您 认为 它 还 能 支撑 多长 时间 呢. Nin gan-bu-gan cong dixia tongguo ne, nin renwei ta hai neng zhicheng duochang shijian ne. 2so dare-wa-dare from under through Q 2so think 3so still can support how-long time Q
06 (0.2) 'do you dare to walk through under the pole? How much longer do you think it can stand?'
07 OFF:→ 呃, 这 个 呢, 我们 呢, Uh, zhe ge ne, women ne, PRT this CL PRT 1PL PRT 'uh, about this, we,'
08 明天 呢 就 组织 人员 到 这个 现场 进行 认定 立即 整改. mingtian ne jiu zuzhi renyuan dao zhe xiexiang jinxing rending, liji zhenggai tomorrow PRT PRT organize personnel go this CL site do identify immediately rectify 'tomorrow, we’ll send staff to identify the problem and solve it immediately.'
The syntactic and lexical design of the promise seems to deliver a big promise and strong commitment. However, the prosodic features tell the truth: the pitch contour of the promise TCU (in lines 07 and 08) is quite flat (see the pitch contour in Figure 5); neither of the time reference (mingtian ‘tomorrow”, mean pitch 139 Hz, mean intensity 62dB) or the intensifier (liji ‘immediately’, mean pitch 154 Hz, mean intensity 63dB) is uttered with an extra higher pitch or intensity as they are in the previous examples; moreover, the adverb jiu ‘as soon as’, which is normally produced with short time duration and weak energy is unusually prolonged (0.57s) here.
The prosodic design shows that the official has made a small promise and reflexively it can be inferred that: (1) The official does not consider the current matter – fixing a broken electric pole or not – to have a severe consequence; (2) The official evaluates the interactional situation (or the speech event) and concludes that a voluntary promise would solve his accountability crisis at the moment. However, the host’s actions in the following lines show a different orientation. In line 09, the host merely registers the new information (‘OK, I see.’), implicitly rejecting the promise. In lines 10-11, the host initiates a more restricted question to hold the official accountable. The preface (line 10) marked by the counterfactual discourse marker qishi ‘actually’ (Wang, Tsai and Yang 2010) highlights the severity of the problem and the highly tilted “declarative + tag” question design (line 11) pressures the official to give a yes response (Heritage 2003). The host’s action, therefore, is a rebuttal to the misplaced (or early produced) promise and the under-evaluated severity of the consequence.

Examples in this section show that prosodic devices such as intensifying emphasis on quantifiers and intensifiers are important IFIDs in the formulation of big promises, which are proportional to the participants’ evaluation of the real-world consequences and the relevance of the promise in the interaction.
6. **Claiming the result of the promised action**

In addition to explicit performatives and prosodic intensifying emphasis on lexical items, participants also add the result of the promised actions to formulate bigger promises if the consequences of their actions are determined to be severe in the narrated event and a big promise is due in the situation.

In the previously discussed Extract (4), the official makes a big promise (lines 14-18) after the host questions his first promise due to his failure in the past. Note that in lines 14-16, the official makes a claim about the actions he promises to perform in the future; in the rest of his promise, including lines 17-18, the official specifies the particular result of the promised future actions.

**Extract (4) DSWZ-Nanning-2018-3 Nursing home**

13 **HST:** 所以我们**对**您**的**承诺**也是**打**一个**大**的**问号**啊。

Suoyi women dui nin de chengnuo ye shi da yi ge dada de wenhao a.

"So we also highly doubt your current promise."

14 **OFF:** 这次我们回去将这些存在的突出问题一个一个列出来。

Zheci women huiqu jiu jiang zhexie cunzai de tuchu yige yige lie chulai.

"Upon returning from this event, we will list out all the existing prominent problems one by one."

15 我们一定要在下个月完成整改。

women yiding yao zai xia ge yue wancheng zhenggai.

"We must complete the rectification in the next month."

16 **HST:** **第三**个季度就要竣工验收。

Disan ge jidu jiu yao jungong yanshou.

"We promise it will be completed and receive acceptance check in the third quarter."

17 **OFF:** **10月份**要引入**14个**单位。

10 yuefen yao yinru 14 ge danwei.

"in October we will introduce the 14 operating companies."

Actually, participants of conversations are aware that adding the result of the promised actions will upgrade the illocutionary force of the promise and make the promise a bigger one. In the following example, the official has made a promise in prior turns, but the host continues to pursue a bigger promise by specifying the result (line 02 ‘whether the street lights can be on stably and in the long-term’). The shifted footing to residents shows the host’s position and adversariality is relatively neutral (Goffman 1979; Clayman 1992). The official complies and makes his promise with the requested result (line 03, ‘this should be achieved, and must be achieved’). This exchange shows that both the promisor and the promisee recognize claiming the result of actions as an IFID of promises, which is further demonstrated in the following lines: the host orients to pursuing an explicit promise and refers back to the stated result (‘is this your promise’).

**Extract (6) DSWZ- NN- 2014- 03-30-10:08 street lights**

01 **HST:** 所以我想，街坊的居民可能更关心的是

Na wo xiang, zhouwei de jumin keneng geng guanxin de shi

"So I think, residents in the area may be more concerned about"
路灯能不能稳定，长久地亮下去呢。

zhe ludeng nengbuneng wending, changjiu de liang xiaqu ne.

'whether the street lights can be on stably in the long-term.'

3 OFF: 这个应该做到，也必须做到。

Zhe ge yinggai zuo dao, ye bixu zuo dao.

'This should be achieved, and must be achieved.'

4 HST: 这是您的承诺吗。

Zhe shi nin de chengnuo ma.

'Is this your promise?'

5 OFF: 是我的承诺。

Shi wo de chengnuo.

'It is my promise.'

6 目前这个项目还没有完成，工作还没有移交到我们城管来。

Muqian zhe xiangmu hai meiyou wancheng, gongzuo hai meiyou yijiao dao we women chengguan lai.

'So far this project is not completed yet. It has not been transferred to our department of city management.'

7 不管它移交不移交，我们主动介入，把灯亮起来。

Buguan ta yijiao bu yijiao, women zhudong jieru, ba deng liang qilai.

'However, regardless of the status of the transfer, we will take initiative to light up the streetlamps.'

8 HST: 我们非常感谢黄局长的郑重承诺。

Women feichang ganxie Huang juzhang de zhengzhong chengnuo.

'We appreciate Director Huang’s serious promise, '

9 我们也希望能够兑现。

women ye xiwang nenggou duixian,

'and we hope it can be fulfilled,'

10 我们也希望路灯亮不仅市民的福气，

women ye xiwang ludeng liang bujin shi shimin de fuqi,

'we also hope that working streetlights isn’t just an unexpected blessing, '

11 更不要是一个运气就好了，您说呢。

'or even worse, a matter of luck. What do you say?'

Participants of ordinary conversations also add the result of their promised actions to make a bigger promise. In the following Extract (7), the kid (KD) invites his aunt (AT) to his badminton class so that the two can have a game (line 02), as he confirms the Dad (DD)’s question. In lines 03–08, the aunt implicitly rejects the invitation by explaining her lack of experience in badminton. Towards the end of the conversation, she makes a promise that she will learn soon (line 11). The promise, however, is not marked with strong IFIDs and is under-specified. After a 1 second gap without uptakes from the recipient, she upgrades to a bigger promise by adding the result of the promised action (‘so I can play with you in the future’). Although the concrete consequence of the action remains same, of course not as severe as those in DSWZ, the speaker reevaluates the situation and orients to a bigger promise as she assesses the consequence as more severe now: playing badminton is an important matter for the young kid and the invitation should be treated seriously.

Extract (7) GH010226 Badminton

01 DD: 你要跟她杀一下是伐。

Ni yao gen ta sha yixia shi fa.

'You want to play with her, is that it?'

02 KD: 恩，我要 [跟她杀] 一下。

En, wo yao gen ta sha yixia.

'Right, I want to play with her.'
The three extracts provide evidence that participants make bigger promises by claiming the result of the promised actions in addition to naming their actions. In particular, the reflexive strategy of pursuing a promise by specifying the result and the metalanguage used by participants in Extract (6) (‘is this your promise’) has shown that both participants are aware of this IFID and are actively and strategically negotiating their positions.

A more general conclusion generated from these examples is that promising is not a one-time action but a dynamic process in which participants negotiate positions, reevaluate the interactional situations (speech event) and real-world consequences (narrated event), and recalibrate their promises in interaction. The official in Extract (6) originally avoids explicit promises and uses modal verbs yinggai ‘should’ and bixu ‘must’ instead (line 03). The absence of first-person pronoun I or We and the use of the inanimate demonstrative subject zhege ‘this’ (line 03) also shows that the official doesn’t treat the matter a severe one and is only willing to make a relatively small promise, which is not acknowledged by the recipient. At the point when the host pursues for the second time (line 04), the official reevaluates the situation and recognizes the host’s orientation to an explicit promise. Eventually, a big promise is recalibrated. The aunt in Extract (7) also produces a relatively small promise (‘I’ll learn it this time when I go back’) and enhances her promise to a bigger one by adding the result of the promised action.
Conclusion

This study has followed the recent discussion on the principle of proportionality and investigated its applications in a less examined action in interaction, promising, in Mandarin conversation. Findings in this study show that participants design their promises in proportion to the consequences of actions, which is consistent with Heritage et al. (2019)’s hypothesis that as a social norm the principle is applicable to other actions. As Goffman (1978) has famously argued, participants always take strategies to present themselves well in perceived situations. Making promises presents the promisor with a reliable and positive image in the moment of interaction, but also risks their credibility if the promised actions are not performed. Given the benefits and costs/risks of promising, the severity of action consequences becomes a crucial variable in determining whether to make the promise or not, and more importantly, what size and weight promises should be. Examples in the present study show that participants actively evaluate the consequences and the interactional situations to formulate their promises in proportion to the severity of the consequences: bigger consequences get bigger promises.

Moreover, analysis in this study shows that the principle of proportionality can provide a new perspective for understanding interaction in different genres. Actions promised in institutional talk, as in DSWZ, tend to have more severe consequences for the real world than ordinary conversations, therefore they are more likely to be formulated as big promises (e.g. marked by IFIDs such as explicit performative verbs and intensifying emphasis). What’s important to remember is that the consequences of promised actions are not intrinsic, objective, or fixed, but are constitutively evaluated and reevaluated by the participants in interaction on a moment-by-moment basis (Goodwin 1979) notwithstanding interactional genre. As a result, we see examples in which participants begin with a smaller promise but later on orient to a bigger one, which is in proportion to the increasing severity of consequences in their evaluation; we also find participants in ordinary conversations make big promises if they consider the promised actions to have serious consequences.

This study also expands the scope of research on interactional actions to Mandarin conversations. It has been recognized in Interactional Linguistics that grammatical formats are comparatively routinized patterns available to participants for the formation and ascription of actions in interaction and that there should be universal rules as well as typological varieties in different languages (Thompson and Couper-Kuhlen 2005; Couper-Kuhlen and Selting 2017). A noteworthy distributional pattern shown in the current database is that IFIDs of promising recursively co-occur to express an appropriate amount of illocutionary force. For instance, the explicit performative promise in lines 07-08 in Extract (1) is accom-
panied by an explicit mentioning of the promisor and the promisee, *wo xiang gewei chengnuo* ‘I hereby promise to everyone’, which puts the commitment-entitlement relationship (Brandom 1994) on-record (similar to the benefactive relationship in Clayman and Heritage 2014); an adverbial phrase *zai zheli* ‘hereby’ that makes the performative feature of the utterance even more explicit (Searle 1989); a BA structure that emphasizes the effect of an action (Li and Thompson 1981), and a precise time duration *yige yue* ‘one month’ that specifies the performance time of the action (line 08). The variety of devices and their different degrees of illocutionary force enable speakers to combine them and make bigger or smaller promises in proportion to the severity of consequences on an ad hoc basis. Given the limited space, the present study only focuses on three IFIDs; other devices, especially different grammatical formats of promising in Mandarin conversation, will be investigated more closely in future studies.

References


Appendix A. Transcript conventions

→ target line
, rising to mid final pitch movement
. falling to low final pitch movement
? rising final pitch movement.
- cut-off
= latching
[ ] overlap
軽声 the utterance is produced very weak
hhh laughter
.hh inhale
(. ) micro-pause
(1.0) measured pause of approximately 1 second.
重音 stressed syllables bolded
延长:: prolongation
((XXX)) unintelligible syllables
((arms crossed)) gestures

Appendix B. Gloss conventions

ASS associative de
ATT attributive de
BA ba structure
BE auxiliary verb shi
CL classifier
COMP complementizer de; compliment dao
CRS current relevant state le
EXP experiential marker guo
NEG negative, both bu and mei(you)
NOM nominalizer de
PFV perfective le
PL plural pronoun
PROG progressive zhe
PRT particle
SG singular pronoun
Q question particle ma and ne

Address for correspondence

Yan Zhou
Department of Asian Languages and Cultures
University of California, Los Angeles
Royce Hall 290
Los Angeles 90095-1540
USA
yz007@ucla.edu