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Prosody and Functions of Discourse Markers in Mandarin Chinese Conversation: The Cases of Ranhou, Wo Juede, and Meiyou

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Prosody and Functions of Discourse Markers in Mandarin Chinese Conversation: The Cases of *Ranhou*, *Wo Juede*, and *Meiyou*

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Asian Languages and Cultures

by

Wei Wang

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ABSTRACT OF THE DISSERTATION

Prosody and Functions of Discourse Markers

in Mandarin Chinese Conversation:

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Doctor of Philosophy in Asian Languages and Cultures

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Professor Hongyin Tao, Chair

This study investigates Mandarin discourse markers from both functional and prosodic perspectives. Discourse markers are defined as sequentially dependent elements which bracket units of talk (Schiffrin 1987). In this study, I focus on three discourse markers, *ranhou* 'then', *wo juede* 'I think/feel', and *meiyou* 'no, not'. Using video-taped everyday conversation, I examine their functional categories and prosodic features, including duration, pitch range, and stress.

My qualitative and quantitative analyses show that, first, the discourse functions of these markers are prosodically stronger than their lexical functions. Newly developed discourse functions, such as the topic-shifting function of *ranhou* and floor-claiming function of *meiyou*, take on a special prosodic design that distinguishes them from other functions.

Second, different prosodic features can have distinct functional and interactional relevance and thus prosody should not be treated as a unitary dimension in conversation. Discourse markers can have incongruent prosodic features, with one prosodic dimension strong and other dimension(s) weak. The ostensible 'inconsistency' is in fact designed so as to fulfil particular interactional needs.

Lastly, given the prosodic difference between lexical and discourse functions discussed, this study supports the view that the development of discourse markers should be considered an independent diachronic process, i.e. pragmaticalization, rather than a subtype of grammaticalization.

Additionally, the present study has methodological contributions in that it has demonstrated the feasibility of integrating a quantitative approach and statistical tests into the study of discourse markers, which are traditionally studied qualitatively. As a complement to the qualitative approach, quantitative methods are able to provide a more objective angle to evaluate the relationships between prosody and function.

The dissertation of Wei Wang is approved.

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ABBREVIATIONS

ADV	adverb
ASP	aspect marker
CL	classifier
COMP	complement
DM	discourse marker
EXL	exclamation
INJ	interjection
LOC	localizer
PN	proper noun
PT	particle

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Chapter 1 Introduction

1.1 Overview

Conjunctions, adverbs, and lexical formulas have been recognized as important sources for discourse markers (e.g. Schiffrin 1987; Brinton 1990; Fraser 1988, 1999; Traugott 1995). The present study examines three representative discourse markers in Mandarin Chinese, *ranhou* 'then', *wo juede* 'I think/feel', and *meiyou* 'no, not', from each of these syntactic categories, focusing on the interaction between their prosody and function.

There are various treatments of these three forms in past literature from different perspectives. *Ranhou* is traditionally viewed as a temporal conjunction, similar to the English *then*, signaling a temporal sequence (e.g. Lü et al. 1980). More recent research has noticed its non-temporal uses – in other words, discourse functions – such as marking consequentiality, topic succession, and initiating new topics (e.g. Su 1998; Wang 1998; Xu 2005; Wang and Huang 2006). Other studies are interested in the diachronic development of conjunctions including *ranhou* and their focus is on the syntactic, semantic, and phonetic change associated with their grammaticalization process (e.g. Fang 2000; Wang and Huang 2006).

Wo juede is an epistemic formula consisting of the first person pronoun *wo* and an epistemic verb *juede* 'to think/feel'. Unlike *think* in English, *juede* does not only carry an epistemic meaning but also expresses physical sensation, similar to *feel* in English. Building on a number of empirical studies on lexical prefabs such as *I think*, *you know*, *I dunno* (e.g. Thompson and Mulac 1991; Biber et al. 1999; Scheibman 1999; Diessel and Tomasello 2001; Thompson 2002), Huang (2003), Tao (2003b), and Fang (2005) investigate similar formulas in Mandarin Chinese including *wo juede* and *wo/ni (bu) zhidao* 'I/you (don't) know'. They seek to reveal the phonetic, grammatical,

and pragmatic features of these formulas as they evolve in discourse. More recent studies adopt the framework of conversation analysis to investigate specific functions of these forms in social interactions (e.g. Lim 2009, 2011; Endo 2010).

Unlike the two aforementioned markers, *meiyou* is multicategorical. It is an adverb negating an action or a state of affairs on the one hand, and the negative form of the possessive/existential verb *you* 'to have/exist' on the other, negating possession or existence (e.g. Lü et al. 1980; Ding et al. 1999; Zhang 2011). *Meiyou* has been routinely analyzed as a negator and its dynamic discourse functions have been largely overlooked until the recent decade. A number of studies from the past ten years look at the functions of *meiyou* at both the local level such as mitigation and evasion, and at the global level such as revision, clarification, and topic-shifting (e.g. Yu 2004; Wang et al. 2007; Wang 2008). In addition to functional extension, scholars are also interested in how *meiyou* is utilized to construct social actions under the framework of conversation analysis (e.g. Chiu 2012).

The present study overlaps with past research in its endeavor to describe the functions of these discourse markers, yet it aims to exhaustively examine the lexical and discourse functions within my data pool rather than focusing on a few particular functions. More importantly, it delves into a less researched area – the prosodic design of individual discourse markers – aiming to find out whether prosody and function are correlated, and if so, in what ways they are correlated.

More specifically, my investigation revolves around the four main questions:

1) What are the major functional categories of these discourse markers given their multifunctionality?

2) What kind of prosodic features are associated with each functional category?

3) How do prosodic features differ across different functions?

4) Is it possible to generalize about any correlation between prosody and function?

The reason to investigate these three discourse markers – *ranhou*, *wo juede*, and *meiyou* – are twofold. First of all, these forms are representatives of three different lexical sources for discourse markers, that is, conjunctions, lexical formulas, and adverbs. Compared to other members of these syntactic categories, *ranhou*, *wo juede*, and *meiyou* show more dynamic uses at the discourse level and therefore have attracted more scholarship. Past research on the three markers constitutes the departure point for the present study. Second, *ranhou*, *wo juede*, and *meiyou* all have high frequency in natural conversation, relative to other discourse markers of the same kind. As will be discussed in Chapter 2, the present study uses video-taped natural conversation as a data source and highly frequent discourse markers like these three can ensure sufficient observed tokens for my quantitative analysis, which is another methodological highlight of this study. For these two reasons, these three discourse markers have been selected to serve as pilot case studies – more studies on other discourse markers are thus called for.

1.2 Literature review

Before launching my own investigation, it is essential to review two important lines of research that are crucial to my study – 1) how discourse markers in general have been treated; and 2) how prosody functions in social interactions – since my research interest lies right at the intersection of these two enterprises.

1.2.1 Previous studies on discourse markers

The past few decades have witnessed an upsurge of research on discourse markers since the groundbreaking work done by Schiffrin (1987) on discourse markers in English. So far there are two major difficulties facing researchers in this field. It is precisely these challenges that relevant scholarship primarily revolves around.

First, as discourse marker is a heterogeneous category, the foremost question that concerns scholars is how to define this term so as to property delimit the boundaries of this category. Schiffrin (1987) proposes that discourse markers are "sequentially dependent elements which bracket units of talk" (1987: 31). Redeker (1990) defines discourse markers as "a word or a phrase ... that is uttered with the primary function of bringing to the listener's attention a particular kind of linkage of the upcoming utterance with the immediate discourse context (1990: 1168). According to Fraser (1999), discourse markers are a class of lexical expression drawn primarily from the syntactic classes of conjunctions, adverbs, and preposition phrases, which signal a relationship between the segment they introduce and the prior segment. Despite differences in nuance, these definitions all share the view that discourse markers do not contribute to the propositional meaning of an utterance, but rather to indicate how the utterance should be understood in relation to what comes before. The present study follows the approach of Schiffrin (1987), adopting a loose definition for discourse markers.

A closely related issue is how to name this category. Although **discourse marker** is the most widespread label (e.g. Schiffrin 1987; Fraser 1990, 1996, 1999; Jucker 1993; Fuller 2003; Bolden 2009), alternative labels exist, which in part reflect the syntactic or semantic characteristics of different scholars' defined categories. For instance, **discourse connective** highlights the connecting role of this group of words. This term is used in functional linguistics (e.g. Blakemore

1987, 1992, 2002; Traugott 1997), and more frequently in natural language processing (e.g. Elwell and Baldridge 2008; Pitler and Nenkova 2009). **Discourse particle** is another common label, in contrast to clitics, full words, and bound morphemes, on the one hand, and to larger entities such as phrasal idioms on the other hand (e.g. Aijmer 2002; Fischer 2006; Bolden 2008). Additionally, **discourse operator** (e.g. Redeker 1991; Gaines 2011), **pragmatic marker** (e.g. Fraser 1996, 2006; Brinton 2001; Chen and He 2001), and **cue phrase** (e.g. Knott 2000; Knott and Sanders 1997; Sanders and Noordman 2000) are also used. Among the many labels, discourse marker is the most inclusive one and is thus employed in the present study.

The second challenge that scholars face is whether it is possible to devise a model to systematically characterize discourse markers given their heterogeneity. One of the earliest attempt comes from Schiffrin (1987), who proposes a five-plane framework to analyze discourse markers, i.e. exchange structure, action structure, ideational structure, participation framework, and information status. Among the many contributions of this work, multifunctionality is highlighted and properly accommodated in this framework, since her analysis suggests that discourse markers can function either on a single plane or across multiple planes. Schiffrin also specifies the conditions that allow a word to be used as a discourse marker, for example, syntactically detachability, initial position, range of prosodic contours, and operation at both local and global levels. Schiffrin's model is informative to the present study in that it provides multiple angles from which to analyze the functions of a particular discourse marker (i.e. from different planes) and to distinguish discourse functions from lexical functions.

Some scholars shift the focus to investigating the distinctive features of discourse markers as an alternative way of attempting to characterize discourse markers as a whole. Hölker (1991) identifies four basic features: 1) they do not affect the truth conditions of an utterance; 2) they do

not add anything to the propositional content of an utterance; 3) they are related to the speech situation and not to the situation talked about; and 4) they have an emotive, expressive function rather than a referential, denotative, or cognitive function. Similarly, Schourup (1999) discusses seven characteristics of discourse markers, that is, connectivity, optionality, non-truth-conditionality, weak clause association, initiality, orality, and multi-categoriality. These studies contribute to a clearer demarcation of discourse markers as a category and lay the ground for later individual case studies to be conducted in a more systematic way.

In addition to these two challenges, there is another focus of interest – the diachronic development of discourse markers. Romaine and Lance (1991) report the grammaticalization pathway of *like*, a discourse marker of reported speech and thought. Brinton (1996) systematically examines the grammaticalization processes of pragmatic markers in English. Haselow (2011) studies the diachronic development of the utterance-final *then* in spoken English. Traugott (1995) proposes a grammaticalization cline for discourse particles, i.e. clause-internal adverbial > sentence adverbial > discourse particle. Traugott (2007) adds another diachronic path, lexical noun > clause-internal marker > sentential adverb > discourse marker. Diewald (2011) looks at the diachronic development of several discourse particles and characterizes such process as pragmaticalization, which she considers a subclass of grammaticalization.

Discourse markers in Mandarin Chinese have also received various treatments. Earlier case studies of Mandarin discourse markers can be found in Miracle (1989), for instance, which analyzes *hao* 'good' in the framework of Schiffrin's (1987) and describes in detail how this marker operates in action structure and exchange structure. During the past two decades, a growing number of studies on individual discourse markers have emerged, although scholars use different labels such as pragmatic marker and discourse connective. Biq has conducted a series of studies

on individual Mandarin discourse markers such as *na(me)* 'then' (Biq 1990), *jiushi (shuo)* 'that is to say' (Biq 2001), and *hao 'good'* (Biq 2004), focusing on the ways in which these forms have developed discourse functions from their original lexical meanings. Chen and He (2001) discover that *dui bu dui* 'correct-not-correct' can not only function as an A-not-A question, but can also be used for pragmatic purposes, as it is able to signal transitions between interactional sequences and help the speaker maintain the attention of the addressee(s). Rather than researching individual markers, Feng (2008) presents a typology of pragmatic markers in Chinese, describing the semantic, morphological and syntactic properties of each type. Fang (2000) reevaluates the status of conjunctions, a syntactically defined category, in the natural spoken discourse of Mandarin Chinese. She argues that some conjunctions have evolved into discourse markers, since they are semantically reduced in natural spoken discourse and now contribute more to discourse organization and speech acts than to the proposition of their embedded sentence. In a similar vein, Wang and Huang (2006) investigate three conjunctions including *yinwei* 'because', *suoyi* 'so', and *ranhou* 'then'. Yet, their study differs from Fang (2000) in that it utilizes corpus data, based on which it provides a more comprehensive characterization of the discourse functions of these discourse connectives.

1.2.2 Previous studies on prosody in interaction

Prosodic aspects of talk-in-interaction were noted as early as the inception of conversation analysis (Sacks, Schegloff, and Jefferson 1974). Yet this topic did not receive systematic treatment until the 1980s, when a group of scholars in discourse analysis started to examine prosody in interaction. A representative work is that by Gumperz (1982), which deals with the question of how conversationalists use prosody to initiate and sustain verbal encounters. The 'prosody' in his

sense includes intonation, changes in loudness, stress, other variations in vowel length, phrasing, and overall shifts in speech register. His analysis suggests that these prosodic cues function to: 1) select among possible interpretations; 2) tie key semantic features together into a theme; and 3) control turn taking. Later, researchers begin to focus on more specific topics. Other important works in the 1980s include French and Local (1983) and Local, Well, and Sebba (1985), which focus on turn-competitive incomings and turn delimitation respectively. They argue that by deploying pitch height, tempo and loudness, participants can constitute their incomings as competitive for the turn. They also discover that the beginning of incoming turns usually has higher pitch and larger volume in relation to other parts in the same turn.

It was during the 1990s that an upsurge of interest in prosody-in-conversation occurred. Discourse analysts began to scrutinize how prosody, working together with other resources, functions in turn-taking practices (e.g. Local 1992; Selting 1996b; Müller 1996). One core question that these studies are oriented to is the relationship between prosody and syntax in interaction.

Some scholars, such as Selting (1996a) and Schegloff (1998), recognize syntax as a more fundamental dimension in turn organization. In discussing turn-constructional units in conversation, Selting (1996a) claims that participants orient to syntax as the more far-reaching projection, but syntactic units are locally contextualized by prosody. For instance, syntax on its own cannot be used as a turn-holding device; prosodic means, such as sound-stretches and locally level or slightly rising pitch before the pause, can help accomplish turn-holding practices. Schegloff (1998) sees syntax as weighing more heavily relative to prosody, as he treats syntax as setting the parameters within which prosody is deployed and interpreted. However, some scholars hold the opposite opinion – that prosody plays a more crucial role in signaling turn completion. When examining *you know* in turn-delimitation in London Jamaican, Local, Well, and Sebba (1985)

argue that it is the phonetic parameters rather than the tag *you know* that constitute turns as complete. In the same vein, Ford and Thompson (1996) highlight the importance of intonation, suggesting that intonation plays a major role in determining which syntactically complete utterances are being projected by hearers as complete units. Of course, there are also studies taking the middle ground, acknowledging that both prosody and syntax are vital in turn construction. For example, Ford (1993), in a study of adverbial conjunctions in American English conversation, finds that intonational and syntactic units mostly coincide, and that both syntax and intonation contribute to signaling the completion of a turn.

While the theoretical debates continue, many researchers have shifted their attention to local prosodic phenomena in social interaction.

Auer (1996) analyzes the syntax and prosody in turns that are expanded beyond a possible syntactic completion point. He shows that syntactically tagged-on material can be prosodically presented either as integrated into the prior unit or as exposed in a new unit. Different prosodic packaging affects the interpretation of tagged-on material. Auer comes to the conclusion that prosody and syntax play independent roles in a 'division of labor' for turn-taking, and that both of the two resources are monitored by recipients in order to infer when to come in. Selting (1996b) discusses the prosody associated with 'astonished' questions in repair initiation. Her analysis on German conversations shows that prosodically marked initiations, which display higher global pitch, greater global loudness and/or louder or higher accent peaks than in surrounding turns, are heard as 'astonished' or 'surprised' initiation of repair. Couper-Kuhlen (2001), in a study of calls into a radio phone-in program, recognizes the role of initial pitch level, which provides a situationally specific contextualization cue. Her study reveals that speakers use contrasting prosodic designs – high onset vs. absence of high onset – to cue the status of their talk at anchor

position. Local and Walker (2004) report on the phonetic designs of abrupt-joins, which refer to turn-constructional units that immediately follow a point of possible completion produced by the same speaker. Prosodic features examined include duration, rhythm, pitch, loudness and articulatory characteristics. They show that 1) there is an audible step-up in pitch and loudness from the last syllable of the first unit to the first stressed syllable of the following unit; 2) there is a localized 'speeding-up' on the last syllable immediately prior to the possible completion point; 3) the beginning of abrupt-joins occurs in close temporal proximity to the end of their prior unit. In a similar fashion, Curl, Local, and Walker (2006) concentrate on self-repetition in interaction and reveal that speakers draw on a range of phonetic features, including tempo, loudness, and pitch, in designing these repetitions. Specifically, the two parts of repetition are two distinct intonation phrases. The second part has the same stress pattern, falling pitch contour, and main pitch prominence, as does the first part. However, main pitch prominence in the second part is shorter in duration than that in the first part.

The recent two decades saw a growing trend of analyzing the prosody of individual linguistic forms. Local (1996) re-examines the well-researched change-of-state token *oh*, using conversation analytic and phonetic techniques. He shows that this token can have quite different interactional meanings when configured with distinctive phonetic and prosodic designs. In Local (2004), he integrates interactional analysis and phonetic analysis to examine *and-uh(m)*, a 'back-connecting device' in his terms, or 'skip-connecting' in Sacks's (1992) terms. He investigates both the variable phonetic features of turn-initial *and-uh(m)* as well as stable phonetic characteristics of this form, such as 'it is typically preceded/followed by either breathiness or pause' (2004: 392). Yet the author merely presents a detailed phonetic analysis without discussing interactional relevance. Dehé and Wichmann (2010a) utilize prosody as evidence to distinguish three functions of *I think*

and *I believe*, i.e. as a main clause, as a comment clause, and as a discourse marker. Dehé and Wichmann (2010b) expand the scope of study to examine epistemic parentheticals as a group and discuss the relevance of prosodic phrasing in realizing different functions. A more recent prosodic paper on individual forms is that by Sohn and Kim (2014), which deals with the interplay of discourse and syntax through close investigation on *kuntey* 'but' in Korean. This form can occur in both left and right periphery position in a turn. When situated at left periphery, *kuntey* signals topic shift/resumption, which is the standard use. When located at right periphery, this form marks a dispreferred response, which is a relatively new use. This paper argues that the syntactic ambiguity of *kuntey* can be disambiguated by differences in prosodic boundaries. In other words, prosody can help determine the syntactic status of *kuntey* and therefore affect the discourse interpretation of this form. Drawing on a specific grammatical form, this paper reveals how prosodic resources are deployed to realize communicative functions.

Finally, the prosodic line of research has also been found in Mandarin Chinese. Shen (1990) is the first systematic study on the prosody of Mandarin Chinese. Her interest is mainly in the interplay between tone and intonation as well as basic intonation patterns in Mandarin Chinese. She identifies three sentence-final tune patterns, associated with assertive, question ending in a high register, and interrogative ending in a low register respectively. Her findings are in line with Chao (1968) that a tonal language can have sentence intonation and lexical tones are influenced by the overall sentence intonation. Tao (1996) is a comprehensive study on Mandarin intonation units based on naturally occurring data. He characterizes the prosodic properties, grammatical structures, and pragmatics of Mandarin intonation units. Yang (1996) discusses the intonational structure of Mandarin discourse. She has explored several aspects, among which the most relevant one to the current study is the correlation between shapes of intonation, i.e. pitch range and

intensity, and cognitive-affective states. For instance, she argues that the combination of a steep drop in both intensity and pitch contributes to a more definite and emphatic impression. Moreover, concavity and convexity of pitch slope are important in distinguishing the perceived harshness or softness of an utterance. Li (2014) provides a multimodal account on turn-taking practices in Mandarin, and incorporates syntax, prosody, body movements and pragmatic resources, paying particular attention to the convergence and divergence of the four types of resources.

1.2.3 Interim summary

The literature review above has revealed that the trend in prosodic studies in interaction is moving from more theoretical exploration, such as those of general functions or characteristics of prosody in discourse (e.g. Chafe 2000, 2001), to specific studies on local prosodic phenomena or prosodic features of individual words or phrases. Notably, there are a number of studies that have touched upon the prosody of individual discourse markers (e.g. Local 1996, 2004; Dehé and Wichmann 2010a, 2010b; Sohn and Kim 2014). Yet prosody has not received thorough treatment in these studies, because: 1) it is not examined in its own right but only to serve the purpose of the functional analysis of the form in question, e.g. prosody employed as evidence to distinguish functions of *I think*/*believe* (Dehé and Wichmann 2010a); and 2) only limited aspect(s) of prosody, primarily prosodic phrasing in previous studies, have been investigated. Therefore, in the field of prosody-in-interaction, systematic prosodic analysis on discourse markers is lacking.

Within the field of discourse markers, functional analysis of various types is dominant, and prosody has not yet received much attention. Given the existing gap between discourse marker studies and prosody-in-interaction, a study that focuses on the prosodic features of specific discourse markers and the interaction between prosody and function is highly desirable and will

contribute not only to a deeper understanding in each of the two fields but also to methodological innovation.

1.3 Theoretical orientation

The present study is informed by four interrelated yet methodologically different theoretical approaches, including the discourse functional tradition, conversation analysis, interactional linguistics, and intonational phonology.

The **discourse functional tradition** holds that grammar emerges from communication and social interaction and is shaped by factors outside the structure of language (Hopper 1998). One of their major interests is to look for the motivated relation between linguistic form and discourse function. For instance, phonological phrasing has been shown to be motivated by a discourse preference for one new idea at a time (Chafe 1982). Morphological case marking patterns have been traced back to underlying discourse strategies such as Preferred Argument Structure (Du Bois 1985, 1987). Thompson and Mulac (1991) have discovered that the complementizer *that* in English is not optional, as was widely believed; rather, the use of *that* in conversation is subject to a range of discourse features, such as first and second person subjects, the verbs *think* and *guess*, auxiliaries, and indirect objects. These studies suggest that linguistic structures and forms are intimately related to their discourse use, shedding new light on the interaction between discourse and grammar. This theoretical tradition, thus, inspires the current study to explore the correlation between linguistic forms, particularly their prosodic shape, and their functions in discourse.

Unlike the discourse functional approach, the **conversation analysis** (CA) approach takes a social perspective on conversation and aims to understand, describe, and analyze talk as a basic and constitutive feature of human social life (Sidnell 2011). It sees everyday conversation as a

locus of social order and other types of discourse as adaptations of the fundamental conversational order (e.g. Sacks, Schegloff, and Jefferson 1974; Sacks 1992). As pointed out by Sidnell and Stivers (2012), what distinguishes CA from other approaches to language use and social interaction is: 1) it assumes that language use and social interaction are orderly at a micro-level, and the orderliness is the result of shared methods of reasoning and action; 2) it requires records of spontaneous, naturally occurring social interaction rather than contrived or laboratory conversation; 3) its analysis is built upon detailed transcription; and 4) it advocates an inductive qualitative method, which relies on case-by-case analysis leading to generalizations across cases. The conversation analysis approach informs the present study in at least three ways. First, it offers a comprehensive set of transcription conventions, which enable my detailed examination on the naturally occurring data. Second, its analytical frameworks for sequence organization, turn-taking, preference structure, and turn construction provide useful perspectives for me to identify the functions of discourse markers beyond the sentence level – in social interactions. Third, the qualitative method of CA is adopted in the present study as a departure point – analyses on individual cases lay a crucial foundation for subsequent quantitative studies.

The third informative theoretical approach is **interactional linguistics**, an interdisciplinary approach growing out of several research fields including conversation analysis. This approach is interested in how linguistic structures and patterns of use are shaped by, and themselves shape, interaction. It treats language as providing one set of resources for the accomplishment of goals or tasks within a social semiotic event (Couper-Kuhlen and Selting 2001). This approach revolves around two central questions:

1) What linguistic resources are used to articulate particular conversational structures and fulfill interactional functions?

2) What interactional function or conversational structure is furthered by particular linguistic forms and ways of using them?

Notably, prosodic aspects of interaction have received various treatments under this framework. A representative one is an important edited volume *Prosody in Conversation*, in which a plea was made for integrating the fields of conversation analysis and prosodic study in ways that would ultimately enrich both. In this vein, scholars bring not only turn-taking practices but also specific activity types into examination in relation to prosody. In this volume, Selting (1996b) focuses on the prosodic cue in "astonished" questions in repair initiation. Müller (1996) is concerned with both affiliative and disaffiliative continuers in recipient turns. Auer (1996) looks at the interplay between syntax and prosody in turn-continuations. This line of inquiry, yielding new insights into the role that prosody plays in interaction, has stimulated my research interest in the prosodic aspects in everyday conversation. It not only demonstrates the feasibility of integrating prosody into the study of social interaction but also provides many methodological exemplars for me to investigate prosody in Mandarin conversation.

Last but not least, **intonational phonology** is also of great methodological importance to the present study. Earlier work on intonation has attempted to establish a correlation between declarative, interrogative, and exclamatory sentence types and final falling or rising intonation. Pierrehumbert's model of intonation follows this tradition; it sets up a "grammar" of intonation, with an inventory of six tones or pitch accents, two phrasal tones, and two boundary tones (Pierrehumbert 1980). Along the same vein, Ward and Hirschberg (1985) provide an account of the semantics and pragmatics of the English fall-rise intonation contour. They argue that this contour makes a context-independent contribution, the uncertainty of speaker, to utterance interpretation, although this position is challenged by some CA studies based on natural

conversation, such as Stivers and Rossano (2010) argue that the final rising contour (or 'interrogative prosody' in the authors' term) is one of the resources that mobilize responses in the recipient. Hirschberg and Pierrehumbert (1986) propose a mapping between prosodic phenomena and semantico-pragmatic effects. In particular, they investigate how variations in pitch range, accent and tune can help to convey such information as discourse segmentation, topic structure, and distinction between 'given' and 'new' information. Studies in intonational phonology, particularly Pierrehumbert's model, offer an analytic tool for the present study to examine and describe prosodic features, a critical step in the effort to discover a relationship between prosody and discourse function.

1.4 Organization

This dissertation consists of six chapters. The current chapter has introduced the scope of my study, provided a review of the relevant literature, and outlined the theoretical background. Chapter 2 introduces my data and methodology, discussing data sources, analytical tools, and key terminologies. I utilize video-taped natural conversation and integrate quantitative and qualitative approaches, employing statistical tests to find out the correlation between prosody and function. Chapter 3, Chapter 4, and Chapter 5 present three representative cases on *ranhou*, *wo juede*, and *meiyou* respectively. Each of the three chapters consists of functional analysis and prosodic analysis. The former identifies the major functional categories of each marker, while the latter focuses on the major prosodic features, i.e. duration, pitch range, and stress. It will be shown that for all three markers examined, generally speaking, their discourse functions are prosodically stronger than their lexical functions. In particular, their newly emerged discourse functions, such as the topic-shifting function of *ranhou*, the story initiation function of *wo juede*, and the floor-

claiming function of *meiyou*, display the most prominent prosodic form. Based on the findings from Chapters 3 to 5, Chapter 6 concludes the present study with discussions on a number of more general issues common to all discourse markers, for instance, the extended scope along with the development of discourse markers, the role of individual prosodic dimensions, and prosodic difference in lexical and discourse functions.

Chapter 2 Data and Methodology

2.1 Data

This study makes use of naturally occurring conversational data. Intuitive data have been proved to have certain limitation that makes themselves less ideal for discourse and discourse-based prosodic analysis (e.g. Sinclair 1991; Stubbs 1993; Tao 1996). As Tao (1996) points out, one of the consequences of intuitive-based approach is that 'the theory of grammar is viewed as very much divorced from phonological content; how speakers actually say things, by virtue of sound, is considered to be a matter of performance (though sometimes treated in the domain of phonology), but not grammar' (Tao 1996:6). Since prosody and specific functions of individual discourse markers are the two foci of the present study, the 'naturalness' of data – the ways in which speakers actually produce these discourse markers in natural settings – are of utmost importance to my study.

My data consist of six everyday conversations among native speakers of Mandarin Chinese, which were video-taped between 2012 and 2015 by myself. The total duration of all my data adds up to 8 hours. The number of participants in each conversation vary from 2 to 4. They are college students and young professionals, with ages ranging from 20 to 33 years old. In terms of gender, my data pool includes both same-gender and cross-gender conversations. Table 2.1 below summarizes the basic information about each conversation.

No.	File name	Duration	Number of speakers	Gender	Age range

1	CCMMZM[1]	2 hours	4	all females	27-33
2	EVANZTYC	2 hours	4	3 males and 1 female	27-32
3	SSKLM	1.5 hours	3	2 females and 1 male	23-25
4	LJWHJJ	50 minutes	3	all females	24-27
5	LLM	50 minutes	2	2 males and 1 female	26-32
6	ZYLK	50 minutes	2	all females	20-22

Table 2. 1 Summary of data

CCMMZM is a conversation among four female friends who are studying in the same university. The four friends have not seen each other for a while. In the two-hour conversation, they share about their summer experiences, talk about their common friends, and discuss some social issues.

EVANZTYC is also a four-party conversation, with three male speakers and one female speaker. They are close friends from a hiking group and many of their topics are about hiking, mountaineering, and travel adventures. The major part of the conversation is among the three males, since the female speaker is cooking in the kitchen for the most of the time and thus does not participate in the conversation.

SSKLM is a dinner-table conversation among two females and one male. The two females are roommates and one of them invited the male speaker to their apartment for dinner. Their conversation is mostly about their studies and school life, since the three of them have shared college experience and two of them study the same subject.

LJWHJJ occurs between two female college students. They have taken the same class, yet

[1] All file name are the abbreviations of participants' names.

they do not know each other very well. Thus, during the conversation, they first talk about each other's background, including early life experiences. Then, they discover some common interests and later have extended discussions about issues such as cosmetics, friends, and part-time jobs.

LLM is a conversation among three college friends, two males and one female. Their conversation involves a lot of jokes, teasing, and sarcasm, especially toward a common friend who was not present in the conversation.

ZYLK is between two females who study in the same department yet do not know each other very well. Their conversation covers a wide range of topics including their studies, personal hobbies, food, and cooking.

To sum up, there are two prominent features of my data – authenticity and diversity. First, all the conversations are naturally occurring, without any pre-assigned topic of discussion. Second, my data involve various types of interactions, including conversations: 1) within the same gender or between different genders; 2) among close friends or mere acquaintances; and 3) about casual everyday topics or more serious social topics. Additionally, the conversational setting also varies, including, for example, at the dinner table, a tea party, and a seminar room.

It should be noted that not all the data are used in each individual investigation. As some discourse markers are more frequent than others, just one part of my data collection would yield enough tokens for examination. For instance, in CCMMZM and EVANZTYC alone, 560 tokens of *ranhou* have been found, sufficient for my analysis. However, *wo juede* and *meiyou* are less frequent, and thus it is necessary to use all six conversations.

2.2 Transcription conventions

All my data are broadly transcribed following CA conventions, outlined in Sacks, Schegloff,

and Jefferson (1974) (see also Jefferson 2004), with a modification – each line in my transcription represents an intonation unit (Du Bois et al. 1993). The symbol after each intonation unit indicates its intonation type. A final intonation is represented by periods (.); a continuing intonation is represented by comma (,). The question mark (?) indicates an 'appeal' intonation, where a speaker seeks a response from a listener, typically in a yes-no question. However, as Du Bois et al. (1993) point out, the question mark is not used for a grammatical question with an intonation other than the appeal contour.

The rationale behind this modification has to do with the theoretical orientations and methodology of this study. The present study integrates prosodic analysis with the CA framework, and intonation units are crucial for analysis the functions of discourse markers in relation to their prosodic attributes. In the traditional CA transcription conventions, intonation units are not recognizable. Limiting one line of transcription to one intonation unit helps to visualize the boundaries of intonation units and thus benefits the subsequent functional and prosodic analysis.

2.3 Methodology

The present study consists of two types of analyses – functional analysis and prosodic analysis – of discourse markers extracted from my eight hours of video data. One methodological characteristics of my study is its integration of qualitative and quantitative methods.

Functional analysis of discourse markers is qualitative. Using the CA framework, I examine the sequential environment of discourse markers, their semantic or pragmatic connection with neighboring utterances as well as the more global level of discourse, and their roles in social interaction. One distinctive feature of my functional analysis is that it seeks to capture broad functional categories rather than specific functions observed in a limited number of tokens. The

functional categories that I propose are generalized on the basis of an exhaustive examination of all tokens and thus are supposed to be general enough to accommodate any observed cases in or beyond my collection.

My prosodic analysis uses both quantitative and qualitative methods. Three prosodic features will be investigated – duration, pitch range, and stress. For *ranhou*, an additional feature – prosodic phrasing – will be considered in order to demonstrate that, contrary to the general belief that discourse markers tend to be prosodically separate, they are mostly prosodically integrated. Duration, pitch range, and stress are chosen as the main parameters for prosodic analysis for two reasons. First, they are typical indices of the prosodic prominence of a word in Mandarin Chinese (Shen 1990). Empirically, the more prominent a word is, the longer its duration, larger its pitch range, and greater the stress it carries. Second, these three prosodic features can be quantified and, in particular, they are measurable in Praat (Boersma and Weenink 2005), a software program for phonetic analysis. This leads to more objective findings rather than purely impressionistic observation.

The first step of the prosodic analysis is to measure the duration and pitch of each token of the discourse markers extracted from the conversations. Pitch range is obtained by calculating the difference between the maximum pitch and the minimum pitch. Stress, in this study, is defined by the tonal realization of each component character. Pan-Mandarin ToBI (Peng et al. 2005) is used as the framework for categorizing syllable stress. The four syllable stress levels are shown below in Table 2.2. Then, word stress is determined based on the syllable stress of each component. For instance, if the two syllables of *ranhou* are both S3, the overall stress of *ranhou* is strong. There are in total three overall stress levels – strong, mid, and weak. Specific rules for the conversion of syllable stress to word stress vary in different forms, and these will be discussed individually in

Chapters 2, 3, and 4.

S3	syllable with fully-realized lexical tone
S2	syllable with substantial tone reduction (e.g., undershooting of tonal target with duration reduction)
S1	syllable that has lost its lexical tonal specification (e.g., in a weakly-stressed position)
S0	syllable with lexical neutral tone (i.e., an inherently unstressed syllable)

Table 2. 2 Stress levels in Pan-Mandarin ToBI (Peng et al. 2005: 255)

After obtaining the duration, pitch range, and stress of each token, the second step is to sort out the tokens according to the categories generalized from the functional analysis and calculate the mean and standard deviation of each category. Then, different statistical tests are applied to determine whether the observed differences across functional categories are significant. In other words, such tests are able to inform us whether or not prosodic features and functional categories are correlated. For duration and pitch range, one-way ANOVA is employed, since their values are numerical and there are more than two groups for comparison. A t-test is used as a supplementary tool in determining statistical significance. As for stress, since it has categorical values rather than numerical values, a chi-square test is applied. When frequencies are low (less than 5), Fisher's exact test is used as an alternative. All statistical tests are run in Stata 14 (StataCorp, 2015).

In addition to the quantitative analysis, prosodic features are also treated with qualitative methods. The interactional relevance of individual prosodic features is examined, especially the prosodic design of turn-final discourse markers, epistemic stance marking, and preference structure, among others. My investigation also focuses on the congruent and incongruent prosodic

features, which are related to the consistence among the individual dimensions of prosody. The contrast between congruent and incongruent prosodic features is most clearly observed in the case of *wo juede*, which will be discussed at length in Chapter 3.

Admittedly, there are a few potential methodological problems that the present study is not able to resolve. First, the tonal realization of individual words could be affected by various factors such as the local tonal environment and the overall intonation of the clause in which it is embedded (Shen 1990). For the sake of clarity and consistency, this study excludes these factors in the hope of discovering the direct correlation between stress and functional categories. Second, this study does not take individual prosodic difference into consideration. That being said, in my study, all the observed tokens from different speakers are lumped together for prosodic analysis. Whether individual difference has a significant influence on prosodic analysis is still unknown. It would be informative to add another dimension related to individuals in future studies, for instance, to analyze the functions and prosody of tokens produced by the same speaker and then compare the results across speakers. As this dissertation is an exploratory study that employs quantitative methods to investigate the prosody-function correlation, it will leave these unsolved issues for future research.

2.4 Definition of terminologies

2.4.1 Discourse marker

The first and foremost notion that deserves a clear definition is **discourse marker**. As mentioned in 1.2.1, my study adopts the definition proposed in Schiffrin (1987), taking discourse markers as "sequentially dependent elements which bracket units of talk" (Schiffrin 1987: 31). It should be noted that discourse markers are often assumed to be utterance-initial in some studies

(e.g. Fraser 1988, 1990, 1999, 2006). However, the present study holds a broader view that discourse markers can be either utterance-initial or final. As shown in studies across different languages, a wide variety of discourse markers are located utterance-finally (e.g. Barth-Weingarten and Couper-Kuhlen 2002; Mulder and Thompson 2008; Haselow 2011; Wang 2017).

2.4.2 Utterance, clause, and intonation unit

Different units of speech will be used in my discussion, including utterance, clause, and intonation unit, and thus it is essential to clarify their definitions.

Utterance is loosely defined as "any stretch of talk by one person, before and after which there is silence on the part of that person" (Harris 1951:14). In other words, utterances can vary in size – they can be a single lexical item or a spate of talk composed of multiple sentences.

There is no shared definition for the term **clause**, since its definition has much to do with the syntactic and grammatical features of a language. Given the particular grammatical features of Mandarin Chinese, I follow Tao (1996), taking a clause to mean a non-modifying verbal expression with or without zero-marking arguments, but excluding single nominals.

As for **intonation unit** (IU), my study adopts Chafe's (1987) definition that "an intonation unit is a sequence of words combined under a single, coherent intonation contour, usually preceded by a pause" (Chafe 1987:22). Intonation units have been shown to be relevant to natural language production, in particular speakers' cognitive constraints that "one new idea at a time" (Chafe 1982). Departing from Chafe's research on intonation units, Tao (1996) examines the prosodic properties, grammatical structure, and pragmatics of Mandarin intonation units. IU is the fundamental speech unit in the present study – all my data are transcribed based on IU, which will be further discussed in 1.4.2.

2.4.3 Lexical function and discourse function

Discourse markers are usually multifunctional: while their original meaning is retained, new discourse functions have emerged through diachronic processes of pragmaticalization (e.g. Brinton 1996; Schourup 1999; Diewald 2011). In order to characterize the multifunctionality of discourse markers, this study differentiates lexical function from discourse function. First, **lexical function** is understood as encoding information contributing to the content of conceptual representations (Schourup 1999). This term is also referred to as propositional meaning (e.g. Traugott 1982; Redeker 1990; Fraser 2006) or conceptual meaning (e.g. Rouchota 1998; Ziv 1998; Schourup 1999; Fraser 2006) in some literature. Under this definition, all the three discourse markers in my study have lexical functions, regardless of their syntactic categories – whether they are functional words (e.g. *ranhou* and *meiyou*) or lexical expressions (e.g. *wo juede*). Second, **discourse function**, in contrast to lexical function, does not contribute to the conceptual content, but instead encodes "procedural meaning" (e.g. Rouchota 1998; Fraser 1999; Schiffrin 2001; Blakemore 2002), constraining the interpretation of utterances.

It is not the intention of the present study to partition the functional spectrum of discourse markers into two isolated classes. On the contrary, this study recognizes the connection between the two categories and sees discourse function as evolving from, and being shaped, by lexical function.

Chapter 3 The prosody and functions of *ranhou*

3.1 Introduction

Ranhou is traditionally defined as a conjunction, indicating a temporal relationship between two events (Lü et al. 1980). For example:

(3.1) 先 讨论 一下，**然后** 再 作 决定 (Lü et al. 1980: 459).

Xian taolun yixia **ranhou** zai zuo jueding

First discuss a-bit **RANHOU** then make decision

'Discuss a little bit first, and then make the decision.'

During the past few decades, interest has grown in Mandarin connectives including *ranhou*, yielding a rich body of literature consisting of two major lines of research. One line focuses on the new discourse uses of *ranhou* and the other revolves around its prosody. While the discourse function of *ranhou* has attracted a good amount of scholarship, its prosody is much less researched.

One early study along the first line, Su (1998), identifies a few non-temporal uses of *ranhou*, including marking consequentiality, conditionals, concessions, topic succession, and being a discourse filler. In the same vein, Wang (1998) points out that the core meaning underneath the various uses of *ranhou* is marking continuation. She makes reference to event time and discourse time to differentiate between the temporal and non-temporal use of *ranhou*.

Fang (2000) investigates a group of frequent Mandarin conjunctions including *ranhou* based on naturally occurring conversation. Her main argument is that these conjunctions are in the process of grammaticalization, in which they are gradually losing their semantic content and becoming discourse markers in spoken discourse. She identifies two discourse functions of *ranhou*, i.e. discourse organizing and speech acting. According to her investigation, the discourse

organizing function can be further divided into two types, i.e. foregrounding and topic switching. The speech acting function, then, can be understood as turn taking, on the one hand, and turn holding, on the other. She argues that temporal conjunctions like *ranhou* have been undergoing semantic reduction and become discourse markers because they are intrinsically in accord with the natural temporal/logical order and are thus less semantically burdened.

Drawing on Fang (2000), Xu (2009) examines three discourse functions of *ranhou*, including marking temporal sequence, marking listing construction, and initiating a new topic. For each function, he provides a brief description of the prosodic characteristics of *ranhou*, which is mainly based on the author's auditory observations. One contribution of this study is that it brings to attention the topic initiating function at the discourse level. Yet, the study's intuition-based prosodic analysis is of limited value and more objective investigation is called for.

Wang and Huang (2006) propose a slightly different categorization, which has partial overlap with Su (1998) and Xu (2009). The seven functional categories are: 1) temporal use; 2) listing use; 3) consequential use; 4) topic succession use; 5) filler; 6) additive use; and 7) resumptive opener. Applying Traugott's (1995) adverbial cline to the case of *ranhou*, the authors clearly identify 2) - 7) as discourse particles, which are the outcome of the grammaticalization of the sentential adverb *ranhou* (i.e. temporal use). This study also addresses the intersubjectivity involved in the discourse uses of *ranhou*. They argue that speakers "employ *ranhou* as a conversation device to explicitly signal to the addressee that he/she intends to hold the conversation floor because of more to say in addition to what has been said" (Wang and Huang 2006:1010-1011).

Ong and Phua (2011) claim that *ranhou* is able to indicate contrastive, causal, and coordinating relationships in discourse, as shown in the following example.

(3.2) *ranhou* is argued to indicate a causal relationship (Ong and Phua 2011:1)

1 他 失恋 啊，

ta shilian a

he break-up PT

‘he broke up (with his girlfriend),’

2 → **然后** 心情 就 很 差.

ranhou xinqing jiu hen cha

RANHOU mood PT very bad

‘**RANHOU** (his) mood was very bad.’

Differing from previous studies, Xiao (2010) examines *ranhou* in a specific genre – conversational narratives in Mandarin Chinese. She argues that *ranhou* indexes the temporal linearity of the narrative, in other words, marking succession in event time or signaling a sequence of thoughts, ideas, actions and utterances that may or may not coincide with the event time. Ultimately, *ranhou* serves the purpose of increasing the temporal coherence. As can be seen above, these attempts to categorize the uses of *ranhou* do not arrive at the same results. There are a few explanations for the differences. First, some studies focus on particular uses rather than a comprehensive examination of all the functions of *ranhou*, e.g. Xu (2009). Therefore, their proposals can explain only part of *ranhou*’s functional spectrum. Second, some functional categories proposed in the previous studies are based on a limited number of cases and are thus too specific to be applied to a larger dataset. For instance, the functions proposed in Ong and Phua (2011) are context-dependent; what is claimed to be the functions of *ranhou*, e.g. causal and contrastive, are in fact inferred from the context and thus should not been treated as *ranhou*’s functions. To avoid these problems, my current study takes a bottom-up approach, starting from

an exhaustive examination of all the *ranhou* tokens in my data pool and then arriving at a few broad functional categories.

The other line of research is related to the prosody of *ranhou*. Yang (2006) examines how the prosody of discourse markers reflects cognitive and discourse phenomena of uncertainty and certainty, intensity of emotional response, and interactive signals of knowledge state. Her data suggest that *ranhou* with a larger pitch range tends to signal a change in topic or a return to a previous topic after an intervening subtopic. In contrast, a narrow pitch range usually signals topic continuation. In these cases, *ranhou* often has a more gradual and smoother contour, compared to topic-change cases.

Yang (2010) looks at how lexical tones and functions of discourse markers interact with prosody to achieve communicative goals in spontaneous natural conversations. This study presents two cases, one of which is *ranhou*. Her conclusion is that the degree of uncertainty is a key factor in the prosody of *ranhou* and in how the lexical tones of *ranhou* are modified; the more predictable the following utterance is, the longer duration and the fuller articulation will be observed in *ranhou*.

To sum up, although the first line of research, i.e. the discourse-functional analysis of *ranhou*, has received various treatments, a comprehensive bottom-up investigation is needed in order to shed light on the entire range of *ranhou*'s functional spectrum. Compared to the first line, the second line – the prosody – has not yet been widely researched. The existing prosodic studies focus on the prosodic features associated with some particular discourse phenomena such as topic change. In other words, these studies are not about different functions of *ranhou* and their interaction with prosody; instead, they are more interested in the prosodic variation of *ranhou* in relation to a number of discourse factors such as certainty, emotional intensity, and knowledge state. It remains unknown whether the different functions of *ranhou* are prosodically distinct. Therefore, this

chapter will analyze not only the functions but also prosodic features of each function of *ranhou* to see how the two dimensions are correlated.

3.2 Data and methods

My data for the investigation on *ranhou* come from two videotaped natural conversations among native speakers of Mandarin, totaling four hours. The first conversation, named EVANZTYC, involves three male speakers Evan, ZT and YC, and one female speaker Susie, aged between 27 to 32. The majority of the conversation is among the three men, because Susie is cooking for the most of the time while the three men are talking. The other conversation, entitled CCMMZM, is among four women, CC, MM, ZM and Susie, who are PhD students in their late twenties. A total of 560 tokens of *ranhou* has been found in the two conversations. Within them, 52 tokens are excluded for the following reasons: 1) *ranhou* is embedded in incomplete turns, making it impossible to determine its function; 2) the sound quality of *ranhou* is not good enough for prosodic analysis, due to overlap, background noise, or other issues. Additionally, turn-final *ranhou* is also excluded from prosodic inspection because it is usually associated with laughter or strong outbreath, making it difficult to measure the prosodic features. Yet, turn-final *ranhou* shows interesting interactive characteristics and will thus be discussed in 3.3.5.2. After elimination, 508 tokens are ready for my analysis, which is described below.

Two types of analyses will be conducted: functional and prosodic analysis. In my functional analysis, I propose four functional categories based on comprehensive investigation of the 508 tokens. I also analyze the functions of *ranhou* in relation to its turn position, that is, turn-initial, turn-internal, and turn-final. In prosodic analysis, four features will be examined, duration, pitch range, stress, and prosodic grouping. While duration and pitch range are measured with Praat,

stress and prosodic grouping are determined mainly on the basis of auditory observation with the assistance of Praat to decide on the equivocal cases. Statistical analysis will be performed to test the significance of the observed prosodic differences across distinctive functions of *ranhou*.

It should be noted that in previous treatments of discourse functions, scholars often employ prosody as a resource to differentiate one function from another or to determine the boundary of a discourse unit (e.g. Nakajima and Allen 1993; Ferrara 1997; Horne et al. 2001; Dehé and Wichmann 2010; Zhang et al. 2012; Kim and Sung-Ock Sohn 2015). The present study, however, does not presume any role of prosody in distinguishing discourse functions. Instead, it will start with pure functional analysis, where discourse functions are identified solely on the basis of context. This is to avoid circularity, since the correlation made between prosody and function is only valid if the two dimensions are examined independently. Using prosodic cues to identify discourse functions would undermine the correlation thus made.

3.3 Functional analysis on *ranhou*

As is generally acknowledged, *ranhou* is etymologically a temporal conjunction marking succession and its extended functions are related to the notion of time in one way or another. Therefore, in order to understand the functional categories of *ranhou*, it is necessary to introduce a pair of concepts, event time and discourse time, as a few studies have already noted (e.g. Wang 1998; Xiao 2010). Schiffrin (1987) proposes the notion of event time and discourse time to understand the functions of *now* and *then* in English. **Event time**, according to her study, indicates the temporal relationship between propositions themselves; this kind of relationship is between linguistic events internal to a discourse. In contrast, **discourse time** refers to the temporal

relationships between utterances in a discourse, in other words, the order in which a speaker presents utterances in a discourse.

Viewed from this perspective, the canonical temporal function of *ranhou* is associated with event time, indicating temporal succession between two events conveyed in the utterance. Similarly, consequential function, which will be discussed below, is also related to event time. In addition, I have observed two other functions of *ranhou* – additive and topic-shifting functions, which are associated with discourse time. Each of the four functions will be discussed at length with examples from my data pool in this section.

3.3.1 Temporal function

The temporal function of *ranhou* is a generally acknowledged function that has been noted in dictionaries (e.g. Lü et al. 1980). However, there has not been much discussion about what this temporal function specifically refers to. In the present study, temporal function is defined with reference to event time, which indicates the temporal relationship between propositions themselves, in contrast to discourse time, which refers to the order that a speaker presents utterances in a discourse (Schiffrin 1987). However, in reality it is hard to differentiate it from other functions, particularly the consequential function, a point which will be discussed in 3.3.2. Thus, explicit time adverbials provide us with clues to recognize the temporal function of *ranhou*, for instance, *xian* 先 'first', *zai* 再 'then', *zuihou* 最后 'last, finally', *yihuier* 一会儿'later', among others. Of course, these adverbials serve only as indicators, not necessary conditions for *ranhou* to be identified as having a temporal use. As long as a specific event time sequence can be inferred from the context, *ranhou* is considered to have a temporal function. Two cases are presented below to illustrate *ranhou* in contexts with and without a time adverbial respectively.

In Example (3.3), MM is talking about a lecturer who likes to answer questions in a roundabout way. In lines 2-4, MM is describing the details: when you ask a question, the lecturer first goes around in a big loop, and then tells you (what you want to know). *Ranhou*, in line 4, connects an event that happened right after the previous event conveyed in the just-prior utterance (line 3). *Zai*, a time adverbial meaning 'then', explicitly marks the sequential relationship between the two events, thus warranting our judgment that this token signals a temporal function.

(3.3) *Ranhou* with a time adverbial (CCMMZM_072)

1	MM:	就是 他 喜欢 就是，
		jiushi ta xihuan jiushi
		PT he like PT
		'well, he likes, well,'
2		当 你 问 一 个 问题，
		dang ni wen yi ge wenti
		when you ask a CL question
		'when you ask a question,'
3		他 先 绕 一个 大 圈，
		ta xian rao yi ge da quan
		he first go-around a CL big circle
		'he first goes around in a big circle,'
4 →		**然后** 再 讲 给 你，
		ranhou zai jiang gei ni
		RANHOU then tell to you

'**RANHOU** then tells you,'

Example (3.4) is a slightly different case, as there is no time adverbial in the clause where *ranhou* is embedded. Instead, the time sequence is implied in the speaker's telling of a story. In this extract, ZT is sharing the story as to how he got a scar on his face when shooting in a gun club. From line 1 to line 3, he describes what happens in the gun club – after he fires (line 1), one bullet shell hits the celling (line 2), then it falls down on him (line 3). A clear timeline can thus be inferred from his narration. Despite the absence of a time adverbial, it is possible to observe that *ranhou* indicates a temporal relationship between two events.

(3.4) *Ranhou* without a time adverbial (EVANZTYC_149)

1	ZT:	一 枪 出去 以后，
		yi qiang chuqu yihou
		one shot come-out after
		'after one shot,'
2		一 个 弹壳 打 到 顶，
		yi ge danke da dao ding
		one CL bullet-shell hit to ceiling
		'one bullet-shell hit the ceiling,'
3 →		**然后** 落 下来，
		ranhou luo xialai
		RANHOU fall down
		'**RANHOU** fell down,'
4		特别 烫，

tebie tang

extremely hot

'extremely hot,'

3.3.2 Consequential function

The second function of *ranhou*, closely related to the temporal function, is to mark the consequence of the prior proposition. Like the temporal function, the consequential function is associated with event time, as it concerns events internal to discourse. Also, it entails a temporal function, since antecedence and consequence are juxtaposed in a natural temporal order. In other words, the consequence indicated by *ranhou* happens after the event in the prior utterance, i.e. the antecedence. A quick example is provided below to illustrate this function. In Example (3.5), which is reproduced from (3.2), his bad mood (line 3), indicated by *ranhou*, is the consequence of a breakup (line 1).

(3.5) *ranhou* marking consequence (Ong and Phua 2011:1)

1 他 失恋 啊，

ta shilian a

he break-up PT

'he broke up (with his girlfriend),'

2 → **然后** 心情 就 很 差.

ranhou xinqing jiu hen cha

RANHOU mood PT very bad

'**RANHOU** (his) mood was very bad.'

Given the definition of the consequential function, one may wonder how it differs from a causal relationship, as some previous studies have claimed that *ranhou* can signal a causal relationship (e.g. Ong and Phua 2011). In Mandarin Chinese, the typical causal marker is *yinwei* 因为 'because' and the result marker is *suoyi* 所以 'so' (Chao 1968; Lü et al. 1980; Li and Thompson 1981; Wang and Huang 2006). The two conjunctions are often used as a pair to indicate a cause-effect relationship. As *yinwei* and *suoyi* are explicit cause-effect markers, their positions are flexible and can be even reversed. Like *because* in English, *yinwei*, the causal marker, can occur after the result. In contrast, *ranhou* is an implicit marker of consequence and it only suggests that the first event possibly gives rise to the second event; the consequential relationship largely relies on the juxtaposition of the two events. Thus, *ranhou* and its embedded clause are not able to occur before its causal event.

As noted above, the consequential function of *ranhou* is closely related to its temporal function. A relevant question then arises: how can one differentiate between these two functions? Of course, a close semantic examination might give us some clue as to whether or not a consequential relationship exists. A more reliable and straightforward linguistic device can lend support to our discerning process. The adverb *jiu* 就, a linking device that serves to relate two propositions in an antecedent-consequent relation (e.g., Li and Thompson 1981; Biq 1988; Liu 1993), can assist in the identification of the consequential *ranhou*. *Ranhou* and *jiu* overlap in the function of marking the consequence; thus, the collocation of the two markers reinforces the consequential relationship.

In the three examples below, *jiu* facilitates our identification of the consequential function of *ranhou*. These three examples also serve to illustrate different types of consequential relationship, from strong to weak. Example (3.6) shows a case with a strong consequential relationship. MM is

talking about what happens in the village where her grandmother lives: people care very much about tiny little things. For instance, if one's house was built a little bit over the fence (line 1), his neighbor would hate him to death (line 3). The consequential relationship, signaled by *ranhou* as well as *jiu* in line 3, is quite strong and easily recognized, since 'hating him to death' is the direct consequence of 'building their house over the fence'.

(3.6) Consequential *ranhou* accompanied by *jiu* (strong) (CCMMZM_002)

1	MM:	然后(.) 你们 家 盖 房子 盖 过来 一点点， ranhou nimen jia gai fangzi gai guolai yidiandian RANHOU you family build house build over a-little 'And then, (if) your family built your house over (the fence) a little bit,'
2	CC:	嗯. en PT 'Yeah.'
3 →	MM:	哇 **然后** 就 恨 得 要 死 哦， wa **ranhou** jiu hen de yao si o PT RANHOU PT hate PT will die PT 'Wow, (they would) hate (you) to death,'

In (3.7), however, the consequential relationship is not as strong as in (3.6). In this extract, Evan is talking about a movie on the mountain K2, which he watched again recently. In the target line (line 5), Evan prefaces his comments on the movie with *ranhou*, signaling that his comments are grounded in his recent experience watching this movie again. In other words, unlike (3.6), his

comments are not a direct consequence of watching the movie; rather, the fact that he recently watched this movie validates his comments that movies are just movies, which are far from reality.

(3.7) consequential *ranhou* accompanied by *jiu* (weaker) (EVANZTYC_117)

1	Evan:	我 前 两 周 周末 我 就重新 review 了一下那个 movie,
		wo qian liang zhou zhoumo wo jiu chongxin review le yixia nage movie
		I previous two week weekend I PT again review PT a-bit that movie
		'In the weekend two weeks ago, I reviewed that movie,'
2		它 就 讲 的 是 K2 嘛，
		ta jiu jiang de shi K2 ma
		it PT say PT is K2 PT
		'it is exactly about K2,'
3		K2 是 最 难 爬 的 山，
		K2 shi zui nan pa de shan
		K2 is most difficult climb PT mountain
		'K2 is the most difficult mountain to climb,'
4	ZT:	hhh.
5 →	Evan:	**然后** 你 就 觉得 那些，
		ranhou ni jiu juede naxie
		RANHOU you PT think those
		'RANHOU you would think those,'

6 那你只能说是电影作品.

na ni zhi neng shuo shi dianying zuopin

that you only can say is movie work

‘you can only say those are just movies.’

(3.8) represents the weakest type of consequential relationship in my categorization. The first event, MM and her mother taking a walk along the river after coming back from Japan (line 1), provides background rather than a cause for the second event. Thus, the second event, in which they meet *jiejie* ‘a female relative’ (line 2), is what happens in this background. Between the two events there is only a loose consequential relationship: the second event happens in the background of the first event. Through scrutinizing these examples, it has become clear that the consequential tokens of *ranhou* do not form a homogeneous group; rather, the consequential relationship indicated by *ranhou* can vary from strong to weak.

(3.8) consequential *ranhou* accompanied by *jiu* (weakest) (CCMMZM_140)

1 MM: 我 从 日本 回来 以后 我 跟 我 妈 去 江边 散步，

wo cong Riben huilai yihou wo gen wo ma qu jiangbian sanbu

I from Japan come-back after I with my mom go riverbank stroll

‘after I came back from Japan, I went to stroll in a riverbank with my mom,’

2 → **然后**就遇到一些什么姐姐什么的，

ranhou jiu yudao yixie shenme jiejie shenme de

RANHOU PT run-into some what sister some PT

‘**RANHOU** (we) ran into some female relative,’

3 那她 说 暑假 怎么，

na ta shuo shujia zenme

then she say summer-holiday how

‘then she said how the summer holiday was,’

4 我 说 暑假 刚刚 去 日本 回来，

wo shuo shujia ganggang qu Riben huilai

I say summer-holiday just go Japan come-back

‘I said, (I) just went to Japan during the summer holiday,’

Admittedly, there are cases of *ranhou* in which it is unclear whether it serves a temporal function or a consequential function, especially when the indicator *jiu* is absent. (3.9) below is an example. CC talks about a piece of news that she read online: a little girl called 911 because she could not solve a math problem. In lines 6-7, CC enacts the girl calling the police, and in line 8, she switches back to her story-telling, saying that the police officer answered the little girl’s question seriously (line 8). The event in line 8, on the one hand, is in a temporal sequence with the prior event; on the other hand, it is the consequence of the little girl’s question. As discussed above, a consequential relationship naturally entails a temporal relationship. In cases like this, *ranhou* should be identified as serving a consequential function. Only when a consequential relationship is clearly absent can we label a token as marking temporal function.

(3.9) ambiguous case between a consequential and a temporal function (CCMMZM_212)

1 CC: 之前 好像 网上 不是 有 个 新闻 就 说，

zhiqian haoxiang wangshang bushi you ge xinwen jiu shuo

before apparently Internet not have CL news PT say

‘there was apparently this news on the Internet saying,’

2 就 一 个 小 姑娘，

jiu yi ge xiao guniang

PT a CL little girl

‘a little girl,’

3 那个 做 数学 题 做 不 出来，

nage zuo shuxue ti zuo bu chulai

that do math question do not out

‘well, could not work out a math problem,’

4 然后 就 给 911 打 电话，

ranhou jiu gei 911 da dianhua

RANHOU PT to 911 make phone-call

‘then, (she) called 911,’

5 Susie: hhh.，

6 CC: 那个 叔叔 啊，

nage shushu a

that uncle PT

‘Um, sir,’

7 那个你 认 不 认识 一 加 二 等于 几，

nage ni ren bu renshi yi jia er dengyu ji

that you know not know one plus two equate how-many

‘um, do you know what’s one plus two,’

8 → **然后**那个叔叔还特别认真地帮她回答了问题 hhh.,

ranhou nage shushu hai tebie renzhen de bang ta huida le wenti

RANHOU that uncle PT extremely serious PT help her answer PT question

'RANHOU that officer very seriously answered her question,'

3.3.3 Additive function

At the discourse level, *ranhou* often functions to introduce additional information on the current topic into a conversation. In contrast to temporal and consequential functions, the additive function is associated with discourse time rather than event time, as it is about organizing utterances in discourse. If viewed from the perspective of turn organization, additional information brought in by *ranhou* is realized either as 'increments' (Schegloff 1996), that is, grammatically the extensions of prior units, or 'free constituents' (Ford, Fox and Thompson 2002), namely new TCUs that bear no grammatical relationship with the prior unit. In Example (3.10) below, quoted from Schegloff (1996), *when I-I get home* in line 3 is an increment, since it grammatically extends the prior point made by Ava in line 1. Yet, line 4 is totally a new material, or a 'free constituent', with no grammatical relationship with its preceding unit.

(3.10) example of increments and free constituents

1 Ava: I'll give yih call tomo[rrow.]
2 Bee: [Yeh:] 'n [I'll be ho:me t'mor]row.
3 Ava: When I-I get home.]
4 Ava: I don't kno-w- I could be home by- hh three, I c'd be home by two I don't know. (from Schegloff 1996: 90)

Ranhou, according to my data, is able to introduce both increments and free constituents. For example, in (3.11), Evan asks where YC is going in line 1. In his answer, YC first says *jiushi cong sanfan* 'basically from San Francisco', which is grammatically incomplete. Then, in line 3, YC

continues with an increment *ranhou jiushi dao Niuyue* ‘then to New York’, which is a syntactic extension of its prior unit.

(3.11) *ranhou* introducing an increment (EVANZTYC_049)

1	Evan:	去 哪儿 啊？
		qu na’er a
		go where PT
		‘where are (you) going?’
2	YC:	就是 从 三藩，
		jiushi cong Sanfan
		PT from San Francisco
		‘from San Francisco,’
3 →		**然后** 就是 到 纽约，
		ranhou jiushi dao Niuyue
		RANHOU PT to New York
		‘**RANHOU** to New York,’

However, in (3.12), what is introduced by *ranhou* is a free constituent. In this extract, ZT is talking about his experience getting lost in the Universal Studios. Line 1-2 constitute a complete idea that they went the wrong way and came to a dark place without any lights. *Ranhou* in line 3 brings in another piece of information, i.e. *na’r hai zhen you ren* ‘there were people there’ (line 3), which is grammatically independent from line 2. It is thus considered a free constituent.

(3.12) *ranhou* introducing a free constituent (EVANZTYC_196)

1	ZT:	我们走斜了，

women zou xie le

we go skew PT

'we went the wrong way,'

2 走 到一个 真正 的 黑乎乎连 路灯 都没有的地方，

zou dao yi ge zhenzheng de heihuhu lian ludeng dou meiyou de difang

go to a CL really PT dark even light PT no PT place

'went to a really dark place without even any lights,'

3 → **然后** 呢，

ranhou ne

RANHOU PT

'**RANHOU**,'

4 那 还 真 有 人，

na hai zhen you ren

there unexpectedly really have people

'unexpectedly, there were people there,'

Similarly, in (3.13), YC is telling Evan and ZT that he does not know the airfare from Los Angeles to Beijing, because it is paid by the China Scholarship Council (line 1-3). After an acknowledgment token from Evan (line 4), YC continues to provide two pieces of additional information, i.e. *ranhou women shi dagai liuyuefen gaosu tamen* 'and then we informed them around June', and *ranhou gei tamen ban* 'and then let them handle it'. Both of the two clauses introduced by *ranhou* are grammatically independent of their prior unit; they are free constituents, serving to elaborate on the same topic.

(3.13) *Ranhou* introducing a free constituent (EVANZTYC_167)

1 YC: 我们 是，

women shi

we are

‘we are,’

2 反正 我 不 知道 多少 钱，

fanzheng wo bu zhidao duoshao qian

anyway I not know how-much money

‘anyway, I don’t know how much (the air ticket) cost,’

3 我们 是 留学生基金委 给买 的 嘛，

women shi Liuxuesheng-Jijinwei gei mai de ma

we are China-Scholarship-Council for buy PT PT

‘our (tickets) were paid for by the China Scholarship Council,’

4 Evan: 哦：：.

o

oh

‘oh,’

5 → YC: **然后**我们是大概六月份告诉他们，

ranhou women shi dagai liuyuefeng gaosu tamen

RANHOU we are around June tell them

‘**RANHOU** it was around June that we told them,’

6 → **然后** 给 他们 办,

ranhou gei tamen ban

RANHOU to them deal-with

'**RANHOU** let them deal with it,'

In my data, most additive tokens of *ranhou* introduce free constituents, largely due to the left-branching nature of Mandarin syntax (Tsao 1982). Mandarin is typically head-final, where modifying constituents, such as adjectives, adverbials and prepositional phrases, usually occur before the head (e.g. Chao 1968; Luke and Zhang 2007). When the head is uttered, it is not likely to add increments after it. Luke and Zhang (2007) have noticed the right-dislocated phenomenon in Mandarin, where increments are added after a possible completion point, as illustrated in the following three examples in (3.14). However, these increments are grammatically constituents, e.g. subjects, objects, or adverbials, of their preceding sentences, which are rather predictable since they are the elided elements of the prior sentence. *Ranhou*, in contrast, introduces additional information on the same topic, which is largely grammatically independent from its prior unit.

(3.14) increments in right-dislocated sentences (Luke and Zhang 2007: 14)

Ting	*youyisi*	*de*	***zhege***	(Dislocated subject)
quite	interesting	PRT	this	

'It's quite interesting, this one.'

Ruguo	*xuyao*	*wo*	*bangmang*	***zai***	***nabian***	(Dislocated place adverbial)
if	need	I	help	at	there	

'If you need me to help from there,'

Lai	*duo*	*nian*	*le*	*ba,*	***Bejing***	(Dislocated object) [8]
come	many	year	ASP	PRT	Beijing	

'So you've come to Beijing for quite a few years, haven't you?'

3.3.4 Topic-shifting function

The last function of *ranhou* is to shift topics in conversation. Similar to the additive function, this function is also related to discourse time. The definition of topic is an elusive one and has spurred heated debate. Chafe defines topic as what "sets a spatial, temporal, or individual framework within which the main predication holds" (Chafe 1976:50). Li and Thompson (1976) propose that the topic is the "center of attention" and it announces the theme of the discourse. In a more recent study, Taboada and Wiesemann (2010) define topic as the "backward-looking center of an utterance, the most salient entity from the previous utterance that is present in the current utterance" (Taboada and Wiesemann 2010:1817). The present study follows the definition of Chafe (1976), understanding topic as the background for the following utterances.

Topic shift is another thorny notion that has attracted a large amount of research. Most scholars agree on three types of topic shifts (e.g. Keenan and Schiefelin 1976; Crow 1983; Brinton and Fujiki 1984). The first type is a shift to a brand new topic that was not previously discussed and does not incorporate information from the previous topic. The second type of shift is a return to a previously discussed topic. This type includes what Sacks (1992) terms "skip-connecting", which refers to cases where speakers link the current talk to their own immediately prior talk, skipping over the intervening talk of others. The last type of topic shift is in some way related to the prior topic and incorporates some of the previous information.

This classification is informative to the discussion on the topic-shifting function of *ranhou*. In my data, the third type of shift – shifting to a related topic – constitutes the majority. Within this type, a recurrent group of cases has been observed, that is, shifting from stories to comments or from comments back to the storyline, as illustrated in (3.15) and (3.16). The first type, shifting to a brand new topic, is rare in my data, since speakers always make their utterances relevant to

previous utterances in one way or another (e.g. Jefferson 1984b; Gan, Davison and Hamp-Lyons 2009). Only two such cases are observed and *ranhou* plays a crucial interactional role, as shown in (3.18) below. In these cases, *ranhou* serves as a topic-bounding device (Crow 1983), marking an explicit topic change while maintaining the coherence of discourse.

In Example (3.15), *ranhou* marks a shift from story to comment, whereas *ranhou* in (3.16) signals the reverse. In (3.15), CC is sharing her field trip experience in a rural area in China. From line 1-2, she is talking about the fact that her hostess has a nicely shot photo of herself in a wedding gown. It is a trendy fashion in Chinese cities to hire professional photographers to take this kind of photo; however, in rural areas, it is considered lavish. Thus, CC shares this newsworthy story with other conversation participants. After completing the telling of the story, she utilizes *ranhou* to switch to comments, i.e. *ranhou fanzheng jiu hen you yisi* 'and then, it is quite interesting' (line 4-5).

(3.15) *Ranhou* indicating a shift from fact to comment (CCMMZM_014)

1	CC:	而且包括这个女主人，
		erqie baokuo zhege nü zhuren
		and include this female host
		'and the hostess,'
2		她 还 去 照 婚纱 照，
		ta hai qu zhao hunsha zhao
		she even go shoot wedding-gown photo
		'she even went to shoot photo in her wedding gown,'
3	MM:	hhhh.
4 →	CC:	**然后，**

ranhou

RANHOU

'RANHOU,'

5 (1.0) 反正 就 很 有意:思,

fanzheng jiu hen youyisi

anyway PT very interesting

'anyway, it is interesting,'

Example (3.16) illustrates the opposite shift, that is, from comments back to the story. Prior to the extracted sequence, MM was talking about her younger cousin, who has a successful business on WeChat, an instant messaging app, which also allows people to buy and sell goods. MM mentioned that her cousin makes much more money than PhD students like the three of them right before the sequence. Then, CC takes over the floor and comments that they are interest-oriented, and their choice has nothing to do with money (lines 1-2). After a long pause, MM initiates a new turn with *ranhou* and goes back to her line of telling (lines 4-5). This case can be seen as either a shift from comments (CC's comments) to story (the story of MM's cousin), or skip-connecting to MM's earlier talk, since her telling is interrupted by CC's comments.

(3.16) *ranhou* indicating a shift from comment to fact (CCMMZM_050)

1 CC: 咱们是兴趣问题，

zanmen shi xingqu wenti

we are interest question

'for us, it is the question of interest,'

2 和这个前途没有关系，

he zhege qiantu meiyou guanxi

with this future no relation

'it doesn't have to do with future prospects,'

3 hhh.

4 → MM: (2.0) **然后** 我 妹 就是，

ranhou wo mei jiushi

RANHOU my cousin PT

'**RANHOU** my cousin,'

5 正常 看 她 还是 很 正常 的，

zhengchang kan ta hais hen zhengchang de

normal see her fairly very normal PT

'(most of the time) she is fairly normal,'

Example (3.17) below provides an unequivocal case of skip-connecting. Before this sequence, YC mentioned Mt. McKinley, which he just visited during his trip to Alaska. However, there is a rather long digression (line 1-8) from his topic, where other participants focus on the ice in particular rather than YC's adventure onto McKinley. After an acknowledgment token produced by Evan in line 7, YC regains the floor with *ranhou* and skip-connects to his earlier topic about McKinley.

(3.17) *ranhou* skip-connecting to earlier talk (EVANZTYC_102)

1 Evan: 就是 它 那个 雪 你 往下 看 它 是 深蓝色的 或是 绿色的.

jiushi ta nage xue ni wangxia kan ta shi shenlanse de huoshi lüse de

PT it that snow you downward look it is deep-blue PT or green PT

‘That snow, (if) you look down, it is deep blue or green.’

2 YC 对 对 对,

dui dui dui

right right right

‘Right right right,’

3 Evan: 就是太纯净了.

jiushi tai chunjing le

PT too pure PT

‘It is just so clean.’

4 ZT: 是.

shi

yes

‘Yes.’

5 那 天 太阳 正好 特别 强烈，

na tian taiyang zhenghao tebie qianglie

that day sun happen extremely strong

‘That day, the sun happened to be extremely bright,’

6 Evan: 对.

dui

right

‘Right.’

7 ZT: (一 打开 来.)

(yi dakai lai)

once open come

‘(As soon as you open it.)’

8 Evan: 嗯.

en

PT

‘Yeah.’

9 → YC: **然后** (.) 我们 还 去，

ranhou women hai qu

RANHOU we also go

‘**RANHOU** (.) we went to,’

10 刚刚 那个 山 也 挺 好看 的，

ganggang nage shan ye ting haokan de

just-now that mountain also quite good-looking PT

‘the mountain (I talked about just now) was also pretty,’

11 就 特别 壮观.

jiu tebie zhuangguan

PT extremely majestic

‘so majestic,’

Last but not least, *ranhou* is also used to shift to a brand new topic. As noted above, this kind of topic shift is quite unusual in conversation. Yet, when this happens, specific procedures or devices are supposed to be used in order to smooth the transition from one topic to another unrelated topic. Howe (1991) identifies a few strategies to close off the old topic, including use of

acknowledgement tokens, repetition, laughter, and pauses, which signal the speaker's intention to close off the current topic and move to the next. Similarly, Jefferson (1993) has also observed three recurrent strategies to shift topics in conversation, that is, minimal acknowledgement, recipient assessment, and recipient summary.

In the two cases that have been found with a shift to a brand new topic, none of the above mentioned topic transition strategies are involved. In other words, the topic shift is rather abrupt and is at risk of being considered deviant (Howe 1991). *Ranhou*, a marker signaling succession in discourse time, is thus crucial for the establishment of a formal connection between the new topic and the prior one. Example (3.18) is provided below to demonstrate this function.

Prior to (3.18), Susie asked her guests how they would like to have their tea, in a ceremonial way or just in a simple and casual way. In line 1, Evan says that he would like to go for the simple way. After a few repetition turns (lines 2-3), YC brings in a completely different topic, the cracker sandwich (line 5), which he is trying to make with the three ingredients on the table. He has a problem remembering the name of the meat in front of him, then he asks a question, *zhe shi shenme rou a* "what meat is this". Clearly, this is a brand new topic, not relevant to the previous topic of tea. However, YC employs the topic-shifting marker *ranhou* to sound as if he were adding relevant information on the prior topic. In this manner, the speaker reduces the 'abruptness' of the topic shift. Additionally, the immediate environment, including the crackers, salami, and cheese, provides contextualization cues that enable other conversation participants to interpret the brand new topic properly. Being exposed to the same setting, YC's interlocutors will thus have a clue about where utterance about an irrelevant topic comes from.

(3.18) *ranhou* initiating a brand new topic (EVANZTYC_012)

1 Evan: 那 就 喝 点 茶 就 可以=.

na jiu he dian cha jiu keyi

then PT drink a-little tea PT alright

'Then we will just have some tea.'

2 Susie: =对 呀 那 就-， 从简.

dui ya na jiu- congjian

right PT then PT be-simple

'Okay, then-，(let's) make it simple.'

3 Evan: °从简,° 一切 从简.

congjian yiqie congjian

be-simple everything be-simple

'Make it simple, make everything simple.'

4 (0.5)

5 → YC: °**然后**:° (0.1), 饼干 加 cheese 加，

ranhou: binggan jia cheese jia

RANHOU cracker plus cheese plus

'**RANHOU**, (this is) cracker plus cheese plus,'

6 这 是 什么 肉 啊？

zhe shi shenme rou a

this is what meat PT

'what is this meat?'

7 Susie: 你们 先，

nimen xian

you first

'You guys can (try) first,'

8 Evan: =这是 叫(.)salami.

zhe shi jiao salami

this is called salami

'This is called (.) salami.'

3.3.5 Interim summary

After introducing the functions of *ranhou*, this section now addresses the differences and internal connections among the four functions.

The temporal and consequential functions of *ranhou* are often intertwined, since consequential tokens usually entail a temporal relationship. However, the temporal function of *ranhou* merely indicates the sequentiality between two clauses, i.e. one follows the other in a temporal sense. The consequential function, in additional to sequentiality, also involves consequentiality, where one event leads to the other in a logical sense.

The boundary between consequential function and additive function can also be blurry, as one may argue that the consequence can be viewed as an additional piece of information added to the ongoing topic. While this view reveals the connection between the two functions, it obscures the fact that these two functions are more distinct than similar. First of all, there is no consequential relationship involved when *ranhou* functions to bring in additional information. The additional information is not the consequence of what is said before. Second, what is connected by a consequential *ranhou* is more predictable than that is connected by an additive *ranhou*. For instance, in Example (3.5) above, *xinqing jiu hen cha* 'the mood is bad' (line 2) is a rather

predictable consequence of a breakup (line 1). However, an additive *ranhou* often occurs after a possible complete utterance. As shown in Example (3.12) above, ZT talks about his experience in Universal Studios, when he and his friends mistakenly went to a place without any lights. Then, ZT extends his telling by employing *ranhou* to introduce another piece of information that they saw people there unexpectedly. This added information is not predictable from the prior utterance.

In fact, the additive function is more closely related to the topic-shifting function, since they are both associated with discourse time. Just as consequential function entails temporal function, topic-shifting entails the additive function. When *ranhou* shifts the conversation to a different topic, it essentially brings in additional information. However, their distinction lies in the nature of the additional information: an additive *ranhou* token introduces a piece of information that stays on the current topic, whereas a topic-shifting *ranhou* brings in a new topic, which is not necessarily related to the current topic. It should be noted that additive *ranhou* tokens serve to complement the current topic, so typically they introduce a few brief turns before coming to a possible completion point for the current topic. However, when *ranhou* functions to shift topics, a clear juncture can be observed either between stories and comments or between a main story line and its digression. Since *ranhou* initiates a new topic, it attracts more turns from the current speaker or other participants to contribute to the new topic.

Among the differences between the four functions of *ranhou*, the largest gap lies between topic-shifting and the three other functions. Temporal, consequential and additive functions all signal a sort of continuation either in event time or in discourse time. Yet, topic-shifting essentially marks a discontinuation, in other words, a break from the previous topic, aiming to switch to other topics. The frequency and percentage of each function is given in Table 3.1.

Function	Temporal	Consequential	Additive	Topic-shifting	Total
Frequency	41	151	207	109	508
Percentage	8.1%	21.5%	29.7%	40.7%	100%

Table 3. 1 Distribution of the four functions of *ranhou*

As shown in the table above, compared to the original temporal function of *ranhou*, its discourse functions are far more frequent. Why does *ranhou* have such dynamic discourse functions? Fang (2000) points out that the temporal relationship indicated by *ranhou* is in accord with the natural temporal sequence inherent in Chinese word order (Tai 1985). As a result, *ranhou* has been freed from solely indicating a temporal relationship, and has become versatile in spoken discourse. In addition, another necessary condition for the pragmaticalization of *ranhou*, which has not been noticed in previous studies, is the fact that *ranhou* is a general connective without specific semantic relationship, unlike those specific connectives such as *danshi* 'but', *suoyi* 'so', and *yinwei* 'because'. This feature makes *ranhou* the most frequent discourse connective in Mandarin (Huang 2013); more importantly, it allows *ranhou* to connect a wide range of utterances. Derived from a temporal conjunction, *ranhou* naturally retains the ability to signal continuation. However, through frequent use in spoken discourse, *ranhou* extends to signal discontinuation, i.e. topic shift in conversation. According to Grice (1975), speakers are generally assumed to follow the maxim of relevance, among others. In other words, speakers should make their utterance relevant to what comes before as much as possible; when a potentially irrelevant utterance is anticipated, it is desirable to minimize the gap by employing cohesive devices. *Ranhou*, a discourse connective intrinsically signaling continuation, proves to be an ideal device to reduce the potential gap between the upcoming utterance and the current one. It communicates a speaker's intention to be relevant (continuing the current topic), while strategically switching to a different topic. This

explains why some brand new topics are introduced into the conversation with *ranhou* (see Example 3.18).

Another question that deserves our attention is how to locate the functions of *ranhou* in the more general background of discourse markers. Schiffrin's (1987) five-plane discourse model provides a useful framework to analyze the functions of discourse markers. In this model, three planes are particularly informative to the analysis of *ranhou*, that is, ideational structure, exchange structure, and participation framework. First of all, the ideational structure is a semantic domain, which concerns the configuration of idea structures. In other words, it pertains to propositions and the ways in which different propositions are connected. Three types of relations are involved: cohesive relations, topic relations, and function relations. In the case of *ranhou*, its temporal and consequential functions are relevant to ideational structure, as *ranhou* signals a temporal or a logical relationship between two propositions. Thus, it contributes to the cohesion of the structures of ideas. Second, the exchange structure is pragmatic, in contrast to the semantic nature of the ideational structure. It does not deal with ideas or propositions; rather, it is pertinent to turn taking. Specifically, it is concerned with how conversation participants alternate their sequential roles, such as whether a current speaker signals to relinquish or continue a turn. Thus, the additive function of *ranhou* can be pinned down on this plane, since it manifests a speaker's intention to continue a turn by bringing in more relevant information on the current topic. Third, the participation framework is used to describe the dynamic relationship between speaker and hearer and between speaker and utterance. In conversation, it often occurs that, when telling a story, for example, the speaker shifts from reporting events to giving his/her interpretation or assessment. This, then, has to do with participation framework. *Ranhou* also works on this plane, since it can indicate a topic shift, from stories to comments or the reverse, for instance. Therefore, in

Schiffrin's discourse model, *ranhou* spans across three planes, with the temporal and consequential functions on the ideational plane, the additive function on the exchange plane, and topic-shifting in the participation framework. The four functions form a continuum from a semantic domain, where its original meaning is located, to a pragmatic domain, which includes newer discourse functions of *ranhou*.

To summarize, in addition to its canonical temporal function, *ranhou* also has consequential, additive and topic-shifting functions. There are no clear-cut boundaries between them, yet the gap between topic-shifting and the other three functions is noticeably larger than, for example, the difference between temporal and consequential functions, or that between consequential and additive functions. This section has also provided an explanation for the question of how *ranhou* has developed from a temporal conjunction into a discourse marker of topic-shifting. In short, this discourse function emerges through the interplay of cognitive factors, semantic factors and conversation principles. Lastly, Schiffrin's (1987) discourse model has been applied to account for differences and connections between the four functions of *ranhou*.

3.4 Prosodic analysis

As noted in the introduction of this chapter, the prosodic line of research on *ranhou* is much less studied compared to the functional line. Yang (2006) describes the way in which prosody contributes to the communication and interpretation of the multilevel meanings expressed in discourse markers. She argues that *ranhou*, one of the discourse markers being examined, has a larger pitch range when signaling a change in topic or a return to a previous topic after an intervening subtopic. A narrow pitch range, in contrast, usually indicates continuing topic

development from an immediately preceding phrase. In Yang (2010), she adds that the degree of uncertainty is a key factor in the prosody of *ranhou*. When there is a high level of mutual understanding of a speaker and a hearer, *ranhou* tends to have short duration, as there is little cognitive difficulty in presenting succeeding ideas. Moreover, the author also contends that when *ranhou* functions as a temporal conjunction, it tends to be lengthened and fully articulated. To summarize the two studies, three factors have been argued to affect the duration and/or pitch range of *ranhou*, i.e. topic shift, uncertainty, and temporal function. It should be noted that these two studies are based on a small number of cases, i.e. 162 tokens for (2010) and no mention of data size in (2006). Their conclusions are made on a qualitative basis, and whether the observed differences are significant remains unknown.

While the literature on the prosody of *ranhou* is limited, there are a few relevant studies examining the prosody and functions of discourse markers that are informative to the present study. Horne et al. (2001) investigate the correlation between the function and prosodic parameters of the Swedish *men* 'but' in spoken discourse, including duration, preceding-pause, F0-reset, and prosodic phrasing. One of their findings relevant to the present study is that the duration of the discourse-*men* is longer than sentential-*men* on average, and this difference is statistically significant. One pitfall of this study, as the authors admit, is that the use of t-tests is problematic, as it factors out the possible influence of subjects. ANOVA is a more appropriate model for this type of data; however, the relatively small size of data (i.e. 157 tokens) makes it difficult to apply this model. This study shed light on the methodology of relating prosody and function. In this same line of research, Holmes (1986) looks at *you know*, Bolinger (1989) explores *well*, Hirschberg and Litman (1993) deals with *now*, and Ferrara (1997) concentrates on the sound and function of

anyway. These studies will be discussed at length in comparison with my findings in the discussion toward the end of this chapter.

Compared to previous treatments, the present study has two important characteristics: 1) it integrates quantitative and the qualitative approaches; 2) it is based on a much larger dataset, 508 tokens of *ranhou* produced by seven Mandarin speakers, including four females and three males. The four prosodic parameters to be examined are duration, pitch range, stress, and prosodic phrasing. First, the duration and pitch range of each token are measured in Praat (Boersma and Weenink 2005); then, mean and standard deviation are calculated. Finally, one-way ANOVA is carried out to determine the significance. ANOVA, an abbreviation of analysis of variance, is a statistical model for testing the significance of three or more groups. Stress is first categorized into three groups, that is, strong, mid, and weak, according the syllable stress level of both *ran* and *hou*. Pan-Mandarin ToBI is used as the framework for categorizing syllable stress. Then, chi-square tests are carried out to ascertain whether there is an association between function and stress. Prosodic phrasing, however, is treated differently. The pause before and after *ranhou* is measured, and its prosodic phrasing status, i.e. whether *ranhou* belongs to the preceding or following intonation unit or stands as an independent unit, is determined accordingly. Thus, this is not impressionistic labeling; decisions are made based on objective measurements of preceding/following pauses.

3.4.1 Duration

Table 3.2 shows the mean duration and the standard deviation of four functions. As can be seen from the table, topic-shifting tokens of *ranhou* have the longest mean duration, and additive tokens rank second. Consequential tokens are shorter than additive ones on average, while

temporal tokens turn out to be the shortest. One-way ANOVA reveals that the difference in duration across four functions is significant ($p < 0.0001$). That is to say, duration is correlated with functional categories. However, ANOVA test results alone are not able to determine which function is significantly longer than the others. Therefore, t-tests are used as a complementary tool. Since the t-tests here involve six sets, the significance level is thus adjusted to 0.0083. Table 3.3 displays the t-test results.

	Mean duration (ms.)	**Standard deviation**	**Frequency**
Temporal	232	71.68	41
Consequential	241	91.54	151
Additive	248	95.91	207
Topic-shifting	325	140.08	109
Total	261	109.26	508

Table 3. 2 Mean duration and standard deviation of *ranhou* ($p < 0.0001$)

Functions	***p*-value**
Temporal vs. Additive	p=0.320385
Temporal vs. Consequential	p=0.590206
Temporal vs. Topic-shifting	***p*=0.000088**
Consequential vs. Additive	p=0.463344
Consequential vs. Topic-shifting	***p* < 0.00001**
Additive vs. Topic-shifting	***p* < 0.00001**

Table 3. 3 T-tests on the correlation between function and duration (significance level = 0.0083)

As Table 3.3 shows, only the difference between topic-shifting and other functions are significant, since all the three *p*-values (in bold) are much smaller than the significance level 0.0083. This supports our conclusion that the duration of topic-shifting tokens is significantly longer than that of other functions.

One might argue that turn position may affect the duration of *ranhou*. Intuitively one would expect the turn-initial duration to be larger than turn-internal, since turn-initial elements tend to be more prominent, with higher F0 and longer duration, among others. In order to test whether duration is influenced by turn position, a t-test is performed. It turns out that the turn-initial mean is 270 ms, while the turn-internal mean is 260 ms. One-way ANOVA shows that the *p*-value is 0.5072, much larger than the significance level of 0.05, as illustrated in Table 3.4 below. This result clearly indicates that the duration of *ranhou* is not influenced by its turn position. This evidence thus supports the finding that the duration of *ranhou* is correlated with its functional categories; of the four functions, topic-shifting is significantly longer than the other functions.

Turn position	Mean duration (ms.)	Standard deviation	Frequency
Initial	270	105.53	57
Internal	260	109.78	451
Total	261	109.26	508

Table 3. 4 One-way ANOVA test between turn position and duration ($p = 0.5072 > 0.05$)

3.4.2 Pitch range

Pitch range is examined in a similar fashion to duration: the maximum and minimum pitch of each *ranhou* token are measured in Praat, and their pitch ranges are obtained accordingly. Then,

mean and standard deviation are calculated to show a general distribution. Finally, a significance test is conducted with ANOVA to determine whether the observed difference is significant (significance level = 0.05).

The table below presents the mean and standard deviation of the pitch range of *ranhou*. Note that, in some cases, pitch is not measurable due to sound quality. Such tokens are thus excluded, leaving 459 valid tokens for examination. As shown in this table, topic-shifting tokens have much larger average pitch range, i.e. 80.14 Hz, compared to the other three types. Additive function ranks second. Consequential shows smaller average pitch range than additive, but slightly larger than temporal.

	Mean pitch range (Hz)	**Standard deviation**	**Frequency**
Temporal	44.82	28.63	38
Consequential	47.93	38.57	133
Additive	54.19	38.86	186
Topic-shifting	80.14	47.20	102
Total	57.37	41.89	459

Table 3. 5 Mean duration and standard deviation of *ranhou* ($p < 0.0001$)

The observed difference is confirmed by ANOVA to be significant ($p < 0.0001$). This extremely small *p*-value suggests a strong correlation between pitch range and functional type. Similar to the situation of duration, there is no way to infer how pitch range is influenced by functional categories from merely the ANOVA results. Therefore, t-tests have to be performed, between each of the four functions. Table 3.6 summarizes the results. What is striking is that pitch range exhibits the same pattern as duration, in terms of the correlation with function. Topic-shifting function has significantly larger pitch range than the other three functions, since its *p*-values (in

bold) are far smaller than the significance level of 0.0083. Between temporal, consequential and additive functions, there is no significant difference in pitch range.

Functions	***p*-value**
Temporal vs. Additive	*p*=0.159828
Temporal vs. Consequential	*p*=0.645047
Temporal vs. Topic-shifting	***p*=0.000030**
Consequential vs. Additive	*p*=0.155148
Consequential vs. Topic-shifting	***p* < 0.00001**
Additive vs. Topic-shifting	***p* < 0.00001**

Table 3. 6 T-tests on the correlation between function and pitch range (significance level=0.0083)

The final step is to examine whether turn position plays a role in shaping pitch range. Similarly, a t-test is thus carried out and its results are summarized in Table 3.7. The *p*-value is much smaller than the significance level, suggesting that turn position does influence the pitch range of *ranhou*: turn-initial *ranhou* has larger pitch range than turn-internal *ranhou*.

Turn position	**Mean pitch range**	**Standard deviation**	**Frequency**
Initial	76.56	45.95	50
Internal	55.02	40.81	409
Total	57.37	41.89	459

Table 3. 7 One-way ANOVA test between turn position and pitch range (p=0.006 < 0.05)

Given that pitch range is affected by turn position, it becomes necessary to look closely at tokens in the same position, in order to rule out the influence of position on pitch range. Since

turn-internal tokens outnumber turn-initial tokens by a large margin, the former is taken to be examined statistically. Table 3.8 shows the mean pitch range, standard deviation and frequency of the turn-internal tokens. According to one-way ANOVA, the *p*-value is smaller than 0.0001, demonstrating a strong correlation between pitch range and functional categories in the turn-internal position.

	Mean pitch range (Hz)	**Standard deviation**	**Frequency**
Temporal	44.82	28.63	38
Consequential	45.63	36.68	123
Additive	51.92	37.67	165
Topic-shifting	79.78	47.51	83
Total	55.02	40.81	409

Table 3. 8 Mean duration and standard deviation of turn-internal *ranhou* ($p < 0.0001$)

Then, t-tests are applied, in addition to ANOVA, to find out the ways in which the two variables are correlated. The summary is presented below in Table 3.9. The *p*-value of all the three groups involving topic-shifting is much smaller than the significance level 0.0083. Thus, it is valid to conclude that topic-shifting tokens have significantly larger pitch range than the other three types.

Turn-internal	***p*-value**
Temporal vs. consequential	p=0.900825
Temporal vs. additive	p=0.276695
Temporal vs. topic-shifting	***p*=0.000053**

Consequential vs. additive	p=0.157489
Consequential vs. topic-shifting	**$p < 0.00001$**
additive vs. topic-shifting	**$p < 0.00001$**

Table 3. 9 Correlation between function and pitch range in turn-internal position

To sum up, this section has revealed that pitch range is correlated with functional categories and, in particular, topic-shifting tokens have a significantly larger pitch range than the others. However, statistical tests show that turn position affects pitch range – the pitch range of turn-initial tokens is significantly larger than that of turn-internal tokens. In order to exclude the turn position factor, turn-internal tokens have been extracted to test whether pitch range and functions are directly related. After ruling out the factor of turn position, the statistical tests have confirmed that pitch range does have an independent correlation with functional categories.

3.4.3 Stress

In natural Mandarin speech, the tones of a word are not always in their citation form; rather, they vary greatly according to the local tonal environment as well as discourse factors. In the case of *ranhou*, the citation form is a rising tone on *ran* and a falling tone on *hou*. However, in my data, *ranhou* can be pronounced in various ways, many of which have completely lost their original pitch contour. In order to capture the level of syllable prominence, the Pan-Mandarin ToBI framework is introduced (Peng et al. 2005). ToBI, an abbreviation of tones and break indices, is a framework for transcribing the intonation and prosodic structure of spoken utterances in a language variety. It should be noted that, unlike the International Phonetic Alphabet, ToBI is not universal. Since intonation and prosody organization vary from language to language, there are different ToBI systems, each of them specific to a language variety. The Pan-Mandarin ToBI system is

designed to describe the prosodic structure and inventory of tones and other structure-marking elements in Putonghua, Guoyu, and several regional varieties of Chinese.

In Pan-Mandarin ToBI, syllable stress has four levels. Stressed syllables with fully realized tone are labelled S3. S2, in contrast, is used to label syllables with substantial tonal reduction, or say, a substantial undershoot of the tonal target. S1 marks syllables that have lost their lexical tonal specification, resulting in a neutral tone. Syllables with lexical neutral tones are labelled S0. Since neither of *ran* and *hou* is lexically a neutral tone, S0 is not used in labeling *ranhou* data. Table 3.10 summarizes the four levels of syllable stress in Pan-Mandarin ToBI.

S3	syllable with fully-realized lexical tone
S2	syllable with substantial tone reduction (e.g., undershooting of tonal target with duration reduction)
S1	syllable that has lost its lexical tonal specification (e.g., in a weakly-stressed position)
S0	syllable with lexical neutral tone (i.e., such a syllable is inherently unstressed)

Table 3. 10 Stress levels in Pan-Mandarin ToBI (Peng et al. 2005: 255)

The first step is to label each syllable, namely *ran* and *hou*, according to the Pan-Mandarin ToBI framework. Then, the combination of *ran* and *hou* is categorized into three groups, i.e. strong, mid, and weak, based on the stress level of each component. For instance, the combination of S3 and S3 makes a strong token; S3 and S2 result in a mid token. Table 3.11 shows the criteria for categorization.

Syllable stress level	**Word stress category**

ran+hou	*ranhou*
S3+S3	strong
S3+S2	mid
S3+S1	mid
S2+S3	mid
S2+S2	mid
S2+S1	weak
S1+S3	mid
S1+S2	weak
S1+S1	weak

Table 3. 11 Word stress categories of *ranhou* based on syllable stress

After determining the categories of word stress, it is now possible to get the frequency of each stress type across the four functions. Table 3.12 shows the frequency and percentage of each function. As illustrated in the table, topic-shifting has a higher percentage of strong tokens (47.7%) than the other three functions, and has the lowest percentage of weak tokens (3.7%). What can be inferred from observing the distribution alone is that the topic-shifting function is not likely to take a weak stress form, in other words, the likelihood of *ranhou* with topic-shifting function being pronounced in a weak and reduced way is quite low. Fortunately, statistical analysis is able to reveal more about the correlation between function and stress. Since both function and stress are categorical variables, a chi-square test is appropriate. The *p*-value obtained is 0.000022, much smaller than the 0.05 significance level. Thus, it is safe to conclude that the categorical difference in stress observed across the four functions of *ranhou* is significant, that is to say, there is a significant correlation between function and stress.

Function	Strong		Mid		Weak		Total	
Temporal	14	34.1%	20	48.8%	7	17.1%	41	100%
Consequential	37	24.5%	99	65.6%	15	9.9%	151	100%
Additive	65	31.4%	102	49.3%	40	19.3%	207	100%
Topic-shifting	52	47.7%	53	48.6%	4	3.7%	109	100%

Table 3. 12 Frequency and percentage of each stress type across four functions ($p < 0.0001$)

Additionally, Fisher's exact test is performed to determine the relationship between stress and turn position, as illustrated in the table below. Since the *p*-value is 0.498, much larger than the 0.05 significance level, turn position is not correlated with stress. Therefore, it is reasonable to claim an independent correlation between stress and functional categories.

Turn position	Stress			Total
	Strong	Mid	Weak	
Initial	22	30	5	57
Internal	146	244	61	451

Table 3. 13 Stress in relation to turn position ($p > 0.05$)

3.4.4 Prosodic phrasing

Prosodic phrasing is the grouping of words within an utterance based on their prosodic properties (Jun 2003). An utterance is divided into one or more prosodic groupings, which can be further divided into one or more smaller prosodic groupings. Prosodic phrasing is influenced by various factors, including syntax (e.g., Hayes 1989; Selkirk 1986), semantics, and pragmatics/discourse factors (e.g., Jun 1993; Cutler et al. 1997). The focus here is on how *ranhou*

is prosodically grouped, whether in the preceding prosodic unit, in the following unit, or as an independent unit.

In the present study, a token of *ranhou* is considered an independent prosodic unit if it is preceded and followed by a pause greater than 200 ms. If it only has a preceding pause longer than 200 ms, it is considered part of the following unit. In contrast, if a token is only followed by a pause greater than 200 ms yet without a preceding pause, then it belongs to the preceding prosodic unit. Table 3.14 below presents the distribution of prosodic phrasing across four functions.

Function	**Independent unit**		**With preceding unit**		**With following unit**		**Total**	
Temporal	2	4.8%	0	0	39	95.2%	41	100%
Consequential	4	2.6%	9	6%	138	91.4%	151	100%
Additive	16	7.7%	4	2.0%	187	90.3%	207	100%
Topic-shifting	21	19.2%	2	1.8%	86	78.9%	109	100%

Table 3. 14 Distribution of prosodic phrasing types of *ranhou* ($p < 0.001$)

As displayed in the table, the absolute majority of *ranhou* tokens, regardless of function, belong to the following intonation unit, given its role as a linking device. Yet, there are nuances when the specific distribution of each function is scrutinized. For instance, 19.2% of the topic-shifting tokens are realized as separate intonation units, while only 2.6% of the consequential tokens are conveyed in independent intonation units, 4.8% for temporal, and 7.7% for additive. This distinct difference between topic-shifting and the other three functions suggests topic-shifting tokens are more likely to be pronounced in a separate intonation unit than are the rest of the functions. As there are four values that are smaller than 5, a chi-square test may not produce valid

results. Instead, Fisher's exact test is employed. This test shows the *p*-value is smaller than 0.001, suggesting the categorical difference in prosodic phrasing is significant at the 0.001 level.

In order to determine whether turn position plays a role in shaping the stress of *ranhou*, an additional Fisher's exact test is conducted. Its results indicate that the *p*-value is 0.055, larger than the 0.05 significance level, as shown in Table 3.15. Thus, the influence of turn position can be excluded.

Turn position	**Prosodic phrasing**			**Total**
	Independent	Preceding	Following	
Initial	9	0	48	57
Internal	34	15	402	451

Table 3. 15 Prosodic phrasing in relation to turn position ($p > 0.05$)

Therefore, it is reasonable to conclude that prosodic phrasing is independently correlated with functional categories; topic-shifting *ranhou* is more likely to form an independent intonation unit than are the other functions. Additionally, while most of the *ranhou* tokens across the four functions are grouped with the following intonation unit, 3% of tokens are grouped with the prior prosodic unit and 8% form an independent unit.

3.4.5 Interim summary

To summarize the prosodic analysis, the most important finding is that the four prosodic features, i.e. duration, pitch range, stress, and prosodic phrasing, have been proven to be correlated with functional categories. The topic-shifting function shows the most prominent prosody among

the four functions. It has a significantly longer duration, larger pitch range, and stronger stress, and it is more likely to stand alone as an independent prosodic unit than the other three functions.

The second finding is related to prosodic phrasing. Generally speaking, *ranhou* tends to be grouped with the following prosodic unit. The distribution of temporal *ranhou* exemplifies this tendency: the overwhelming majority (95%) of its tokens are phrased into the following unit; no tokens of temporal function are found in the prior unit; only 5% (2 tokens) stand alone as a single prosodic unit. This overall tendency challenges the widely held view that discourse markers are usually separate from the following utterance. I will elaborate on this point in the discussion section.

Lastly, turn position has been examined as a potential factor affecting the prosody of *ranhou*. It has turned out that turn position plays different roles along different prosodic dimensions. Turn position has been proven to bear no correlation with duration, stress, or prosodic phrasing. However, statistical tests suggest that is correlated with pitch range. Despite the influence of turn position, I have demonstrated that functional categories have independent correlation with pitch range by reexamining the data while controlling for turn position.

3.5 Discussion

This section addresses three issues that arise from the functional and prosodic analysis above.

3.5.1 Function and turn position

First of all, the turn position of *ranhou* shows consistent patterns with its functions. *Ranhou*, as a temporal conjunction, is sequentially dependent, and thus it is supposed to closely follows its preceding clause in the same turn. My data reveals that temporal *ranhou* never occurs in a turn-initial position nor forms an independent unit in my data; all the temporal tokens are located turn-internally. As a consequential conjunction, *ranhou* relates two clauses and therefore is also inclined

to occur after the antecedent clause. This inclination is confirmed in my data, as 92.7% of all the consequential tokens are turn-internal. In contrast, additive and topic-shifting functions have larger percentage of turn-initial tokens, i.e. 13.7% and 19.3% respectively. Additive *ranhou* introduces additional information into the current turn, and topic-shifting *ranhou* serves to discontinue the current topic. Thus, these two functions are essentially disjunctive from prior talk. This feature allows additive and topic-shifting *ranhou* to be used turn-initially more freely.

Second, the majority of *ranhou* tokens examined in my data are located in turn-internal position; turn-initial tokens rank second, while very few tokens are in turn-final position. Table 3.16 below shows the distribution across the three turn positions. This distribution suggests that *ranhou* is primarily used for turn-internal linking. However, when it occurs in less common position, i.e. turn-initially and turn-finally, it usually carries an important intersubjective function. Recall that, in the Data and Methods section, turn-final tokens of *ranhou* are excluded from investigation due to their generally low sound quality. In this section, however, turn-final position, together with turn-initial position, will be scrutinized in terms of interactional function.

Position	**Turn-initial**	**Turn-internal**	**Turn-final**	**Total**
Frequency	58	451	9	518
Percentage	11.2%	87.1%	1.7%	100%

Table 3. 16 Distribution of *ranhou* in turn initial, internal and final position

3.5.1.1 Turn-initial position

Turn-initial position has been the subject of intensive research interest since the inception of conversation analysis (e.g. Sacks, Schegloff, and Jefferson 1974). Schiffrin (1986) characterizes

the turn-initial position as having two conversational functions: 1) providing an initial gloss of the interactional meaning of an upcoming utterance (a ritual function); 2) proposing coherence despite deviation from the coherence options formally delimited by a prior part of an adjacency pair (a coherence function). Tao (2003b) points out that elements in turn-initial positions generally fall into four functional categories, i.e. tying (e.g. *oh, well, but, and*), assessing (e.g. *yeah, no, right*), explaining (e.g. *so*), and acknowledging (e.g. *mhm, uh-huh, okay*). Beeching and Detges (2014) propose six hypothesized functions of linguistic items used in turn-initial position ('left periphery' in their terminology), i.e. dialogual, turn-taking/attention-getting, linking to previous discourse, response-marking, focalizing/topicalizing/framing, and subjective.

Turn-initial *ranhou*, in a general sense, serves the tying function (e.g. Tao 2003b). However, this generalized characterization is not enough to capture the diversified way that *ranhou* functions in the turn-initial position. My data show that turn-initial *ranhou* is tied to three types of elements, that is, **back-channels** (e.g. Schegloff 1982; Maynard 1997; Clancy et al. 1996; Drummond and Hopper 1993), **others' laughter**, and **others' substantial turns**. Among the three types, back-channels and others' laughter account for the majority. Others' substantial turns that precede the turn-initial *ranhou* are usually brief, mostly composed of one or two clauses, serving as reactive tokens. Examples (3.19) – (3.21) illustrate each of the three types respectively.

(3.19) Type 1: *ranhou* tying to back-channel (CCMMZM_001)

1	MM:	他们(.) 关注 的 事情 真的 就是 特别 特别
		tamen guanzhu de shiqing zhende jiushi tebie tebie
		they care PT things really exactly extremely extremely
		小 的 一 件 事情，
		xiao de yi jian shiqing

small PT a CL thing

'what they care about are those extremely trivial matters,'

2 CC: 嗯.

en

PT

'yeah,'

3 MM: 就 比如 说，

jiu biru shuo

then for-example say

'for example,'

4 你家把我家的树苗怎么[了，

ni jia ba wo jia de shumiao zenme le

you home PT I home PT sapling how PT

'you guys did something to my saplings,'

5 CC: [对 对 对，

dui dui dui

right right right

'right, right, right,'

6 → MM: **然后**(.) 你们 家 盖 房子 盖 过来 一点点，

Ranhou nimen jia gai fangzi gai guolai yidiandian

RANHOU you home build house build over a-little

'RANHOU your family built your house over (the fence) a little bit,'

7 CC 嗯.

en

PT

‘yeah,’

(3.20) Type 2: *ranhou* tying to others’ laughter (CCMMZM_245)

1 ZM: =所以你拔了吗？

suoyi ni ba le ma

so you extract PT PT

‘so did you have (your wisdom teeth) removed?’

2 CC: 都 拔 了，

dou ba le

all remove PT

‘(I had them) all removed,’

3 就跟你说来之前全拔了 h°然后 h，

jiu gen ni shuo lai zhiqian quan ba le ranhou

exactly to you say come before all remove PT RANHOU

‘as (I) told you, (I had them) all remove before I came, RANHOU,’

4 MM: hh.

5 → CC: **然后** 旁边 的牙 fix 了 很久，

Ranhou pangbian de ya fix le henjiu

RANHOU nearby PT teeth fix PT long

'RANHOU it took a long time to fix the teeth nearby,'

(3.21) Type 3: *ranhou* tying to others' substantial turns (EVANZTYC_025)

1 Evan: 然后 你 觉 那些人 很 友善，

ranhou ni jue naxie ren hen youshan

RANHOU you think those people very friendly

'RANHOU you think those people are friendly,'

2 节奏 很 慢.

jiezou hen man

pace very slow

'(their) pace is very slow.'

3 YC: 成都 节奏 更 慢.

Chengdu jiezou geng man

PN pace even slow

'The pace of Chengdu is even slower.'

4 Susie: 对 呀.

dui ya

right PT

'Right.'

5 → Evan: **然后** 我 当时 感觉 真 好，

ranhou wo dangshi ganjue zhen hao

RANHOU I then feel really good

'**RANHOU** I felt really good then,'

Type 1 and Type 2 are similar in that the just-prior turns of *ranhou* are not meant to be intervening. The speaker only temporarily yields the floor to the overlapping talk or laughter, and then soon reclaims it with *ranhou*. Type 3 is slightly different, as *ranhou* occurs after substantial turns of others. These intervening turns are usually short, sometimes produced by a single speaker, occasionally by more than one speaker. They are typically a brief assessment, or simply an affiliative acknowledgement token (e.g. Jefferson 1984a; Stivers 2008). Such substantial turns are described as a 'side sequence within an on-going sequence' (Jefferson 1972: 294). Local (2004) discusses *and-uh(m)*, a frequently used resource to 'propose that subsequent talk should be treated as returning to an on-going activity, following a side-sequence' (Local 2004:378) in English conversations. *Ranhou*, in turn-initial position, functions in the same way, that is, 'skip-connecting' (Sacks 1992) to the speaker's own earlier turns.

Another interesting feature of the turn-initial *ranhou* is that, in some cases, it is immediately preceded by a minimal acknowledgement token, such as *dui* 对 'right' or *en* 嗯 'yeah'. These acknowledgement tokens are usually in the same intonation unit with *ranhou*. Functionally, they are positioned after the possible completion point of the previous turn to "exhibit recipientship" (Jefferson 1993: 6). Immediately after such tokens, the current speaker produces *ranhou*, indicating that he/she is moving out of the recipient alignment. In other words, *ranhou* tokens after *dui* or *en* often signal a topic shift, where *dui* or *en* are deployed to exhibit alignment and *ranhou* to preface some sort of topic discontinuity. Example (3.22) is such a case. In lines 1-2, Susie is stating her opinion that if one has a weak stomach, one should be careful and not to drink black coffee. In line 3, CC first produces a minimal acknowledgement token *dui*, to align with Susie,

and then quickly shifts to her own story, which is that she has been drinking coffee crazily for one or two months. The acknowledgement token and *ranhou* in turn-initial position are able to collaboratively smooth the topic shift.

(3.22) *ranhou* preceded by a minimal acknowledgement token

1 SUSIE: 如果 胃 比较 弱 的话，

ruguo wei bijiao ruo dehua

if stomach rather weak if

'if (your stomach) is rather weak,'

2 那 要 小心.

na yao xiaoxin

then should careful

'then you should be careful.'

3 → CC: 对 **然后** 我 就 狂 喝 了一个多 两个 月的咖啡，

dui **ranhou** wo jiu kuang he le yige duo liangge yue de kafei

right **RANHOU** I then crazily drink PT one more two month PT coffee

'Right, **RANHOU** I drank coffee crazily for one or two months,'

3.5.1.2 Turn-final position

Turn-final position here is understood as the spot where a turn arrives at an end. As noted in Fraser (1999), it is relatively rare for discourse markers to appear in final position. In my data, only 1.7% of *ranhou* tokens are found turn-finally. In recent years, however, an increasing number of studies have observed discourse markers in final position, such as Barth-Weingarten and Couper-Kuhlen (2002) on the final *though* in English conversation, Mulder and Thompson (2008)

on *but* as a final particle in American English and Australian English, and Koivisto (2012) on two Finnish conjunctions *ja* 'and' and *mutta* 'but' respectively. These studies all point to the possible grammaticalization route from initial conjunction to final discourse particle. Yet, the cases mentioned above differ in terms of the degree of grammaticalization. For instance, the final *but* in American English has an implication of something left hanging, while the final *but* in Australian English has grammaticalized into a more robust final discourse particle without such an implication.

Turn-final *ranhou* has not been reported so far to my knowledge, largely due to its low frequency. Nevertheless, the final *ranhou* is anything but idiosyncratic; it carries subtle conversational functions that should not be overlooked. I argue that the turn-final *ranhou* signals the current speaker's intent to close the turn and to invite response of various types, such as acknowledgement and elaboration on the same topic, from the recipient. Three examples are presented below to give a feel of the interactional function of the turn-final *ranhou*.

In Example (3.23), Susie, MM, and CC are talking about the owner of a Chinese fast food store, which both MM and CC have visited and Susie has not. Thus, MM and CC are providing pieces of information about this restaurant owner in response to Susie's question. In lines 2-3, MM tells Susie where the owner is originally from. In line 4, CC follows up with an interesting habit of his when he gets dishes for customers. In line 5, CC yields her turn with *ranhou*, which is accompanied by a string of laughter, inviting the uptake from Susie. Immediately, Susie picks up on one point of CC's utterance and utters a question, 'is (the owner) a guy', displaying her uptake on the conveyed information that the owner would flip his hair. It should be noted that in Mandarin Chinese, the third person pronoun of both masculine and feminine are phonetically the same, *ta* 'he/she', although they have different written forms. Therefore, Susie is not able to tell whether

the owner is a man or woman from CC's utterance in line 4. *Ranhou* in this case serves to close off the speaker's current turn and to attract uptake from the recipient.

(3.23) turn-final *ranhou* (CCMMZM_191)

1	SUSIE:	是 哪里 人 啊？
		shi nali ren a
		is where people PT
		'where is (he) from?'
2	MM:	台山，
		Taishan
		PN
		'Taishan,'
3		广东 台山.
		Guangdong Taishan
		PN PN
		'Taishan, in Guangdong,'
4	CC:	然后 他 给 你 拿 菜 的 时候 会 不 停 地
		ranhou ta gei ni na cai de shihou hui bu ting de
		RANHOU he for you take dish PT time would not stop PT
		甩 着 他的 头发,
		shuai zhe tade toufa
		flip PT his hair
		'and then, he would flip his hair when he gets dishes for you,'

5 → **然后** hh.

ranhou

RANHOU

‘RANHOU.’

6 Susie: 男的呀？

nande ya

male PT

‘a guy?’

In Example (3.24), Susie is telling MM that, a mutual friend of theirs made a snap decision to go back to Taiwan the next day. From lines 2-3, Susie is enacting this mutual friend. There is a possible completion point at the end of line 3 when Susie finishes the enacting. Yet, since there is no uptake from MM, Susie employs *ranhou* to signal a return from enacting. Accompanied by a gradually diminished F0, *ranhou* indicates the speaker’s intent to yield the turn to the recipient in order to solicit an uptake. The laughter after *ranhou* serves to fill in the turn transitional space. Right after *ranhou*, MM produces an acknowledgement token, *en*, with nodding, to display her receipt of the information shared by Susie.

(3.24) Turn-final *ranhou* (CCMMZM_338)

1 Susie: 然后 第二 天 她 发 短信 给 我 说，

ranhou di’er tian ta fa duanxin gei wo shuo

RANHOU second day she send short-message to me say

‘and then she sent me a text message saying,’

2 我 决定 要 回 台湾 了，

wo jueding yao hui Taiwan le

I decide will go-back PN PT

'I have decided to go back to Taiwan,'

3 明天 就 走，

mingtian jiu zou

Tomorrow PT leave

'I'm leaving tomorrow,'

4 → 然后 hhhhh.

ranhou

RANHOU

'**RANHOU**.'

5 MM: 嗯. ((nodding))

en

PT

'Yeah.'

In Example (3.25), MM is telling CC and ZM what happened between Susie and another friend of theirs, since CC and ZM were not present. In line 1-3, MM quotes what Susie said then. Immediately following is a lengthened version of *ranhou* (line 4), which signals that the speaker is ready to close the turn and thus invites Susie to contribute on the same topic. Then, in line 5, upon receiving the signal, Susie starts to share her feelings, just to complement what MM just said.

(3.25) turn-final *ranhou* (CCMMZM_295)

1 MM: 然后 Susie 说，

ranhou Susie shuo

RANHOU PN say

‘and then Susie said,’

2 我 只是 问 一下而已，

wo zhishi wen yixia eryi

I only ask a-bit only

‘I was just asking,’

3 你 不要 这么 紧张.

ni buyao zheme jinzhang

you don’t so nervous

‘don’t be so nervous.’

4 → **然后：，**

ranhou

RANHOU

‘**RANHOU**,’

5 Susie: 当时 我 就 以为，

dangshi wo jiu yiwei

then I PT thought

‘Then, I thought,’

6 有点 不知所措,

youdian buzhisuocuo

a-bit at-a-loss

'(I was) a bit at a loss,'

The reason why these cases of *ranhou* are considered turn-ending tokens instead of being truncated or interrupted is that their prosody clearly shows that they are completing the current intonation unit as well as the turn. The 'completeness' of prosody is manifested by the decreasing loudness and the lowering pitch, which allow *ranhou* to mark the right periphery of the intonation contour. Occasionally, the final *ranhou* tokens are accompanied by the speaker's own laughter, another indicator of voluntary trail-off.

The discourse function of turn-final *ranhou* is complicated. The mismatch between its semantics and prosody creates a force that is shaping the emergent discourse function of *ranhou*. On the semantic level, *ranhou* indicates turn continuation, as exhibited in turn-initial and turn-internal position. It is an important device to 'take and hold speakership' in conversation (Mulder and Thompson 2008: 2). The prosody of turn-final *ranhou*, that is, decreased loudness and pitch, suggests the speaker's intention to close a turn. It resembles the final *but* in American English, which has an implication of something left hanging. Yet, the implication of *ranhou* is more on the exchange plane than the ideational plane, if viewed in Schiffrin's (1987) model. The final *ranhou* subtly suggests the intention of the speaker to yield the current turn and thus to invite acknowledgement, comment, or further elaboration from the recipient, while implying the intention of reclaiming the floor at some future point. It should be noted that the final use of *ranhou* is newly emergent. Only a limited number of tokens have been found in my data, and all of them are produced by female speakers.

3.5.2 *Ranhou* and list construction

As a discourse connective, *ranhou* typically connects clauses, and occasionally it links noun phrases. For this reason, many previous studies claim that *ranhou* is a marker of list construction (e.g. Su 1998; Wang and Huang 2006; Xu 2009). Here I argue against this view.

First of all, list constructions are strictly defined as a three-part structure (Jefferson 1990). Lerner (1994) holds an even more narrow definition for list constructions, arguing that three is the minimum number of parts needed to demonstrate that one is doing listing. This position is generally shared by later studies (e.g. Sánchez-Ayala 2003; Küntay 2004; Selting 2007). As shown in the examples below, *ranhou* does not necessarily occur in a three-part structure; it can appear in two-part structures as well. What *ranhou* does in these structures is bring in an additional personal, objective, or abstract entity without necessarily signaling that the speaker is doing listing.

In Example (3.26), *ranhou* connects a personal name, Cathy, as one of the three people that MM had lunch with. The three personal names, Zijin, Jin, and Cathy, can be viewed as constituting a three-part structure. However, in (3.27), only two parts can be identified; *ranhou* functions to connect the second part, a type of trade goods, fur, which is one branch of ZM's research field. Similarly, in Example (3.28), when telling the story of the movie Vertical Limit, Evan uses *ranhou* to connect the two major parties that are involved in the rescue. From the three examples, it is evident that *ranhou* is able to join two nouns or noun phrases, but it does not necessarily mark list constructions.

(3.26) *ranhou* connecting NP (CCMMZM_053)

1 MM: 今天 中午 我 跟 子锦，

jintian zhongwu wo gen Zijin

today noon I with PN

‘this noon, I, together with Zijin,’

2 跟 缙，

gen Jin

with PN

‘and Jin,’

3 → **然后** Cathy,

ranhou Cathy

RANHOU PN

‘**RANHOU** Cathy,’

4 我们 一起 吃饭 嘛，

women yiqi chifan ma

we together have-meal PT

‘we had lunch together,’

(3.27) *ranhou* connecting NP (CCMMZM_119)

1 ZM: 然后 一块儿 是 做(.)就是：，

ranhou yikuai’er shi zuo jiushi

RANHOU one-part is do PT

‘and one part (of their historic studies) is about,’

2 去 蒙古 俄罗斯 贸易 的，

qu Menggu Eluosi maoyi de

to Mongolia Russia trade PT

‘trade with Monglia and Russia,’

3 就是 茶叶 啊，

jiushi chaye a

PT tea PT

‘like tea,’

4 → **然后** 毛皮 的,

ranhou maopi de

RANHOU fur PT

‘RANHOU fur**,’**

5 我 对 那个不是 特别 感兴趣，

wo dui nage bushi tebie ganxingqu

I toward that not extremely interested

‘I’m not especially interested in that,’

(3.28) *Ranhou* connecting NP (EVANZTYC_149)

1 Evan: 有 一个 登山 的 向导，

you yige dengshan de xiangdao

have a mountaineer PT guide

‘there was a mountain guide,’

2 ZT: 嗯，

en

PT

‘yeah,’

3 → Evan: **然后** 一个 登山 向导 的 协助,

ranhou yige dengshan xiangdao de xiezhu

RANHOU a mountaineer guide PT assistant

‘**RANHOU** an assistant of the mountain guide,’

4 就 跟着 一 群 队员 要 把 另外 一个 队员

jiu genzhe yi qun duiyuan yao ba lingwai yige duiyuan

PT follow a CL team-member will PT another a team-member

的 尸体 往下 运，

de shiti wangxia yun

PT corpse downward carry

‘follow a group of mountaineers to carry the corpse of one mountaineer down,’

Second, as a temporal conjunction, *ranhou* links clauses, as its basic syntactic function. Likewise, when it functions as a consequential conjunction, *ranhou* also connects clauses, since it links discourse-internal events. It is only when *ranhou* serves the additive function that it can connect noun phrases, since the additional information can be presented either in a clause or in a noun phrase. In other words, at the propositional level, *ranhou* connects clauses only, represented by the temporal use; while at the discourse level, it is able to mark a wider range of syntactic constituents including both clauses and nouns/noun phrases, as represented by the additive use of *ranhou*. These characteristics contrast with *and*, the most general conjunction in English. As a sentential conjunction, *and* coordinates two noun phrases or verb phrases; at the discourse level, it expands the scope to clauses (Schiffrin 1987). What matters in the process of functional extension

is not whether the direction is from noun phrases to clauses or the reverse, but the expanding scope, or say, the greater freedom that a conjunction has in connecting elements at the discourse level.

To sum up, *ranhou* is not a list construction marker by nature; its ability to work in list constructions is due to its additive function, which brings in additional information to a turn. Furthermore, in the process of development from a syntactic conjunction to a discourse marker, *ranhou* has an increased capacity to connect an expanded array of syntactic constituents including not just clauses but nouns or noun phrases. Similar to the case of *and* in English, *ranhou* also shows more freedom at the discourse level.

3.6 Conclusion

This section has identified four functions of *ranhou*, which is traditionally taken as a temporal conjunction. In addition to this temporal function, *ranhou* has a consequential function at the propositional level. At the discourse level, however, it serves to introduce additional information on the same topic (i.e. additive function) on the one hand, and to shift the topic of conversation (i.e. topic-shifting function) on the other hand. One important distinction between the lexical functions and the discourse functions are that the former is associated with event time, whereas the latter is associated with discourse time.

My prosodic analysis has shown that the four prosodic features – duration, pitch range, stress, and prosodic phrasing – differ significantly across the four functional categories. In particular, the temporal function of *ranhou*, its original lexical function, has the shortest duration and smallest pitch range on average among the four functions. Contrastively, topic-shifting, the newest discourse function, is associated with the longest average duration and largest average pitch range. Statistical tests have found the observed difference to be significant.

Last but not least, my findings on the prosodic phrasing of *ranhou* challenge the general belief that discourse markers are usually prosodically separate from neighboring utterances. Schiffrin (1987: 328) has noted that a discourse marker "has to have a range of prosodic contours, e.g. tonic stress and followed by a pause, phonological reduction." This position has been echoed in many later studies on discourse markers (e.g., Aijmer 2002; Fraser 2006). However, my data have revealed that *ranhou* is predominantly grouped with the following intonation unit, regardless of function. Even the most pragmaticalized function, topic-shifting, has 78.9% of its total occurrence being prosodically integrated with its following unit. Of course, relatively speaking, topic-shifting has much higher percentage of prosodic separation, i.e. 19.2%, as opposed to 4.8% for temporal, 2.6% for consequential and 7.7% for additive. My data have clearly shown that discourse markers, at least in the case of *ranhou*, do not have to be followed by a pause. It is only that the discourse functions of a multifunctional form tend to be more prosodically separate than the lexical functions. Therefore, methodologically, an integration of qualitative and quantitative approaches allows us to avoid the risk of generalizing based on a number of individual cases and thus to have access to the entire scope of the interaction between prosody and function.

Chapter 4 The prosody and functions of *wo juede*

4.1 Introduction

Traditionally, *juede* is considered as a verb expressing either feelings or opinions of speakers, as illustrated in the following two examples (Lü et al., 1980).

(4.1) 我 觉得 热

wo juede re

I feel hot

'I feel hot.'

(4.2) 我觉得应该去一趟

wo juede yinggai qu yi tang

I think should go one CL

'I think (I/you/someone) should go.'

In the past few decades, a number of empirical studies have shown that complement-taking verbs such as *think* and *know* have been largely grammaticalized as epistemic or deontic formulas or as lexicalized prefabs (e.g. Thompson and Mulac 1991; Biber et al. 1999; Diessel and Tomasello 2001; Thompson 2002). Stimulated by this trend, Huang (2003) analyzes the major complement-taking verbs in Mandarin Chinese including *juede* and argues that conversation participants orient their turns towards the complement clauses rather than the complement-taking verbs. Specifically, he suggests that *wo juede* 'I think' is often used as an epistemic formula and discusses the functions of this epistemic phrase in different TCU positions based on a total of 15 tokens of *wo juede*. For instance, he notes that a TCU-initial *wo juede* is more likely to index a 'co-positional' response to the question or the suggestion in the prior turn, displaying affiliation to the previous speaker. TCU-medial *wo juede* is often heard as a self-repair, whereas TCU-final *wo juede* signals an action that weakly runs counter to the projected response in the prior turn.

Fang (2005) discusses the evidential and epistemic verbs including *juede* in Mandarin Chinese from the perspective of grammatical de-categorization and semantic bleaching. She argues that these verbs are in the process of a shift from complement-taking predicates to pragmatic markers.

More recent studies specifically focus on the uses of *wo juede* under the framework of conversation analysis. Lim (2009, 2011) proposes two interactional uses of *wo juede*: 1) to position the speaker's pre-emptive awareness of the recipient's possible objection to a proposition; 2) to initiate a joint-assessment.

Endo (2010) presents a more comprehensive examination on *wo juede*, which starts from its syntactic properties and focuses on its discourse functions and social actions that it performs. She categorizes *wo juede* into two functional types – epistemic and non-epistemic. The epistemic use is defined as marking the utterance that follows this form as the speaker's personal opinion. Non-epistemic use then refers to the expression of personal physical sensation or emotion. As the primary focus of the author, the epistemic uses of *wo juede* are analyzed in relation to the turn position, i.e. turn-initial, turn-medial, and turn-final. In each turn position, the author identifies the major social actions that this form is able to accomplish. For instance, a turn-initial *wo juede* can be used to start a disagreement or maintain a conflicting opinion as a response to an assessment. A turn-medial token can function to shift the topic of a conversation. A turn-final *wo juede* may be employed to solicit an agreement or to close a turn. A notable merit of this study is that the prosodic features of *wo juede*, such as tone loss and syllable reduction, have been noticed, although the study lacks in-depth examination, and no claims have been made as to the possible correlation between functions and prosodic patterns.

While the previous works have informed us of the syntactic, grammatical, and discourse status of *wo juede*, there are at least three questions to which the existing studies have not yet provided satisfactory answers.

First, most of the past studies have identified *wo juede* as an epistemic marker, yet does *wo juede* have other functions in addition to its epistemic functions?

Second, what are the major functional categories of *wo juede*? Lü et al. (1980) is an attempt at semantic categorization and differentiating two functions, i.e. expressing personal feelings or opinions. However, 'feelings' and 'opinions' are broad notions that can be further decomposed. Endo (2010) notes that what is termed 'feelings' in Lü et al. (1980) in fact includes physical sensation, emotion, and thought, which she lumps together as 'non-epistemic' uses of *wo juede*. However, the problem with her definition of the epistemic use is that it overlaps with the non-epistemic use of *wo juede*, since she defines the epistemic use of *wo juede* as expressing personal opinions. As it is difficult to differentiate 'personal opinions' (epistemic according to the author) and 'thoughts' (non-epistemic according to the author), her categorization inevitably leads to a large number of equivocal cases. Additionally, both Lim (2009) and Endo (2010) pay more attention to the specific social actions of *wo juede*, such as preempting the recipient's possible objection, instead of its general functions. As a result, the functional categories of *wo juede* remain unclear.

Third, although the prosodic patterns of *wo juede* have been briefly mentioned in Fang (2005) and Endo (2010), the correlation between the prosodic features and the functions of *wo juede* has not been adequately addressed.

Therefore, the current chapter first discusses the general functional categories of *wo juede* and its newly extended use as a discourse marker in natural Mandarin conversation. Subsequently,

it examines its prosodic features, including duration, pitch range, and stress, and then explores how different functions are manifested prosodically.

4.2 Data

The data used in this chapter comes from six conversations, the duration of which ranges from forty minutes to two hours. The detailed information about each conversation is provided in the following table.

No.	File name	Duration	Number of speakers	Gender	Age range
1	CCMMZM	2 hours	4	all females	27-33
2	EVANZTYC	2 hours	4	3 males and 1 female	27-32
3	SSKLM	1.5 hours	3	2 females and 1 male	23-25
4	LJWHJJ	50 minutes	3	2 females	24-27
5	LLM	50 minutes	2	2 males and 1 female	26-32
6	ZYLK	50 minutes	2	2 females	20-22

Table 4. 1 Information about data sources used in Chapter 4

In the 8-hour data, there are 315 tokens of *juede* that have been found. Among them, the first person singular pronoun, *wo*, is by far the most frequent subject type for *juede*, totaling 261 tokens. The second and third person singular pronouns, i.e. *ni* 'you' and *ta* 'he/she', occurs 21 and 22 times respectively with *juede*. The remaining 11 tokens have plural pronouns (i.e. *women* 'we', *nimen* 'you-plural', *tamen* 'they') as subjects. This distribution is consistent with Endo (2010), which finds that the first person singular pronoun is the predominant subject type for *juede*.

Subject type	Frequency	Percentage
1st singular (*wo*)	261	82.9%
2nd singular (*ni*)	21	6.7%
3rd singular (*ta*)	22	7.0%
Plural (*women* 'we', *nimen* 'you', *tamen* 'they')	11	3.4%
Total	**315**	**100%**

Table 4. 2 Distribution of *juede* across subject types

This chapter will exclusively focus on the collocation of the first-person singular subject *wo* and *juede*, that is, *wo juede*, because it occurs with the highest frequency and takes on dynamic roles in natural conversation. As many recent studies show, the most frequent complement-taking predicates such as *think*, *guess*, and *know* are becoming epistemic formulas, notably taking first-person subjects (e.g. Thompson and Mulac 1991a, 1991b; Scheibman 2001; Thompson 2002; Tao 2003b; Kärkkäinen 2003, 2007). There are cases where the first-person singular subject is absent, but can be inferred from context (Huang 2003). Such cases are also considered in this study. What is excluded from the current study are the tokens embedded in incomplete utterances. For instance, a speaker utters *wo juede*, and then abandons this clause, switching to a different grammatical structure. This type of data is not considered because functional analysis relies largely on contexts; without the immediately following utterance, it is almost impossible to determine the function of *wo juede*.

In my data, there are 36 cases (15.9% out of 226 tokens) where auxiliaries and adverbs are inserted between *wo* and *juede*, such as *wo hui juede* 'I would think', *wo zhende juede* 'I really think', *wo ye juede* 'I also think', and *wo youde shihou juede* 'I sometimes think'. This fact suggests that *wo juede* is not a rigidly fixed discourse unit as claimed in Lim (2011); rather, it

allows auxiliaries and adverbs to modify the verb *juede*. These tokens are in the scope of the present study.

4.3 Functional analysis

Endo (2010) claims that *wo juede* has two types of use: epistemic use, which is defined as marking the following claim as the speaker's personal opinion, and non-epistemic use, such as expressing the speaker's physical sensations, feelings, and thoughts. Lim (2011) even more explicitly identifies *wo juede* as both an epistemic stance marker positing a hedged opinion and an affective stance marker indicating a personal feeling. These two analyses are evidently influenced by Lü et al. (1980), which categorizes the uses of *juede* as expressing personal opinions and personal feelings. While such categorization is intuitively plausible, treating these two kinds of use simply as two discrete categories discourages further exploration on the intrinsic connection between the two uses of *wo juede*. Also, it somewhat oversimplifies the epistemic function of *wo juede* by characterizing it as positing a hedged opinion.

I argue that *wo juede* is prototypically an epistemic marker, indicating the speaker's evaluation of his/her own physical/emotional state or the objective world; based on this epistemic use, it has developed into a discourse marker that serves to initiate a story in conversation. In light of this account, as will be illustrated below, a link can be observed underlying the functions of *wo juede* in previous characterizations, such as personal opinions and personal feelings (Lü et al. 1980), epistemic use and non-epistemic use (Endo 2010), and epistemic stance and affective stance (Lim 2011). This link is the basic function of *wo juede*, indicating the evaluation of the speaker. The notion of *evaluation* is defined as "the process whereby a stance taker orients to an object of stance and characterizes it as having some specific quality or value" (Du Bois 2007). Differing

from *I think* in English, *wo juede* can be used to evaluate the subjective domain, i.e. the speaker's own physical or emotional state, as in *wo juede leng* 'I feel cold'. It can also be used by a speaker to evaluate the objective domain, including everything outside the speaker's subjective domain. For example, *wo juede zhongguo cai hen haochi* 'I think Chinese food is delicious'. Furthermore, *wo juede* has extended to the intersubjective domain, functioning to establish an affiliation between the speaker and the hearer. I define affiliation as the endorsement of the perspective of the teller's conveyed stance (Stivers 2008). A typical case of this use is *wo ye juede* 'I think so too' (see Du Bois (2007) for discussion on a similar case in English). The intersubjective use of *wo juede* entails an evaluation that is identical to the previous speaker's evaluation. An affiliation is thus created. As a discourse marker, *wo juede* functions to initiate a story and this function has not been noted in previous studies. The discourse function of *wo juede* differs from the three other epistemic functions in that there is no evaluation involved in the former at all. It does not contribute any semantic meaning; it simply introduces a story as an elaboration on the referent in the conversation.

In this section, I will discuss the three epistemic functions, i.e. evaluation in the subjective domain, evaluation in the objective domain, and evaluation with an intersubjective orientation, as well as one discourse function, that is, story initiation.

4.3.1 Evaluation in the subjective domain

The basic function of *wo juede* is to signal evaluation in the subjective domain, since etymologically the main verb *juede* has to do with one's sensation (Lü et al. 1980). The object being evaluated is about a speaker's own physical body, sensation, or mental or emotional state. Here the term 'object', taken from the term 'stance object' in Du Bois (2007), is used to refer to what is being evaluated, which may or may not be tangible and visible. Previous studies have noted

that *wo juede* can be used to express the speaker's personal feeling or physical sensation (e.g. Lü et al. 1980; Endo 2010; Lim 2011), which fall into the subjective domain. This type of use features the absolute epistemic authority (Heritage and Raymond 2005; Heritage 2011) of the speaker over other conversation participants, since what is being evaluated is within the speaker's own physical or mental territories.

In my data, there are 21 tokens of *wo juede* used for evaluation in the subjective domain, accounting for 9.3% of all its occurrences. All of them are evaluations of the speaker's emotional or mental state. Due to my data size, no cases of evaluating the physical body or sensations have been found. The example below, (4.3), quoted from Endo (2010), illustrates the kind of case missing in my data. In this example, it is the speaker's physical sensation, more specifically her throat, that is being evaluated. The speaker indicates that the current state of her throat is so dry that she cannot swallow any food.

(4.3) *wo juede* used to indicate physical sensation (Endo 2010:237)

1	Mei:	我不是南方人，但我得先喝点儿东西。
2		y-要不然你看我上课不全喝水吗。
3	→	我-**我觉得**嗓子干，喝-吃不下东西去。
4	Ying:	我-我听说是..eh..吃饭之前先喝一杯水应该减肥。

1	Mei:	wo bushi nanfangren, danshi wo xian dei he diar dongxi.
2		y-yaoburan ni kan wo shangke bu quan he shui ma.
3	→	wo- **wo juede** sangzi gan, he- chibuxia dongxi qu.
4	Ying:	wo- wo tingshuo shi..eh..chifan zhiqian xian he yibei shui yinggai jianfei

1 Mei: I'm not a southerner, but I have to drink something (before eating).

2 Otherwise, you see, I don't drink water at all.

3 → I- **I feel** my throat is dry, I can't swallow (even if I eat something).

4 Ying: I heard… drinking a glass of water works for losing weight.

Example (4.4) below demonstrates *wo juede* being used to evaluate the speaker's mental state. In this extract, Jing, a college student from a rural area in China, talks about her childhood experience. Her interlocutor, Jiawei, a college girl from one of the largest cities in China, shows surprise when she learns how kids in the countryside play. In line 4, Jiawei says that she suddenly has a feeling of superiority after hearing Jing's story in a remote village. Then, in line 5-6, she goes on and provides an evaluation of her current mental state that 'I feel like I am participating in *X-Change* and listening to people from the countryside talking about their stories from the mountains.' *X-Change* is a popular reality show in China, in which two teenagers from two different families, typically one in a large city one in a backward rural area, exchange roles and experience the life of the other party. As Jiawei, the city girl, has never lived in a village, nor has she heard much about rural life, Jing's story is fresh to her and gives rise to the change in Jiawei's mental state, which is manifested in her evaluation from lines 5-6.

(4.4) *wo juede* indicating an evaluation on the speaker's mental state (LJWHJJ_03)

1 Jing: 我们农村的孩子很朴素的，

women nongcun de haizi hen pusu de

we village PT kids very simple PT

'we village kids are very simple,'

2 就坐在一起聊天啊，

jiu zuo zai yiqi liaotian a

just sit in together chat PT

'just sit together chatting,'

3 然后去玩玩那个什么游戏啊，

ranhou qu wanwan nage shenme youxi a

and-then go play DM what game PT

'and then play (some kind of game),'

4 Jiawei: 我突然间我好有优越感，

wo turanjian wo hao you youyuegan

I suddenly I very have sense-of-superiority

'I suddenly have a sense of superiority,'

5 → **我觉得**我在参加变形计 hh，

wo juede wo zai canjia Bianxingji

WO JUEDE I was participating X-Change

'**WO JUEDE** I was participating in X-Change,'

6 听他们农村的人在讲大山里面的故事，

ting tamen nongcun de ren zai jiang dashan limian de gushi

listen-to them countryside PT people ASP tell mountain inside PT story

'listening to people in the countryside telling the stories from the mountains,'

Example (4.5) includes multiple tokens of *wo juede*, and the last one (line 5) involves the speaker's evaluation in the subjective domain. In this case, SK is talking about one of his acquaintances, whom SK believes to be 'legendary'. Yet this girl's boyfriend is even more

impressive because he majored in the French language in college and then switched to chemistry in graduate school. As LM also switched majors when she started her PhD program, when hearing this incredible story, LM makes an evaluation on her own academic path: that her major-switch was not a real one compared with the one in this story. The object of this evaluation is the speaker's own experience and thus she has the absolute epistemic authority.

(4.5) evaluation in the subjective domain (SSKLM_11)

1 SK: 我觉得我觉得那个女生已经很传奇了，

wo juede wo juede nage nüsheng yijing hen chuanqi le

I think I think that girl already very legendary PT

'I think I think that girl is already legendary,'

2 但是我还觉得她男朋友更传奇，

danshi wo hai juede ta nanpengyou geng chuanqi

but I still think her boyfriend more legendary

'but I still think her boyfriend is even more legendary,'

3 本科是那个修法语的，

benke shi nage xiu fayu de

undergraduate is DM major French PT

'(he) majored in French in college,'

4 然后保研保到化学，

ranhou baoyan bao dao huaxue

then admit-by-graduate-school admit to chemistry

'then he was admitted to the chemistry graduate program,'

(1.0)

5 → LM: **我**瞬间都**觉得**我不算[转方向了，

wo shunjian dou **juede** wo bu suan zhuan fangxiang le

WO suddenly even **JUEDE** I not qualified switch major PT

'**WO** suddenly **JUEDE** I barely switched major,'

These two examples above illustrate that *wo juede* is used to evaluate the speaker's mental change and personal experience respectively. In my data, there are also a number of cases with evaluations of the speaker's emotional state, as briefly quoted in (4.6) and (4.7). Prior to (4.6), CC has just finished telling a story about her fieldwork experience in China's Fujian province. In line 1, she then switches from storytelling to evaluation. Yet, the evaluation is not of the story itself; it is about how she feels about the whole story. In other words, what is being evaluated is her own emotional state, that is, being confused. She feels confused because her fieldwork subjects were hiding some facts from her, making it difficult for her to digitalize the data.

(4.6) evaluation of the speaker's emotional state (CCMMZM_013)

1 → CC: 所以就**觉得**就很困惑，

suoyi jiu **juede** hen kunhuo

so ADV **JUEDE** ADV very confused

'so (I) **JUEDE** very confused,'

2 因为我现在要做的事情是把所有这些数字化，

yinwei wo xianzai yao zuo de shiqing shi ba suoyou zhexie shuzihua

because I now should do PT things is PT all these digitalize

'because what I should do right now is to digitalize all these (materials),'

3 然后变成可以(.)可以做模型的东西，

ranhou biancheng keyi keyi zuo moxing de dongxi

then turn-into can can make model PT things

‘and then turn (them) into what can be modeled,’

In Example (4.7), Jiawei is expressing her concern that a BA degree does not really help her future career, because she is not seriously studying. It is her emotional state that is being evaluated, and she characterizes this state as ‘being afraid’ (line 1). Then, in lines 2-4, the speaker specifies her emotional state, explaining what exactly she is afraid of.

(4.7) evaluation on the speaker’s emotional state (LJWHJJ_024)

1 → Jiawei: 我觉得我很怕说，

wo juede wo hen pa shuo

WO JUEDE I very afraid say

‘**WO JUEDE** I am afraid that,’

2 我就这样把这三年，

wo jiu zheyang ba zhe san nian

I ADV like-this PT this three year

‘I (am idling away) the three years,

3 这大学这文凭混下来，

zhe daxue zhe wenping hun xialai

this college this degree goof COMP

‘(and) goofing around (and getting) the degree,’

4 然后也没有什么用，

ranhou ye meiyou shenme yong

then also no what useful

'and then it is not useful after all,'

4.3.2 Evaluation in the objective domain

The second epistemic function of *wo juede* is to indicate evaluations in the objective domain, with 182 tokens of such cases, accounting for 80.5% of the total number of occurrences of *wo juede*. The objective domain refers to whatever is outside the speaker's subjective world. However, this category is not monolithic; there are two contrastive subtypes, that is, evaluations within the speaker's territories of knowledge, and evaluations outside the speaker's territories of knowledge.

The notion of territory of knowledge, is also referred to as territory of information (Kamio 1997) or epistemic domain (Stivers and Rossano 2010). This notion is first proposed by Labov and Fanshel (1977) in their distinction between A-events (known to A, but not to B) and B-events (known to B, but not known to A). With an orientation to the source of knowledge, Pomerantz (1980) categorizes the territories of knowledge into Type 1 knowables, which speakers have rights and obligations to know from firsthand experience, and Type 2 knowables, which are known by report, hearsay, inference, etc. In a similar vein with Labov and Fanshel (1977), Kamio (1997) argues that both speaker and hearer have their own territories of information and any specific element of knowledge can fall into either one, or both of them, but often to different degrees. Drawing these ideas together, Heritage and colleague propose the term *epistemic status* to characterize the relative positioning of conversation participants along an epistemic gradient (more knowledgeable [K+] or less knowledgeable [K-]) (Heritage 2010, 2012; Heritage and Raymond

2012). A contrastive term, epistemic stance, then concerns the moment-by-moment expression of epistemic status, as managed through the design of turns-at-talk.

Among all these terminologies, two will be used in the current discussion, **epistemic status** and **epistemic stance** (Heritage 2010, 2012; Heritage and Raymond 2012), in addition to **epistemic authority** (Heritage and Raymond 2005). I define epistemic authority as relatively higher epistemic status in comparison with that of other conversation participants, since Heritage and Raymond (2005) provide no specific definition of epistemic authority.

The aforementioned studies illuminate the categorization of evaluations signaled by *wo juede*. When speakers evaluate the objective world, their evaluation may fall within or outside their own territories of knowledge. That is to say, they may or may not be more knowledgeable about the object being evaluated. In these two types of evaluations, *wo juede* has distinct epistemic functions and is associated with different structural characteristics. Below, I will discuss each of the two types with examples from my data.

4.3.2.1 Evaluation within speakers' territories of knowledge

Speakers frequently make evaluations of objects within their territories of knowledge, where speakers have epistemic authority over other conversation participants (e.g. Heritage 2012a, 2012b; Stivers et al. 2011). In my data, there are 60 tokens of *wo juede* found to be used this way, accounting for 26.5% of its total occurrence. Past studies have noted that epistemic authority can be generated from social distance, such as grandmother versus acquaintance in talking about grandchildren (Heritage and Raymond 2005). This observation is confirmed in my data, as shown in Example (8). Additionally, speakers may have expertise or more experience with the object being evaluated, giving rise to their epistemic authority, such as in (9). Structurally, when

indicating this type of evaluation, *wo juede* is often found with an intensifying adverb such as *zhende* 'really' or *dou* 'even' modifying *juede*, to emphasize the upcoming evaluation.

In Example (4.8), MM is talking about her grandmother, who cares very much about extremely trivial things such as her saplings being damaged or neighbors building their house a little bit over the fence. In line 12-13, MM is making an evaluation on her grandmother's character, 'even I would think my grandmother is a nice person'. Because of the close social relation with the person being evaluated, the speaker naturally has epistemic authority over her interlocutors, thus *wo juede* is associated with high degree of certainty. The speaker's certainty is reinforced by an intensifying adverb *dou* (line 13), which underscores that her grandmother is indeed a good person.

(4.8) evaluation within speakers' territories of knowledge (CCMMZM_004)

1	MM:	而且我觉得像农村， erqie wo juede xiang nongcun in-addition I think like countryside 'In addition, I think, like countryside,'
2		就 像我奶奶家就是农村里， jiu xiang wo nainai jia jiushi nongcun li just like my grandmother house just countryside in 'just like my grandmother's house is in the countryside,'
3		就是， jiushi DM 'well,'

4		他们(.)关注的事情真的就是特别特别小的一件事情,
		tamen guanzhu de shiqing zhende jiushi tebie tebie xiao de yijian shiqing
		they care PT things really are extremely extremely small PT one CL thing
		'what they care are those extremely trivial things,'
5	CC:	嗯.
		en
		yeah
		'Yeah.'
6	MM:	就比如说，
		jiu birushuo
		just for-example
		'For example,'
7		你家把我家的树苗怎么[了，
		ni jia ba wo jia de shumiao zenme le
		your house PT my house PT sapling what PT
		'what did your folks do to our saplings,'
8	CC:	[对对对，
		dui dui dui
		right right right
		'Right, right, right,'
9	MM:	然后(.)你们家盖房子盖过来一点点，
		ranhou nimen jia gai fangzi gai guolai yidiandian

then your house build house build over a-little

'And then your family built your house over (the fence) a little bit,'

10 CC: 嗯.

en

yeah

'Yeah.'

11 MM: 哇然后就恨得要死哦，

wa ranhou jiu hen de yaosi o

PT then ADV hate PT to-death PT

'And then, (they would) hate (them) to death,'

12 → 我觉得,

wo juede

WO JUEDE

'**WO JUEDE**,'

13 → (0.5) 我都觉得我奶奶是一个很好的人，

wo dou **juede** wo nainai shi yige hen hao de ren

WO even **JUEDE** my grandma is a very nice PT person

'even **WO JUEDE** my grandma is a very nice person,'

14 但我奶奶也很-，

dan wo nainai ye hen

but my grandma also very

'but my grandma is also very,'

15 =就到这种问题上面她也很计较，

jiu dao zhe zhong wenti shangmian ta ye hen jijiao

ADV to this kind problem on she also very obsessive

'when it comes to this kind of problem, she is also obsessive,'

The next example, (4.9), demonstrates a case of epistemic authority as a result of the speaker's firsthand experience. In this extract, participants are talking about guns. Evan is more experienced with guns because he often goes to shooting ranges and has tried different types of guns. Therefore, when ZT asks him whether rifles have strong recoil, Evan gives an affirmative answer, in which he makes an evaluation the recoil of rifles based on his experience and knowledge using *wo juede*. Evan's epistemic authority is displayed through ZT's confirmation-seeking question, which clearly entails the higher epistemic status of Evan. In line 2, Evan indexes a high degree of certainty with *wo juede.* Then, he provides a justification regarding why he makes such an evaluation of rifles' recoil (lines 4-6), strengthening his epistemic authority.

(4.9) evaluation within speakers' territories of knowledge (EVANZTYC_017)

1 ZT: 那个是不是后坐力特大，

nage shibushi houzuoli te da

that yes-no-yes recoil extremely large

'Is the recoil of (rifles) extremely strong?'

2 → Evan: 我觉得那个后坐力很大， ((nodding))

wo juede nage houzuoli hen da

WO JUEDE that recoil very large

'**WO JUEDE** the recoil of that is very strong,'

3 而且它不是说，

erqie ta bushi shuo,

in-addition it not say

‘and it’s not,’

4 它是用手端着，

ta shi yong shou duanzhe

it is with hand hold

‘(you have to) hold it with your hands,’

4.3.2.2 Evaluation outside speakers’ territories of knowledge

In contrast to the type above, *wo juede* can be used to indicate speakers’ evaluations outside their territories of knowledge. In such cases, speakers lack epistemic authority due to a number of reasons: 1) speakers are no more knowledgeable than their interlocutors when evaluating objects in the public domain, such as historical facts, public figures, and popular culture; 2) what is being evaluated is a third party’s state of mind; 3) all conversation participants have equal epistemic access to the object being evaluated, such as their shared experience or the objects present in the conversation setting. This type of evaluation has the highest frequency in my data, with 123 tokens out of a total number of 226, accounting for 54.4%. In these cases, *wo juede* is used to lower the speaker’s epistemic stance. This function is often reinforced by the speculative adverbs (e.g. *keneng* 可能 ‘possibly’, *haoxing* 好像 ‘apparently’), auxiliaries (e.g. *yinggai* 应该 ‘should’), and final particles (e.g. *ba* 吧). There are 10 cases with the epistemic auxiliary *yinggai*, 5 cases with *keneng*, 4 cases with *ba*, and 3 cases with *haoxing*. In some cases, the same speculative word is repeated several times or multiple speculative words are used in combination in order to

downgrade the speaker's epistemic stance. In examining another epistemic verb, *zhidao* 'to know', Tao (2003b) has observed a similar phenomenon in which speculative words co-occur with *zhidao* when it is used to indicate speakers' uncertainty.

In Example (4.10), four friends are talking about the definition of transgender, which CC used to understand in a narrower sense and now understands more broadly after reading a blog post. Prior to this sequence, CC was describing how she learned the academic definition of transgender. Then, she orients to ZM and asks if she has heard about this definition (line 2). However, ZM does not take the floor to answer her question. Instead, Susie jumps in and evaluates the definition that CC just shared (line 3). Susie does not have epistemic authority on this topic as evidenced by CC's orientation to ZM, instead of Susie, when seeking more information. Therefore, when Susie volunteers to contribute more information on transgender, she takes a rather low epistemic stance, which is manifested by *wo juede* and *yinggai*.

(4.10) evaluation with low epistemic authority (CCMMZM_042)

1	CC:	((describing how she learned the definition of transgender))
2		你知道这个定义吗？ ((oriented to ZM))
		ni zhidao zhege dingyi ma
		you know this definition PT
		'Do you know this definition?'
3 →	Susie:	**我觉得**这个定义应该不是 transgender 最最 default 的，
		wo juede zhege dingyi yinggai bushi transgender zuizui default de
		WO JUEDE this definition should not transgender most default PT
		'**WO JUEDE** this definition shouldn't be the most default one for transgender,'

Example (4.11) provides an instance of evaluating a third party's state of mind. Prior to this sequence, MM was talking about Eason, a tough professor in her department, who often fails students in their PhD qualifying exams. In line 1, ZM seeks confirmation as to whether Zijin is Eason's student. Susie, who also studies in the same department, affirms and then orients to MM, asking whether Zijin feels insecure. MM, who knows Zijin better than other participants, first provides a definite answer 'Zijin does (feel insecure)' in line 4, which involves an evaluation on Zijin's state of mind. Yet immediately in line 5, MM rephrases and uses *wo juede* to lower her stance displayed earlier, which is too strong since that evaluation is simply MM's speculation on Zijin's mind. The contrast proves the ability of *wo juede* to adjust epistemic stance in the service of speakers' conversation needs.

(4.11) evaluation on a third party's state of mind (CCMMZM_020)

1	ZM:	子锦是 Eason 的学生啊，
		zijin shi Eason de xuesheng a
		PN is PN (English) PT student PT
		'Zijin is Eason's student?'
2	Susie:	对，
		dui
		right
		'Right,'
3		那(.)子锦有没有觉得岌岌可危呀，
		na zijin you meiyou juede jijikewei ya
		then PN have have-not feel insecure PT
		'then did Zijin feel insecure?'

4 MM: 子锦有，

zijin you

PN have

‘Zijin did,’

5 → 我觉得有.

wo juede you

WO JUEDE have

‘**WO JUEDE** (she) did.’

To sum up, when speakers evaluate objects in the objective domain, what is being evaluated falls either into or outside speakers’ territories of knowledge. With evaluations within speakers’ territories of knowledge, speakers have epistemic authority over their interlocutors. When an evaluation is outside the speaker’s domain of knowledge, s/he lacks epistemic authority. *Wo juede* can be used in both types of situations. When occurring in the former type, *wo juede* is associated with high level of certainty, as evidenced with frequent collocation with intensifying adverbs such as *zhende* ‘really’ and *dou* ‘even’. When used in the latter type of situation, *wo juede* commonly co-occurs with speculative adverbs, auxiliaries, and final particles in the complement clause.

4.3.3 Evaluations with an intersubjective orientation

Before embarking on the discussion of the third type of *wo juede*, it is necessary to define the notion of intersubjectivity, which is central to social interaction. Broadly speaking, intersubjectivity refers to shared understanding (see Duranti 2010) or possible relations between people’s perspectives (e.g. Schegloff 1992; Gillespie and Cornish 2010). This term, however, is assigned more specific values by different researchers. For instance, Mori and Hayashi (2006)

define intersubjectivity as agreement on having a shared definition of an object. Heritage (2007) sees intersubjectivity as common recognitional reference, which is sometimes in conflict with the progressivity of interaction. In discussing *wo juede*, Lim (2011) understands this notion as the speaker's awareness of the recipient's possible reaction to his/her current turn. In the present study, I define intersubjectivity in terms of the recipient's understanding of, and affiliation with, the speaker's stance conveyed in the prior utterance.

Wo juede can be used in evaluations with a strong intersubjective orientation. People often employ *wo juede* to establish affiliation with the previous speaker by displaying a shared evaluation. This type of evaluation with *wo juede* has two prominent structural characteristics: 1) it typically has no complement clause or an incomplete complement clause; 2) particular adverbs and pronouns indexing relevance to prior stance are used, such as *ye* 'also, too', and *zheyang* 'like this'. There are 13 intersubjective cases of *wo juede* found in my data, within which 8 tokens are accompanied by either *ye* or *zheyang*. Two examples are provided below to illustrate this use.

In (4.12), CC mentions that she recently started to buy coffee beans from grocery stores and then make coffee at home. MM asks whether homemade coffee is tasty in line 2. CC responds with an evaluation of her homemade coffee, 'millions of times better than the coffee you buy in a coffee shop'. Susie, who also makes coffee at home, shows her affiliation with CC's stance by co-participating in evaluating the same object and displaying an identical stance. The configuration of this evaluation is simple, only *wo ye juede* 'I also think (so)', with no complement clause. This evaluation is heavily context-dependent; it is made understood solely by evoking the immediately prior evaluation and indicating that stance is shared. By making visible a congruent evaluation (Goodwin and Goodwin 1987), Susie successfully establishes affiliation with CC. Susie's affiliative stance is immediately acknowledged by CC in her utterance *dui* 'right' in the next line.

(4.12) evaluation with an intersubjective orientation (CCMMZM_033)

1	CC:	((Describes how she makes coffee at home))
		然后就自己泡咖啡，
		ranhou jiu ziji pao kafei
		then just self make coffee
		'Then I just make coffee myself,'
2	MM:	好喝吗？
		haohe ma
		tasty PT
		'Is it tasty?'
3	CC:	比外面买的咖啡好喝无数倍，
		bi waimian mai de kafei haohe wushu bei
		than outside buy PT coffee tasty countless times
		'Millions of times better than the coffee you buy outside,'
4 →	Susie:	我也觉得，
		wo ye **juede**
		WO also **JUEDE**
		'**WO** also **JUEDE**,'
5	CC:	对，
		dui
		right
		'Right,'

Prior to (4.13) below, Evan was saying that one has to stick to a strict diet if s/he wants to build up his/her body. In lines 1-4, Susie comments that it is understandable but such diet would be too much for her. In line 5, YC utters *wo juede*, attempting to give his evaluation, yet it is interrupted by ZT's laughter. In line 7, YC resumes his evaluation by indicating that he shares the same stance with Susie. The configuration of this evaluation is slightly different from its counterpart in (4.12) since it has an incomplete complement clause consisting mainly of *zheyang* 'like this', a pronoun that ties back to the immediately preceding utterance. By embedding the prior speaker's evaluation into his own evaluation, YC affiliates himself with Susie's prior asserted position. This affiliation is instantly received and reinforced by Susie's utterance *dui dui dui* 'right, right, right' (line 8) even before YC finishes his utterance in line 7.

(4.13) evaluation with an intersubjective orientation (EVANZTYC_021)

1	Susie:	我觉得,
		wo juede
		I think
		'I think,'
2		我可以理解，
		wo keyi lijie
		I can understand
		'I can understand,'
3		但是对我而言：，
		danshi dui wo eryan
		but for me regarding
		'but for me,'

4 还是^too much,

haishi too much

still too much

‘(it would be) too much,’

5 → YC: 我觉得，

wo juede

WO JUEDE

‘**WO JUEDE**,’

6 ZT: hhh.

7 → YC: 我觉得也是这样我会跑步但是：，

wo juede yeshi zheyang wo hui paobu danshi

WO JUEDE also like-this I would jog but

‘I think so too, I would jog but,’

8 Susie: 对对对，

dui dui dui

right right right

‘Right, right, right,’

4.3.4 Story initiation

While the epistemic use of *wo juede* accounts for the majority of its occurrences, a new discourse function is emerging, that is, Story initiation. This function is considered ‘newly emerging’ for two reasons: 1) it is not part of *wo juede*’s lexical semantics, and in contrast, the three other functions are related to its core lexical meaning; and 2) it only occurs in spoken

language, whereas the rest of the functions are all able to occur in both spoken and written Chinese. Chafe (1982) points out that spoken language is the locus of ongoing language change. New functions usually occur in spoken discourse first, and when they are robust enough, they are able to move into written language.

Story initiation can be done in various ways. Lerner (1992) addresses assisted story initiation, where a co-participant is selected to deliver the story through a story prompt or story provocation. Sacks (1974, 1992) discusses how the story preface provided by the teller foreshows an upcoming story. The way that *wo juede* initiates a story is to establish the referent that the following story is about, either directly or step by step. Unlike other functions of *wo juede*, there is no evaluation of the referent after the mention of it; instead, it is the story associated with the referent that is elaborated upon the following utterances. Speakers use this form to bring in a story triggered in the course of turn-by-turn talk, which may or may not be topically coherent (Jefferson 1978). Stories initiated by *wo juede* can be, but are not necessarily, extended ones. Many of them are brief elaborations on the object or event that serve particular interactional purposes, such as to illustrate the teller's point or to strengthen the affiliation with the recipient.

Story initiation is the least prototypical use of *wo juede*, since there is no evaluation involved, unlike its three other functions. This new discourse function has not been noted in previous studies presumably because of its low frequency. In my data, there are 10 tokens that have been found. Despite its low frequency, this function embodies the dynamic development of this highly frequent form beyond the commonly identified path from subjective to intersubjective. Two examples are presented below to show how speakers use *wo juede* to initiate a story

Prior to Example (4.14) below, CC was talking about her fieldwork experience, particularly details about how people in the countryside argue over trifles. After CC's turn reaches a completion

point (line 5) and ZM's laughter, MM initiates a story about people in the countryside using *wo juede*, yet her referent is not established in one attempt. First, in line 7, MM introduces the referent, *nongcun* 'countryside', as the broad area of her story. Then, in line 8, she narrows the area down to the village where her grandmother lives in. After a pause-filler in line 9, she provides a description of people in that village, that is, they care about trivial things (line 10), and proceeds to give a specific example in line 12-13. MM's story is methodically introduced into the conversation to support CC's observation on people in the countryside from her fieldwork. *Wo juede* is used as a technique to display the connection between the story and the prior talk and thus to account for the appropriateness of the storytelling (Jefferson 1978).

(4.14) *wo juede* used to initiate a story (CCMMZM_002)

1 CC: 如果你单是去那边问他们二十分钟，

ruguo ni danshi qu nabian wen tamen ershi fenzhong

if you just go there ask them twenty minutes

'If you just go there and ask them (questions) for twenty minutes,'

2 没有办法问一些事情.

meiyou banfa wen yixie shiqing

no way ask some thing

'(you have) no way to know some things (that you are interested in),'

3 对.

dui

right

'Right.'

4		(2.0) 就干这些事情，
		jiu gan zhexie shiqing
		ADV do these things
		'(That's) what I did,'
5		超八卦的.
		chao bagua de
		super gossipy PT
		'super gossipy,'
6	ZM:	hhhh.
7 →	MM:	而且**我觉得**像农村，
		erqie **wo juede** xiang nongcun
		in-addition **WO JUEDE** like countryside
		'In addition, **WO JUEDE**, like the countryside,'
8		就 像我奶奶家就是农村里，
		jiu xiang wo nainai jia jiu shi nongcun li
		just like my grandmother home ADV is countryside in
		'just like my grandmother's home is in the countryside,'
9		就是，
		jiushi
		DM
		'well,'
10		他们(.)关注的事情真的就是特别特别小的一件事情,

tamen guanzhu de shiqing zhende jiushi tebie tebie xiao de yijian shiqing

they care PT things really are extremely extremely small PT one CL thing

'what they care about are those extremely trivial things,'

11 CC: 嗯.

en

yeah

'Yeah.'

12 MM: 就比如说，

jiu birushuo

just for-example

'For example,'

13 你家把我家的树苗怎么[了，

ni jia ba wo jia de shumiao zenme le

your house PT my house PT sapling what PT

'what did your folks do to our saplings,'

14 CC: [对对对，

dui dui dui

right right right

'Right, right, right,'

In contrast to the step-by-step establishment of the referent in (4.14), *wo juede* in (4.15) directly introduces the referent *ta* 'him', or more specifically, *laoshi* 'teacher'. Prior to this excerpt, Kai was telling Yi that her Japanese instructor teaches grammar in a very linguistic way, which is beyond her comprehension. In line 1-2, she expresses her concern by constructing a dialogue

where she 'says' that the exam will not be about such grammar analysis, since she completely does not remember anything. Yet in line 3, Yi, who has not taken the advanced Japanese course, jokingly says that there will definitely be such questions in the exam and 'you are done' (line 4). In line 5, Kai picks up the last part of Yi's prior utterance and reframes it, signaling her agreement. Their conversation has reached a point of possible completion when this mutual agreement is achieved, as evidenced by the long silence in line 6. Then, Kai chooses to continue her turn by initiating a story about her Japanese instructor as additional information to her previous telling. In line 7, she uses *wo juede* to introduce what she will be talking about, that is, *ta* 'he', namely the Japanese instructor. However, it has been so long since she last mentioned the referent of *ta* that she explicitly mentions the referent, *laoshi* 'teacher', again in line 8. Then, she proceeds to tell the details of the story about her teacher (line 8-10). Like (4.14), the story initiation here indicated by *wo juede* involves no evaluation; it serves to provide vivid details to complement her previous telling about this Japanese teacher rather than evaluating him.

(4.15) *wo juede* used to initiate a story (ZYLK_058)

1 Kai: 我说考试不会考这种吧，

wo shuo kaoshi bu hui kao zhe zhong ba

I say exam not will test this kind PT

'I said this kind (of grammar analysis) will not be tested in the exam right?'

2 我说完全记不住啊，

wo shuo wanquan jibuzhu a

I say completely cannot-remember PT

'I said I completely cannot remember,'

3 Yi: 应该会考，

yinggai hui kao

should will test

'It will be tested for sure,'

4 那你死定了，

na ni si ding le

then you die sure PT

'then you are done for sure,'

5 Kai: 死定了的感觉，

si ding le de ganjue

die sure PT PT feeling

'(I have a) feeling that I'm done,'

6 (1.8)

7 → 而且**我觉得**他，

erqie **wo juede** ta

additionally **WO JUEDE** he

'additionally **WO JUEDE** he,'

8 老师还说，

laoshi hai shuo

teacher also say

'the teacher also said,'

9 没事儿你们这一页的那个：，

meishi'er nimen zhe yi ye de nage

never-mind you this one page PT DM

'never mind, you guys, this page, well,'

10 就是标出来那些：大写字母不需要背啊，

jiushi biao chulai naxie daxie zimu bu xuyao bei a

DM mark COMP those capital letter not need memorize PT

'those marked in capital letters don't need to be memorized,'

11 我们说不背你干嘛在黑板上写得这么顺，

women shuo bu bei ni ganma zai heiban shang xie de zheme shun

we say not memorize you why on blackboard LOC write PT this smooth

'we said, (if they don't need to be) memorized, why did you write them out on the blackboard?'

4.3.5 Interim summary and discussion

This section first provides a summary of the functional analysis above. Then, it discusses two important issues arising from the functional analysis – different functions of *wo juede* on the epistemic scale and the particular discourse functions of the turn-final *wo juede*.

4.3.5.1 Interim summary

To sum up the functional analysis, *wo juede* is prototypically an epistemic marker signaling evaluations of various types, such as evaluations in the subjective and the objective domain, and evaluations with an intersubjective orientation. It has also developed into a discourse marker beyond its epistemic use, indicating the initiation of a story. The frequency and percentage of each function are provided in the following table. Among all its functions, evaluation in the objective

domain outside speakers' territories of knowledge, abbreviated as **Objective 2**, is the most frequent, totaling 123 tokens, accounting for 54.4% of all its occurrence. Next is evaluation in objective domain within territories of knowledge, abbreviated as **Objective 1**, with 59 tokens. Evaluation in the subjective domain (abbr. **Subjective**) ranks the third with a frequency of 21, which is followed by intersubjective use (abbr. **Intersubjective**). The epistemic cases add up to 216 tokens, accounting for 95.6% of all occurrences. The remaining 4.4% is the newly emerging function of *wo juede*, **Story initiation**. This new discourse function differs from all other uses of *wo juede* because it lacks the key element, evaluation, which is central to the four epistemic functions. The connection between the discourse function and the epistemic functions will be discussed in 3.3.5.2.

Function	Frequency	Percentage
Subjective: evaluation in subjective domain	21	9.3%
Objective 1: evaluation in objective domain within territories of knowledge	59	26.1%
Objective 2: evaluation in objective domain outside territories of knowledge	123	54.4%
Intersubjective: evaluation with intersubjective orientation	13	5.8%
Story initiation	10	4.4%

Table 4. 3 Frequency and distribution of the five functions of *wo juede*

The five functions are not completely discrete categories with clear-cut boundaries. First, the subjective tokens overlap with Objective 1 in cases where the speaker says the *wo juede hen qiguai* 'I feel weird' (ZYLK_062), for example. The reason why this case is ambiguous is because the object being evaluated is vague: it could be the speaker's current emotional state or what she experienced, which causes her to feel this way. If it were the former, this case should be a

subjective token; if it were the latter, it would be categorized as objective 1. What complicates the picture is that grammatically both interpretations make sense. Thus, a decision has to be made based on the interactional context. This example is determined to be subjective, since the immediate context of *wo juede* is the speaker's description of her own feelings after her alarm clock stopped working. In other words, she is evaluating her own mental state back when the incident happened.

Second, Objective 1 and Objective 2 also have a blurry boundary. Objective 1 is where speakers evaluate within their own territories of knowledge and have epistemic authority over other interlocutors, whereas Objective 2 falls outside speakers' territories of knowledge and thus no epistemic authority is associated. The difficulty of distinguishing between the two categories lies in how to determine the knowledge status of speakers in relation to their interlocutors. Therefore, I rely on both interactional cues and the demographic information about conversation participants to make judgments. For example, when a speaker talks about his family member or an issue in his field of study, he absolutely has epistemic authority. However, tricky cases are those when people comment on something that they all have experienced in varying degrees, for instance, Panda Express, a Chinese fast food chain. It is hard to determine which participant has relatively more knowledge or experience. In order to ensure the consistency of categorization, I do not label any cases as Objective 1 unless there is compelling evidence showing the speaker has epistemic authority.

Third, intersubjective cases are sometimes intertwined with objective 1 and 2 because the former entails evaluations in the objective domain. Fortunately, there are structural characteristics that provide clues to tell them apart. Interactionally, intersubjective tokens of *wo juede* are mainly used to establish affiliation rather than evaluating an object *per se*. Therefore, they are structurally

different from regular evaluations at least in the following two aspects: 1) they have no or incomplete complement clauses; 2) adverbs and pronouns such as *ye* 'also' and *zheyang* 'like this' are used to index the dependent nature of the current evaluation to the prior one.

Fourth, Story initiation is the most well-delimited category, since it has a noticeable semantic-pragmatic differences with the four other categories. Yet, in reality, natural conversation data is much more complicated than expected. Although typical cases of story initiation do not involve evaluation at all, there are cases where the speaker prefaces a story with an implicit evaluation, as in (4.16). Lines 2-3 are a weak evaluation of the computer science major in the speaker's university, suggested by the speculative auxiliary *yinggai* 'should' and the final particle *ma*, which indicates a mood of negotiation. This evaluation, however, serves to introduce the topic of the story, the computer science major, which the speaker is going to talk about soon after this excerpt.

(4.16) Story initiation with an evaluation (LJWHJJ_032)

1	Jiawei:	而且，
		erqie
		additionally
		'Additionally,'
2 →		而且**我觉得**说学校：，
		erqie **wo juede** shuo xuexiao
		additionally **WO JUEDE** say university
		'additionally, **WO JUEDE** (our) university,'
3		的那个什么 computer science 那些应该蛮好的嘛，
		de nage shenme computer science naxie yinggai man hao de ma
		PT DM what computer science that should pretty good PT PT

'well, the computer science (major) should be pretty good,'

4.3.5.2 Epistemic scale

The somewhat fuzzy boundaries between the functional categories reveal the fact that the functions of *wo juede* exist on a continuum rather than as discrete categories, especially viewed from the dimension of epistemic authority. The subjective type is associated with the highest level of epistemic authority since what is being evaluated is the subjective domain of the speaker. For Objective 1, the speaker has relatively higher epistemic authority over his/her interlocutors since the object being evaluated falls within his/her territories of knowledge. In contrast, for Objective 2, the speaker does not have more epistemic authority than his/her recipient. As for the Intersubjective type, the epistemic function of *wo juede* becomes secondary; in other words, it does not matter who has higher epistemic authority. At the lower end of this continuum is the story initiation function, which does not index epistemic authority at all. The figure below shows each of five functions along the continuum of epistemic authority.

Function	**Epistemic authority**
Subjective	High
Objective 1	
Objective 2	Low
Intersubjective	
Story initiation	N.A.

Table 4. 4 Functions of *wo juede* along the continuum of epistemic authority

Earlier studies have claimed that *wo juede* indicates an uncertain mood (e.g. *Xiandai Hanyu Cidian* [Modern Chinese Dictionary]) or that it indexes a hedged opinion (Lim 2011). It is not hard to see why these studies associate *wo juede* with uncertainty or, in my term, low epistemic authority, if we take into consideration the high frequency of the objective type. According to Table 4.3, Objective 2, which involves low epistemic authority, has the highest frequency, accounting for more than half of the overall occurrences of *wo juede*. Due to the somewhat dominant use of Objective 2, it is easy to conclude that *wo juede* is a hedging device, since Objective 2 type is associated with low epistemic authority. However, the continuum above reveals that *wo juede* is not an epistemic marker with a fixed degree of epistemic authority; rather, it is associated with a wide range of epistemic authority. This attribute of *wo juede* can be compared with *I think* in English. Similar to *wo juede*, *I think* is traditionally identified as a marker of tentativeness indicating uncertainty or acting as a softener and a hedge in earlier studies such as Holmes (1999) and Aijmer (1997). However, by analyzing the sequential and activity context of *I think*, Kärkkäinen (2003) shows that it does not necessarily convey either clear uncertainty or certainty, or serve to soften or reassure, while it does express tentativeness or deliberativeness in some cases. Compared to *I think*, *wo juede* has a wider range of uses because it is able to indicate speakers' physical sensations and mental states, which can be ascribed to its 'perceptual origin' (Huang 2003:439). Also, although the prototypical function of *wo juede* is to signal evaluations, it has taken on a new discourse function in which evaluation is absent.

4.3.5.3 Turn-final *wo juede*

Past research has attempted to discover the association between the structural position of *wo juede* and its function. Huang (2003) examines the interaction between the TCU position and the

functions of *wo juede*. Based on a total of 15 tokens, he observes that a TCU-initial *wo juede* is used as a 'co-positional' informing as a response to a question or a suggestion in the prior turn. *Wo juede* in TCU-medial position as well as some TCU-initial position is heard as a self-repair. A TCU-final *wo juede*, as the author claims, performs "an action that 'weakly' runs counter to the response projected in a prior turn" (Huang 2003:434). Endo (2010) looks at the turn position instead of the TCU position in her detailed investigation on *wo juede*. She characterizes the function of the turn-initial *wo juede* as responding to different types of actions, such as assessments, informing, and questions. The turn-medial tokens, in contrast, are used to cope with anticipated troubles in interaction, more specifically, shifting from description to assessment, distancing from an opinion, and marking topic shift. The turn-final *wo juede*, according to Endo (2010), is mainly used to close a turn, either by re-introducing an opinion or by soliciting agreement. The inadequacy of this analysis is that all turn-final objects, not limited to *wo juede*, serve to close a turn, as sequentially dictated. Thus, further investigation into the particular discourse functions of the turn-final *wo juede* becomes necessary.

The present study has found that the turn-final *wo juede* is exclusively used to indicate evaluations in the objective domain outside speakers' territories of knowledge (Objective 2). Note that the turn-final position is strictly defined: only tokens that occupy the very last position of the last TCU in a turn are qualified. There are 6 turn-final tokens of *wo juede* that have been found in my data. This group of tokens has two major interactional functions: 1) to signal turn completion, aligning with Endo's (2010) finding; and 2) to lower speakers' epistemic stance. First, all the turn-final *wo juede* tokens are used in post-positioned evaluations, where the proposition occurs first and then it is evaluated (Goodwin and Goodwin 1987). As Goodwin and Goodwin (1987, 1992) note, post-positioned evaluations ('assessments' in their term) are techniques for displaying

closure in order to exit from the current action. As a marker of evaluation, *wo juede* in the turn-final position naturally indicates the completion of an evaluation and thus signals turn transition. Second, as discussed above, *wo juede* is not a marker with a fixed degree of epistemic stance. In the turn-final position, it indexes speakers' lowered epistemic stance, in order to soften the tone, avoid being assertive, or for other interactional purposes.

One example, which has been discussed in 4.3.2.2 and is now reproduced below as (4.17), convincingly shows that *wo juede* is able to adjust the speaker's epistemic stance in order to align with her epistemic status. In line 3, Susie asks MM whether Zijin, a good friend of MM, feels insecure because of her tough advisor. This is about a third party's mental state, which is beyond MM's territories of knowledge. However, in line 4, MM gives a very definite affirmative answer that Zijin does feel so. This answer indexes a rather high epistemic stance, which is incommensurate with her epistemic status. Immediately, MM reframes her evaluation with the help of *wo juede*, explicitly marking that this is her personal evaluation rather than a quotation of Zijin. In this way, the speaker manages to lower her epistemic stance to be in line with her epistemic status. At the same time, *wo juede* signals the closure of the current turn and invites other participants to take over the floor.

(4.17) turn-final *wo juede* to lower epistemic stance (CCMMZM_020)

1	ZM:	子锦是 Eason 的学生啊，
		zijin shi Eason de xuesheng a
		PN is PN (English) PT student PT
		'Zijin is Eason's student?'
2	Susie:	对，
		dui

right

'Right,'

3 那(.)子锦有没有觉得岌岌可危呀，

na zijin you meiyou juede jijikewei ya

then PN have have-not feel insecure PT

'then did Zijin feel insecure?'

4 MM: 子锦有，

zijin you

PN have

'Zijin did,'

5 → 我觉得有.

wo juede you

WO JUEDE have

'**WO JUEDE** (she) did.'

Another interesting case, (4.18), is presented below to illustrate how the turn-final *wo juede* lowers speakers' epistemic stance. Prior to this sequence, the third participant LM, who went to Tsinghua University as an undergraduate student, was talking about the popular subforums of the BBS (bulletin board system) of Tsinghua. Both Susie and SK graduated from Peking University. In line 1, Susie brings the topic to the BBS of her university and tries to recall its popular subforums. She first identifies the name of the popular BBS subforum (line 2), i.e. Love Page, and then provides an evaluation of it (line 3). Interestingly, the evaluation starts with *zui* 'most', suggesting Susie's intention to describe Love Page as the most popular one. However, she abandons this evaluation and rephrases as *bijiao huo* 'relatively popular'. Compared to *zui huo* 'most popular',

bijiao huo is a much weaker evaluation, which reflects the speaker's intentional lowering of her own epistemic stance. This already lowered stance is further downplayed by the use of *wo juede* at the end of her turn. Although Susie is evaluating the subforums of her university's BBS, which seems to be in her knowledge domain, SK, who also studied at Peking University, shares at least equal access to the object being evaluated, if not more. This fact discounts Susie's absolute epistemic authority and explains why she keeps downplaying her epistemic stance, accomplished via two linguistic devices including the turn-final *wo juede*. Additionally, the use of *wo juede* marks the end of Susie's evaluation, essentially soliciting the response from SK.

(4.18) turn-final *wo juede* to lower epistemic stance (SSKLM_012)

1	Susie:	北大的未名未名是：，
		beida de weiming weiming shi
		Peking-University PT PN PN is
		'The Weiming (BBS) of Peking University is,'
2		Love 版，
		love ban
		love page
		'Love Page,'
3 →		最(.) 比较火**我觉得**.
		zui bijiao huo **wo juede**
		most relatively popular **WO JUEDE**
		'is the most, relatively more popular, **WO JUEDE**.'
4	SK:	Love 版，

love ban

love page

'Love Page,'

5 我好久没上了.

wo haojiu mei shang le

I long-time not visit PT

'I haven't visited (it) for a long time.'

In addition to the two examples above, the remaining cases of turn-final *wo juede* function consistently in the same way, to lower speakers' epistemic stance. They all exhibit the same sequential pattern, that is, an evaluation with relatively high epistemic stance is provided, and *wo juede* is immediately used to downplay the stance, and then the turn is closed with particular prosodic design, which will be discussed in 4.4. We can compare *wo juede* with *I think* in English, in view of the functions in turn-final position. Kärkkäinen (2003) claims that the post-positioned *I think*, which occurs after the evaluation and is mostly turn-final, may be used to index speakers' uncertainty about the position or NP that they just expressed. Yet speakers do not necessarily display uncertainty or lower their epistemic stance. The author judges whether uncertainty is involved based on a prosodic feature, that is, the placement of the primary accent. In other words, speakers' display of uncertainty is associated with a primary accent on *think*, according to the author. My investigation relies on close analysis of the sequential context of *wo juede* to determine whether it changes speakers' epistemic stance. This sequential analysis has lead to the conclusion that turn-final *wo juede* functions to lower the epistemic stance of speakers. As I will show in

Section 4.4, the prosodic features of the turn-final *wo juede* also shows a consistent pattern, supporting its epistemic role.

4.4 Prosodic analysis

The functional analysis in Section 4.3 has shown that *wo juede* prototypically indicates evaluations in speakers' subjective domain or the objective domain with different degree of epistemic stance. Derived from this basic function, *wo juede* has developed an intersubjective orientation when signaling an evaluation. In addition, this form has a newly emerging function, story initiation, as a result of the scope expansion of *wo juede*. This section then investigates the prosodic features of *wo juede*, including duration, pitch range, and stress, to explore the possible correlations between the functions and the prosodic features of *wo juede*.

Previous studies include some discussions of the prosody of *wo juede*. In analyzing a group of epistemic and evidential verbs in Chinese, Fang (2005) discovers that *wo juede* shows more flexibility with pauses in the process of decategorization. Usually there is no pause between a verb and its object. However, as *wo juede* becomes grammatically bleached, it allows for pauses in multiple positions including the spot between *wo juede* and its following utterance. Although Fang (2005) does not specifically address the prosody of *wo juede*, she essentially shows that *wo juede*, as well as other grammaticalized epistemic verbs in Chinese, is able to form an independent prosodic unit, which is clearly delimited by a following pause. Endo (2010) notices the sound reduction in *wo juede* and identifies different phonetic realizations of it with IPA illustration. When analyzing the interactional functions of *wo juede*, she provides a brief description of the actual sound when it is phonetically reduced. Yet, the relationship between sound patterns and functions is not addressed.

Therefore, I aim to tackle this issue in the present study. I will first take an integrated approach with both quantitative and qualitative methods to treat the prosodic features and then discuss how prosodic features serve to manifest different functions of *wo juede*. Note that the first three functions of *wo juede*, i.e. Subjective, Objective 1, and Objective 2, are combined as one broad category – evaluation – since they are primarily used to indicate evaluations. Thus, three broad functional categories, evaluation, intersubjective, and story initiation, will be under scrutiny in this section. While the detailed distribution of the five functions will be provided, the discussion will be mainly based on the statistics of the three functional categories.

Before embarking on the discussion of the prosodic features, it is necessary to clarify that the target form to be prosodically examined is *juede* instead of *wo juede*. As noted in Section 4.3, although *wo juede* is frequently used as a phrasal chunk, it is far from a completely fixed discourse unit, since it allows adverbials occurring between *wo* and *juede* and sometimes the subject *wo* is absent. Therefore, it is more meaningful to look at how *juede*, the core of this phrase, varies prosodically when functioning differently.

4.4.1 Prosodic features

The prosodic features in question include duration, pitch range, and stress. All the 226 tokens of *wo juede* will go through instrumental and auditory analysis. In the instrumental analysis, Praat, a phonetic analytical tool, is used to measure the length of the syllable duration of *juede*, as well as its pitch range. In the auditory analysis, the stress of each syllable is determined, such as whether there is tone reduction or complete loss. Then, based on the stress of each component character, the stress level of *juede* is determined.

4.4.1.1 Duration

The following table shows the average duration of each of the five functions with the respective standard derivation. In terms of mean duration, tokens of story initiation are much longer than any of the other four categories, while Objective 1 has the shortest duration on average. However, one-way ANOVA shows that the observed difference is not significant at the confidence level of 0.05, since the *p*-value is 0.5912, much larger than 0.05.

	Mean duration (ms)	**Standard deviation**	**Token number**
Subjective	236	81.48	21
Objective 1	219	73.20	59
Objective 2	235	100.79	123
Intersubjective	236	82.48	13
Story initiation	264	58.13	10
Overall	233	89.89	226

Table 4. 5 Mean duration and standard deviation of *wo juede* across five functions ($p > 0.05$)

If Subjective, Objective 1, and Objective 2 are viewed as one category, we arrive at Table 4.6. It is clear that Story initiation tokens have the longest average duration, while the Intersubjective category is 28 ms shorter, ranking second. Evaluation, with the highest frequency, shows the shortest average duration, although the difference it and Intersubjective is slim. However, the differences between the three categories still lack statistical significance, since the ANOVA analysis reveals that the *p*-value is 0.5164, larger than the significance level 0.05.

	Mean duration (ms)	**Standard deviation**	**Frequency**

Evaluation	231	91.60	203
Intersubjective	236	82.48	13
Story initiation	264	58.13	10
Overall	233	89.89	226

Table 4. 6 Mean duration and standard deviation of *wo juede* across three categories ($p > 0.05$)

4.4.1.2 Pitch range

For this feature, the values are obtained by measuring the maximum and minimum pitch across the two syllables of *juede* in Praat. There are a few tokens whose pitch is not measurable due to various reasons such as inhaling/exhaling, creaky voice, or background noise. These tokens are therefore excluded from statistical analysis. Below is the average pitch range across the five functions of *wo juede*. Similar to the duration patterns, Story initiation tops all of the five functions in terms of pitch range. Yet the five functions do not differ significantly in pitch range, as the *p*-value is 0.8306, larger than 0.05.

	Mean pitch range (Hz)	**Standard deviation**	**Frequency**
Subjective	39.62	46.81	21
Objective 1	42.34	37.64	59
Objective 2	43.05	31.70	120
Intersubjective	40.83	18.48	12
Story initiation	55.20	43.31	10
Overall	42.96	34.83	222

Table 4. 7 Mean pitch range and standard deviation of *wo juede* across five functions ($p > 0.05$)

Table 4.8 illustrates the mean pitch range and standard derivation when the first three functions are merged into one category. Story initiation has a much larger average pitch range than evaluation and intersubjective, yet the difference is not significant ($p = 0.5194 > 0.05$).

	Mean pitch range (Hz)	**Standard deviation**	**Frequency**
Evaluation	42.48	35.14	200
Intersubjective	40.83	18.48	12
Story initiation	55.20	43.31	10
Overall	42.96	34.83	222

Table 4. 8 Mean pitch range and standard deviation of *wo juede* across three categories ($p > 0.05$)

4.4.1.3 Stress

The citation form of *juede* is a rising tone on both *jue* and *de*, despite the fact that *de* is often pronounced in neutral tone. In natural conversation, however, the actual pronunciation of *juede* varies drastically, as noted in Endo (2010). In my data, I have found *juede* often has tonal reduction on either or both of the two syllables, sometimes to such an extent that it has lost its lexical tonal specification. There are more extreme cases where the second syllable of *juede* is completely lost. In order to describe the syllable stress of *juede*, I adopt the Pan-Mandarin ToBI framework (Peng et al. 2005).

In this framework, syllable stress is categorized into four levels. Stressed syllables with fully realized tone are labelled S3. S2, in contrast, is used to label syllables with substantial tonal reduction, or say, a substantial undershooting of the tonal target. S1 marks syllables that have lost their lexical tonal specification, resulting in a neutral tone. Syllables with lexical neutral tones are

labelled S0. Since neither of *jue* and *de* is lexically a neutral tone, S0 is used to label the complete loss of the syllable instead.

S3	syllable with fully-realized lexical tone
S2	syllable with substantial tone reduction (e.g., undershooting of tonal target with duration reduction)
S1	syllable that has lost its lexical tonal specification (e.g., in a weakly-stressed position)
S0	syllable with lexical neutral tone (i.e., such a syllable is inherently unstressed)

Table 4. 9 Stress levels in Pan-Mandarin ToBI (Peng et al. 2005: 255)

First of all, I examine all the tokens to determine if there is loss of syllable. If so, it is marked with S0. Then, I label all syllables with S1-S3 depending on their tonal realization. Although this stage is mainly auditory analysis, Praat is also used to visualize the tonal shape in order to determine whether the tone is fully realized or not. The third step is to decide the stress level of *juede* as a whole based on the individual stress of each component, *jue* and *de*. I use a three-level gradient to describe the overall stress level of *juede*, that is, strong, mid, and weak. For instance, a combination of S3 and S3 results in a strong token; S2 and S1 would make a mid token; S2 and S0 amount to a weak token. Table 4.10 summarizes the details of conversion from syllable stress to word stress.

Syllable stress level	**Word stress category**
jue + *de*	*juede*
S3+S3	strong

S3+S2	strong
S3+S1	mid
S2+S2	mid
S2+S1	mid
S1+S1	weak
S3+S0	weak
S2+S0	weak
S1+S0	weak

Table 4. 10 Word stress categories of *juede* based on syllable stress

One may have noticed that the combination of S2 + S3, S1 + S3, and S1 + S2 are absent in the table above. This is because these stress patterns are not observed in my data. In other words, *jue* is always stronger than or at least as strong as *de*. Under no circumstance does one find *de* more stressed than *jue*.

After determining the word stress, we are able to obtain the frequencies of each stress type across different functions, as shown in Table 4.11. While the first three functions show relatively more even distribution, Intersubjective and Story initiation show distinctive patterns. 54% of all the intersubjective tokens are pronounced in weak form, and contrastively 60% of all the Story initiation tokens take the strong form. As there are cell values smaller than 5, Fisher's exact test is used instead of a chi-square test. As the result shows that the *p* value is 0.049, slightly lower than 0.05, the categorical difference is significant.

Function	**Strong**	**Mid**	**Weak**
	frequency percentage	frequency percentage	frequency percentage

Subjective	6	29%	5	24%	10	48%
Objective 1	12	20%	27	46%	20	34%
Objective 2	37	30%	34	28%	52	42%
Intersubjective	1	8%	5	38%	7	54%
Story initiation	6	60%	3	30%	1	10%
total	62		74		90	

Table 4. 11 Frequency and percentage of each stress type across five functions (Fisher's exact test, $p < 0.05$)

When the first three functions are viewed as one category, the categorical differences in stress are clearer (see Table 4.12). Evaluation prefers the weak stress form slightly more than strong and mid forms. However, Intersubjective tokens strongly prefer the weak form and are very unlikely to take a strong form, since only one token (8% of all occurrences) is observed. In contrast, the majority of Story initiation is in strong form, accounting for 60%, and weak form is its least likely pattern (only 1 token observed). However, Fisher's exact test suggests that such differences are not significant ($p = 0.067 > 0.05$).

Function	**Strong**		**Mid**		**Weak**	
	frequency	percentage	frequency	percentage	frequency	percentage
Evaluation	55	27%	66	33%	82	40%
Intersubjective	1	8%	5	38%	7	54%
Story initiation	6	60%	3	30%	1	10%
total	62		74		90	

Table 4. 12 Frequency and percentage of stress types across three categories (Fisher's exact test, $p > 0.05$)

As shown above, the p value of the two Fisher's exact tests are marginally smaller or larger than the confidence level 0.05. This fact might be caused by insufficient sample size. Therefore, it

is not advisable to assert or refute the correlation between functional category and stress type until more data are taken into consideration.

4.4.1.4 Interim summary

The quantitative analysis above has revealed that the Story initiation function shows the most prominent prosodic features, including the longest duration, largest pitch range, and the strongest tendency to take a strong stress form. In contrast, Intersubjective tokens tend to have a weak stress form, in other words, are more likely to be phonetically reduced. However, the evaluation tokens, including Subjective, Objective 1, and Objective 2, do not show prominent prosodic features. However, statistic tests suggest that the observed difference in duration and pitch range are not significant. Results were inconclusive as to whether differences in stress are significant. This has to do with the low frequency of two functions, Intersubjective and Story initiation, with 13 and 10 tokens respectively out of all the 266 tokens in my data. The considerably differing sample size (Evaluation 203, Intersubjective 13, and Story initiation 10) discounts the validity of significance tests.

While quantitative analysis does not yield results as informative regarding the correlation between prosodic features and functions, repeated individual cases with prosody-function association are able to shed light upon the general tendency of the correlation patterns. In the next section, I will take a qualitative perspective to look at individual tokens of *wo juede*, in order to find out how prosodic features work to manifest the functions of *wo juede*.

4.4.2 Congruent and incongruent prosodic features

Different prosodic features, such as duration and pitch range, can work in alignment with one another to collaboratively facilitate the realization of various interactional functions. However, prosodic features do not always align with each other – for instance, it is possible to find a token with a long duration and an extremely small pitch range. Thus, I label the former type **congruent prosodic features** and the latter type **incongruent prosodic features**. A token with congruent prosodic features would either have a long duration, a large pitch range, and a strong stress, or have a short duration, a small pitch range, and a weak stress. A token with incongruent prosodic features, in contrast, could be found to have a long duration, a small pitch range, and a weak stress, among other possible combinations. In my analysis, the top 30% of tokens along the duration percentile (i.e. duration $\geq$ 267 ms) are operationally considered 'long' durations, whereas the lowest 30% (i.e. duration $\leq$ 179 ms) are considered 'short' durations. In the same fashion, 'large' pitch range is defined as greater than or equal to 53 Hz (top 30%), while 'small' pitch range is defined as less than or equal to 21 Hz (lowest 30%). As for stress level, since this feature is already categorical, the three-way distinction (i.e. strong, mid, and weak) that was defined in Section 4.4.1.3, is used in the current discussion.

4.4.2.1 Congruent prosodic features

In some cases, prosodic features are in concert, as when a token has a long duration, a large pitch range, and strong stress level, or has a short duration, a small pitch range, and weak stress level. Congruent prosodic features make unequivocal overall strong or weak tokens and are often employed to serve particular interactional purposes. For instance, the congruent strong form is common among Story initiation tokens; the congruent weak form, while pervasive across different

functions, is often found to downplay speakers' epistemic stance. (4.19) and (4.20) below are presented to illustrate the interactional functions fulfilled by congruent strong prosodic features and congruent weak prosodic features respectively.

Functionally, *wo juede* in (4.19), reproduced from (4.16), serves to initiate a story. Prosodically it is a strong token, with a long duration of 296 ms, a large pitch range of 58 Hz, and a strong stress level (S3+S2). These three features collaboratively constitute the prosodic prominence of *juede*, in support of its functional role - to preface a story about the computer science major in her university, which is supposed to be popular on the job market and turns out to unpopular. Prior to this sequence, the other participant, Jing, complains about the fact that all the job posts in the career center are for computer science majors and, as an Asian Studies major, it is hard for her to find an internship. In this excerpt, Jiawei brings in a story to show that the computer science major is not necessarily favored in the job market, essentially countering Jing's position. The prosodic salience of *juede* thus helps to highlight the noteworthiness of the upcoming story, since the story is deployed to ground her subtle disagreement.

(4.19) congruent prosodic features with Story initiation function (LJWHJJ_032)

1	Jiawei:	而且，
		erqie
		additionally
		'Additionally,'
2 →		而且**我觉得**说学校：，
		erqie **wo juede** shuo xuexiao
		additionally **WO JUEDE** say university
		'additionally, **WO JUEDE** (our) university,'

3 的那个什么 computer science 那些应该蛮好的嘛，

de nage shenme computer science naxie yinggai man hao de ma

PT DM what computer science that should pretty good PT PT

'well, the computer science (major) should be pretty good,'

Example (4.20) illustrates how congruent weak prosodic features help the speaker display a lower epistemic stance. There are multiple tokens of *juede* in this extract, yet the focus is on the first two, in lines 2 and 3. At the beginning of this sequence, ZM states her observation of the attitudes her hometown people hold toward Japan, which are quite negative. In line 2, MM, who grew up in a city near Shanghai, utters an evaluation of Shanghai people, who do not have a negative opinion of Japan. Technically, ZM and MM are evaluating different groups of people, thus their evaluations are not in conflict. However, MM treats her evaluation as a disagreement, which is suggested by the use of a contrastive conjunction, *danshi* 'but', projecting an opposing position. Then, MM manipulates the prosodic dimension to mitigate her disagreement. The *juede* token in line 2 is configured with a short duration (142 ms), a small pitch range (21 Hz), and a weak stress level (S1+S0), with the first syllable having lost its lexical tonal specification and the second syllable completely absent. This token is an Objective 1 type, where the speaker evaluates the objective world with epistemic authority, since MM knows Shanghai better than the rest of the participants. However, the weakened prosodic form of *juede* fulfills the speaker's intention of not sounding assertive and thus makes it possible to play down the speaker's epistemic stance. In other words, although having a relatively high epistemic status, the speaker purposefully lowers her stance to maintain an affiliative relationship by manipulating the prosodic form of *juede*. In line 3, MM attempts to provide a characterization of Shanghai people to strengthen her position. Since this upcoming evaluation is inevitably in line with her take that Shanghai people do not feel

negatively toward Japan, she takes further moves to soften her utterance. Such moves include a more weakened prosodic form of *juede*, which has an extremely short duration of 85 ms, a small pitch range of 13 Hz, and a S1+S0 weak stress form with second syllable completely lost. The congruent prosodic features, together with the repetition and hedging (lines 3-4), demonstrate the speaker's intentional efforts to mitigate her stance and avoid being offensive.

(4.20) *juede* tokens with congruent and incongruent prosodic features (CCMMZM_051)

1	ZM:	in general 蛮负面的，
		in general man fumian de
		in general pretty negative PT
		'(People in my hometown are) pretty negative in general,'
2 →	MM:	但是**我觉得**上海人不会，
		danshi **wo juede** shanghai ren bu hui
		but **WO JUEDE** Shanghai people not would
		'But **WO JUEDE** people in Shanghai are not (negative),'
3 →		**我觉得**上海人还挺，
		wo juede shanghai ren hai ting
		WO JUEDE Shanghai people quite pretty
		'**WO JUEDE** people in Shanghai are quite,'
4		上海人比较：，
		shanghai ren bijiao
		Shanghai people relatively
		'people in Shanghai are relatively,'

5	Susie:	比较洋气一点是吧，
		bijiao yangqi yidian shi ba
		relatively westernized a-little yes PT
		‘relatively a little (more) westernized right?’
6		跟那种国际化接轨，
		gen nazhong guojihua jiegui
		with that-kind internationalized orient-to
		‘with that kind of internationalized orientation,’
7	MM:	而且上海人就相对来讲我觉得，
		erqie shanghai ren jiu xiangduilaijiang wo juede
		additionally Shanghai people DM relatively-speaking I think
		‘additionally, relatively-speaking, Shanghai people, I think,’
8	Susie:	崇洋媚外，
		chongyangmeiwai
		worshiping-things-foreign-and-fawn-over-foreigners
		‘worshiping things foreign and fawn over foreigners,’
9	MM:	很务实我觉得他们，
		hen wushi wo juede tamen
		very pragmatic I think them
		‘very pragmatic, I think, they,’
10		就很实际，
		jiu hen shiji

DM very practice

'very practical,'

4.4.2.2 Incongruent prosodic features

Prosodic features are not always in concert with one another. A token could have an extremely long duration yet also have a small pitch range and weak stress level, or vice versa. However, incongruent prosodic features are by no means random; the seemingly 'conflicting' features are interactionally well coordinated. One group of tokens that are typically associated with incongruent prosodic features is the turn-final *juede* tokens. As discussed in 4.3.5.3, this group belongs to Objective 2 category, where speakers evaluate what is outside their territories of knowledge. For this type of evaluation, what is being evaluated is usually in the public domain and none of the participants have observable higher epistemic status. The turn-final *wo juede* thus functions to lower speakers' epistemic stance, due to their lack of epistemic authority.

The prosodic features of the turn-final *juede* are not in alignment with each other: they typically have a long duration, a small pitch range, and a mid or weak stress level. In terms of duration, all but one has a long duration (≥ 267 ms). Similarly, five out of the six turn-final tokens have a small pitch range (≤ 21 Hz). As for stress, none of the 6 turn-final tokens take a strong stress form; five of them have a substantially reduced tone on the second syllable (S1) and one has lost the second syllable completely.

Having observed the incongruent prosodic features of the turn-final *wo juede*, one may ask why this group of tokens consistently has a lengthened duration, a compressed pitch range and a non-strong stress pattern on *juede*? These apparently conflicting prosodic features in fact cooperatively serve the interactional functions of *wo juede*. As demonstrated in 4.3.5.3, turn-final

wo juede has two major interactional functions: 1) to signal turn completion; 2) to lower speakers' epistemic stance. First, the durational lengthening facilitates the display of turn closure. Past studies in speech prosody have shown that final lengthening occurs in prosodic phrase boundaries (e.g. Wightman et al. 1992; Gravano and Hirschberg 2009, 2011). Duncan (1974, 1975) takes final lengthening as one of the characteristics of turn-final prosody. Local and Walker (2004, 2012) treat final lengthening as the cue for turn completion and argue that, in order to project more talk, speakers tend to avoid lengthening. The lengthening on *juede* signals to other conversation participants that the speaker is finishing up his or her utterance and is about to yield the floor. Second, the compressed pitch range and weakened stress form work to convey speakers' lowered epistemic stance. Speakers can reduce the pitch range to align with their downplayed epistemic stance. Similarly, stress form functions in line with pitch range – a weak form with tones significantly reduced or even lost serves to decrease the force of the epistemic expression. Next, I will show two examples to illustrate the role of incongruent prosodic features in turn-final *juede*.

In Example (4.21), *juede* has a long duration of 378 ms, a small pitch range of 21 Hz, and a mid stress form (S3+S1). First, the durational lengthening mainly functions to signal a turn completion. Susie's current turn is quite fragmented, with repetition (*weiming weiming* in line 1), phrasal lengthening (on *shi* in line 1), and pause (after *zui* in line 3). In line 3, she produces a post-positioned evaluation on the Love Page of the Weiming BBS. At the end of this line, as the utterance is syntactically and pragmatically complete (Ford and Thompson 1996), the durational lengthening thus directly brings the turn to its completion point. Second, the small pitch range and mid stress form of *juede* enable the speaker to downplay her epistemic stance. In this turn, Susie is mainly addressing LM, who went to a rival university of Peking University, so she starts with an epistemic stance commensurate with her epistemic status, i.e. higher than her addressee. Toward

the end of this turn, Susie gradually lowers her stance as she shifts her orientation to SK, who also went to Peking University and thus has no less epistemic authority than her. The change of epistemic stance is done first by replacing the superlative *zui* 'most' with *bijiao* 'relatively'. Then Susie employs *wo juede* with a small pitch range and a mid stress level to further lower her epistemic stance.

(4.21) incongruent prosodic features on *juede* (SSKLM_012)

1	Susie:	北大的未名未名是：，
		beida de weiming weiming shi
		Peking-University PT PN PN is
		'The Weiming (BBS) of Peking University is,'
2		Love 版，
		love ban
		love page
		'Love Page,'
3 →		最(.) 比较火**我觉得**.
		zui bijiao huo **wo juede**
		most relatively popular **WO JUEDE**
		'is the most, relatively more popular, **WO JUEDE**.'

(4.22) shows a case with all participants jointly evaluating an object present in the conversation setting, a giant teddy bear. *Wo juede* is used in the final position of MM's turn in line 5. The duration of *juede* is 287 ms, with a weak stress form (S1+S1), while pitch range is not available due to the near creaky voice on the second syllable, suggesting a rather low pitch toward the end of the turn. In this excerpt, participants are evaluating the teddy bear, yet the exact object

being evaluated differs. For instance, CC evaluates the belly of the bear (line 4), and Susie evaluates its ears (line 6). In the target line, MM is evaluating its legs (line 5). Unlike the evaluations produced by other participants, MM attaches *wo juede* to her evaluation for interactional reasons. The long duration of *juede* signals the turn completion, thus inviting other participants to take over the floor. The weak stress form serves to lower her epistemic stance, since all participants have equal access to the teddy bear.

(4.22) incongruent prosodic features on *juede* (CCMMZM_078)

1	MM:	我感觉那个熊在听我们说话一样，
		wo ganjue nage xiong zai ting women shuohua yiyang
		I feel that bear is listening us speak apparently
		'I feel that bear is like listening to us speaking,'
2	Susie:	hhhh，
3	MM:	感觉像个人一样，
		ganjue xiang ge ren yiyang
		feel like CL human apparently
		'it feels like a human being,'
4	CC:	啤酒肚还很厉害 hh，
		pijiu du hai hen lihai
		beer belly pretty very impressive
		'(its) beer belly is pretty impressive,'
5 →	MM:	腿倒还挺长的我觉得.
		tui dao hai ting chang de **wo juede**

leg rather pretty long PT **WO JUEDE**

'(its) legs are pretty long **WO JUEDE**,'

6 Susie: 然后它永远都是耷着的样子，

ranhou ta yongyuan dou shi dazhe de yangzi

then it always all is dropped PT appearance

'and then its (ears) always appear dropped,'

7 MM: 对.

dui

right

'Right.'

To sum up, in this section, I have discussed that congruent strong prosodic forms can be utilized to mark the salience of *juede*, in order to highlight the upcoming story that strengthens the speaker's position. The congruent weak prosodic form is frequently used to lower speakers' epistemic stance. As for incongruent prosodic features, I have focused on turn-final *wo juede*. Duration, pitch range, and stress level seem to conflict with one another, but in fact they are deployed in an orderly way to serve interactional purposes. While durational lengthening contributes to turn completion, a compressed pitch range and weakened stress form are employed to downplay speakers' epistemic stance. It should be noted that both congruent and incongruent prosodic features are widely observed in my data. In this section, I discussed the most representative prosody-function association patterns. Other functional categories, such as Objective 1 and 2, in which no typical tendency in terms of prosodic features have been observed, are left for future research.

4.5 Discussion

The functional analysis above has shown that *wo juede* is prototypically an epistemic marker that has subsequently developed into a discourse marker for initiating a story in conversation. In Section 4.4, I have compared the prosodic features across different functions through a quantitative approach. Although statistical tests have revealed that the observed differences are not significant, repeated patterns of prosody-function association have been identified.

This section will address a few remaining issues revolving around the interplay of prosody with syntactic forms, epistemic stance, and discourse functions. Finally, it will probe into the ways in which the new discourse function, story initiation, has emerged from the basic evaluative functions of *wo juede*.

4.5.1 Prosody and syntactic forms

As noted in 4.2, *wo juede* is not a completely fixed discourse unit; it allows auxiliaries and adverbs to occur between *wo* and *juede*. In my data, 15.9% of all *wo juede* tokens are modified by auxiliaries or adverbs. Fang (2005) has also observed the inserted elements before *juede* and suggested that this is a sign of the decategorization of *juede*, that is, from a verb to a discourse marker.

The question of interest in this study is whether *juede* differs prosodically between its **short form** (*wo juede*) and **long form** (*wo* + auxiliary/adverbs + *juede*). As shown in the table below, there are 190 short forms and 36 long forms in my data. The average duration of long forms is 31 ms longer than that of short forms. Yet, their average pitch range is smaller than short forms. Despite the noticeable differences, t-tests show that neither the difference in duration nor in pitch range is significant ($p > 0.05$). As for stress, the two types show similar distribution across the

three stress levels: a little less than 30% with strong stress, 33% with a mid level of stress, and around 40% showing weak stress.

	Frequency	**Average duration** (ms.)	**Average pitch range** (Hz)	**Stress** (number of tokens) strong	mid	weak
Short form	190	227.7	43.5	53 (28%)	62 (33%)	75 (39%)
Long form	36	258.7	39.9	9 (25%)	12 (33%)	15 (42%)

Table 4. 13 Prosodic features of short forms and long forms of *wo juede*

The quantitative analysis above demonstrates that there is no significant difference between short forms and long forms in terms of prosody. One possible reason is that the syntactic long and short form are not functionally distinctive, since, for any of the functional categories, one can find cases of both long and short forms. That is to say, auxiliaries and adverbs are widely used across all functional types in between *wo* and *juede*, and are not limited to the discourse function, as suggested in Fang (2005).

4.5.2 Prosody and epistemic stance

I have argued in Section 4.3.5.2 that *wo juede* is a flexible epistemic marker associated with a wide range of epistemic authority. Here I will illustrate how the prosodic dimension can be utilized to assist speakers' moment-by-moment expression of epistemic stance.

Example (4.23) below includes three cases of *wo juede*, produced by two speakers, Susie and YC. Overall, the three tokens of *juede* are all in weak prosodic forms, serving to mitigate their disagreement. However, their prosodic nuances reflect the speakers' finely calibrated expressions of their epistemic stances. In this sequence, YC and Susie are discussing *dahongpao*, a kind of

oolong tea and they have slightly different takes on it. The first token occurs in line 3, ***wo*** *geren* ***juede*** *dahongpao youdianr ciji* 'I personally think *dahongpao* is a bit strong'. It is mainly used to reframe her somewhat disaffiliative stance shown in line 2. This token of *juede* shows congruent weak prosodic features, with a duration of 164 ms, a pitch range of 2 Hz, and a S0+S0 stress form. This extremely weak prosody helps to lower Susie's epistemic stance and therefore reduces the likelihood of occasioning a flat disagreement from YC. The second and third tokens are uttered by YC, in his defense for his preference for *dahongpao*. In line 4, he makes an evaluation of the taste of *dahongpao* with *wo juede* in order to justify his love for it. Note that he begins this turn with a contrastive conjunction, *dan* 'but', projecting a disagreement. Immediately, this conjunction is followed by a prosodically weak epistemic marker *wo juede*, with a duration of 155 ms, a pitch range of 28 Hz, and a weak stress level (S3+S0). In line 5, however, when YC brings up his second point that *dahongpao* tastes better than green tea, he employs an even weaker form of *wo juede*, 87 ms in duration, 11 Hz in pitch range, and with a S2+S0 weak stress. The prosody of the first token produced by YC allows the speaker to downplay the projected disagreement. The even more weakened prosody of the second token facilitates the speaker's efforts to subtly reinforce his position (a preference for *dahongpao*) while maintaining the affiliation with his interlocutor.

(4.23) weak prosody employed to lower epistemic stance (EVANZTYC_012)

1	YC:	但是好像说大红袍适合夏天喝°还是°， danshi haoxiang shuo dahongpao shihe xiatian he haishi but seem say PN suitable summer to-drink or 'But it seems that dahongpao is good to drink in the summer or,'
2	Susie:	大红袍有点刺激， dahongpao youdian ciji

PN a-bit strong

'Dahongpao is a bit strong,'

3 → **我**个人**觉得**它有点刺激，

wo geren **juede** ta youdian ciji

WO personally **JUEDE** it a-bit strong

'**WO** personally **JUEDE** it is a bit strong,'

4 → YC: 但我觉得它味道好，

dan **wo juede** ta weidao hao

but **WO JUEDE** it taste good

'but **WO JUEDE** it tastes good,'

5 → **我觉得**它比绿茶要好喝一些，

wo juede ta bi lücha yao haohe yidian

WO JUEDE it than green-tea PT tasty a-little

'**WO JUEDE** it is more tasty than green tea,'

The second example, (4.24), shows how strong prosody contributes to speakers' expression of epistemic stance. This example involves two tokens of *wo juede* (line 1 and 7), produced by MM. Prior to this sequence, they were discussing the topic of transgender, which was initiated by CC as she brought up recent news about Li Yinhe, a sociologist and activist for LGBT rights in China. In line 1, MM brings their conversation from transgender back to Li Yinhe by making an evaluation of this scholar, who is also the widow of a renowned contemporary Chinese writer Wang Xiaobo. MM uses a prosodically prominent token of *wo juede* in alignment with her high degree of certainty about her statement. This token is 268 ms in duration and 73 Hz in pitch range, with a strong stress form (S3+S2). Interactionally, this strong token of *wo juede* secures the

attention of her interlocutors when she brings in a different focus for discussion. In terms of epistemic stance, the strong prosodic features collaboratively signal MM's high level of certainty. The second *wo juede* in line 7 is also an overall strong token, with a slightly shorter duration (211 ms) yet a much larger pitch range (139 Hz) and the same strong stress form (S3+S2). The prosodic salience of *wo juede* enables the speaker to strengthen her evaluation of Li Yinhe that she earned her reputation mainly because of her own work and not because she is the widow of Wang Xiaobo.

(4.24) strong prosody used to strengthen the speaker's position (CCMMZM_046)

1 → MM: 其实我觉得李银河只是在最初的时候是因为李银呃王小波的那个,

qishi **wo juede** liyinhe zhishi zai zuichu de shihou shi yinwei liyin e wangxiaobo de nage

actually **WO JUEDE** PN only in first PT time is because PN PT PN PT that

'Actually **WO JUEDE** it was only at the very beginning that Li Yinhe (won her reputation because of) Wang Xiaobo,'

2 她到后来已经很有她自己的那种，

ta daoshoulai yijing hen you ta ziji de nazhong

she later already very have she self PT that-kind

'later (in her life) she already (developed) her own kind of,'

3 CC: 她其实一直都，

ta qishi yizhi dou

she actually all-the-time always

'She has always,'

4		她自己是 PhD::吧？
		ta ziji shi PhD ba
		she self is PhD PT
		‘she is a PhD, right?’
5	Susie:	肯定是啊，
		kending shi a
		certainly is PT
		‘She certainly is,’
6		她不是在大学当老师吗，
		ta bushi zai daxue dang laoshi ma
		she not in university work-as teacher PT
		‘Isn’t she a teacher in a university?’
7 →	MM:	我觉得后来李银河的这个名字已经很响很响了，
		wo juede houlai liyinhe de zhege mingzi yijing hen xiang hen xiang le
		WO JUEDE later PN PT this name already very influential very
		influential PT
		‘**WO JUEDE** later on this name, Li Yinhe, has become very very
		influential,’
8		她不需要说，
		ta bu xuyao shuo
		she not need say
		‘she does not need to,’

9 王小波遗孀，

wangxiaobo yishuang

PN widow

‘(use) Wang Xiaobo’s widow,’

10 拿这个 title 来.

na zhege title lai

use this title to

‘use this as a title.’

To sum up, prosody provides a flexible dimension for speakers to manipulate in support of their expressions of epistemic stance. Usually weak prosodic forms are used to lower speakers’ epistemic stance, whereas strong prosodic forms function to underscore speakers’ high level of certainty in order to strengthen their position.

4.5.3 Prosody and the newly emerging discourse function

The prosodic analysis above has shown that, generally speaking, the newly emerging discourse function, Story initiation, exhibits more prosodic prominence compared with the epistemic functions of *wo juede*. Table 4.14 summarizes the average duration, pitch range, and the stress types across five different functions, and stress types. Story initiation stands out prosodically with a much longer duration and larger pitch range; the majority of its tokens (60%) are in a strong stress form, much higher than the percentage of the other four functions. That is to say, *juede* is mostly fully pronounced, with no or little tone reduction.

	Frequency	**Stress**

		Duration (ms)	**Pitch range** (Hz)	strong	mid	weak
Subjective	21	236.10	39.62	6 (29%)	5 (24%)	10 (48%)
Objective 1	59	218.86	42.34	12 (20%)	27 (46%)	20 (34%)
Objective 2	123	235.80	43.05	37 (30%)	34(28%)	52 (42%)
Intersubjective	13	235.62	40.83	1 (8%)	5 (38%)	7 (54%)
Story initiation	10	264.30	55.20	6 (60%)	3 (30%)	1 (10%)

Table 4. 14 Summary of prosodic features across five functions of *wo juede*

The prosodic patterns associated with Story initiation resemble the topic-shifting function of *ranhou*, which was discussed in Chapter 3. *Ranhou* shows significantly longer duration, larger pitch range, and stronger stress level when used to shift a conversation topic. Such similarities are not a coincidence. Both the two functions essentially bring new material into the conversation. Usually, *ranhou* clearly shifts the conversation to a new focus, which may or may not be relevant to the prior talk. The way in which *wo juede* brings in new material is by establishing a new referent, followed by a story or simply an elaboration on it. Compared with *ranhou*, *wo juede* has additional interactional functions – it initiates a new story in order to fulfill certain interactional needs, such as showing affiliative stance with the previous speaker or strengthening one's position. In a study on the prosody and discourse structure of reading aloud, Smith (2004) discovers that topic shifts, where new materials come in, have a significant effect on the amount of sentence-final lengthening and the pause between sentences, among others. Through a quantitative investigation on read speeches, Smith (2004) reveals that the final word before a topic shift has a much larger amount of lengthening in comparison with that before a topic continuation or a topic elaboration. With different prosodic focus and data type – natural conversation – from Smith (2004), my study suggests that markers that are used to introduce new materials into conversation tend to take a

prominent prosodic form in terms of duration, pitch range, and stress. The prosodic prominence adds to the salience of the new material and secures the attention of other conversation participants.

4.5.4 The emerging function of Story initiation

While the epistemic functions of *wo juede* have been widely noticed, its newly emerging discourse function, Story initiation, has not yet received any attention. In this section, I first of all provide an account for the development of *wo juede* from an epistemic marker into a discourse marker. Then, I argue that the story initiation function is an outcome of the scope expansion of involved in its on-going development from an epistemic marker into a discourse marker.

Before beginning my analysis, it is worth mentioning the fact that *wo juede* is different from *I think*, a well-researched discourse marker in English (e.g. Schiffrin 1987; Aijmer 1997; Kärkkäinen 2003). *Wo juede* is generally considered an epistemic marker rather than a discourse marker, since its epistemic use accounts for more than 90% of all its occurrences according to my quantitative investigation; only a few recent studies, such as Lim (2009) and Endo (2010), have noticed its discourse functions. Therefore, it is worthwhile to probe into the ongoing process of this functional extension.

Prototypically, *wo juede* operates at local levels of discourse, with the evaluation indexed by it occurring in the same intonation unit (IU) immediately after *wo juede*. For instance, in Example (4.1), *wo juede re* 'I feel hot', the evaluative term *re* 'hot' occurs immediately after *wo juede*. On the other hand, *wo juede* is being increasingly used at the global level, where it functions over an extended stretch of talk. In other words, this form is able to project an evaluation beyond the IU in which it is embedded, even across multiple turns. Past studies have noted that scope change can occasion functional shift (e.g. Tabor and Traugott 1998; Bybee and Scheibman 1999; Tao 2003b).

In particular, Scheibman (2000) claims that the global uses of *I don't know* have become grammaticalized as markers of turn exchange. *Wo juede* shows the same trend, extending from a local scope to a more global scope; the new function of Story initiation is emerging as the result of this process.

This scope expansion can be substantiated by the distributional patterns of the position of evaluation. As shown in the following table[2], the location of evaluations varies from the first IU (same IU as *wo juede*) to the fourth IU and beyond. While the first IU remains the most preferred location, accounting for 68.0% of all instances, the second IU is gaining popularity (19.4%). At the same time, 5.8% and 1.9% of evaluations occur in the third and fourth IU (and beyond) respectively. In addition, there are 10 cases with no evaluation, since they are story initiations.

Location of evaluation	**Token number**	**Percentage of all pre-positioned *wo juede***
1st IU	140	68.0%
2nd IU	40	19.4%
3rd IU	12	5.8%
4th IU and beyond	4	1.9%
No evaluation	10	4.9%
Total	206	100%

Table 4. 15 Location distribution of evaluations indexed by *wo juede*

As revealed in Table 4.15, evaluations in the non-first IU position, which represent more global uses, total 27.2% of all the pre-positioned cases. This distribution suggests the flexibility of

[2] Here I consider pre-positioned *wo juede*, which refers tokens that occur before the proposition (Kärkkäinen 2003), such as *wo juede hen kunhuo* 'I feel confused'. Post-positioned *wo juede*, such as the case seen in Example (4.22), are not considered.

wo juede at a global level. An important question then arises: what has stimulated the scope expansion of *wo juede*? I have two hypotheses regarding the first question: 1) the increasing complexity of evaluation makes it necessary to be uttered in multiple IUs; 2) some interactional factors have delayed the utterance of evaluation, such as co-construction of turns, resulting in increased distance between *wo juede* and the evaluation. Below I will provide evidence from my data to corroborate the two hypotheses.

First, the growing complexity of evaluation necessitates that it be realized by multiple IUs. Previous studies on evaluation and a closely related concept, assessment, have always focused on the most straightforward type, in which is evaluation (or assessment) is realized by an explicit evaluative term such as an adjective (e.g. Pomerantz 1984; Goodwin and Goodwin 1987; Hunston and Thompson 2000; Du Bois 2007). For example, in (25), the adjective *beautiful* indicates the evaluation of the speaker.

(4.25) Goodwin and Goodwin (1987:6)

1 Curt: → This guy had, a beautiful, thirty two O:lds.

However, evaluations are not very often as explicit and simple as in (4.20). I have observed in my data that when an evaluation is complex, speakers usually employ *shuo*, a quotative marker that literally means 'to say/speak', to mark the beginning of the evaluation. Then, the actual evaluative segments are produced not in the same IU as *wo juede*, but in the next IU or beyond, as shown in (4.26) and (4.27). In (4.26), CC is doing an evaluation of her overall fieldwork experience, which is too complicated for a singe evaluative term to describe. CC uses the quotative marker *shuo* at the end of line 1 to signal an upcoming complex evaluation, which is broken into two IUs (lines 2-3). In her evaluation, CC states that one cannot know what the villagers' life is really like if one only goes there and asks them questions for twenty minutes. In other words, CC is conveying

the importance of long-term fieldwork, like what she just did, in order to get detailed information for research. Similarly, the evaluation in (4.26), reproduced from (4.7), is also a complex one that spans across three IUs. In line 1, the speaker generally describes her mental state as 'being afraid' and then uses the quotative marker *shuo* to signal more detailed evaluation (line 2-4). From these two examples, we can see that evaluations are not always simple ones that can be expressed in the same IU as *wo juede*. Their complexity makes it impossible to utter in a single IU. The result is that, in these cases, the scope of *wo juede* has extended beyond the current IU where it is embedded.

(4.26) a complex evaluation marked by *shuo* and uttered in multiple IUs (CCMMZM_001)

1 → CC: 所以**我**就会**觉得**说，

suoyi **wo** jiu hui **juede** shuo

so **WO** just would **JUEDE** say

'so **WO** would **JUEDE**,'

2 如果你单是去那边问他们二十分钟，

ruguo ni dan shi qu nabian wen tamen ershi fenzhong

if you simply go there ask them twenty minutes

'if you simply go there and ask them for twenty minutes,'

3 没有办法问一些事情.

meiyou banfa wen yixie shiqing

no way ask some thing

'(there is) no way (you can get) something (you are interested in).'

(4.27) a complex evaluation marked by *shuo* and uttered in multiple IUs (LJWHJJ_024)

1 → Jiawei: **我觉得**我很怕说，

wo juede wo hen pa shuo

WO JUEDE I very afraid say

‘**WO JUEDE** I am afraid that,’

2 我就这样把这三年，

wo jiu zheyang ba zhe san nian

I ADV like-this PT this three year

‘I (am idling away) the three years,

3 这大学这文凭混下来，

zhe daxue zhe wenping hun xialai

this college this degree goof COMP

‘(and) goofing around (and getting) the degree,’

4 然后也没有什么用，

ranhou ye meiyou shenme yong

then also no what useful

‘and then it is not useful after all,’

Second, some interactional factors have delayed the actual production of evaluation. In my data at least two factors have been observed: online planning and the recipients’ collaborative completion of turns. First, online planning is essential to speech production. As Levelt notes in his widely applied speech production model, people produce speech first by conceptualizing the message, then by formulating its language representation, and finally by articulating it (Levelt 1989; see also Kormos 2014). The stage of formulating language representation involves a considerable amount of online planning, especially in natural conversation. Many scholars have

identified online planning as an important discourse factor that impacts language use. For instance, Kärkkäinen (2003) notes that online planning is one of the reasons that epistemic phrases are placed at the initial position of longer IUs rather than anywhere within the IU. Echoing Aijmer (1997), which argues that verbal fillers reflect mental planning, Dehé and Wichmann (2010) also claim that comment clauses such as *I think*, *I believe*, and *I suppose* are reflective of the online planning process in speech when they are used as verbal fillers at the discourse level. In the case of *wo juede*, evaluations are sometimes uttered in a few fragmented IUs instead of a connected single IU, as a result of online planning. In (4.28) below, for example, when Susie provides her evaluation of the American guy who claimed he studied at Peking University, the evaluation is broken into five short IUs and produced progressively. As Susie herself went to Peking University, she did not believe this guy had ever studied there because of his untruthful remarks about the university campus, which were reported by LM, another conversation participant, prior to this sequence. In line 1, she uses *wo juede* to project an upcoming evaluation, followed by the mention of the person being evaluated, *ta* 'he'. In line 2, Susie employs a pronoun, *nage* 'that', which is frequently used as a placeholder for a forthcoming noun. In line 3, she partially repeats the preceding IU, *ta shi* 'he is', which projects the key evaluative term is coming. Eventually the evaluative term, *wodi* 'spy', is jokingly uttered in line 4. Yet the evaluation is not thus closed, since the speaker is endeavoring to search for a better, or more accurate word to evaluate this American guy. In line 5, Susie utters the second evaluative term, *jianxi* 'spy', a synonym of *wodi*, but with a stronger negative connotation. The repetition, hesitation, and word replacement in Susie's production of evaluation manifest her online planning process. Because of this process, the evaluation is conveyed in a sequence of fragmented utterances, which inevitably increase the distance between *wo juede* and the evaluation segment.

(4.28) online planning in the production of evaluation (SSKLM_014)

1 → Susie: 我觉得他是，

wo juede ta shi

WO JUEDE he is

‘**WO JUEDE** he is,’

2 他是那个，

ta shi nage

he is that

‘he is,’

3 他是，

ta shi

he is

‘he is,’

4 卧底，

wodi

spy

‘spy,’

5 奸细.

jianxi

spy

‘spy.’

Two similar cases are presented below. In (4.29), the placeholder *nage* ‘that’ is used right after *wo juede*, facilitating the search for the name of the mountain being evaluated. In (4.30),

however, the referent, *Ludingji*, a Cantonese restaurant, is introduced in the same IU with *wo juede*. Yet the evaluation *per se* is not uttered in the same IU. In line 2, the speaker repeats the referent and then provides her evaluation that *Ludingji* is really good.

(4.29) online planning manifested by *nage* in the production of evaluation (EVANZTYC_046)

1 → ZT: **我觉得**那个，

wo juede nage

WO JUEDE that

‘**WO JUEDE** that,’

2 San Bernardino 真漂亮，

San Bernardino zhen piaoliang

San Bernardino really beautiful

‘San Bernardino is really beautiful,’

(4.30) online planning manifested by repeating the referent in the production of evaluation (ZYLK_025)

1 → Yi: **我觉得**鹿鼎记，

wo juede ludingji

WO JUEDE PN

‘I think Ludingji,’

2 鹿鼎记是真的 OK，

ludingji shi zhende OK

PN is really OK

'Ludingji is really good,'

Another interactional factor that contributes to the delay of evaluation is the recipients' collaborative completion of turns (e.g. Sacks 1992; Lerner 1987, 1991, 2004; Hayashi 1999). Instead of waiting until the turn completion point, recipients may pre-empt the completion of the current speaker's turn as a way of responding. Pre-emptive completions are considered by the original speaker as candidate completions that can be accepted or rejected (Lerner 2004). The acceptance/rejection is thus implicated as a relevant action for the next turn. Regardless of whether the collaborative completions are accepted or rejected, the actual evaluative proposition is distanced from *wo juede*. Especially in an implicitly rejected case, there is an even longer distance, since the original speaker, instead of offering an outright acceptance/rejection, may re-initiate the trajectory of the evaluation by mobilizing multiple linguistic resources to side-step the pre-emptive completion. As a result, a number of IUs are produced between the evaluation and *wo juede*. Two examples are provided below. (4.31) is an instance of acceptance toward the collaborative completion, but with a slight modification. (4.32) shows an implicit rejection of the recipient's pre-emptive completion.

In (4.31), Kai is doing an evaluation on the way in which people cook with chili peppers in Chongqing, a southwestern city in China famous for its spicy food. The speaker, Kai, projects an evaluation with *wo juede*, which introduces the referent, people in Chongqing. While trying to search for a word to describe the creative way people in Chongqing cook with chili peppers, Kai lengthens *yizhong* 'a kind of' at the end of line 1 and then repeats this word in line 2. As noted by Lerner (1996) and Hayashi (1999), sound stretches and word searches in interaction provide opportunities for collaborative completion. As can be seen in this extract, Yi comes in with a token of receipt, *en*, and then immediately utters what she believes Kai is going to say to help Kai

complete the evaluation (line 3). In line 4, Kai explicitly accepts Yi's completion by producing an agreement token, *dui* 'right'. However, she proceeds to provide her version of evaluation, 'a special flavor', which is a heightened evaluation in comparison with Yi's, i.e. 'their own flavor'. Through a collaborative completion-acceptance-modification sequence, Kai's evaluation is eventually produced in line 5. In other words, the actual evaluation occurs in the 5th IU after *wo juede* is uttered.

(4.31) collaborative completion of evaluation (ZYLK_034)

1	Kai:	所以说(.)**我觉得**重庆那边的人就是把辣椒做出了一种:，
		suoyi shuo **wo juede** chongqing nabian de ren jiushi ba lajiao zuochu le yizhong
		so say **WO JUEDE** PN that-place PT people DM PT chili make PT a-kind-of
		'So **WO JUEDE** people in Chongqing make chili a kind of,'
2		[一种，
		yizhong
		a-kind-of
		'a kind of,'
3 →	Yi:	[嗯自己的风味，
		en ziji de fengwei
		yeah self PT style
		'Yeah their own style,'
4	Kai:	对，

		dui
		right
		'Right,'
5		special 的感觉，
		special de ganjue
		special PT feeling
		'special feeling,'
6	Yi:	对，
		dui
		right
		'Right,'

Example (4.32) is a more complicated case involving two instances of collaborative completions, both of which are not accepted. Prior to this sequence, ZM asserts that people in her hometown, a small city in China's Shandong province, generally hold a negative opinion toward Japan. In line 2, MM shares her observation that people in Shanghai do not hold negative opinion about Japan. In line 3, she initiates an evaluation of people in Shanghai with *wo juede*. Yet she fails to articulate the evaluative term in the same IU. Then in the next line, she rephrases, but still does not utter the evaluative term. The lengthened adverb, *bijiao* 'relatively', at the end of line 4 prompts the recipients to co-participate in her evaluation. In line 5, Susie offers a candidate completion, *bijiao yangqi yidian* 'relatively a little westernized', with a tag *shiba* to solicit agreement (Li and Thompson 1981) from MM. In order to maximize the possibility to generate agreement, Susie explicates what she means by *yangqi* 'westernized' in line 5. However, no uptake from MM is being displayed in the next turn. In line 7, MM re-initiates her evaluation of people

in Shanghai with the help of *wo juede*, implying a rejection of Susie's candidate completion. Interestingly, before MM's completes her second attempt of evaluation, Susie pre-empts the completion again. In line 8, Susie provides a more negative evaluative term, *chongyangmeiwai*, literally meaning 'worshiping things foreign and fawning over foreigners'. Still, MM does not explicitly accept or reject Susie's pre-emptive completion. Rather, she resumes her own trajectory of evaluation. In line 9, MM constructs her turn as a syntactically fitted continuation of her own prior utterance. In this turn she eventually utters the key evaluative term, *hen wushi* 'very pragmatic', which is followed by another token of *wo juede*, anchoring this evaluative term in the action of evaluation. In line 10, MM provides another evaluative term, *hen shiji* 'very practical', to reinforce her stance on Shanghai people. Because of the repeated attempts at collaborative completions and negotiations, the evaluation by MM is not produced until the 7th IU after it is first initiated.

(4.32) collaborative completion of evaluation (CCMMZM_051)

1	ZM:	in general 蛮负面的，
		in general man fumian de
		in general pretty negative PT
		'(People in my hometown are) pretty negative in general,'
2 →	MM:	但是**我觉得**上海人不会，
		danshi **wo juede** shanghai ren bu hui
		but **WO JUEDE** Shanghai people not would
		'But **WO JUEDE** people in Shanghai are not (negative),'
3 →		**我觉得**上海人还挺，
		wo juede shanghai ren hai ting

WO JUEDE Shanghai people quite pretty

'**WO JUEDE** people in Shanghai are quite,'

4 上海人比较：，

shanghai ren bijiao

Shanghai people relatively

'people in Shanghai are relatively,'

5 Susie: 比较洋气一点是吧，

bijiao yangqi yidian shi ba

relatively westernized a-little yes PT

'Relatively a little (more) westernized right?'

6 跟那种国际化接轨，

gen nazhong guojihua jiegui

with that-kind internationalized orient-to

'with that kind of internationalized orientation,'

7 → MM: 而且上海人就相对来讲**我觉得**，

erqie shanghai ren jiu xiangduilaijiang **wo juede**

additionally Shanghai people DM relatively-speaking **WO JUEDE**

'Additionally, relatively-speaking, Shanghai people **WO JUEDE**,'

8 Susie: 崇洋媚外，

chongyangmeiwai

worshiping-things-foreign-and-fawning-over-foreigners

'worshiping things foreign and fawning over foreigners,'

9 → MM: 很务实**我觉得**他们，

hen wushi wo juede tamen

very pragmatic **WO JUEDE** them

'Very pragmatic **WO JUEDE** them,'

10 就很实际，

jiu hen shiji

DM very practice

'very practical,'

The two examples above demonstrate that collaborative completion constitutes one important factor that distances *wo juede* from the evaluation projected by it. This factor, together with online planning, explains how *wo juede* comes to operate at a more global level, projecting evaluations not necessarily immediately following it but occurring in a few IUs later. However, one question still remains: what does the scope expansion have to do with the emerging story initiation function?

When *wo juede* operates at a global level, the syntactic distance with its projected evaluation grows longer, giving rise to a looser relationship with the evaluation. Thus, three possible situations may occur.

First and most typically, the evaluation is uttered a few IUs later, possibly across different turns, as seen in (4.31) and (4.32) above.

Second, the evaluation is aborted in the process of online planning, as illustrated in (4.33) below. In this extract, Jiawei is talking about a fake friend who always asks for help but never offers any. Prior to this sequence, Jiawei mentioned that she was crying when this friend called and asked for a favor. In lines 1-3, Jiawei reports what she said to her friend, i.e. 'I really don't want to go to the living room to get the textbook for you and I'm not in good mood.' From line 4,

Jiawei is essentially making an evaluation of this friend by speaking hypothetically about what a real friend should do when he/she hears her crying. The lengthened word at the end of line 4, *yige* 'a', reveals that the speaker is engaged in online planning. After two fragmented utterances in lines 5-6, the speaker gives up her hypothetical statement about what a real friend is supposed to do and shifts to talk hypothetically about what she herself would do if she heard a friend crying. That is to say, the evaluation initiated by *wo juede* in line 4 is aborted.

(4.33) *wo juede* functioning at the global level with a long-distance evaluation (LJWHJJ_042)

1	Jiawei:	我说， wo shuo I say 'I said,'
2		那你可以找别人吗？ na ni keyi zhao bieren ma DM you can find other-people PT 'can you find someone else (to help you)?'
3		我真的<不想出去客厅帮你拿书>我现在没有心情， wo zhende bu xiang chuqu keting bang ni na shu wo xianzai meiyou xinqing I really not want go-out living-room help you get book I now no mood 'I really do not want to get the book for you from the living room, I am not in the mood,'
4 →		**我觉得**如果是一个：，

wo juede ruguo shi yige

WO JUEDE if is a

‘**WO JUEDE** if (it) is a,’

5 就是，

jiushi

DM

‘well,’

6 首先听到，

shouxian tingdao

first hear

‘upon hearing (someone is sick),’

7 我自己感觉我的第一反应，

wo ziji ganjue wo de diyi fanying

I self feel I PT first reaction

‘I personally feel that my first reaction,’

8 如果我要跟别人这样讲，

ruguo wo yao gen bieren zheyang jiang

if I would to other-people this-way say

‘I would say to them like this,’

9 我说啊你没事吧，

wo shuo a ni meishi ba

I say PT you alright PT

‘I say are you alright?’

10 这样对不对，

zheyang dui bu dui

this-way right not right

‘like this, right?’

The third possible situation is that the evaluation projected by *wo juede* is substituted with an elaboration on the referent being introduced by *wo juede*. In cases like this, what follows the mention of the referent is not an evaluation but an elaboration, or a story associated with it. In other words, *wo juede* essentially functions to initiate a story relevant to the referent being introduced rather than to signal an evaluation of the referent. For example, in (4.34), after the referent is established (line 7), no evaluation is provided. Instead, what follows are more details of the Japanese instructor’s interesting story (line 8-10). The emergence of the story initiation function can be seen as a result of the scope expansion of *wo juede*. At the local level, *wo juede* is fixed in its role of indicating an immediately following evaluation. At a more global level, while it has preserved its evaluative function and signals long-distance evaluations, it has developed the discourse function of story initiation. This discourse function is currently in its incipient stage, as reflected in the limited number of cases found in my data. Yet my hypothesis predicts that this function will be increasingly used in natural conversation.

(4.34) *wo juede* used to initiate a story (ZYLK_058)

1 Kai: 我说考试不会考这种吧，

wo shuo kaoshi bu hui kao zhe zhong ba

I say exam not will test this kind PT

‘I said this kind (of grammar analysis) will not be tested in the exam right?’

2		我说完全记不住啊，
		wo shuo wanquan jibuzhu a
		I say completely cannot-remember PT
		‘I said I completely cannot remember,’
3	Yi:	应该会考，
		yinggai hui kao
		should will test
		‘It will be tested for sure,’
4		那你死定了，
		na ni si ding le
		then you die sure PT
		‘then you are done for sure,’
5	Kai:	死定了的感觉，
		si ding le de ganjue
		die sure PT PT feeling
		‘(I have a) feeling that I’m done,’
6		(1.8)
7 →		而且**我觉得**他，
		erqie **wo juede** ta
		additionally **WO JUEDE** he
		‘additionally **WO JUEDE** he,’
8		老师还说，

laoshi hai shuo

teacher also say

'the teacher also said,'

9 没事儿你们这一页的那个：，

meishier nimen zhe yi ye de nage

never-mind you this one page PT DM

'never mind, you guys, this page, well,'

10 就是标出来那些：大写字母不需要背啊，

jiushi biao chulai naxie daxie zimu bu xuyao bei a

DM mark COMP those capital letter not need memorize PT

'those marked in capital letters don't need to be memorized,'

11 我们说不背你干嘛在黑板上写得这么顺，

women shuo bu bei ni ganma zai heiban shang xie de zheme shun

we say not memorize you why on blackboard LOC write PT this smooth

'we said, (if they don't need to be) memorized, why did you write them out on the blackboard?'

To summarize, it is scope expansion that has stimulated *wo juede* to develop into a discourse marker from an epistemic marker. I have discussed two factors that contribute to the scope expansion of *wo juede*. First, the growing complexity of evaluations compel them to be expressed by multiple IUs. Second, online planning and collaborative completion increase the distance between *wo juede* and its projected evaluation. Consequently, it is able to signal a distant evaluation, whose operational scope is beyond the local level. When *wo juede* functions at the global level, there are three possible situations: 1) the evaluation projected by wo juede is

eventually uttered after a few IUs or even turns; 2) the evaluated is aborted; 3) the projected evaluation is replaced by an elaboration on the object introduced by *wo juede* – this is the inception of the story initiation function. In other words, this discourse function originates from the epistemic function of *wo juede*; that is, when the distance between *wo juede* and the actual evaluation becomes larger, its scope increases, and the discourse function emerges. While still in its initial stage, this discourse function suggests that *wo juede* is acquiring a new identity as a discourse marker, separate from its widely noted identity as an epistemic marker.

4.6 Conclusion

In the functional analysis above, I have demonstrated that *wo juede* has developed from an epistemic marker signaling evaluation to a discourse marker indicating Story initiation. As an epistemic marker, it is able to evaluate objects in speakers' subjective domain (Subjective type) and the objective world (Objective 1 and 2 types). As it evolves, it has developed an intersubjective function (Intersubjective type), which establishes affiliation between conversation participants. While the evaluative function still persists in the intersubjective type, the newly developed discourse function, story initiation, involves no evaluation. *Wo juede* simply serves to preface a story that help strengthen the speaker's position or shows affiliation with the previous speaker.

The prosodic analysis has revealed the distribution of duration, pitch range, and stress across the five functions and three broad functional categories (evaluation, intersubjective, and story initiation). While statistical tests have shown that most of the observed differences are not significant, the qualitative investigation has shed light on the role of prosody in realizing interactional functions. One important finding is that, while prosodic features in many cases are congruent, they are not always in line with each other. That is to say, a token could have a long

duration yet an extremely small pitch range, as well as a weak stress. However, as I have argued, these incongruent prosodic features are not random; rather, they are well coordinated to serve interactional purposes. In the case of turn-final *wo juede*, for instance, I have demonstrated that the lengthened duration signals turn completion, whereas the compressed pitch range helps to downplay the speaker's epistemic stance.

In addition, I have also discussed prosody in relation to syntactic forms, epistemic stance, and the newly emerging discourse function of *wo juede*. Using a quantitative approach, I have proven that there is no significant difference between the short form (*wo juede*) and the long form (*wo* + aux./adv. + *juede*) in terms of duration, pitch range, and stress level. However, the prosodic dimension can be manipulated to facilitate the expression of the speaker's epistemic stance. Weak prosodic forms enable speakers to lower their epistemic stance, whereas strong prosodic forms help strengthen speakers' positions. I have also discussed the prosodic prominence of the story initiation function, which exhibits prosodic and functional similarities with the focus shift function of *ranhou*. Thus, I have come to the conclusion that when a marker is used to bring in new material into the conversation, it is usually prosodically salient.

Finally, I have argued the ways in which *wo juede* has been shaped into a discourse marker, and how the new discourse function, story initiation, has emerged in natural conversation. As the scope of *wo juede* has extended from local to global, it has become more flexible – it can, instead of signaling an evaluation, preface a story by introducing the referent that the story is mainly about. Two factors contribute to the scope extension of *wo juede*: 1) the increasing complexity of evaluations have necessitated that they be expressed by multiple IUs; and 2) online planning and collaborative completion have enlarged the distance between *wo juede* and its projected evaluation. As a result, *wo juede* has developed this new discourse function, Story initiation.

Chapter 5 The prosody and functions of *meiyou*

5.1 Introduction

Meiyou is routinely characterized as a negator in Mandarin Chinese, negating possession, existence, a state of affairs, or an event at the sentence level (e.g. Lü et al. 1980; Ding et al. 1999; Zhang 2011). For instance (Lü et al. 1980: 382-383),

(5.1) negating possession

我**没有**书看，　　你给我找一本吧。

wo **meiyou** shu kan　ni gei wo zhao　yi　ben ba

I　not　book read　you give me find one CL PT

'I don't have any book to read. Please find one for me.'

(5.2) negating existence

明天**没有**课。

mingtian **meiyou** ke

tomorrow no class

'There is no class tomorrow.'

(5.3) negating a state of affairs

衣服没有干。

yifu **meiyou** gan

clothes not dry

'The clothes are not dry.'

(5.4) negating an event/action

他去了，我没有去。

ta qu le wo **meiyou** qu

he go PT I not go

'He went, (and) I didn't go.'

If viewed from a syntactic perspective, *meiyou*, first of all, can be seen as a compound consisting of a negative morpheme *mei* and an existential verb *you*. Example (5.1) and (5.2) above can be subsumed under this syntactic type. Second, *meiyou* itself constitutes an adverb, negating states of affairs, actions, or events, as in (5.3) and (5.4). This type of *meiyou* can be employed to negate the perfective aspect marker *le*, as in (5.4), or the experiential aspect marker *guo* as in (5.5) below.

(5.5) (Zhang 2011:25)

三年同学，我与裘莉并**没有**正式交谈过。

san nian tongxue wo yu qiuli bing **meiyou** zhengshi jiaotan guo

three year classmate I with PN DM **MEIYOU** officially talk ASP

'being classmates for three years, I have not officially talked to Qiu Li.'

Later studies have shifted the focus beyond the semantic and syntactic functions of *meiyou*. Li and Thompson (1981) notes *meiyou* can be used to deny what someone has stated or implied, suggesting that this form is able to function in a dialogic context. Biq (1989) and Yeh (1995) argue that *meiyou* is a metalinguistic negation device, registering the speaker's rejection to a previous utterance with respect to the inappropriateness of the use of language.

More recently, a number of researchers have discussed the discourse functions of *meiyou* and provided accounts for its functional extension. Drawing data from recorded daily conversation and TV programs, Yu (2004) identifies six functions of *meiyou* – negation, mitigation, and evasion at the local level, and revision, turn-taking, and topic-shifting at the global level. She argues that these discourse functions, all related to the original negative function of *meiyou*, are the result of the grammaticalization process via the mechanisms of metaphorization and metonymization. Built on Yu (2004), Wang et al. (2007) and Wang (2008) provide a more in-depth functional analysis, where *meiyou* is identified to be used for self-correction and for response to self-inquiry at the textual level. At the interactional level, in contrast, *meiyou* is mainly used for correction/clarification, responding to question/compliment/gratitude, and evasion. Their statistics show that *meiyou*'s interactional uses, accounting for 92%, significantly outnumber its textual uses. Additionally, they draw on Relevance Theory and Brown and Levinson's politeness principles to discuss the newly developed interactional uses. In a more recent study conducted under the framework of conversation analysis, Chiu (2012) specifically focuses on how *meiyou*-prefaced turns are utilized to construct social actions in a Taiwanese Mandarin entertainment show. For instance, he claims that *meiyou* can preface a turn that aim to justify one's position, negate a

previous proposition, detail one's response to a WH-question, and repair a conversation problem, among other functions.

Despite differing in approach and orientation, previous studies share the same observation: that *meiyou* is not merely a sentence-level negator and it is in fact a discourse marker with rich discourse functions. While having solidified the foundation for further investigation, past research is inadequate in at least three ways. First, the discourse functions of *meiyou* are not clearly distinguished from its lexical function. Although Yu (2004), Wang et al. (2007), and Wang (2008) propose a two-level analysis, i.e. local vs. global (Yu 2004) and textual vs. interactional (Wang et al. 2007; Wang 2008), such distinction does not inform us of the boundary between the lexical function and discourse function of *meiyou*. Second, previous treatments are more characterization rather than categorization. Although such characterization allows us to grasp a few particular aspects of this form, it is not sufficient for us to understand the entire scope of its uses, or in other words, the broad functional categories of *meiyou*. For instance, Chiu (2012) identifies a number of specific functions of *meiyou*, which are mostly context-specific and can hardly be generalized. Similar problems exist in Wang (2008), in which some interactional functions (e.g. response to compliment and response to gratitude) are essentially the same type. Thus, a more refined analysis is called for in order to understand the general functional spectrum of *meiyou*. Third, prosody has only been tangentially touched upon in previous studies on *meiyou*. In her argument for the grammaticalization of *meiyou*, Yu (2004) provides a brief description of its phonological reduction. No other attempts have been made so far.

Therefore, the purpose of this chapter is two-fold: to investigate the general functional types of *meiyou* and to reveal the possible correlation between its functions and prosody. Before getting

into my investigation, it is worthwhile to review how the counterparts of *meiyou* in other languages has been treated.

In the literature on the English negator, one important line of research concerns the use of *no* as displaying affiliation with the prior speaker (e.g. Ford 2001; Jefferson 2002). There are also studies focusing on a particular use of *no*. For instance, Schegloff (1992) observes *no* as a device to initiate repair. Schegloff (2001) insightfully points out that *no* can mark a shift from non-serious to serious talk in conversation. Stivers (2004) examines multiple sayings of *no*, namely *no no no*, and argues that speakers of multiple sayings communicate their stance that the prior speaker has persisted unnecessarily in the prior course of action and should properly halt that course of action. In a more recent study from a discourse-pragmatic perspective, Lee-Goldman (2011) describes the discourse functions of *no*, including 'getting-serious', topic-shifting, managing misunderstanding and disagreement, as well as turn negotiation.

Similar negative particles have also been discussed in other languages across the world. In Estonian, for example, *ei* is shown to preface in-turn progressivity interference, such as repair and correction, as well as in-turn transition, such as from joking to serious (Keevallik 2012). Kim (2015), however, looks at the Korean *ani* 'no' situated in response to polar questions. She argues that *ani* does not always disconfirms or negates the proposition; rather, it can also resist the constraints posed by polar questions.

In addition to the functions, the prosody of negative particles has also been examined. Most notably, Ford, Fox, and Hellerman (2004) look at the duration, pitch height, pitch movement, and energy distribution of both the standalone *no* and *no*-plus turns. Their acoustic analysis shows that: 1) *no* tokens in *no*-plus turns tend to be shorter than standalone *no* tokens; and 2) tokens in *no*-plus turns are louder than surrounding context. Additionally, they observe that the sound quality of the

vowel of *no* in those *no*-plus turns exhibits vowel formant transition to the following segment. Taking a different approach, Kaufmann (2002) looks the prosodic prominence in relation to the functions of negative expressions in British English. Prosodic prominence in her study is defined by both pitch and intensity – a token is considered prominent as long as either/both of the two parameters is emphasized. Then, she identifies five functional categories, that is, face-threatening act, supportive use, informative use, self-correction, and in discourse markers (e.g. *I don't know*). The results from her chi-square tests suggest that the prosodic prominence is correlated with functional categories. As the author admits, the small number of tokens renders the statistical results somewhat less reliable and thus only tendencies can be claimed. However, this study is methodologically informative for my present study as it strengthens the feasibility of integrating a qualitative and a quantitative approach in investigating the prosody-function correlation.

In a similar approach to Kaufmann (2002), the present chapter first introduces the data being used in this study as well as the data purification process. Then, it analyzes the lexical and discourse functions of *meiyou*. Closely following the functional analysis is the prosodic examination. Praat will be used to measure the duration, pitch range, and stress of each token. The quantitative differences in these prosodic features will be tested statistically so that the correlation between function and prosody can be revealed.

5.2 Data

Drawn from six naturally occurring Mandarin conversations, the data sources used for this chapter are same as in Chapter 4. The duration, number/gender of participants, and the relationship between the participants in the six conversations vary considerably, thus ensuring the diversity of data. Detailed information of each conversation is shown below.

No.	File name	Duration	Number of speakers	Gender	Age range
1	CCMMZM	2 hours	4	all females	27-33
2	EVANZTYC	2 hours	4	3 males and 1 female	27-32
3	SSKLM	1.5 hours	3	2 females and 1 male	23-25
4	LJWHJJ	50 minutes	3	2 females	24-27
5	LLM	50 minutes	2	2 males and 1 female	26-32
6	ZYLK	50 minutes	2	2 females	20-22

Table 5. 1 Information on data sources used in Chapter 5

While *meiyou* is widely observed in my data, not all the tokens are included in the investigation. Tokens occurring in an interrogative environment are not considered in the present study. They can be broken down into two major types: 1) those that are used in formulaic phrases such as *youmeiyou* 有没有 'have or have not'; 2) those that are used as question tags, for instance *ta lai le meiyou* 他来了没有 'has he come?' These cases are excluded because it is hard to discern the function of *meiyou* from the formulaic chunks that it is embedded.

After eliminating all the interrogative cases, the six conversations yield 240 tokens of *meiyou* for examination. However, there were 25 invalid tokens because of overlapping talk, accompanying laughter, or low sound quality, which made it impossible to measure the prosodic features of *meiyou*. Therefore, a total of 215 valid tokens are used in the following analysis. It should be noted that *meiyou* is often abbreviated as *mei* in daily conversation, yet the present study exclusively focuses on the full form, *meiyou*, in order to ensure consistency and thus to facilitate the prosodic analysis.

5.3 Functional analysis

As mentioned in the introduction, previous treatments of *meiyou* identify a number of specific functions; however, they lack categorical description of the lexical and discourse functions of *meiyou*. Thus, the purpose of this chapter is to identify the broad functional types of *meiyou* that are able to accommodate not only my existing data but also beyond my data collection. It is my hope that my categorization will provide insights into the entire functional spectrum of *meiyou*, where any observed tokens can be properly located.

The present study agrees with the point made in past research that *meiyou* is essentially a negation device (e.g. Lü et al. 1980; Wang et al. 2007; Wang 2008) that works at different levels of discourse. Differing from previous studies, however, this chapter considers both the lexical function and the discourse functions of *meiyou*, with a particular focus on the latter. At the sentence level, *meiyou* negates noun phrases, verb phrases, or adjective phrases. At the interactional level, my categorization has been established based on close examination on the semantic and pragmatic properties of the tokens as well as their sequential environment. Stimulated by Lee-Goldman's (2011) study on *no*, I take the following questions as the departure of my grouping:

1) Does *meiyou* provide an answer to the prior question?
2) If 1) does not apply, does *meiyou* negate any prior proposition? If so, is this prior proposition uttered by the speaker him/herself or an interlocutor?
3) If neither 1) nor 2) applies, does *meiyou* contribute to turn-taking practices, for instance, claiming the floor?

The first question picks out the most commonly observed **information-providing** function, which is situated in a question-answer adjacency pair. The second question, then, attempts to

differentiate the **clarification** function from **self-modification** function based on whether the negation conveyed by *meiyou* is directed towards an interlocutor's utterance or one's own talk. The third question aims to spot the **floor-claiming** tokens, which are not located in question-answer pairs and do not necessarily negate any prior proposition. These four discourse functions of *meiyou* will be elaborated at length following the discussion of its lexical function.

5.3.1 Lexical function

Meiyou etymologically consists of two morphemes, a negative morpheme *mei* 'not' and a verb *you* 'to exist, to have, to possess.' Therefore, the most basic lexical function of *meiyou* is to negate existence or possession, in the form of a noun or a noun phrase, as shown in (5.1) and (5.2). Second, it is able to negate an action or an event, usually realized as a verb or a verb phrase, as illustrated in (5.4). Additionally, *meiyou* can also negate a state of affairs, conveyed by an adjective or an adjective phrase, as in (5.3). Both Lü et al. (1980) and Li and Thompson (1981) have noted that *meiyou* can be used to formulate a comparison of 'inferiority', for instance, as in Example (5.6) below. This use can be broadly described as falling under negating a state of affairs, since the attributes of the referent, such as the 'smartness' in (5.6), can be construed as a state of affairs. *Meiyou* then negates this state of affairs in the subject, that is, *wo didi* 'my brother' in (5.6).

(5.6) *meiyou* used for comparison (Lü et al. 1980:383)

我弟弟没有他聪明。

wo didi **meiyou** ta congming

my younger-brother **MEIYOU** him smart

'My younger brother is not as smart as him.'

In addition to the semantic aspect, what distinguishes the lexical function of *meiyou* from its discourse functions is its scope of operation. The lexical *meiyou* works locally within the limit of a sentence. Mostly it negates the immediately following constituents, although occasionally the negated constituents are left-dislocated and thus precede *meiyou*. In contrast, as a discourse marker, *meiyou* functions beyond the sentence level – it operates over adjacency pairs, for instance, and sometimes even across multiple turns. The discourse functions of *meiyou* will be discussed in 4.3.2.

Within the 215 tokens of *meiyou* found in my data pool, there are 163 lexical tokens, accounting for 75.8%. The following table shows the frequency and percentage of the constituent types negated by *meiyou*. The last category, 'others', indicates the standalone lexical tokens of *meiyou*, the negated constituents of which can be implied locally.

negated constituent type	frequency	percentage
N/NP	80	49.1%
V/VP	49	30.1%
ADJ/AP	20	12.3%
others	14	8.6%
Total	163	100.0%

Table 5. 2 Negated constituent types: their frequency and percentage of the lexical *meiyou*

The three examples from my data pool illustrate these three types of lexical negation of *meiyou*. (5.7) shows that *meiyou* negates the possession of insurance; *meiyou* in (5.8) negates the experience of using toaster; and in (5.9), both of the two cases of *meiyou* are negating a state of affairs. What the three examples share in common is that *meiyou* operates at a very local level, where the constituent being negated follows it immediately.

(5.7) *meiyou* negating a possession (CCMMZM_053)

1 → Susie: 我觉得很有可能是那个人就**没有** insurance,

wo juede hen youkeneng shi na ge ren jiu **meiyou** insurance

I think very likely is that CL person ADV **MEIYOU** insurance

'I think it is very likely that person does not have insurance,'

2 不然他不 会跑，

buran ta bu hui pao

otherwise he not would run

'otherwise, he would not have run away,'

(5.8) *meiyou* negating an event (CCMMZM_043)

1 → CC: 他在瑞士**没有**用过 toaster,

ta zai ruishi **meiyou** yong guo toaster

he in Switzerland **MEIYOU** use ASP toaster

'he has not used toaster in Switzerland,'

2 然后他就每天用 toaster 吃他的那个：面包，

ranhou ta jiu meitian yong toaster chi ta de nage mianbao

and-then he ADV everyday use toaster eat he PT that bread

'and then, he just uses the toaster for his bread everyday,'

(5.9) *meiyou* negating a state of affairs (ZYLK_035)

1 Yi: 我室友在读法文嘛，

wo shiyou zai du fawen ma

my roommate ASP take French PT

'my roommate is taking French,'

2 → 她就说觉得法文教得**没有**日文好，

ta jiu shuo juede fawen jiao de **meiyou** riwen hao

she ADV say think French teach PT **MEIYOU** Japanese well

'she said that (she) felt French is not as well taught as Japanese,'

3 → 就**没有**那么仔细，

jiu **meiyou** name zixi

ADV **MEIYOU** that detailed

'not as detail-oriented,'

5.3.2 Discourse functions

What differentiates discourse marker *meiyou* from the lexical *meiyou* is its sequential dependence. As pointed out in earlier studies, sequential dependence is the most prominent characteristic of discourse markers, and is often taken as essential (e.g. Schiffrin 1987; Fraser 1999; Schourup 1999). In the case of *meiyou*, its discourse marker use operates beyond the sentence level and relies on sequential contexts to be construed. However, as shown in 5.3.1, the referential meaning of the lexical *meiyou* is evident within the scope of the sentence where it occurs; no sequential context is necessary for its interpretation.

In this section, I propose four discourse functions of *meiyou* – information-providing, clarification, self-modification, and floor-claiming – on the basis of their semantic, pragmatic, and sequential characteristics. Although the four discourse functions share the very basic nature of

negation, in addition to sequential dependence, they differ significantly in the sequential environment and the interactional role.

5.3.2.1 Information-providing

As a discourse marker, *meiyou* is found to be predominantly located in adjacency pairs. Adjacency pairs are characterized by the following features (Schegloff and Sacks 1973; Sacks, Schegloff and Jefferson 1974; Schegloff (2007):

1) composed of two turns;
2) by different speakers;
3) adjacently placed, that is, one after the other;
4) these two turns are relatively ordered, that is, they are differentiated into 'first pair parts' and 'second pair parts';
5) pair-type related, such as question-answer, greeting-greeting, offer-accept/decline, etc.

Meiyou, as a marker of information-providing, is situated in the second pair part of a question-answer adjacency pair, mostly occupying the turn-initial position. I have found 29 tokens of this function in my data, within which 29 tokens are turn-initial.

Wang et al. (2007) also observe that *meiyou* functions as a response to provide information at the interactional level. However, the authors fail to capture two distinctive subtypes under this function, type-conforming answer and non-conforming answer (Raymond 2003; see also Schegloff 2007). In talk-in-interaction, some types of questions specify what should occur in the answer. When a response delivers the type of answer made relevant by the question, it is 'type-conforming'; otherwise, it is 'non-conforming'. For instance, a 'where'-question makes a location

relevant as the answer; a 'when'-question makes a time reference relevant; a 'yes/no' question specify that either 'yes' or 'no' is the type-conforming answer. As for *meiyou*, it can be used in both type-conforming answers and non-conforming answers.

	frequency	**percentage**
type-conforming	12	41.4%
non-conforming	17	58.6%
Total	29	100%

Table 5. 3 Subtypes of information-providing function

Subtype 1: type-conforming answers

When *meiyou* is used to provide information in type-conforming answers, its first part part is always a polar question. In English, polar questions include three dominant sub-types: interrogative, tag and declarative questions (e.g. Quirk et al. 1985; Stivers 2010). In Mandarin Chinese, however, polar questions consist of two subtypes, tag questions and particle questions (Li and Thompson 1981). The former features an A-not-A tag, such as *dui bu dui* 'right not right', *hao bu hao* 'good not good', and *you mei you* 'have not have'. The latter makes use of a sentence-final question particle *ma*. However, not all polar questions are possible candidates for the first pair part of *meiyou*. Among tag questions, only *you-mei-you*-formatted ones specify *meiyou* as a type-conforming answer. With regard to particle questions, only those related to existence, possession, or experience are possible candidates. In my data, 12 tokens of *meiyou* occur in a type-conforming answer, out of the 29 information-providing cases. (5.10) and (5.11) illustrate the tag-question and the particle question first pair part respectively.

(5.10) *meiyou* in a type-conforming answer to a tag question (LLM_004)

1 Chen: 第二次 100 分有没有？

di'erci yibai fen you mei you

second-time one-hundred score have not have

'Did you get 100 (full score) in the second test?'

2 → Ling: **没有，**

meiyou

MEIYOU

'No,'

3 要是 100 分就肯定 A+:了.

yaoshi yibai fen jiu kending A jia le

if one-hundred score ADV certainly A-plus PT

'if (I got) 100/100, I would have received A+.'

(5.11) *meiyou* in a type-conforming answer to a particle question (CCMMZM_021)

1 ZM: 按说都有书(.)对吧，

anshuo dou you shu dui ba

supposedly all have book right PT

'(They are) all supposed to have a book, right?'

2 他有书吗？

ta you shu ma

he have book PT

'does he have a book?'

3 → MM: 没有，

meiyou

MEIYOU

'No,'

As demonstrated in (5.10) and (5.11), all type-conforming *meiyou* tokens share at least three features in common. Semantically, they resemble the lexical function, negating existence, possession, states of affairs, or events/actions. However, a closer examination reveals that their operational scope is beyond the sentence level and their interpretation depends on the prior question uttered by an interlocutor. Sequentially, they are located in the second part of a question-answer adjacency pair, serving as a type-conforming answer. As Raymond (2003) suggests, there is a preference for type-conforming over non-conforming answers to polar questions (see also Schegloff (2007). Prosodically, the type-conforming *meiyou* enjoys more freedom than lexical *meiyou*, as the former is able to stand alone as an intonation unit with clear boundary separating itself from its neighboring units. Within the 12 type-conforming tokens, there are 10 prosodically independent ones, accounting for 83.3%. This aspect will be further discussed in 5.4.

Subtype 2: non-conforming answers

In contrast to type-conforming answers, non-conforming answers refer to those not fitted to the type made relevant by the question (Raymond 2003; see also Schegloff 2007). There are 17 non-conforming tokens found in my data. Despite being a dispreferred answer type, non-conforming *meiyou* plays important interactional role: it implicitly rejects the proposition in the prior turn, while maintaining the affiliation between the speaker and his/her interlocutor. The first pair parts of non-conforming *meiyou* often take another negative marker, *bu* 'not', as their

preferred answer type. Wang (2008) points out that, compared to *bushi* 'not + copular verb', which directly refutes the prior proposition, *meiyou* reacts to the pragmatic value of the previous utterance, functioning to seek alignment with the interlocutor. Two examples are presented below to illustrate the non-conforming use of *meiyou*.

In Example (5.12), CC is talking about her roommate, who recently moved to Los Angeles from Switzerland. The fact that this roommate always talk about his experience in Basel leads Susie to assume that he is originally from Europe. That is why Susie asks CC whether her roommate is from Europe (line 4). This question is formatted as a particle question, prescribing either *shi* 'yes' or *bushi* 'no' as the type-conforming answer. The speaker's strategic choice of *meiyou* over *bushi* in line 5 reflects her intersubjective consideration – avoiding a flat disagreement and thus maintaining an affiliative relationship. This effort is well received as suggested in the change of state token *oh* (Heritage 1984) in line 6 and a repetition that echoes CC's answer. Thus, the affiliative relationship is further strengthened.

(5.12) non-conforming *meiyou* (CCMMZM_042)

1	CC:	然后他每天跟我们聊天的第一句话就是 When I was in Basel,
		ranhou ta meitian gen women liaotian de diyi ju hua jiushi
		when I was in Basel
		and-then he everyday with us chat PT first CL sentence ADV
		when I was in Basel
		'And then, the first sentence he says to us everyday is when I was in Basel,'
2		When I was in Basel hhh,
3		然后，

ranhou

and-then

'and then,'

4 Susie: 是是欧洲人吗？

shi shi ouzhou ren ma

is is Europe person PT

'Is he from Europe?'

5 → CC: **没有**中国人，

meiyou zhongguo ren

MEIYOU China person

'No, (he is) Chinese,'

6 Susie: 噢中国人，

o zhongguo ren

PT China person

'Oh, Chinese,'

Example (5.13) shows two consecutive *meiyou* used in a non-conforming answer. In this excerpt, Susie sets up the camcorder and asks the three other speakers to talk freely like they did before. In line 1, ZT asks about Susie's intention in a WH-question, 'what do you want us to do.' This question is produced in a jokingly-complaining manner; the following laughter in line 2 serves to mitigate the complaint. ZT's WH-question makes a kind of the intention as the type-conforming answer. However, instead of directly answering the question, Susie prefaces her explanation with two consecutive uses of *meiyou*, implicitly rejecting ZT's possible assumption of

her intention. Thus, *meiyou* can be seen as a hedge in a response to a perceived face-threatening question (Wang 2008).

(5.13) non-conforming *meiyou* (EVANZTYC_005)

1		ZT:	你想你想我们干啥嘛你，
			ni xiang ni xiang women gan sha ma ni
			you want you want us do what PT you
			‘What do you want us to do?’
2			hh.
3	→	Susie:	**没有没有，**
			meiyou meiyou
			MEIYOU MEIYOU
			‘No, no,’
4			就是：，
			jiushi
			ADV
			‘just,’
5			就像刚才，
			jiu xiang gangcai
			just like before
			‘just like before,’
6		ZT:	茶话会，
			cha hua hui

tea talk meeting

'A tea party,'

Two important features have been observed in non-conforming *meiyou*. First, unlike type-conforming tokens, *meiyou* in non-conforming answers rarely stand alone as an independent intonation unit. They are generally followed by some explanation, co-constructing the response to a prior question. Being a dispreferred answer type, *meiyou* is supposed to be accounted for immediately, which is characteristic of dispreferred turn shapes (Pomerantz 1984; Sacks 1987; Heritage 1988). Second, *meiyou* is often found used twice in succession and in a single intonation contour, namely *meiyou meiyou*. There are five cases of such consecutive uses identified in my data. According to Stivers (2004), multiple sayings such as *no no no* and *right right right* are oriented to not just adjacent turns but a larger course of action. In particular, multiple sayings display that the speaker finds the prior speaker's course of action problematic. The consecutive use of *meiyou* exhibits similar traits – it implicitly rejects the assumption of the prior speaker and suggests the existence of an alternative.

To sum up, the first discourse function of *meiyou* is to provide information in response to a prior question. The most prominent characteristic of this function is its sequential environment, that is, question-answer adjacency pairs. *Meiyou* can occur in both type-conforming and non-conforming second pair parts. When situated in the former environment, it negates existence, possession, states of affairs, or events/actions conveyed in the prior question. When located in non-conforming answers, *meiyou* implicitly rejects the assumption implied in the previous question while maintains the affiliation with the prior speaker.

5.3.2.2 Clarification

In addition to question-answer pairs, *meiyou* can also occur in other types of adjacency pairs, such as accusation-justification, speculation-disaffirmation, and suggestion-declination. Being in different types of adjacency pairs, *meiyou* has one common core function, that is, to clarify the perceived misconception in the prior speaker, which is implied in the first pair part. In my data pool, there are totally 10 such instances that have been identified. The table below specifies their distribution across adjacency pair types.

	Frequency	**Percentage**
Speculation-disaffirmation	6	60%
Suggestion-declination	2	20%
Accusation-justification	1	10%
Self-deprecation-mitigation	1	10%
Total	10	100%

Table 5. 4 Tokens of clarification across adjacency pair types

Example (5.14) offers an illustration of *meiyou* used in a speculation-disaffirmation pair. Prior to this extract, YC was talking about his upcoming trip around the US, which takes about thirty days. Yet because he has to fly back to China, he is unable to stay for the intended amount of time. In line 1, YC says that he will not be able to finish the part from Las Vegas to San Francisco. This statement leads Evan to speculate that YC's trip is at least twenty days, which is considerably different from the actual duration. Therefore, in line 3, YC utilizes *meiyou* to disaffirm this speculation and clarify the misconception involved in it.

(5.14) clarification *meiyou* in a speculation-disaffirmation pair (EVANZTYC_017)

1 YC: 就最后从拉斯维加斯到三番那段我没有完成，

jiu zuihou cong lasiweijiasi dao sanfan na duan wo meiyou wancheng

ADV last from Las Vegas to San Francisco that part I MEIYOU finish

'I (will) not finish the part from Las Vegas to San Francisco,'

2 Evan: 那你大概至少得二十天吧，

na ni dagai zhishao de ershi tian ba

then you approximately at-least have-to twenty day PT

'Then you have to spend at least twenty days,'

3 → YC: **没有，**

meiyou

MEIYOU

'No,'

4 也是三十三十天，

yeshi sanshi sanshi tian

also thirty thirty day

'(it) is also thirty days,'

The action of speculation can be implemented through non-verbal means. As Schegloff (2007) notes, some courses of action can take the form, not of talking, but of other physical activity. Similarly, in the case of *meiyou*, the first pair part can be done non-verbally; vocalizations and the accompanied body orientation constitute contextualization cues (Gumperz 1992) that enable the interlocutor's contextualized interpretation and occasion the second pair part. The extract below, (5.15), is a side sequence (Jefferson 1972) in larger project agenda, where Susie and ZM are engaged in a discussion on the illness of a common friend. Upon noticing the noise from the

kitchen, MM moves her body forward, oriented towards the kitchen, while looking at Susie, who is the hostess. At the same time, she produces a token of non-verbal vocalization (line 1). This string of bodily actions as well as vocalization are interpreted by the selected party, Susie, as a speculation that something might be wrong in the kitchen. In line 2, Susie uses *meiyou* to indicate this speculation is problematic and immediately she follows up with a clarification that she is boiling water. Seeing no uptake from MM, Susie, after a 2-second silence, further explains that the water boiler will automatically shut off when the water is boiled. In this special adjacency pair, *meiyou* functions the same as the example above, to clarify the speaker's perceived misconception by the interlocutor.

(5.15) clarification *meiyou* in a speculation-disaffirmation pair (CCMMZM_075)

1		MM:	Ei, ((noticing the noise from the kitchen and body moving forward))
2	→	Susie:	没有我在烧水.
			meiyou wo zai shao shui
			MEIYOU I ASP boil water
			'No I'm (just) boiling water.'
3			(2.0)
4			它是这个自动断电.
			ta shi zhege zidong duandian
			it is this automatic shut-down
			'it shuts down automatically.'
5			(3.0)

Another typical use of *meiyou* as a clarification device is mitigation in the second pair part. Although the frequency of this use is low in my data, previous studies on *meiyou* consistently note this mitigation function (e.g. Yu 2004; Wang et al. 2007; Wang 2008; Chiu 2012). The only case in my data is in a response to a self-deprecation; yet it is also a way to respond to other types of first pair parts such as compliments. *Meiyou* is widely recognized as a typical way to reject compliments in Mandarin Chinese (e.g. Chen 1993; Wang and Tsai 2003; Wang 2008). Wang and Tsai (2003) argue that *meiyou* conveys a pragmatic denial of the compliment, implying that modesty prevents the recipient from accepting the compliment yet the recipient does not wish to reject it outright. This account also applies for the clarification function in a self-deprecation-mitigation pair, as illustrated in Example (5.16) below.

In (5.16), Kai first compliments Yi on being a real foodie. The self-deprecation occurs in line 4 as an extension of the compliment in line 1, since denigrating oneself is a strategy of elevating others in the Chinese culture (Gu 1990). *Meiyou* in line 5 is employed to indicate the self-denigration is problematic, thus serving to mitigate the interlocutor's self-criticism. As Pomerantz (1984) suggests, disagreement to a self-deprecation is a preferred second pair part. Thus, *meiyou* helps to maintain the affiliative relationship between the two conversation participants.

(5.16) clarification *meiyou* as a response to self-deprecation (ZYLK_006)

1	Kai:	一看你就比较正宗的吃货，
		yi kan ni jiu bijiao zhengzong de chihuo
		one look you ADV relatively real PT foodie
		'(I can tell) you are a real foodie,'
2		[hhh,
3	Yi:	[hhh.

4 Kai: 我们这种都是比较边缘化的,

women zhe zhong dou shi bijiao bianyuanhua de

we this kind all are relatively borderline PT

'We are just borderline (foodies),'

5 → Yi: 哎呀**没有**啦，

aiya **meiyou** la

INJ **MEIYOU** PT

'Well, not really,'

To sum up, the clarification function of *meiyou* has two features: 1) sequentially, it is located in non-question-answer adjacency pairs; and 2) pragmatically, it mainly serves to clarify a perceived misconception on the part of the prior speaker. It should be noted that Table 5.4 is by no means an exhaustive listing of the possible adjacency pair types in which the clarification *meiyou* occurs. Also, there exist nuances in the pragmatic functions of *meiyou* when used different types of adjacency pairs; however, all the specific functions can be generalized as clarification.

5.3.2.3 Self-modification

Unlike the first two functions, the third function of *meiyou* does not occur in adjacency pairs; it occurs within a single turn. Sequentially, it operates on one's own prior utterance, either to correct oneself or to reaffirm an earlier negation. This function is related to the notion of self-repair in conversation analysis (e.g. Schegloff, Jefferson, and Sacks 1977; Schegloff 1992). As discussed in Schegloff, Jefferson, and Sacks (1977), self-repairs within the same turn are usually initiated by a variety of non-lexical speech perturbations such as cut-offs, sound stretches, '*uh*'s. In examining

Mandarin data, Zhang (1998) discovers that, in addition to these non-lexical perturbations, Mandarin speakers also employ lexical initiators for self-repair, including *bushi* 不是 'not' and *jiushishuo* 就是说 'that is to say'. *Meiyou* can also function to initiate a self-repair, but it does more than that – it can reaffirm an earlier negation and mark the transition between two different modes of speech (i.e. joking and serious). In other words, self-repair is a particular type of the self-modification function.

Within the 4 tokens self-modification found in my data, half serves to self-correct and half serves to reaffirm. However, *meiyou* is also able to mark the transition from non-serious to serious talk, as *no* in English (Schegloff 2001), although such use is not found in my data. Chiu (2012) shows examples of this use and argues that *meiyou* does not only have the function of 'getting serious' but also the function of 'resuming seriousness'. In either of the two scenarios, *meiyou* works to indicate a transition from one manner of talk to another. As it intrinsically modifies the way in which the just-preceding utterance is delivered, this function can be subsumed under self-modification. Two examples from my data are provided to illustrate this functional type.

Prior to (5.17), Susie was telling a story from back in the 1960s about a man who called 911 just to deliver a message to his wife because he was detained in the police office. In line 1, ZM, one of the story recipients, asks what the police said when the man requested they deliver a message. From line 2-4, Susie describes the attitude of the police and provides a quote from the police. Immediately, she corrects herself by saying *o meiyou meiyou* 'oh, no no', the first interjection *o* marking the change of a state (Heritage 1984), signaling that she now has managed to recollect the story accurately. Two repeated use of *meiyou* indicates a negation of what the speaker said just now and suggests that a modified version is on the way (line 7).

(5.17) *meiyou* serving to correct one's own prior utterance (CCMMZM_045)

1 ZM: 警察说什么，

jingcha shuo shenme

police say what

‘What did the police say?’

2 Susie: 警察非常 take it seriously,

jingcha feichang take it seriously

police very take it seriously

‘The police took it very seriously,’

3 说(.)好的，

shuo hao de

say OK PT

‘(they said) OK,’

4 那个可以告诉我你们家详细的情况吗，

nage keyi gaosu wo nimen jia xiangxi de qingkuang ma

well can tell me your family specific PT situation PT

‘well, can you tell me more specifically about your family?’

5 以及，

yiji

and

‘and,’

6 → 哦**没有没有**，

o **meiyou meiyou**

oh **MEIYOU MEIYOU**

'oh, no no,'

7 警察最开始是说我们需要你那边的警察局的人 confirm 你说的这个事情属实，

jingcha zui kaishi shi shuo women xuyao ni nabian de jingchaju de ren confirm ni shuo de zhege shiqing shushi

police most beginning PT say we need you that PT police office PT people confirm you say PT this thing true

'at the very beginning, the police said we need the police office (that is detaining you) to verify what you said is true,'

In the next example, the two speakers are talking about their favorite singers/bands from when they were teenagers. After Jiawei described her crazy experience as a super enthusiastic fan right before this excerpt, Jing shares her different attitude. In line 1, she utters a negatively framed statement which contrasts herself with Jiawei, that is, 'I am not like you, who have followed a band for more than ten years.' Then, Jing reaffirms the negation in line 2 with the help of *meiyou* in order to emphasize her different attitude towards celebrities. Unlike the lexical token of *meiyou* in line 1, which functions merely within the sentence, the target token in line 2 operates on its preceding utterance, lending extra negation force to this utterance. *Meiyou* is particularly crucial when the prior negatively-framed utterance is long and complex, since *meiyou* serves to reinforce the negation involved.

(5.18) *meiyou* reaffirming a prior negation (LJWHJJ_006)

1 Jing: 我:是没有说像你这样喜欢一个 group 十几年，

wo shi meiyou shuo xiang ni zheyang xihuan yige group shijie nian

I PT MEIYOU say like you this-way follow a group more-than-10 year

'I did not follow a group for ten more years the way you did,'

2 → 没有啦，

meiyou la

MEIYOU PT

'not that,'

3 我是谁的歌好的我就听一下谁的，

wo shi shuide ge hao de wo jiu ting yixia shuide

I PT whose song good PT I ADV listen a-bit whose

'I would listen to whoever's songs that are good,'

To sum up, self-modification is a functional type of *meiyou* that operates on one's own just-prior utterances. Pragmatically, it modifies the previous talk in some way: it can correct one's prior utterance as a whole, reaffirm the previous negation, adjust the manner of the preceding talk, among other functions. In my data, only the first two types are found; the third type is observed in Chiu (2012). The specific ways that *meiyou* carries out modification are not limited to these three types; yet no matter how their specific realizations vary, their fundamental function of self-modification remains consistent.

5.3.2.4 Floor-claiming

Lastly, *meiyou* can be used as a device to claim the floor thus to enter the current turn space. Sequentially, this type of *meiyou* occurs in a turn-initial position, not in an environment of adjacency pairs. It is often used before the previous turn reaches a possible point of completion. Yu (2004) also notices this discourse function and argues that *meiyou* works as a terminator,

compelling the current speaker to relinquish his turn and to pay attention to another speaker's upcoming speech. However, it should be noted that there do exist cases where *meiyou* is used after a completion point. The reason why this type of use is identified as floor-claiming instead of any other discourse functions (e.g. clarification) is because the possible completion point does not obligate speakership change. In other words, the prior speaker could possibly choose to continue the turn. Thus, the other party self-selects to be the next speaker (e.g. Sacks, Schegloff, and Jefferson 1974) by utilizing *meiyou* to enter the floor. These two sequentially different types have important prosodic distinctions, which will be discussed in Section 5.5.2.

In addition to sequential positioning, the ways in which *meiyou* is mobilized for turn-entry are quite different. According to my data, there are at least two ways for *meiyou* to be employed for this purpose: 1) as an assessment on the previous utterance in order to deliver a somewhat different opinion; 2) as a device to shift the focus of topic. In other words, speakers utilize *meiyou* to obtain the floor so as to perform some interactional acts. 8 tokens of floor-claiming *meiyou* have been identified in my data, out of which 5 tokens are in the service of delivering a different opinion, the rest making a focus shift. Two examples are presented below.

Example (5.19) revolves around a discussion between Kai and Yi on Peking duck, a well-known dish from Beijing. At the beginning of this excerpt, Kai is talking about her experience eating Peking duck in Los Angeles. She thinks that the way the waiter slices the duck looks fine (lines 1-2). Yi agrees with Kai on this observation (line 3). Yet the contrastive conjunction, *dan* 'but', in line 4 projects a presumable negative assessment on the taste of the duck. Thus, before Kai finishes her turn, Yi pre-empts with *meiyou* to voice her different opinion that what this dish lacks compared to an authentic version is only the condiments, and that other than that it is fine (line 5-7). *Meiyou* allows the speaker to enter the floor by signaling a non-agreement, followed by

the speaker's own take on the same issue. Hayashi (1991, 1996) discovers that in English floor-claiming tokens include back-channel signals, short overlap, simultaneous talk, questioning, and commenting. *Meiyou* can be seen as introducing a specific type of comment that disaffiliates with the previous speaker's opinion.

(5.19) *meiyou* functioning to claim the floor in order to deliver a different opinion (ZYLK_012)

1	Kai:	我在那边看他片那个鸭子， ((gesturing slicing))
		wo zai nabian kan ta pian nage yazi
		I in there watch him slice that duck
		'I was there watching the (waiter) slicing the duck,'
2		感觉还 OK，
		ganjue hai OK
		feel yet OK
		'it looks OK,'
3	Yi:	噢对，
		o dui
		oh right
		'Oh, (that's) right,'
4	Kai:	但真的吃上去，
		dan zhende chi shangqu
		but really eat up
		'But (when you) really eat it,'
5 →	Yi:	**没有**它就是少了配料嘛，

meiyou ta jiushi shao le peiliao ma

MEIYOU it just lack PT condiments PT

'No, it just lacks condiments,'

6 其实觉得(.)那些还 OK，

qishi juede naxie hai OK

actually feel that yet OK

'(I) actually feel (the rest) is OK,'

7 就是少了配料，

jiushi shao le peiliao

just lack PT condiments

'it just lacks condiments,'

Example (5.20) below showcases that *meiyou* functions to claim the floor in order to shift the focus of conversation. In this excerpt, Jiawei and Jing are talking about whether it is worthwhile to pursue a PhD degree. In line 1, Jiawei jokingly says that it is useless to do PhD, just like their TA, referred to as *laoshi* 'teacher', who is also present but not involved in the conversation. Then, Jing adds a point that if one wants to be a teacher, a PhD can be useful (line 2-3). In line 5, Jing reiterates her position. However, before she completes her utterance, Jiawei cuts in, using *meiyou* as the floor-entry device (line 6). After securing the floor, she shifts the focus to the issue of disciplines in American universities, that is, they tend to lump together different areas under the same department. With the help of *meiyou*, the speaker successfully obtains the floor and shifts the topic from the worth of PhDs to the educational system in the US.

(5.20) *meiyou* claiming the floor to shift the focus of topic (LJWHJJ_21)

1 Jiawei: 我觉得老师念了个博士把整个青春都奉献出去了也没啥用 hhh.

wo juede laoshi nian le ge boshi ba zhengge qingchun dou fengxian chuqu le ye mei sha yong

I think teacher do PT CL PhD PT whole golden-time all dedicate out PT still not what useful

'I think our TA has dedicated all of her golden time, but still it's useless.'

2 Jing: 除非老师以后要当老师，

chufei laoshi yihou yao dang laoshi

unless teacher in-the-future would become teacher

'Unless TA would (want) to become a teacher,'

3 那就有用啦，

na jiu youyong la

that ADV useful PT

'then it could be useful,'

4 Jiawei: 就是当老师，

jiushi dang laoshi

ADV become teacher

'Exactly become a teacher,'

5 Jing: 就除了当老师我真的觉得，

jiu chule dang laoshi wo zhende juede

ADV unless become teacher I really think

'Unless being a teacher, really think,'

6 → Jiawei: **没有**我觉得美国很奇怪，

meiyou wo juede meiguo hen qiguai

MEIYOU I think US very strange

'No I think the US is strange,'

7 我反而觉得就是可能别的地方还好一点，

wo fan'er juede jiushi keneng biede difang hai hao yidian

I contrary-to think ADV maybe other place yet good a-little

'I think other places may be a little better,'

8 我觉得美国人这个专业设置得很奇怪，

wo juede meiguoren zhege zhuanye shezhi de hen qiguai

I think American this discipline set PT very strange

'I think the US has strange discipline settings,'

9 它把所有东西都放在一起，

ta ba suoyou dongxi dou fangzai yiqi

it PT all things all put together

'it lumps everything all together,'

To sum up, *meiyou* can be used to claim the floor for interactional purposes such as expressing one's subtly different opinion or shifting the topic of conversation. This type of *meiyou* shares three common features: 1) it is located turn-initially; 2) unlike information-providing and clarification functions, *meiyou* and its previous utterance are not in a relationship of adjacency pairs; 3) there is only minimum negation involved – the purpose of *meiyou* is not to negate the utterance of the previous speaker but to pursue other interactional moves. Thus, *meiyou* can be viewed as a strategic device to obtain the floor for further social actions.

5.3.3 Interim summary

My investigation on the functions of *meiyou* has revealed that it is used both at the lexical level and at the discourse level. Its **lexical use** adds up to 163 occurrences, accounting for the absolute majority of all its uses. Still, there are 52 tokens (24.2%) used as a discourse marker. The most prominent discourse function of *meiyou* is **information-providing**, abbreviated as info-providing, totaling 29 cases. Occurring in the second pair part of question-answer sequences, info-providing tokens consist of two subtypes, **type-conforming** (12 tokens) and **non-conforming** (17 tokens). The former is the relevant answer type implicated by the question, while the latter does not conform to the relevant type. Pragmatically, type-conforming *meiyou* constitutes an explicit negation on the proposition conveyed in the first pair part; contrastively, non-conforming *meiyou* circumvents the direct negation and thus maintains an affiliative relationship between speakers. The second most frequent discourse function is **clarification**, occurring 10 times, accounting for 4.7% of the total occurrences of *meiyou*. This type of tokens is located in non-question-answer adjacency pairs, mainly functioning to clarify a perceived misunderstanding on the part of the previous speaker. Additionally, *meiyou* can also occur in non-adjacency-pair environments: **self-modification tokens** (4 cases) operate on one's own earlier utterance in the same turn and **floor-claiming** tokens (9 cases) allow a speaker to obtain the floor in order to pursue other social actions.

Functional category			Frequency	Percentage
Lexical function			163	75.8%
Discourse functions	info-providing	type-conforming	12	5.6%
		non-conforming	17	7.9%

	clarification	10	4.7%
	self-modification	4	1.9%
	floor-claiming	9	4.2%
Total		215	100%

Table 5. 5 Functional types of *meiyou* and their frequency and percentage

The distinction between its lexical and discourse functions has been made on the basis of the operational scope of *meiyou*: a lexical *meiyou* operates on the sentence in which it is embedded, whereas a discourse *meiyou* functions beyond the sentence level (usually across turns). As for the discourse functions, they are differentiated based on their sequential position in addition to their interactional roles. Relating to the traditional syntactic perspective, the lexical category in my analysis includes both of the two syntactic types that were outlined at the beginning of this chapter, that is, the *mei* + *you* compound and the adverb *meiyou*. None of the discourse functions, however, fall into these syntactic categories except for one sub-type of the information-providing function (i.e. type-conforming). This fact suggests the inadequacy of the traditional syntactic categorization in treating the new uses of *meiyou*. Additionally, it is worthwhile to briefly discuss the only discourse function that falls into the traditional syntactic categories. Similar to the lexical function, type-conforming tokens can be either a compound or an adverb, negating existence, possession, actions/events, or states of affairs. It is undoubtedly the discourse function that is most closely related to the lexical category. However, type-conforming tokens function beyond the sentence level across turns – the interpretation of the type-conforming *meiyou* is subject to its preceding question in the previous turn. This function can be seen as the transition from the lexical category to discourse functions.

Compared to earlier studies on *meiyou* (e.g. Yu 2004; Wang 2008), the present categorization has at least two advantages. First, it has offered a more inclusive framework, which is able to

accommodate all the functional categories discussed in earlier studies and beyond. For instance, both Yu (2004) and Wang (2008) mention the discourse function of evasion, which refers to speakers' implicit answer to the prior question. Within the current categorization, this function is labeled as non-conforming answer under the info-providing function, since this function occurs in question-answer adjacency pairs and does not conform to the relevant answer type. The present categorization also captures functions that are missing in previous research, such as the floor-claiming function. Second, all the functional types are clearly delimited on the basis of operational scope and sequential environment. Thus, it is possible to make predications about the function of *meiyou* given these two factors. For example, if one token of *meiyou* occurs in the middle of a turn and negates what immediately follows it, it is a lexical use. A turn-initial token that occurs in a non-question-answer adjacency pair must be functioning to clarify a misunderstanding in the previous speaker. If a speaker produces a turn-initial *meiyou* in non-adjacency-pair environment, especially before the prior turn is finished, s/he must be claiming the floor in order to pursue further actions. In other words, the functional categories are mutually exclusive and any given token of *meiyou*, in my data or beyond, can be pinned down within this framework.

Despite being well demarcated, the functional types are not isolated. Their connections can be visualized as a scale of negation, along which the lexical function sits at the end of explicit negation and the floor-claiming function occupies the end of minimum negation. Lexical *meiyou* directly negates existence, possession, states of affairs, events, or actions. Similarly, type-conforming tokens, operating in a question-answer pair, involves explicit negation on the first pair part. Contrastively, non-conforming *meiyou* only implicitly negates the first pair part, serving to manage potential face-threatening acts. The negation signaled by clarification tokens mainly displays to the interlocutor that there is a misunderstanding on the part of the previous speaker that

needs to be clarified. Unlike the other discourse functions, self-modification tokens operate on the speaker's own earlier utterance. They modify various aspects of the prior utterance such as accuracy (e.g. from inaccurate to accurate) and manner (e.g. from joking to serious or the reverse). Such a modification implies a subtle negation on the previous talk. The last discourse function, floor-claiming, only involves minimum negation – for some tokens that aim to shift the conversation topic, there is no negation at all – it is used as a strategy to take over the floor in the pursuit of other social actions.

Functional type		**Negation**
lexical function		explicit negation
info-providing	type-conforming	explicit negation
	non-conforming	implicit negation
clarification		implicit negation
self-modification		implicit negation
floor-claiming		minimum negation

Table 5. 6 Functional types along the scale of negation

5.4 Prosodic analysis

Previous studies almost exclusively focus on the functions of *meiyou*, leaving its prosodic features as well as their role in delivering discourse functions untreated. This section thus addresses the prosodic aspect of *meiyou*, revolving around three major questions: 1) how do different functions vary in terms of duration, pitch range, and stress; 2) what implications can be drawn from the observed differences with regard to the correlation between prosody and function; and 3)

in what ways do these prosodic features contribute to the realization of individual discourse functions. Both quantitative and qualitative methods will be used in this endeavor.

5.4.1 Duration

The average duration of the lexical function is 236 ms, in contrast with that of discourse function, which is 275 ms. A t-test shows that the difference between the average durations of the lexical and discourse functions is significant ($t = 3.7024$, $p < 0.001$). In other words, a correlation between duration and the broad functional categories of *meiyou* can be established: tokens with discourse function is statistically longer than those with lexical function.

	Mean duration (ms)	**Standard deviation**	**Token number**
Lexical function	236	55.94	163
Discourse function	275	89.22	52
Total	246	67.38	215

Table 5. 7 Mean duration of *meiyou* across lexical and discourse functions ($t = 3.7024$, $p < 0.001$)

Among the discourse functions, clarification tokens, the average duration of which is 323 ms, are noticeably longer than others. Info-providing tokens, averaging 283 ms, constitute the second longest type. With a much shorter mean duration of 224 ms, tokens of self-modification are only longer than floor-claiming function, which averages 217 ms. Since there are more than two categories, a one-way ANOVA, instead of a t-test, is carried out to test the significance of differences. The results suggest that there is a significant difference among the four discourse functions in terms of duration ($p < 0.05$). Thus, the claim can be made that duration is correlated with discourse functional types.

	Mean duration (ms)	Standard deviation	Token number
Info-providing	283	85.95	29
Clarification	323	99.45	10
Self-modification	224	92.78	4
Floor-claiming	216	47.94	9
Total	275	89.22	52

Table 5. 8 Mean duration of *meiyou* across discourse functions ($p < 0.05$)

As discussed in 5.3.2.1, info-providing function consists of two subtypes, type-conforming answers and non-conforming answers. It is worth examining the durational differences between the two subtypes. The table below reveals a sharp contrast in the duration of type-conforming and non-conforming answers, the former averaging 337 ms whereas the latter only averages 244 ms. This difference is statistically significant according to the t-test results ($t = 3.4581$, $p < 0.01$). That is to say, type-conforming *meiyou* is significantly longer than non-conforming *meiyou* at the confidence level of 99%.

	Mean duration (ms)	Standard deviation	Token number
Type-conforming	339	91.87	12
Non-conforming	244	56.17	17
Total	283	85.95	29

Table 5. 9 Mean duration of *meiyou* in subtypes of info-providing function ($p < 0.05$)

To sum up, statistical analysis has demonstrated that duration and the functions of *meiyou* are correlated at three different levels. First, discourse functions of *meiyou* are generally longer than the lexical *meiyou*. Second, among the four discourse functions, clarification is statistically longer

than others. Finally, within the subtypes of the info-providing function, the type-conforming subtype has significantly longer duration than non-conforming.

5.4.2 Pitch range

Unlike duration, the pitch range of *meiyou* does not display significant difference across different functions. First, the lexical and discourse tokens have a similar average pitch range around 46 Hz. A t-test confirms that these two functional categories do not differ significantly in duration ($t = 0.04331$, $p > 0.05$).

	Mean pitch range (Hz)	Standard deviation	Token number
Lexical function	46.5	37.43	163
Discourse function	46.7	37.52	52
Total	46.5	37.37	215

Table 5. 10 Pitch range of lexical function and discourse function ($p > 0.05$)

As for the discourse functions, although clarification and floor-claiming show noteworthy larger pitch range, i.e. 51.6 Hz and 53.9 Hz respectively, one-way ANOVA reveals no significant difference ($p > 0.05$) among four discourse functions. Their mean pitch range and standard deviation are provided in Table 5.11 below.

	Mean pitch range (ms)	Standard deviation	Token number
Info-providing	44.2	33.65	29
Clarification	51.6	49.13	10
Self-modification	36.5	14.43	4

Floor-claiming	53.9	45.38	9
Total	46.7	37.52	52

Table 5. 11 Pitch range of all discourse functions ($p > 0.05$)

Similarly, type-conforming and non-conforming under the info-providing function do not differ to a significant degree (t = -0.17503, $p > 0.05$), although non-conforming tokens have slightly larger average pitch range (45.2 Hz) than type-conforming ones (42.9 Hz).

	Mean pitch range (Hz)	**Standard deviation**	**Token number**
Non-conforming	45.2	30.03	17
Type-conforming	42.9	39.58	12
Total	44.24	33.64	29

Table 5. 12 Pitch range of subtypes of info-providing function ($p > 0.05$)

To sum up, quantitative analysis suggests that pitch range is not statistically correlated with the functional categories of *meiyou*. However, this does not preclude the possibility of pitch range, as an important prosodic dimension, being employed to facilitate the realization of discourse functions. One notable case is the floor-claiming function, which shows incongruent features of duration and pitch range, the former being the shortest while the latter being the largest within all discourse functions. The specific role of prosody in shaping discourse functions will be discussed at length in Section 5.5.

5.4.3 Stress

One distinctive prosodic feature of *meiyou*, if compared with the two other discourse markers in this dissertation, is that there is no complete loss of syllable, although it can be reduced to different extents. Also, since *mei* and *you* are lexically second (rising) and third (falling-rising)

tone respectively, S0, which is used to describe lexical neutral tone in the Pan-Mandarin ToBI (Peng et al. 2005), is not used in the current stress labeling. Largely based on this Pan-Mandarin ToBI model, my labeling criteria is provided below.

S3 syllable with fully-realized lexical tone
S2 syllable with substantial tone reduction (e.g., undershooting of tonal target with duration reduction)
S1 syllable that has lost its lexical tonal specification (e.g., in a weakly-stressed position)

Table 5. 13 Stress labeling criteria based on Pan-Mandarin ToBI (Peng et al. 2005)

The first step toward determining the stress of *meiyou* is to identify the stress of each syllable according to the criteria outlined above. When its lexical tone is fully realized, the syllable is marked as S3; when there is considerable tonal reduction, it is marked as S2; if the syllable has lost its lexical tonal specification, it is considered S1. Then, the stress level of *meiyou* is decided based on the combination of the syllable stress of *mei* and *you*, which is calibrated along a three-level scale, i.e. strong, mid, and weak. The conversion from syllable stress to word stress, laid out below, follows the same rules as that in Chapter 3 except no S0 is involved.

Syllable stress level	**Word stress category**
mei + *you*	*meiyou*
S3+S3	strong
S3+S2	strong
S3+S1	mid

S2+S2	mid
S2+S1	mid
S1+S1	weak

Table 5. 14 Conversion from syllable stress to word stress

First, discourse function shows an overall stronger tendency than lexical function, since 55.6% of discourse tokens are strong, while only 41.7% lexical *meiyou* have strong stress. On the other hand, a lower percentage of the discourse functions than lexical functions have weak stress.

Second, among discourse functions, clarification has much higher percentage strong tokens (70%), than info-providing (58.6%), floor-claiming (33.3%), and self-modification (25%). Also, info-providing is the only functional category that has weak tokens, since all of the other three categories do not have any weak tokens.

Third, zooming in on the info-providing function, it becomes clear that type-conforming tokens show a tendency of being marginally stronger, as it has a larger percentage of strong tokens and a slightly lower percentage of weak tokens than non-conforming tokens. Table 5.15 below summarizes the frequency and percentage of stress levels of all functional types.

Chi-square tests are performed to examine the observed difference between lexical and discourse function. However, as the *p* value is larger than 0.05, there is no significant difference in stress between the two categories. Within the four discourse functions, chi-square tests are not applicable since more than 20% of the observed token numbers is fewer than 5. The situation is the same for the two subtypes of info-providing function. Due to the size of my data, their frequencies are not high enough for significance tests.

Function	**Strong**	**Mid**	**Weak**

	frequency	percentage	frequency	percentage	frequency	percentage
Lexical function	68	42%	82	50%	13	8%
Discourse function	45	56%	30	37%	6	7%
Info-providing	17	59%	9	31%	3	10%
Clarification	7	70%	3	30%	0	0%
Self-modification	1	25%	3	75%	0	0%
Floor-claiming	3	33%	6	67%	0	0%
Type-conforming	8	67%	3	25%	1	8%
Non-conforming	9	53%	6	35%	2	12%

Table 5. 15 Frequency and percentage of three stress levels across functional types

To sum up, as significance tests fail to lend support to further claims about the observed differences based on my current data, only general tendencies can be claimed: 1) the stress level of lexical functions tends to be weaker than discourse functions; 2) clarification has most prominent stress among discourse functions; and 3) within the info-providing function, type-conforming tokens are more likely to take a stronger stress form than non-conforming tokens.

5.4.4 Interim summary

The prosodic analysis above has revealed that duration, among the three prosodic features, is most notably correlated with functional categories. This correlation is first embodied in the durational difference between the lexical and discourse functions of *meiyou*, in which the former is significantly shorter than the latter. Then, clarification is significantly longer than the other

discourse functions. Also, the type-conforming *meiyou* has statistically longer duration than non-conforming *meiyou*.

Pitch range, however, has not been proved to bear any necessary correlation with functional categories at a general level. That is, this prosodic feature does not differ significantly across different functions. Yet, it is possible for pitch range, working collaboratively with other prosodic features, to be mobilized by speakers as an interactional resource to smooth the delivery of a discourse function.

The third prosodic feature, stress, is calculated along a three-level scale based on the combination of the syllable stresses of *mei* and *you*. Thus, it takes the form of a categorical value rather than numerical value, unlike duration and pitch range. Because of the low frequency of some stress categories, significance tests are only able to determine the difference between the lexical and discourse function of *meiyou*, which has been proven to lack significance. However, there are a few noteworthy tendencies: lexical *meiyou* is generally weaker than discourse *meiyou*; clarification tokens prominently take a stronger stress form than the rest of the discourse functions; and type-conforming tokens tend to be stronger in stress compared with non-conforming tokens.

If we consider individual functions, some congruent and incongruent prosodic patterns can be observed. First, the discourse *meiyou* shows greater prosodic prominence than lexical tokens in all three prosodic features, within which the durational difference between the two functions has statistical significance. Second, the clarification function consistently takes the most prominent prosodic form compared with the other discourse functions. Third, the type-conforming *meiyou* is prosodically more pronounced than non-conforming tokens in all prosodic features but pitch range, which was not proven to differ by a statistically significant amount. Incongruent prosodic features are mainly observed in the floor-claiming function: its average duration (216 ms) is the shortest

among all discourse functions, yet its mean pitch range (53.9 Hz) is the largest. These prosodic patterns have important interactional relevance, such as in the preference structure and turn-taking practices. The discussion section below will address these issues.

5.5 Discussion

This section addresses two important issues that arise from the functional and prosodic analysis above. One is the correlation between prosody and preference structure. Two of *meiyou*'s discourse functions, which occur in adjacency pairs, involve sequential preference, that is, info-providing and clarification. I will show that *meiyou* in preferred and dispreferred second pair parts is associated with distinctive prosodic features. The second issue to be addressed is the prosody of *meiyou* when it is used as a floor-claiming device. The apparent incongruent prosodic features of the floor-claiming *meiyou* raise an important question: how are the different dimensions of prosody employed in carrying out this discourse function? I will demonstrate that the pitch range of *meiyou* responds to its sequential positioning – there is a significant difference in the pitch range of *meiyou* before and after a possible turn completion point. Duration, as will be shown below, is utilized to manage the possible face-threatening effects of the incomings.

5.5.1 Prosody and preference structure

The functional analysis above has demonstrated that the discourse marker *meiyou* primarily occurs in adjacency pairs, such as when used to provide requested information or to clarify a misunderstanding on the part of the prior speaker. At the initial position of a second pair part, *meiyou* can occur in both preferred and dispreferred responses: a type-conforming use of *meiyou* constitutes a preferred response, whereas a non-conforming use amounts to a dispreferred response.

Additionally, clarification tokens are mostly preferred use, as will be discussed below. Preference, as an important concept in conversation analysis, centers on principles that speakers follow when they act and react in a number of interactional situations (Pomerantz and Heritage 2013). Given the results from the functional and prosodic analysis, one may wonder if there is any correlation between the prosody of *meiyou* and its preferred/dispreferred context. My hypothesis is that, when occurring in a preferred response, *meiyou* is configured to be prosodically more prominent, typically with a longer duration; contrastively, *meiyou* in a dispreferred response tends to be prosodically weaker. This hypothesis will be substantiated in two steps, which examine the preference structure and prosody in info-providing and clarification tokens respectively.

First, within the subtypes of the info-providing function, type-conforming tokens of *meiyou* constitute a preferred response to information requesting first pair parts, while non-conforming *meiyou* is a dispreferred response. Stivers and Robinson (2006), in investigating preferences in environments where participants respond to a request for information, discover a preference principle, that is, given a prior request for information, the response should satisfy the request by providing the requested information. Thus, a response that directly confirms or disconfirms the first pair part is sequentially preferred.

In a similar vein, Raymond (2003) contends that there is a preference for type-conforming over non-conforming answers to yes/no interrogatives. With regards to the prosody of type-conforming responses, Raymond (2010) claims that prosody can be manipulated by speakers to construct different social actions with type-conforming tokens. For instance, high pitch on type-conforming tokens can occasion a departure from the sequential trajectory and thus project more talk. One vulnerability in his argument is that the prosodic patterns identified by him are not distinctive across different social actions. For example, high pitch, according to the author, can be

mobilized to project more talk on the one hand and to challenge some elements in the first pair part on the other. Additionally, the prosody of non-conforming responses is not touched upon in Raymond (2010). Thus, no actual correlation between prosody and preference in type-conforming/non-conforming responses has been established.

The present study takes a different path: the prosodic features of *meiyou* are quantified rather than described, and thus it is possible to associate preference types with prosodic patterns. According to my earlier prosodic analysis, type-conforming *meiyou* averages 339 ms in duration, significantly longer than non-conforming tokens (244 ms). In terms of stress, 67% of type-conforming tokens take a strong stress form, while only 8% take a weak form. In contrast, a lower percentage (53%) of non-conforming tokens are pronounced with strong stress and a higher percentage (12%) has weak stress. This contrast suggests that type-conforming *meiyou* is more likely to take a strong stress form than the non-conforming *meiyou*. However, due to the low overall frequency, which has rendered chi-square tests inapplicable, it is yet unknown whether this observed difference is significant. As for pitch range, non-conforming tokens show a slightly larger average pitch range than type-conforming ones, at 45.2 Hz and 42.9 Hz respectively. However, t-tests have proven that this difference is non-significant. Therefore, with my current data, it is only possible to claim that the duration of *meiyou* is correlated with type-conformity, or more generally preference structure – *meiyou* in preferred responses shows significantly longer duration than it does in dispreferred responses.

Second, clarification tokens are observed to occur in both preferred and dispreferred second pair parts. It has been noted in 5.3.2.2 that clarification is a category that consists of various types of non-question-answer adjacency pairs, within which the majority have preferred second pair parts initiated by *meiyou*. Table 5.16, reproduced from Table 5.4, exhibits the distribution of

adjacency pair types. I will demonstrate below that all pair types but suggestion-declination have preferred second pair parts.

	Frequency	**Percentage**
Speculation-disaffirmation	6	60%
Suggestion-declination	2	20%
Accusation-justification	1	10%
Self-deprecation-mitigation	1	10%
Total	10	100%

Table 5. 16 Tokens of clarification across adjacency pair types

In speculation-disaffirmation pairs, the first pair parts are usually framed in a way that invites affirmation or disaffirmation from the recipient. They resemble info-providing sequences, where the first pair part is configured to request information. Therefore, both affirmation and disaffirmation are sequentially preferred, since they both satisfy the request conveyed in the first pair parts. Recall Example (5.14), which is reproduced as (5.21). In line 2, the speaker, Evan, employs two speculative syntactic forms, an adverb *dagai* 'probably' and a final particle *ba* to attenuate the speculation, so as to solicit affirmation or disaffirmation from the recipient. In line 3, upon receiving the request, YC disaffirms Evan's speculation in a way that is preferred sequentially and then follows up with a correction (line 4).

(5.21) clarification *meiyou* in a speculation-disaffirmation pair (EVANZTYC_017)

1 YC: 就最后从拉斯维加斯到三番那段我没有完成，

jiu zuihou cong lasiweijiasi dao sanfan na duan wo meiyou wancheng

ADV last from Las Vegas to San Francisco that part I MEIYOU finish

‘I (will) not finish the part from Las Vegas to San Francisco,’

2 → Evan: 那你大概至少得二十天吧，

na ni dagai zhishao de ershi tian ba

then you approximately at-least have-to twenty day PT

‘Then you must spend at least twenty days,’

3 → YC: **没有，**

meiyou

MEIYOU

‘No,’

4 也是三十三十天，

yeshi sanshi sanshi tian

also thirty thirty day

‘(it) is also thirty days,’

Similarly, a justification is the preferred second pair part to an accusation. Within the limited amount of literature on non-question-answer adjacency pairs, Clift, Drew, and Hutchby (2009) note that an accusation makes a rebuttal or justification relevant next. In non-serious talk, when an accusation is delivered in a joking manner, a justification in a similar manner is preferred. Example (5.22) provides an illustration. In this excerpt, Ling is curious as to why Chen is able to get a parking permit, since he does not live on campus. Chen jokingly tells Ling that one is eligible for the permit as long as s/he has a job outside the campus. Realizing that Chen is joking, Ling accuses him of being a ‘liar’ (line 5), echoing Chen’s joking manner, as evidenced by the smile on her face. In line 7, Chen provides his first justification. Immediately after, Ling upgrades her accusation (line 8) by comparing Chen with Zhang Xiao, a mutual friend who is not present and who is often

caught lying. Like the first accusation, this one is also designed to invite a justification from Chen. Then, Chen upgrades his justification to match the upgraded accusation by employing *meiyou*, which explicitly denies the accusation, followed by an explanation. Although *meiyou* indicates a denial of the first pair part, it is still sequentially preferred in this kind of friendly joking exchanges.

(5.22) clarification *meiyou* in an accusation-justification pair (LLM_008)

1	Ling:	那你怎么能开车呢？
		na ni zenme neng kai che ne
		then you how can drive car PT
		'Then how come you can drive?'
2		(3.0)
3	Chen:	你只要在外面有工作就可以了，
		ni zhiyao zai waimian you gongzuo jiu keyi le
		you as-long-as in outside have job ADV possible PT
		'As long as you have a job outside, (it is) possible,'
4		（2.0）
5	Ling:	((smile)) 骗子, ((pointing to Chen, oriented to Mao))
		pianzi
		liar
		'Liar,'
6	Chen:	hhh,
7		你自己说的嘛,
		ni ziji shuo de ma

you self say PT PT

'(It's) what you said,'

8 Ling: 你又学得像张晓一样，

ni you xue de xiang zhangxiao yiyang

you again learn PT like PN same

'You learned to be like Zhang Xiao,'

9 → Chen: **没有**呀这是你自己说的，

meiyou ya zhe shi ni ziji shuo de

MEIYOU PT this is you self say PT

'No this is what yourself said,'

10 在外面有工作，

zai waimian you gongzuo

in outside have job

'have a job outside,'

The last type of preferred responses is found in self-deprecation-mitigation adjacency pairs. Schegloff (2007) observes that a first pair part can involve multiple preference structures — one activated by the formatting of the first pair part, and one by some other action carried by it; these two preference structures may be congruent or cross-cutting. Self-deprecation is an example of engendering cross-cutting preferences. As an assessment, it prefers an agreement; yet, as an action of deprecating oneself, it prefers a disagreement from the recipient. The strategies handling such delicate preference structures are to some extent culturally specific. In Chinese, *meiyou* is routinely used to respond to compliments (e.g. Wang and Tsai 2003; Wang 2008) and self-deprecation. The need to mitigate a self-deprecation overrides the structural preference for agreement. Thus, a

mitigation that disagrees with the first pair part is sequentially preferred at least in Chinese. Example (5.16) in Section 5.3.2.2 illustrates that *meiyou* is used in a preferred second pair part mitigating a self-deprecation.

To summarize about the clarification function, I have shown above that three subtypes of this function have *meiyou* in a preferred second pair, accounting for 80% of all clarification tokens. The only adjacency pair type with a dispreferred second pair part is suggestion-declination (2 tokens, 20%). Constituted mostly by tokens occurring in preferred contexts, this functional category shows prosodic prominence. Its duration (323 ms) is significantly longer than that of the other discourse functions, i.e. info-providing, self-modification, and floor-claiming. Among the 10 tokens of clarification *meiyou*, 7 are strong in stress, 3 mid, and no tokens have weak stress. Compared with the other discourse functions, clarification has much higher percentage of tokens with strong stress. Its pitch range (51.6 Hz) is much larger than most discourse functions, only smaller than that of floor-claiming (53.9 Hz) by a narrow margin. However, this difference is not statistically significant. Therefore, what can be claimed at the moment is that the clarification function of *meiyou*, primarily occurring in preferred second pair parts, shows significantly longer duration than the rest of the discourse functions.

Consolidating the two arguments above, we are able to substantiate the correlation between prosody and preference structure. For the info-providing function, the preferred type-conforming *meiyou* has a significantly longer duration than the dispreferred non-conforming *meiyou*. The clarification function, which has been proven to consist of tokens mostly in preferred responses (80%), shows significantly longer duration than the other discourse functions, which do not involve the preferred *meiyou* at all (i.e. self-modification and floor-claiming) or have a much lower percentage of preferred *meiyou* (i.e.info-providing, 42%). As for the other prosodic features, pitch

range and stress, the preferred use of *meiyou* does display more prosodic prominence on average than its dispreferred use, but this observed tendency is not supported by significance tests. Therefore, I will limit my conclusion to the correlation between the durational dimension and preference structure – *meiyou* used in preferred second pair parts are generally longer than those used in dispreferred second pair parts.

5.5.2 Prosody and floor entry

In Section 5.3.2.4, I have discussed the least prototypical discourse function of *meiyou*, that is, floor-claiming. This function allows speakers to enter the floor without necessarily negating the prior utterance. As briefly mentioned above, there are two different sequential positions for the floor-claiming *meiyou*: one is before a possible turn completion point, while the other is after this point. The prosodic investigation above has indicated that the average duration of the floor-claiming *meiyou* (217 ms) is the shortest among all discourse functions, yet its average pitch range (53.9 Hz) is larger than any other discourse function. These incongruent prosodic features lead us to consider the sequential factor in relation to prosodic features. Therefore, this section addresses the prosodic distinctions of *meiyou* in different sequential positions. Specifically, my hypothesis is that the pitch range of a floor-claiming *meiyou* is sensitive to its sequential position – that *meiyou* tokens that occur before a possible completion point have larger pitch ranges than those occurring after this point.

Before getting into my argument, it is helpful to review how past studies have dealt with similar issues. One relevant line of research is related to linguistic objects that are able to function as turn entry devices (e.g. Heritage 2013 for a general discussion). Particularly, negative morphemes have been observed to preface new turns, such as *iya* in Japanese conversation

(Hayashi and Kushida 2013), *ani* in Korean conversation (Kim 2015), and *ei* in Estonian (Keevallik 2012). Different from the floor-claiming *meiyou*, these negative morphemes have been shown to occur in the second pair parts of question-answer adjacency pairs, functioning to resist the terms and constraints set by the first pair parts in some way. However, none of these studies have touched on the prosody of these negative morphemes. The other line of study revolves around turn-competitive incomings. Their central interest is in finding out the ways in which incomings are properly recognized by conversation participants as turn-competitive incomings rather than back-channels (Goodwin 1986). French and Local (1983) claim that what makes the incoming turn hearable as turn-competitive is not its sequential position but its phonetic design: specifically, the combination of prosodic features of higher pitch and increased loudness. Wells and Macfarlane (1998) address the same issue through analysis of instances of overlapping talk, paying particular attention to their prosodic characteristics. Their analysis resonates with French and Local's study and confirms that turn-competitive incomings are designed with relatively high pitch and loud volume.

A more relevant study to *meiyou* is Wu (2014), which examines both the prosody and the sequential positioning of *ei*-prefaced turn entry in Mandarin conversation. Similar to *meiyou*, the author discovers that *ei* can occur in both a transition-relevance place (abbreviated as TRP, equivalent to possible turn completion point in my study) and a non-transition-relevance place. The author discovers that when *ei* is used in a transition-relevance place, it is commonly delivered in an independent intonation contour. In contrast, when it occurs at a non-transition-place, typically before a TRP, speakers tend to latch the *ei*-preface onto the turn component it prefaces. Wu's study suggests that *ei* receives relative prosodic prominence when produced before the prior speaker

reaches a possible point of turn completion. This finding lends support to the hypothesis that I am going to substantiate.

Different from Wu (2014), the present study quantifies prosodic features, thus avoiding the subjectivity in the introspective investigation of prosodic units (i.e. whether they are independent or latched). Additionally, my study focuses on the prosodic differences of *meiyou* when used before and after a possible turn completion point.

Turning to the case of *meiyou*, first, it is essential to clarify the notion of possible turn completion point. This notion is defined as the spot at which a possible transition to a next speaker becomes relevant by Sacks et al. (1974). Later studies have included heated debates on what constitutes a possible turn completion: syntax, pragmatics, or prosody. Scholars generally acknowledge that all the three factors are relevant for signaling turn completion, yet opinions differ as to which factor plays a more significant role. For instance, Ford and Thompson (1996) highlight the role of intonation, whereas Schegloff (1998) weighs syntax more heavily relative to prosody than Ford and Thompson (1996). Local, Well, and Sebba (1995) make a more extreme claim, when examining *you know* in turn-delimitation in London Jamaican: that it is the phonetic parameters rather than the tag *you know* that constitute turns as complete. In the present study, however, possible turn completion points are operationally determined on the basis of syntax and pragmatics, since prosody is the dimension to be examined and thus cannot be used to define turn completion. To be more specific, an utterance is judged having reached a possible completion point if it is syntactically complete and the social action involved is fully realized.

Next, two examples from my data are presented to illustrate the floor entry function of *meiyou* in two different sequential positions. Particular attention will be paid to details about the prosodic

characteristics of *meiyou*. Then, a summary of the duration and pitch range of all floor-claiming *meiyou* across different sequential positions will be provided to support my hypothesis.

In Example (5.23), *meiyou* occurs in line 4, before a possible completion point is reached. At the beginning of this excerpt, Jing is making a suggestion to Jiawei (line 2) that she switch to the new major in their department, Asian linguistics, since Jiawei said earlier that she did not like her current major. Then, in line 3, Jing provides a justification for her suggestion, yet she does not finish her utterance when Jiawei comes in. The incompleteness of Jing's utterance in line 3 is indicated by the stranded preposition, *gen* 'with', which is supposed to be followed immediately by a noun or a noun phrase. Thus, lacking a natural opportunity for speakership change, *meiyou* is uttered to compete with Jing for possession of the floor. Prosodically, *meiyou* is within the same intonation contour with its following elements, aligning with the findings in Wu (2014). Also, it shows contrasting values in the two prosodic features in question: its duration, 208 ms, is shorter than the average for floor-claiming tokens, whereas its pitch range, 131 Hz, is the largest among them.

(5.23) *meiyou* as a floor entry device before a possible turn completion point (LJWHJJ_024)

((talking about the new major in their department, Asian linguistics))

1	Jing:	是我们系的，
		shi women xi de
		is our department PT
		'(It) is our department's (major),'
2		所以你可以转啦，
		suoyi ni keyi zhuan la
		so you can switch PT

‘so you can switch,’

3 因为你现在读那些课可能跟，

yinwei ni xianzai du naxie ke keneng gen

because you now study those course perhaps with

‘because the courses that you are now taking perhaps,’

4 → Jiawei: **没有**我觉得跟 Asian Studies 一样啊，

meiyou wo juede gen Asian Studies yiyang a

MEIYOU I think with Asian Studies same PT

‘No I think (the new major) is the same as Asian Studies,’

5 (1.0)

6 Asian Studies 跟 Asian Culture，

Asian Studies gen Asian Culture

Asian Studies with Asian Culture

‘Asian Studies and Asian Culture,’

7 °不是一样的吗°，

bushi yiyang de ma

not same PT PT

‘aren’t (they) the same?’

Example (5.24) below illustrates the possibility of *meiyou* occurring after a possible point of turn completion. Prior to this excerpt, Kai was talking about her roommate, who cooks almost everyday. In line 1, Kai provides an assessment that it is not easy to cook every day. This utterance is syntactically complete, as no necessary elements are missing; it is pragmatically complete too, since the action of assessing is successfully realized. Thus, a possible point of turn completion is

achieved at the end of line 1. According to Stivers and Rossano (2010), assessments have low response relevance and do not normatively require response. The assessment in line 1, without special design soliciting a response, does not occasion a second pair part. Therefore, both parties are free to take over the floor. After a two-second pause, Yi self-selects to enter the floor by uttering *meiyou*, which is deployed to preface a somewhat different opinion regarding the same topic. Prosodically, this token of *meiyou* is produced in an independent intonation contour that is clearly separate from its following utterance. While its duration (228 ms) is not much different from *meiyou* in (5.22), its pitch range, 21 Hz, is considerably smaller than the previous token.

(5.24) *meiyou* as a floor entry device after a possible turn completion point (ZYLK_024)

1	Kai:	但是但是但是每天坚持做饭我觉得挺不容易的，
		danshi danshi danshi meitian jianchi zuofan wo juede ting bu rongyi de
		but but but everyday keep cook I think quite not easy PT
		'But but but I think it is not very easy to keep cooking everyday,'
2		(2.0)
3 →	Yi:	**没有，**
		meiyou
		MEIYOU
		'No,'
4		这是习惯，
		zhe shi xiguan
		this is habit
		'this is habit,'

5 我以前也不行，

wo yiqian ye bu xing

I before either not possible

'I couldn't (do it) before either,'

The two cases above have demonstrated from a qualitative perspective that when *meiyou* is used before a possible point of turn completion, its pitch range is considerably larger than otherwise and it is in the same intonation contour with the following utterance. In contrast, when *meiyou* occurs after a possible turn completion point, its pitch range is small and it forms an independent intonation contour. In both scenarios, the duration of *meiyou* does not vary very much.

Below is a statistical summary of two prosodic features, duration and pitch range, of floor-claiming *meiyou*. The quantitative results are consistent with the findings from individual analysis: the average duration across the two different sequential positions is similar, while pitch range differs greatly. T-tests are then carried out to examine the observed difference in pitch range. The result shows that *meiyou* before a completion point is significantly longer than *meiyou* after a completion point, in spite of their low frequencies (t = 3.42691, $p < 0.05$). Therefore, it is reasonable to conclude that the sequential positioning of *meiyou* significantly affects its pitch range but not duration.

	Duration (ms)	**Pitch range (Hz)**	**Token number**
Before completion point	219	91.8	4
After completion point	215	23.6	5

Table 5. 17 Prosodic features in relation to the sequential position of *meiyou*

Given this conclusion, one important question arises: how do we understand the contrast between duration and pitch range in relation to sequential positioning? Put in a different way, why is pitch range, not duration, affected by the positioning relative to the possible turn completion point? As discussed in Chapter 3, prosodic features of the same token are not always in concert with one another; different prosodic dimensions are utilized to satisfy different interactional needs. In the case of *meiyou*, pitch range is employed to deal with the contingencies of turn-taking and is thus sensitive to possible turn completion points. Usually speakers face greater difficulty in claiming the floor before a possible completion point is reached, since this kind of incoming, termed a 'violative interruption' in Levinson (1983), infringes upon the principles of turn-taking. An enlarged pitch range, adding prosodic prominence to a turn-entry device, can lend support to the speaker to compel the prior speaker to relinquish the floor. Also, as Ford, Fox, and Hellerman (2004) point out, pitch range can work to project more talk among other prosodic dimensions; a large pitch range suggests 'still more to come' (Ford, Fox, and Hellerman 2004:240).

The durational dimension, however, is deployed to manage other aspects of interaction. In the case of *meiyou*, duration is presumably used to handle possible face-threatening utterances. Recall the functional analysis of *meiyou*, where I have discussed two ways in which *meiyou* is mobilized to secure the floor: 1) as an assessment of the previous utterance in order to deliver a somewhat different opinion; and 2) as a device to shift the focus of topic. Both of these two ways are potentially face-threatening, since they mark a departure from the prior utterance and are thus at the risk of being interpreted as being conversationally less cooperative. Compressing the duration of *meiyou* can help reduce the potential face-threatening effect, because it attenuates the prosodic content and thus softens the manner that *meiyou* is delivered. This hypothesis also explains why the floor-claiming *meiyou* has the shortest average duration among all its functions

(see Table 5.18, reproduced from Table 5.8). Entering the floor is a delicate interactional move, especially when the prior turn has not yet come to completion. On the one hand, speakers have to make sure their floor-entry device is strong enough in at least one prosodic dimension in order to win the floor from the prior speaker. On the other hand, they need to address the possible face-threatening effect that their floor-entry move incurs. Thus, a different prosodic dimension is employed to serve this purpose.

	Mean duration (ms)	**Standard deviation**	**Token number**
Info-providing	283	85.95	29
Clarification	323	99.45	10
Self-modification	224	92.78	4
Floor-claiming	216	47.94	9
Total	275	89.22	52

Table 5. 18 Mean duration of *meiyou* across discourse functions ($p < 0.05$)

However, this is not saying that pitch range is always mobilized to deal with turn-taking contingencies and that duration is always oriented to face-threatening effects in different discourse markers. From the cases that I have examined in this dissertation, the same prosodic feature can be used for different interactional purposes. For instance, in Chapter 4, I have shown that durational lengthening in the turn-final *juede* signals turn completion, whereas its compressed pitch range displays the speaker's downplayed epistemic stance. Therefore, no simple generalization can be made without investigation into a large number of discourse markers with incongruent prosodic features.

5.6 Conclusion

In this chapter, I have first discussed the lexical and discourse functions of the negative morpheme *meiyou* in Mandarin conversation. The lexical use of *meiyou*, accounting for the majority (75.8%) of all its occurrences, negates existence, possession, and states of affairs. What sets the lexical use apart from its discourse functions is the operational scope of *meiyou*. The scope of a lexical *meiyou* is confined to the sentence in which it is embedded – what is being negated is within the limit of the sentence. Contrastively, the discourse marker *meiyou* is able to operate beyond the sentence level – it cannot be properly interpreted unless taking its context is taken into consideration.

I have then proposed four functional types, info-providing, clarification, self-modification, and floor-claiming, for the discourse marker *meiyou* based on my close investigation of the semantic, pragmatic, and sequential characteristics of all the 52 tokens of the discourse *meiyou*. The sequential environment proves to be the most effective criterion for clearly demarcating the functional categories. The info-providing function and clarification function occur in adjacency pairs, whereas the other two types do not. Moreover, the info-providing *meiyou* is found in a particular type of adjacency pairs, that is, the question-answer pair, while the clarification *meiyou* occurs in non-question-answer adjacency pairs. Self-modification is observed turn-internally and, in contrast, floor-claiming is found in the turn-initial position.

In addition to the sequential environment, the four discourse functions also differ in their interactional roles. The most frequent discourse function (29 tokens), info-providing, consists of two subtypes, type-conforming and non-conforming uses. Interactionally, the type-conforming *meiyou* constitutes an explicit negation of the just-prior question; while the non-conforming *meiyou* functions to implicitly negate the proposition conveyed in the prior question in order to

maintain an affiliative relationship between speakers. The second most frequent discourse function, clarification, works to clarify a misunderstanding perceived by the recipient in the speculation, suggestion, accusation, or self-deprecation conveyed in the first pair part. It should be noted that this type of *meiyou* can also be used to mitigate compliments or expressions of gratitude, which have been documented in previous studies (e.g. Yu 2004; Wang et al. 2007; Wang 2008; Chiu 2012), despite its absence in my data. The third function of *meiyou*, self-modification, serves to modify one's earlier talk in some way: it can correct one's own utterance, reaffirm a previous negation in the same turn, or adjust the manner of one's own just-prior talk. Last but not least, the floor-claiming function of *meiyou* allows a speaker to enter the current turn space either before or after the possible turn completion point.

My prosodic analysis has yielded an important finding – that duration bears a direct correlation with functional categories. Lexical tokens of *meiyou* are significantly shorter than discourse *meiyou*. Among the discourse functions, clarification tokens are statistically the longest. Pitch range, however, does not show correlation with functional categories. That is to say, different functions of *meiyou* do not differ significantly in pitch range. As for stress, significance tests (chi-square) are not applicable due to low observed frequency.

Prosody has not only been shown to be distinct for different functional types, it has also been demonstrated to provide crucial resources to satisfy interactional needs. In the last section of this chapter, I have discussed two specific cases: the prosody of *meiyou* in preferred/dispreferred second pair parts and the role of prosody in floor entry. My investigation has proven that, in preferred responses, *meiyou* is configured more prosodically prominent, typically with a significantly longer duration; contrastively, in a dispreferred responses, it tends to be prosodically weaker, with a significantly shorter duration. As for the case of floor entry, duration and pitch

range, displaying 'conflicting' tendencies, have been demonstrated to bear distinctive interactional roles. While the duration of all floor-claiming tokens is consistently short, averaging the shortest among all the discourse functions, their average pitch range is the largest. A closer examination has revealed that pitch range is correlated with the sequential positioning of *meiyou* in relation to a possible turn completion point. Tokens occurring before the completion point have a significantly larger pitch range than those occurring after the completion point. Duration, however, is mobilized to manage the potential face-threatening effect engendered by the floor-claiming action. Compressed duration reduces the prosodic content of *meiyou* so that the potentially face-threatening floor-entry token is uttered in an attenuated manner. Two important implications can be drawn from the prosodic investigation: 1) different dimensions of prosody can in fact be exploited to serve diverse interactional purposes; and 2) the same prosodic feature may be utilized to fulfill different interactional roles in different discourse markers.

To summarize, the present study has contributions both in the field of negation in Mandarin Chinese and in prosody-in-interaction. First, it has shifted the research focus from the syntactic level, such as the interaction between negative morpheme and aspect (e.g. Ernst 1995; Lin 2003), to the discourse level, bringing interactional factors into consideration. Of course, this is not the first study that concerns negation in talk-in-interaction; many aforementioned studies (e.g. Yu 2004; Wang 2008) have been engaged in the same endeavor. However, differing from previous studies, my investigation has provided a comprehensive analysis of the sequential environment of *meiyou*, which constitutes its second important contribution. This in-depth sequential analysis has not only yielded four clearly delimited discourse functional categories, but also revealed previously neglected discourse functions such as floor-claiming. Third, this current study is, to the best of my knowledge, the first attempt to integrate prosody in the study of negation. My study has

shown that the much-debated distinction between the lexical and discourse functions of *meiyou* has prosodic grounding. That is to say, this functional distinction has been shown to be supported by prosodic evidence. Fourth, the detailed prosodic analysis, in turn, has led to the discovery of individual prosodic features being utilized for different interactional purposes. In other words, prosody is not to be seen as a unitary interactional resource, as implied in many studies on prosody-in-interaction; each prosodic feature can have an independent interactional role, such as pitch range being used to compete for the floor and duration being used to minimize face-threatening effects. The present study has thus suggested the possibility of delving into the interactional relevance of individual prosodic features in future research.

Chapter 6 Concluding remarks

In this study, I have investigated three discourse markers in Mandarin Chinese, *ranhou*, *wo juede*, and *meiyou*, which come from three different syntactic categories, that is, conjunctions, epistemic expressions, and negative morphemes respectively. Having delved into the prosodic and functional details of discourse markers, I have discovered that these discourse markers have at least three features in common. First, originating from different syntactic categories, they display extended scope when functioning as discourse markers. Their scope extension is mainly embodied in the wider range of elements that they are able to connect. Second, different prosodic features can have distinct functional and interactional relevance, and thus prosody should not be treated as a unitary dimension in conversation. Third, discourse functions are generally more prosodically prominent than lexical functions for the same discourse marker. Newly developed discourse functions usually have distinctive prosodic configurations that set them apart from older lexical functions, such as the topic-shifting function of *ranhou*, the story initiation function of *wo juede*, and the floor-claiming function of *meiyou*. The prosodic difference between discourse functions and lexical functions points to a more fundamental question: how should we view the diachronic development of discourse markers? Is it a subtype of grammaticalization or an independent process that is commonly referred to as pragmaticalization?

This section, thus, elaborates on the shared features of discourse markers in terms of prosody and function, and then concludes this study with a brief discussion on the status of the development of discourse markers.

6.1 Extended scope of discourse markers

These three discourse markers consistently show an extended scope – at the propositional level, they have more restricted scope and can only accommodate limited types of elements; at the discourse level, they are able to connect a wider range of elements.

Ranhou, at the propositional level, is a temporal and consequential conjunction, connecting clauses only. Semantically, the clauses being connected should have a temporal or consequential relationship. However, at the discourse level, *ranhou* enjoys more freedom – it does not only join clauses but also connects nouns or noun phrases. Moreover, there are no semantic constraints on the elements being connected. For instance, *ranhou* can simply introduce an additional piece of information into the conversation or a new topic, which does not necessarily bear any semantic relationship with the prior clause.

Wo juede is an epistemic marker at the propositional level, signaling various types of speaker evaluation. As a discourse marker, *wo juede* does not indicate evaluation any more; instead, it initiates a story in order to strengthen the speaker's position or show affiliation with the previous speaker.

Meiyou shows a more visible expansion of scope from lexical function to discourse functions. Lexically, *meiyou* is a negative morpheme, negating existence, possession, or states of affairs. Its scope is confined to the clause in which it is embedded, since what is being negated is within the limit of the clause. In contrast, as a discourse marker, *meiyou* operates beyond a clause and does not negate neighboring elements. It functions to provide information to a prior question, clarify a perceived misunderstanding, modify one's own talk, or claim the floor at different sequential positions. Unlike the lexical *meiyou*, the interpretation of the discourse marker *meiyou* relies largely on a more global context.

These findings on the scope extension of discourse markers are consistent with a few previous studies, which argue that the development of discourse markers is associated with an increase in semantic-pragmatic scope (e.g. Brinton and Traugott 2005; Norde 2009; Beijering 2012; Heine 2012). Scope extension is considered a feature distinguishing the development of discourse markers, which is also referred to as pragmaticalization, from grammaticalization. For instance, Frank-Job (2006) argues that pragmaticalization involves moving from syntactically dependent to free status. Norde (2009) and Beijering (2012) contend that there is an increase in syntactic freedom instead of syntactic fixation in pragmaticalization. Brinton and Traugott (2005) specifically note that pragmaticalization leads to scope extension, rather than scope reduction, which is characteristic of the process of grammaticalization. More discussion on pragmaticalization and grammaticalization will be provided when the prosodic aspects are considered.

6.2 Individual dimensions of prosody

It is widely acknowledged that prosody is an important resource in social interaction, affecting turn-taking, sequence organization, and the recognition and interpretation of social actions. However, prosody should not be treated as a single interactional dimension. It is in fact a heterogeneous whole consisting of multiple dimensions, which have their own functional or interactional roles. The internal heterogeneity of prosody is reflected in a number of aspects.

First, different prosodic dimensions can be 'at odds' with one another – for instance, a long duration can be accompanied by an extremely small pitch range. In other words, discourse markers may have incongruent prosodic features, which seem to be in conflict with each other. Two typical examples are turn-final *ranhou* (Chapter 3) and *wo juede* (Chapter 4), both of which have a

particularly long duration and a small pitch range. As has been shown, the durational lengthening signals turn completion, whereas the compressed pitch range is used for other interactional purposes. For *wo juede*, the reduced pitch range is employed to lower a speaker's epistemic stance; for *ranhou*, a small pitch range attenuates the 'more-to-come' implication inherent to *ranhou* and instead signals a speaker's intent to yield the turn and invite the recipient's response. Another example of incongruent prosodic features is the floor-claiming *meiyou* (Chapter 5), which shows the opposite trend – it is configured with a short duration and a large pitch range. On the one hand, the enlarged pitch range of *meiyou* adds prosodic prominence to this floor-entry device and empowers a speaker to compel the prior speaker to relinquish the floor. On the other hand, the durational dimension is deployed to handle the possible face-threatening effects associated with the floor-claiming action, especially before the prior turn has reached a completion point.

These three examples all point to the fact that the apparent 'conflicting' prosodic features are in fact well coordinated and collaboratively achieve a speaker's desired interactional outcome. If we take a closer look, the three incongruent cases share one common characteristic – the speaker faces at least two interactional exigencies, one related to turn-taking, one related to suppressing the pragmatic effect incurred by the discourse marker's original function(s). The turn-taking exigency is shared by all the three cases. For *ranhou* and *wo juede*, it is essential to signal the speaker's intention to exist from the current action and close the turn. In contrast, the opposite is true for *meiyou*, which serves to take over the floor and begin a new turn. The second exigency, however, differs slightly across the three cases. For *ranhou*, what is incurred by its original function is its pragmatic effect of continuation. Both as a conjunction at the sentence level and as a connective at the discourse level, *ranhou* intrinsically signals some sort of continuation. When *ranhou* is used turn-finally, this continuation effect needs to be suppressed. Meanwhile, for the

turn-final *wo juede*, it is the speaker's epistemic stance that needs to be attenuated, and the exigency with *meiyou* is the negative consequence occasioned by the floor-competing move. When there is more than one interactional exigency, different prosodic dimensions are employed to serve distinctive communicative needs. They can be congruent, making an overall strong or weak prosodic form; and they can also be incongruent, different dimensions showing distinctive tendencies. Ultimately, they work collaboratively to fulfill a speaker's larger interactional agenda.

The collaborative nature of individual prosodic features relates to the second point that I want to argue – different prosodic features can serve distinct interactional purposes. Duration, for instance, is sensitive to preference structure in the case of *meiyou*. In preferred responses, *meiyou* is significantly longer than that in dispreferred responses. In floor-claiming actions, it is the pitch range of *meiyou* that responds to the possible turn completion point, rather than duration or other prosodic features. When a speaker claims the floor before the prior turn reaches a possible completion point, the pitch range of *meiyou* is significantly longer than that occurring after a possible turn completion point. In contrast, in the case of *wo juede*, pitch range is a crucial resource to facilitate a speaker's expression of epistemic stance. A large pitch range usually indexes a speaker's high level of certainty of or commitment to his or her utterance, while a compressed pitch range often signals a speaker's lack of epistemic authority or functions to lower his or her epistemic stance. In other words, pitch range can be used either to display a speaker's epistemic authority or to adjust a speaker's epistemic stance. In Chapter 4, I have shown cases where speakers with epistemic authority intentionally lower their epistemic stance by utilizing *wo juede* in order to mitigate a disagreement.

Last but not the least, regarding the correlation between prosody and functional category, it is usually one or two particular dimensions, rather than all of them, that distinguish one functional

category from another. One can hardly find any discourse marker whose functions significantly differ in all the prosodic parameters. In other words, it is usually one or two prosodic dimensions that show significant difference across different functions. For *ranhou*, duration and pitch range are the distinguishing dimensions for different functional categories, whereas for *meiyou*, only duration is relevant. As for *wo juede*, neither duration nor pitch range shows significant correlation with its functions. Instead, it is stress that displays a statistically significant difference across all of its functional categories.

To sum up, individual prosodic dimensions are not only relevant for distinguishing one function from another but also have their own roles in interaction. Yet their interactional roles are specific to discourse markers – the role of the same prosodic feature can vary from marker to marker. For example, pitch range is used to indicate epistemic stance in the case of *wo juede*, while it is employed to claim the floor with *meiyou*. Many previous studies have also noticed the different roles of individual prosodic dimensions. In Wichmann et al. (2010), stress is shown to be sensitive to the semantic meaning of *of course*. Dehé and Wichmann (2010) suggest that prosodic phrasing is the crucial dimension that differentiates the functions of epistemic parentheticals such as *I think*, *I believe*, and *I suppose*. Barth-Weingarten (2011) discovers that, in the double-sayings of the German *ja*, a flat pitch range can contextualize alignment with continuing a current sequence, whereas a particular phonetic ending – glottal-closure – functions to signal an acknowledgement or agreement with reservation.

Both previous studies and my own study have shown that prosody should not be treated as a single dimension with a unifying role in interaction; instead, it includes multiple dimensions, each of which has its own functional and interactional relevance.

6.3 Prosodic difference in lexical and discourse functions

One important finding in the present study is that there does exist a correlation between prosody and function of discourse markers in Mandarin Chinese. Specifically, discourse functions generally take a more prominent prosodic form than lexical functions of the same discourse marker. My quantitative analysis has confirmed that the prosodic differences between different functional categories are significant. Among the three discourse markers examined in this study, *ranhou* shows the most consistent prosodic pattern, since its four prosodic dimensions – duration, pitch range, stress, and prosodic phrasing – display significant differences across the four functional categories. As for *wo juede*, stress difference is significant, while duration and pitch range do not show any significant difference. In the case of *meiyou*, it is the duration, rather than the other two prosodic features, that differs significantly across functions. Despite lacking significance, different functional categories of *wo juede* have noticeable differences in duration and pitch range. This is also the case with pitch range and stress, the two non-significant features, of *meiyou*. Overall, the discourse functions of these discourse markers are prosodically more prominent than their lexical functions.

Newly developed discourse functions usually have a particular prosodic design that distinguishes the new function from the older functions of the same marker. For instance, the topic-shifting function of *ranhou* has the longest duration (325 ms), largest pitch range (80.1 Hz), and strongest stress, in comparison with its average duration of 261 ms and the average pitch range of 57.4 Hz. Additionally, it is significantly more likely to be prosodically independent than any other function of *ranhou*. Also newly emerged, the story initiation function of *wo juede* has a longer duration (264 ms) than its other functions, in contrast to its average of 233 ms. Its pitch range, 55.2 Hz, is also much larger than its average of 42.96 Hz. The stress level of the story initiation *wo*

juede is significantly stronger than the other functional categories. *Meiyou*, however, shows a different prosodic pattern. While the pitch range (53.9 Hz) of floor-claiming, its newly developed discourse function, is larger than the average, its duration (216 ms) is significantly shorter than any other functions (275 ms on average). As I have discussed above, such incongruent prosodic features are in fact well coordinated and collaboratively achieve a speaker's interactional outcomes.

Given the distinctive prosodic makeup of new discourse functions, an important question arises: why do new discourse functions consistently take prosodic forms distinctive from older lexical functions? While the present study is not yet ready to provide a comprehensive account, I offer a few thoughts for further research. First, from the perspective of functionalists, linguistic forms code functions. Prosody, as part of the formal properties, is naturally shaped by the function carried by a discourse marker. Distinct prosodic design enables the new discourse function to be recognized and differentiated from other functions of the discourse marker. Second, at the a micro-level, each prosodic dimension of these new discourse functions has been shown to bear crucial interactional relevance. For instance, the particularly large pitch range of *meiyou* as a floor-claiming device essentially adds the prosodic weight to this marker, empowering a speaker to compel the prior speaker to relinquish the floor. The rather short duration of *meiyou*, however, mainly serves the need to mitigate this potentially face-threatening action, since *meiyou* prefaces either a diverging opinion or a shift of topic, both of which can be face-threatening. That is to say, the prosodic makeup of new discourse functions is designed so as to fit specific conversational purposes. Third, as Schegloff (1998) notes, in simple and highly frequent forms, prosody is freed from syntactic and semantic constraints and is thus able to be exploited for various interactional needs.

"Simple and highly recurrent syntactic form – mostly single words and

> interrogative clauses so routinized as to in effect be treated as 'frozen' or even lexicalized, such as 'howareyou.' Such turns free the resources of prosody from deployment occasioned by the constraints of syntax and from interpretation by reference to syntactic and semantic considerations and make it available for subtly shaded displays of state and stance, of mood and relationship, of topic priorities and topical allusion, of sequence organization and interactional exigency." (Schegloff 1998:244)

In other words, prosody is sensitive to pragmatics, rather than to syntax and semantics, in frequent linguistic forms such as discourse markers. This characteristic, in turn, makes the prosody of discourse markers easily shaped by interactional functions.

6.4 Prosody in language change

Underlying the prosodic difference between discourse functions and lexical functions is the prosodic strengthening associated with the development of discourse markers. However, this finding seems to be in conflict with the phonological reduction tendency, one of the major claims in grammaticalization studies (e.g. Hopper 1994; Bybee et al. 1991, 1994; Bybee and Scheibman 1999; Bybee 2002, 2003).

It is widely accepted that grammaticalization is accompanied by phonetic reduction and that the more grammaticalized use has a more attenuated phonetic form (e.g., Hopper and Traugott 1993; Bybee, Perkins, and Pagliuca 1994). Heine (2003) lists four mechanisms of grammaticalization, one of which is phonetic reduction, that is, loss of phonetic substance. Traugott (2003) identifies 'phonological attrition' as one of the features of grammaticalization.

Specific case studies have also yielded consistent findings. For instance, Holmes (1986) on *you know*, Scheibman (2000) on *I dunno*, and Tao (2003b) on *bu zhidao* 'I don't know' in Mandarin all show that, as frequently collocated elements grammaticalize into one formulaic, their phonological boundaries are gradually erased, resulting in shortened and contracted phonetic forms. More generally, these studies suggest that phonetic reduction is an essential part of the grammaticalization process.

In fact, there are two factors that contribute to the apparent 'conflict' between the prosodic strengthening discovered in my study and the phonological reduction claimed in previous grammaticalization studies.

First, the nature of the linguistic items being examined differs. Bybee, as well as the other aforementioned scholars, focuses on high-frequency phrases such as *I don't know*, *you know*, and *going to*. These phrases consist of multiple words and are stored as multiple units in lexical representation. Bybee (2003) argues that these complex forms of combinations that are repeatedly used become autonomous units and that high-frequency ones undergo extreme phonological reduction, such as vowel reduction. In other words, the forms examined in Bybee and other scholars' work have undergone or are undergoing a grammaticalization process where multiple words are fused into one stored unit. Phonological reduction is considered one characteristic of this process. However, the present study is mainly concerned with those already stored autonomous units like *ranhou* and *meiyou*. These two forms do not undergo the fusional process from phrases into a single unit as *I don't know* and *you know* do. As for *wo juede*, it is ostensibly a phrase resembling *I think*. Yet my starting point is the *wo juede* that is an autonomous chunk rather than a lexical combination. My focus is on its functional development, and the associated prosodic change, after *wo* and *juede* have formed a single unit.

The second factor is related to a more fundamental question: how should we view the developmental trajectory of discourse markers? Is it a subtype of grammaticalization or an independent process commonly referred to as pragmaticalization? If we consider the development of discourse markers as a subtype of grammaticalization, then we need to explain the conflict between the prosodic strengthening in discourse markers and the phonological reduction observed in grammaticalized forms. However, if we view the evolution of discourse markers as pragmaticalization, then their prosodic changes can be seen as characteristic to this relatively independent process.

Opinions are divided upon this question. Barth and Couper-Kuhlen (2002) and Diewald (2011) contend that pragmaticalization ought to be considered as a specific subtype of grammaticalization, since they believe pragmaticalization displays essential core features of the grammaticalization process. However, Aijmer (1997) as well as Günthner and Mutz (2004) argue that the two notions refer to two different processes. Aijmer (1997) holds that grammaticalization is concerned with the derivation of grammatical forms and constructions from words and lexical structure, whereas pragmaticalization pertains to the organization and contextualization of discourse. Heine (2013) argues that neither pragmaticalizaiton nor grammaticalization is entirely sufficient for understanding discourse markers and thus proposes a new term, cooptation, to describe the development of discourse markers. He identifies seven features distinguishing cooptation from grammaticalization, including scope increase and distinct prosodic design.

My study supports the view that pragmaticalization should be treated as an independent process from grammaticalization, since my prosodic analysis has revealed a trend that is the opposite of the sound change found in grammaticalization. For example, I have discovered that new discourse functions are prosodically stronger, rather than weaker, than the original function

of the same form. The specific prominent prosodic dimensions can vary among discourse markers. For *ranhou*, all the four prosodic features – duration, pitch range, stress, and prosodic phrasing – are significantly more prominent in discourse functions. As for *wo juede*, stress is the only dimension that shows prominence, and, for *meiyou*, duration is the crucial feature. In short, my prosodic analysis suggests that the newest discourse function – the most pragmaticalized function – is associated with the most prominent prosodic features, whereas the original function has weaker prosodic features.

My findings align with previous studies on the prosody of discourse markers. Ferrara (1997) identifies three functions of *anyway*, i.e. additive, dismissive, and resumptive, among which the resumptive *anyway* is a discourse marker that reconnects utterances to chunks of discourse. She discovers that the discourse marker *anyway* has a larger pitch range compared to the two types of lexical use. Horne et al. (2001), focusing on the Swedish *men* 'but', compare the duration, F0 reset, preceding pause, and prosodic phrasing of the sentential *men* and the discourse marker *men*. In one group of data, the authors have found that the duration of the discourse marker *men* is significantly longer than that of the sentential *men*. That is to say, as this form evolves from a lexical item into a discourse marker, its prosodic form grows stronger.

Returning to the initial question posited earlier: how are we to understand the inconsistency between my finding on the prosodic changes of discourse markers and the phonological reduction principles proposed in various grammaticalization studies? I believe that such an inconsistency is, first of all, the result of different foci of study. While previous grammaticalization studies focus on the process by which lexical phrases are fused into single units, my study concentrates on the functional extension of existing single autonomous units. That is, my study reflects the sound change in the post-grammaticalization stage. Second, I consider the development of discourse

markers as a process – namely pragmaticalization – distinctive from grammaticalization, as opposed to a subtype of grammaticalization. The prosodic change identified in my study adds another piece of evidence to strengthen the distinction between pragmaticalization and grammaticalization and to support the independent status of pragmaticalization in language change.

To conclude, through systematic functional and prosodic analyses, the present study has yielded a number of important findings regarding Mandarin discourse markers. It has revealed the correlation between the prosody and function of discourse markers in Mandarin Chinese – discourse functions are configured with significantly more salient prosodic features than lexical functions. In particular, newly emerging discourse functions have a special prosodic design that distinguishes them from lexical functions. Also, I have shown that prosody is not a unitary interactional resource, but consists of multiple dimensions that can be employed for various conversational purposes. Additionally, my study has methodological contribution in that it has demonstrated the feasibility of integrating a quantitative approach and statistical tests into the study of discourse markers, which is traditionally studied qualitatively. Complementing the qualitative approach, quantitative methods are able to provide a more objective angle to evaluate the relationship between prosody and function.

There are admittedly unsettled issues in this study, which, in a way, open up new directions for future research. First, methodologically, this study does not consider the possible idiosyncratic prosodic features of different speakers. New light could be shed on this subject if future research could prove the relevance or irrelevance of such idiosyncrasies to the prosody-function correlation. One could take a bottom-up approach, starting from the tokens produced by each individuals and then comparing the pattern across different speakers. Second, more micro-level analysis of local

tonal environments is called for, since pitch range and stress are closely related to their neighboring tonal environments. The influence of surrounding tones on pitch range and stress did not receive adequate treatment in the present study. Lastly, the motivation for new discourse functions to take on a prominent prosodic form has not yet been satisfactorily explained. This study has discovered the prosodic differences between discourse functions and lexical functions, but it is not able to fully answer the question of why discourse functions tend to be prosodically stronger than lexical functions. More efforts are thus needed to deepen our understanding of discourse markers, including their functions and prosodic patterns, their roles in social interaction, as well as the type of patterns they represent in language change.

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