

On the Uses of Anaphoric Forms in Chinese Discourses

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汉语篇章回指研究

CUI Yuzhen 崔玉珍 著

DOCTOR OF PHILOSOPHY
CITY UNIVERSITY OF HONG KONG
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Chapter 1 Introduction

1.1 Understanding Chinese Anaphoric Forms

This thesis is to deal chiefly with the uses of different Chinese anaphoric forms. Anaphora has been a hot topic in linguistics, especially in Chinese linguistics, for it involves a complex set of linguistic issues such as discourse coherence, discourse interpretations, natural language processing, and so on.

The most intriguing issue in anaphora is how to explain distinctive behaviors of different anaphoric forms. As is known, there are many kinds of anaphoric forms in Chinese, including full NPs, zero pronouns, overt pronouns, and so on. Exactly how different anaphoric forms are deployed in discourse attracts the attention of many researchers from different theoretical persuasions.

Generally speaking, in connected discourse, a discourse entity can be referred back to by another entity with the same or a different referring expression in subsequent text. Such a phenomenon is termed **anaphora**. In **anaphora**, the entity being referred back to by another entity is termed **antecedent** and the other entity referring back to the preceding entity is termed **anaphor**. We can say that there is an anaphoric link between the antecedent and the anaphor. Since anaphor can vary in form as referring expressions, the term **anaphoric form** is used to refer to the varying referring expressions. Let me illustrate this with the following example.

- (1.1) a. Tangmingdei jinghuang de wang wai pao,
 - b. Ø i zhuang dao yi ge dahani de shen shang,
 - c. tai kan qing le na reni de mei yan,
 - d. Ø_i ren chu <u>na ren</u>_i shi shui. (Chen (1991): 182) ^①

"Tangmingde was running out scarily, and collided into one big fellow. He saw the man's eyes, and recognizes who that man is."

In the above example, where there are four clauses (a-c), the entity Tangmingde is referred back to a number of times by different entities in the subsequent text: a zero pronoun \emptyset in (1.1b), a third-person pronoun ta in (1.1c), and a zero pronoun \emptyset again in (1.1d), which is indexed by the subscript letter "I". Thus we can say that the entity Tangmingde and the other entities referring back to it constitute an anaphoric chain: $Tangmingde - \emptyset - ta - \emptyset$, with Tangmingde being the antecedent of the zero pronoun in (1.1b), the zero pronoun in (1.1b) being the antecedent of the third-person pronoun ta in (1.1c), and ta in (1.1c) the antecedent of the zero pronoun in (1.1d).

There is another anaphoric chain the example (1.1) which is indexed by the subscript letter j: it is between the entity yi ge dahan (one big fellow) in (1.1b), na ren (that man) in (1.1c), and na ren (that man) in (1.1d).

As shown in example (1.1), there can be many different anaphoric forms. The referent *Tangmingde* is mentioned throughout (1.1a-d) but is encoded by different anaphoric forms: a zero pronoun Ø in (1.1b), the third-person pronoun ta in (1.1c), and another zero pronoun Ø again in (1.1d). Another referent yi ge dahan (one big fellow) is encoded by the same anaphoric form in (1.1c & d): a descriptive NP na ren (that man). Given the varied forms available in languages such as Mandarin Chinese, two questions naturally rise: in what kind of contexts should a particular kind of anaphoric form be used? What is the difference between different anaphoric forms?

There are a variety of approaches with different proposals being made to account for the use of different anaphoric forms. Accessibility Theory (AT),

① This thesis will use Ø to stand for zero anaphor in Chinese, and use the subscript letter to signal the anaphoric relation between an antecedent and an anaphor.

Centering Theory (CT), and Discourse Representative Theory (DRT) are the representative approaches in the previous research, which all seem to try to interpret anaphoric forms from a universal perspective and have inspired research on interpreting anaphoric forms in Chinese discourses.

Briefly speaking, Accessibility Theory chiefly proposes that different anaphoric forms are linguistic markers for different degrees of accessibility of antecedents (Cf. Keenan & Comrie (1977), Givón (1983), Ariel (1990, 1994, 2008), Gundel et al. (1993), etc.). Centering Theory argues that the focus of attention (the C_b in CT) of an utterance is most possibly realized as the pronominal form (Cf. Grosz, Joshi, and Weinstein (1983, 1986, 1995), Walker (1998), Poesio et al. (2000), etc.). And Discourse Representative Theory attempts to suggest different accessibility conditions for different anaphoric forms to access the antecedents (Cf. Kamp (1981), Kamp & Reyle (1993), Asher (1993), etc.).

Although those three kinds of theories on anaphor interpretations seem to take very different approaches, they actually share some common features. They all contend, for example, that the anaphoric link between the antecedent and the anaphor is an accessible process and that the antecedent in a successful anaphoric link is accessible for the anaphor. The main difference among the three theories is that DRT appears to pay more attention to what entities are accessible for an anaphor, while AT and CT are concerned with how accessible an entity it is for an anaphor.

Admittedly, AT, CT, and DRT all are influential theories and have proposed many brilliant ideas for the interpretations on different anaphoric forms. But they are not free of problems. DRT cannot differentiate different uses of anaphoric forms with the accessibility conditions. AT cannot rightly determine the degree of accessibility of the antecedent and give an explicit correlation between the accessibility of the antecedent and the anaphoric forms. CT only shows its interests on the potential of the C_b of an utterance being the pronominal expression and leaves out other uses of anaphoric forms.

Below is an illustration with the example (1.1).

As discussed earlier, there are two anaphoric chains in (1.1) shown below.

Let us firstly have a close look at the interpretations of AT on example (1.1). According to the proposal of AT, the degree of accessibility of Tangmingde in (1.1a) should be the same as that of ta in (1.1c) but different from that of \emptyset in (1.1b) due to the different behaviors of anaphoric forms: Tangmingde in (1.1a) and ta in (1.1c) both are referred back by the zero pronoun, while \emptyset in (1.1b) is referred back by the overt pronoun ta. But on the other hand, the degrees of accessibility of Tangmingde in (1.1a), \emptyset in (1.1b), and ta in (1.1c) should be the same, in that they all have the same behaviors in terms of the distance, the competition, the saliency, and the unity which are four factors to determine the accessibility of the antecedent in AT. Hence there is a paradox in the interpretations of AT on the anaphoric forms of example (1.1), and the use of different, rather than identical, Chinese anaphoric forms in (1.2) cannot be rightly explained by AT.

Centering Theory is chiefly concerned with the center of utterance C_b and its realized expressions. According to the proposals of CT, all entities in (1.2) are the C_b of the utterance in which they occur respectively, and they can consequently be realized as a pronominal expression. But there are two kinds of pronominal expressions in (1.2), namely the zero pronoun and the overt pronoun ta, CT cannot explain the use of different Chinese anaphoric forms with pronominal expressions. On the other hand, there are anaphoric forms, such as the descriptive NP $na\ ren$ in (1.3), which don't serve as the Cb. CT offers no explanation on their uses.

As far as Discourse Representation Theory is concerned, all entities in the anaphoric chain (1.2) or (1.3) are regarded as the discourse referents which occur in the same discourse representation structure. Hence all antecedents in (1.2) or in (1.3) are accessible for their anaphors based on the proposals of DRT. But DRT cannot tell why the anaphoric forms differ in different contexts.

Thus, even with all thee major theories of anaphora, distinctive behaviors of

different Chinese anaphoric forms have not been thoroughly interpreted so far, though the existing research has posed a number of proposals to account for that. Thus, this thesis will set out to analyze the mechanisms of Chinese anaphora and attempts to interpret and explain the workings of all major types of anaphoric forms in Chinese discourses.

1.2 Taxonomy of Anaphora

Even though there has been a lot of research on anaphora, the definition of anaphora varies for different researchers. There are mainly three different kinds of views on anaphora in the literature.

- 1) The antecedent and the anaphor of an anaphora are NPs and co-referential (Cf. G. Hirst (1981), Chen (1987), Florian Jaeger (1999), Huang (2000), Shen (2000), etc.).
- 2) The antecedent and the anaphor of an anaphora are NPs but not necessarily co-referential. (Cf. Evans (1977, 1980, 1982), Quine (1960), Parsons (1978), Cooper (1979), Engdah (1986), Kadmon (1987, 1990), Lappin (1989), Heim (1990), Neale (1990), van der Does (1993), Lappin and Francez (1994), Chierchia (1995), etc.)
- 3) The antecedent and the anaphor of an anaphora can be NPs or other expressions such as Verb Phrase, Adjective Phrase, and so on (Cf. Kamp & Reyle (1993), Asher (1993), Peterson (1997), Smith (2003), etc.).

This thesis will focus on Chinese anaphora whose antecedent and anaphor are both NPs, which is actually the second kind of view we just discussed on anaphora. Such kind of Chinese anaphora will be called **Chinese NP anaphora** hereafter. [©]

① In some previous research, the term **NP** anaphora is used to refer to an anaphora whose anaphor is a noun phrase (see Chen 1987, Liao 1992, J. Xu 2002, etc.) This thesis re-defines the concept **NP** anaphora as the anaphora whose antecedent and anaphor are both noun phrases. The anaphora whose anaphor is a noun phrase will be called **noun phrase anaphora** in **order** to differentiate these two.

There are many different kinds of anaphoric forms in Chinese NP anaphora, because scholars have tried to classify them and often with different categories or schemes.

Liao (1986), Chen (1987), Huang (1994), J. Xu (2002), Hu (2007) all classify Chinese anaphoric forms into three kinds: zero anaphor, pronoun anaphors, and noun anaphors. Zero anaphor refers to an empty pronoun. A pronoun anaphor refers to the anaphor which is an overt pronoun that usually refers to the third-person and is realized as a pronoun ta. And a noun anaphor refers to the anaphor which is a noun phrase.

In the field of general anaphoric studies, Ariel (1990) provides a detailed classification which distinguishes sixteen kinds of anaphors in English: Extremely High Accessibility Markers, Cliticized pronoun, Unstressed pronoun, Stressed pronoun + gesture, Proximal demonstrative (+ NP), Distal demonstrative (+ NP), Proximal demonstrative + modifier, Distal demonstrative + modifier, First name, Last name, Short definite description, Long definite description, Full name, and Full name + modifier. Such detailed distinction of anaphors is motivated by her basic claim that referring expressions of anaphors can correlate with different degrees of information accessibility.

The idea of Accessibility Theory has been accepted by many researchers in Chinese linguistics, as shown in Y. Xu (2004), Jiang (2004), Weng (2004), and Ding (2005). But few researchers discuss all anaphors as thoroughly as Ariel (1990) does. Using an AT approach, Y. Xu (2004) classifies Chinese anaphoric forms into seven kinds: zero pronoun, reflexives, single demonstratives, pronouns, demonstrative NPs, name, and definite descriptions. Ding (2005) analyzes personal pronouns, noun phrases without definitive[©], and zero pronoun. Shen (2005) is only concerned with bare NPs.

In this thesis, the following five kinds of Chinese anaphoric forms will be taken into account: zero pronouns, the third-person pronoun ta, the definite

① The notion of "noun phrase without definitive" in Ding (2005) actually is consistent with the notion of "bare NP".

pronouns *zhe/na*, descriptive NPs in the form of *zhe/na*+NPs, and full NPs. I believe that all major types of Chinese anaphoric forms can be seen as forming a system and they can be regarded as actually marking different degrees of accessibility of the antecedents.

According to the marking relations with the degree of accessibility of the antecedent, those five kinds of Chinese anaphoric forms will be classified into four categories: the zero pronoun, overt pronouns including the third-person pronoun ta and the definite pronouns zhe/na, descriptive NPs, and full NPs. Since the third-person pronoun ta and the definite pronouns zhe/na are almost identical in carrying the same descriptive content, they are regarded as the same kind of Chinese anaphoric forms and marking the same degree of accessibility of the antecedent.

In a word, four types of Chinese anaphoric forms in Chinese NP anaphora are identified as the object of study in this thesis: zero pronouns, overt pronouns, descriptive NPs, and full NPs.

1.3 Main Proposals of This Thesis

The interpretation of different Chinese anaphoric forms requires an understanding of the interaction between contexts and Chinese anaphoric forms, and different Chinese anaphoric forms are used in different contexts. Then a nature question rises: how do the varying contexts correlate with the use of different anaphoric forms in Chinese discourses?

There are a variety of approaches in the previous research that attempt to account for the interpretation of different Chinese anaphoric forms, including the pragmatic approach, the functional approach, and the semantic approach.

① Those five kinds of anaphors are often confused with the same referring expressions. For instance, the zero pronoun has no realized form in the speech flow, which is the same as some empty categories that are resulted from inference and ellipsis. Shen (1994) gives a detailed discussion on all empty categories in Chinese. This thesis will not deal with the referring expressions which are not anaphorically used.

Among the various approaches, it seems that the semantic approach based on the framework of information accessibility is most applicable for the interpretations on Chinese anaphoric forms. If we assume that anaphors always play the same role on people's understanding, no matter how contexts and anaphoric forms vary, we can say that all Chinese anaphoric forms share a common function. On the other hand, there is semantic variability in contexts which require different anaphoric forms. In this respect different Chinese anaphoric forms can be said to differ in specific functions and satisfy different pragmatic requirements. What this implies is that the semantic approach based on information accessibility is fundamental. The difference between Chinese anaphoric forms in the pragmatics or the function actually comes from the semantic variability of different Chinese anaphoric forms.

Thus, this thesis will propose that the mechanisms of the correlation between contexts and anaphoric forms can be revealed when we take into account properties in information accessibility. Although the antecedent and the anaphor may be realized as different referring expressions in discourse information flow, they both denote the same discourse referent. Hence different information expressed by the antecedent and the anaphor respectively can be linked by the same discourse referent, no matter how the antecedent and the anaphor vary in referring expressions. In this respect, there is an accessibility relation between the antecedent and the anaphor in information. Different anaphoric forms are actually resulted from different accessibility relations which vary in the degree of accessibility of the antecedent. So the accessibility of the antecedent is important for the interpretations of different Chinese anaphoric forms.

This thesis suggests that the interpretations on Chinese anaphoric forms should be studied mainly from these two aspects: a) what factors can affect the accessibility of the antecedent, and b) how those factors affect the accessibility of the antecedent.

Four factors are proposed to affect the accessibility of the antecedent: discourse structure, the status of topicality, the saliency in cognition, and referential distance. They are posed to be related with anaphora from two structural aspects: one is the scope of two clauses, and the other is the two

discourse entities which occur in two clauses (the antecedent and the anaphor). In terms of the two clauses, they can vary in their relations in discourses and constitute different types of discourse structures which are termed as the super-node structures; while in the domain of the antecedent and the anaphor, they can vary in status as a topical element, with degrees of saliency, and with referential distances.

Three kinds of super-node structures will be distinguished in this thesis: the Minimal Structure (MS), the Local Structure (LS), and the Global Structure (GS). The super-node structures can greatly impact the accessibility of the antecedents. Hence different antecedents in different super-node structures are distinctive in the accessibility. As a result, the super-node structure can distinguish three sets of antecedents with distinct degrees of accessibility. Accordingly a ranking order of antecedents is proposed: Antecedents in the MS > Antecedents in the LS > Antecedents in the GS.

The topicality, the saliency, and referential distance can further affect the accessibility of the antecedents based on the impact of discourse structure. The impacts of those three factors can be revealed by the pairs of the antecedent and the anaphor, in that the pairs of the antecedent and the anaphor can indicate the inference load from the anaphor to the antecedent and the coherence of the discourse. Six distinguished kinds of the pairs of the antecedent and the anaphor are proposed: Strong Continuation, Weak Continuation, Smooth Shift, Rough Shift, Short Link, and Distant Link; which can result in six kinds of distinguished degrees of accessibility of the antecedent. As a result, three sets of antecedents rendered by the super-node structures can be further ranked according to the impacts of those six kinds of the pairs of the antecedent and the anaphor. In other words, topicality, saliency, and referential distance will further rank the available antecedents, illustrated by the above ranking order, of different sets resulted from the impact of discourse structure. Hence another ranking order of antecedents is proposed: Antecedents in Strong Continuation > Antecedents in Weak Continuation > Antecedents in Smooth Shift > Antecedents in Rough Shift > Antecedents in Short Link > Antecedents in Distant Link

Furthermore, the super-node structures based on discourse structure and the

ranking order of antecedents based on other three factors can together determine the uses of Chinese anaphoric forms. Firstly, the great impacts of the super-node structures on the accessibility of the antecedent will constraint the uses of possible anaphoric forms in different super-node structures. And secondly the differently ranked antecedents in the ranking order resulted from the AN-pairs will be further correlated with different possible anaphoric forms through the requirement of the inference load from the anaphor to the antecedent.

In general, all the uses of various Chinese anaphoric forms follow the Accessibility Marking Hierarchy: zero pronouns > overt pronouns (the third-person pronoun / the definite pronouns) > descriptive NPs > Full NPs. The marking degree of accessibility of the anaphoric form is higher than that of the anaphoric forms in the hierarchy.

But the general hierarchy can have different representations in different super-node structures, in that the available antecedents and the possible anaphoric forms vary in different super-node structures. In the MS, the most highly accessible antecedents are encoded by the simplest possible anaphoric form- the zero pronoun, the highly accessible antecedents are marked by the simpler possible anaphoric forms- overt pronouns, and the lowly accessible antecedents are marked by the most complex possible anaphoric forms- descriptive NPs. In the LS, the most highly accessible antecedents are also encoded by the simplest possible anaphoric form which is the overt pronoun rather than the zero pronoun according to the constraints of the LS on anaphoric forms, and the highly and lowly accessible antecedents are encoded by descriptive NPs and full NPs respectively. Accordingly, the most highly accessible antecedents in the GS are encoded by descriptive NPs and other antecedents are encoded by full NPs.

1.4 Research Methodology and Significances

This thesis will study Chinese anaphoric forms with a theoretical analysis as well as a corpus-based study. Concretely speaking, this thesis will firstly analyze

different uses of various kinds of Chinese anaphoric forms and give proposals on the interpretations of Chinese anaphoric forms. I will then take a corpus-based study on the use of all kinds of Chinese anaphoric forms, and then further investigate whether the corpus-based study can support the conceptual analysis. Finally, this thesis will give a general conclusion on the interpretations of Chinese anaphoric forms based on the conceptual analysis and the corpus study.

The research on Chinese anaphoric forms taken by this thesis is expected to make contributions to the universal analysis on the interpretations of anaphoric forms. Besides, I believe that the present research on Chinese anaphoric forms is necessary due to the following considerations. Firstly, further research can help deepen our understanding of Chinese anaphoric forms and consequently provide a better interpretation of the related linguistic phenomena. Secondly, further research can help Chinese teaching in a second language context, enabling learners to be able to tell the difference between different kinds of Chinese anaphoric forms. And thirdly, further research can benefit projects on Chinese anaphor resolutions for information retrieval.

1.5 Organization of the Thesis

This thesis is organized as follows.

Chapter 2 will provide an overview on previous research in anaphora. Universal approaches to anaphora as well as the specific research on Chinese anaphora will be discussed.

Chapter 3 will mainly study the interpretations of different Chinese anaphoric forms from the point of view of the information accessibility framework. Two main aspects are considered in the process: what factors will affect the accessibility of the antecedent and the use of Chinese anaphoric forms, and how those factors affect the accessibility of the antecedent and the use of Chinese anaphoric forms. After an in-depth study on those two main aspects, the interpretations of Chinese anaphoric forms can be attempted.