

A Review of Reference

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Abstract: *Reference* is an important work by Barbara Abbott, an American semantic scientist, which comprehensively and systematically introduces the basic problems of the category of reference. It not only provides a blueprint for the study of the category of reference, but also probes into the remaining controversial issues, such as the reference of proper nouns, definite phrases and quantitative phrases. For beginners of formal semantics, it is a rich and easy-to-understand introductory textbook, for scholars engaged in research related to reference phenomena, it can help expand their ideas.

1. Introduction

Reference is one of the *Oxford Surveys in Semantics and Pragmatics* published by Oxford University Press. The author is the American semanticist Barbara Abbott. The problem of reference has gone through hundreds of years of exploration and development, evolving from the tradition of philosophy to the paradigm of linguistics. This book returns to the original focus and reexamines the basic problem of the reference category, i.e. the connection between language and the outside world. It not only provides a blueprint for the research of the reference category, but also explores the remaining controversial issues, such as proper nouns, definite phrases, quantitative phrases and so on. In addition to the introduction and conclusion of the text, the content of the book can be divided into three parts. The first part (Chapters 2-3) is an overview of the relevant research on the category of reference. The second part (Chapter 4-9) provides a detailed introduction to quantitative phrases, definite phrases, index words, proper nouns, and other complex issues of reference. The third part (Chapter 10) further analyzes the reference of noun phrases from the perspective of pragmatics. The following is a brief introduction to the whole book.

2. Content Overview

The first chapter is the introduction. This chapter only defines the two basic concepts related to the category of reference from the perspective of the book, i. e. reference and noun phrase, and introduces the study of reference from the perspective of pragmatics and semantics. From the pragmatic perspective, reference is a pragmatic phenomenon in which the speaker refers to entities of the outside world through linguistic expression. From a semantic perspective, reference is a linguistic expression that relates directly to entities in the outside world, regardless of the speaker or others. Combining the two makes the reference more comprehensive and concrete. In addition, this chapter introduces different types and forms of noun phrases.

The second chapter is the early research. This chapter mainly introduces the core ideas of Mill,

Frege and Russell. In terms of concept, although the main difference between Russell, Mill and Frege lies in connotation, the author emphasizes that Russell's property [1] has no essential difference from connotation. In addition, from the aspects of the reference and propositional contexts, this chapter compares the similarities and differences among proper nouns, definite phrases, and empty NPs.

The third chapter is the later research. The Scope Ambiguity of quantitative phrases is one of the core contents of Montague grammar. Scope Ambiguity refers to the problem of whether quantifiers take a wide or narrow scope. In addition to quantitative phrases, there are also problems with Scope Ambiguity in modal context and belief context. However, the emergence of Scope Ambiguity is also restricted by syntax or semantic conditions. Under certain circumstances, there is only one semantic interpretation of proposition. In addition, this chapter introduces the relevant contents of "possible world semantics"(or connotative logic) in detail, and further deepens the understanding of proposition by distinguishing connotation and denotation. In the past, it was thought that the denotation of a proposition is the truth value of a sentence, while the connotation was the sum of the linguistic expressions carrying the proposition or the connotation of its components. But such definitions lead to language phenomena such as empty noun phrases that are not properly explained. The intensional logic introduces the possible world, regards the proposition as the connotation structure, changes the way of understanding the proposition, and provides the solution to these difficult problems.

The fourth chapter is Montague grammar. This chapter first introduces the Montague grammar, including its basic rules, operations and limitations, and also introduces the research for the generalized quantifiers of some representative scholars. Montague grammar came into being in 1970s, which was adapted to the controversy over natural language and logical language in the academic circle. Montague believed that the syntax and semantic rules of natural language and logical language are one-to-one corresponding and can be processed in the same syntactic and semantic system, which has great influence on the semantic analysis of quantitative phrases as well as the logical semantics [2]. Nevertheless, Montague grammar also faces two major problems: connotative structure and quantitative phrases. The biggest difference between natural language and logical language is that the latter expresses mathematical facts, so there is only absolute truth or falseness, and there is no problem of belief context or modal context. But to analyze natural language, these problems are inevitable. The traditional connotative structure only involves modal context and belief context. Carnap introduced connotative logic [3] in the 1940s, bringing the possible world into a logical language system. On this basis, Montague extended the connotative structure to the semantic analysis of other language structures. This is not only the development of the traditional logical language system, but also causes additional problems. In addition, Montague grammar also faces the problem of syntactic and semantic mismatch of quantitative phrases. Syntactically, quantitative phrases are in the same position as proper nouns and pronouns, but semantically, proper nouns and pronouns refer to individuals, while quantitative phrases do not refer to individuals. The concept of generalized quantifiers treats all noun phrases as generalized quantifiers, which unifies the logical treatment of quantified phrases with proper nouns and pronouns, but does not solve the fundamental problem.

The fifth chapter is proper nouns. This chapter reviews the research results on proper nouns. At the same time, the inheritance and development of later generations' early views are detailed, which can be divided into two schools: one is called denotationism; the other inherits and extends Russell's views, which is called descriptivism[1]. These studies have improved the previous theories. Rigid designator [4], the cluster view[5] and others have exerted a profound influence on the academic circle. The new schools of theory in the later period focus on two issues, i.e., the relationship between name and reference, and the semantic contribution of name in proposition. Although

different theories have sprung up, there is no perfect conclusion in the semantic study of proper nouns, and the co-reference name and empty noun phrases are difficult problems that have not been solved. Although later studies, such as Kaplan has been devoted to solving these two problems, they remain unresolved and inconclusive to this day[6].

The sixth chapter is definite phrases. Based on the previous researches on the semantic reference of definite phrases, this chapter further analyzes the reference of definite phrases from the perspective of pragmatic reference, and mainly introduces the research achievements, which emphasized that linguistic expression itself cannot be referred to, and reference is the act of the speaker through the form of expression[7]. It objected to Russell's analysis of definite phrase reference. Among them, the first difference lies in the reference of empty noun phrases, and on the question of individual reference and uniqueness, Strawson and Russell have different views. In addition, Kripke affirmed both semantic and pragmatic references, in particular, when explaining two cases of referential usage and attribute usage of definite phrases[4], the traditional semantic analysis can only cover referential usage, but can not explain the attributive usage of definite phrases. This reflects the limitation of the analysis from the point of view of semantic reference. Kripke considered that the difference between referential usage and attributive usage is actually the difference between semantic reference and pragmatic reference[7]. The former is encoded within a definite phrase and the latter comes from the speaker's will. But Kripke's analysis also has problems, so the semantic problem of definite phrases in general are still being explored.

The seventh chapter is plural and generic reference. This chapter not only introduces the semantic problems of definite phrases whose core words are plural nouns or material nouns, but also refers to the problem of generic reference of noun phrases. Research on the plural reflects the consistency of the internal levels of nouns, which makes it possible to further extend Russell's analysis of definite phrases to definite phrases whose core words are plural nouns or material nouns[8]. However, this chapter points out that the semantic problems of definite phrases with plural nouns or material nouns as core words are much more complicated than those of singular definite phrases. According to the different properties of predicates, such as distributive, collective or cumulative, this kind of noun phrases will have different semantic interpretations. In addition, on the issue of generic reference, which noun phrases can be have generic expression and how to refer to generic? It seems that the basic problem is not clearly stated. Only representative studies are presented in this chapter, like the generic reference phenomenon of bare nouns, the generic phenomenon of definite phrases. Gen operator is an economical and effective way to deal with generic reference of bare nouns, it's also conducive to the unified study of generic reference of noun phrases.

The eighth chapter is index terms and pronouns. This chapter first introduces the problems existing when index terms and pronouns coincide. Kaplan points out that when the functions of index terms and pronouns coincide, the truth value of their propositions is false[6]. For this reason, Kaplan believes that the possible world of an index term should be distinguished from what it refers to, and proposes the concepts of content and character. In order to determine the truth value of a proposition, it is necessary to introduce features into specific context to determine the "index term" and the content of the proposition. At the same time, others hold a different view that the anaphoric subject of index terms is caused by hidden indexed theories in the belief context, and the index term itself is a pure index term. In addition, this chapter also introduces the use of index terms and pronouns of demonstrative phrases, and unified them. At the end of this chapter, the usage of pronouns and index terms of the third person is introduced.

The ninth chapter is qualitative and reference. This chapter discusses the criteria of classifying definite categories, and introduces the reference of noun phrases. Existential sentences are generally considered to be an effective syntactic environment for detecting definite categories, but they

cannot determine whether quantitative phrases belong to definite categories. If a definite category is judged by existential sentences, what about the quantitative phrases? Therefore, the division of definite categories also requires other criteria, such as uniqueness, familiarity, and semantic type, which may be the criteria for qualitative detection. This chapter points out that the problem lies in the classification of proper nouns, pronouns and quantitative phrases, which conflicts with the traditional view that the three references are different. In addition, there are many controversies about the study of strong and weak noun phrases, such as the classification of local quantifiers and compound qualifiers in existential sentences. Barwise and Cooper have been conducting research in this field[7].

The tenth chapter is noun phrases in conversation. This chapter is concerned with the reference of noun phrases from the perspective of pragmatics. Although the semantics of noun phrases are discussed in this book, there are still many special phenomena in actual conversation. Taking pronouns as an example, this chapter points out that the biggest problem in semantic processing of pronouns in donkey sentences is that they are not under the scope of logical operators and cannot be restricted [9]. Then two kinds of solutions are introduced: dynamic semantics[10], and E-type theory, but each has its limitations. In contrast, Evans assumes that there is an omitted definite phrase in front of a pronoun that has the same meaning as the pronoun and provides a scope for it, which can actually deal with problems of pronouns and locally quantitative scope that dynamic semantics cannot solve. Thus, E-type theory seems to be more explanatory. In addition, this chapter also notes that other noun phrases are different in conversation, the conversational reference and semantic reference of noun phrases are not in one-to-one correspondence. Even the conversational context has an effect on the truth value of a proposition. Modal context is a representative example, which is discussed in this chapter.

The last chapter is conclusion. In this chapter, Abbott returns to the core theme of the book and summarizes the essence of reference and the carrier of reference. As he himself has said, there has been no conclusive answer to the reference. Both semantic reference and pragmatic reference, or the phenomenon of reference and quantification, definiteness and indefiniteness, direct and indirect reference, have been widely studied and discussed. Abbott's purpose in writing this book is not to put forward new theories or methods of analysis, but to systematically sort out the theories, analysis, disputes and so on in the scope of reference. The purpose of Abbott's book is to inspire more scholars to conduct in-depth research.

3. Conclusion

This book introduces readers in the simplest and easiest way to understand a century of difficult problems - reference. It is said that the study is difficult, not only because it has caused the collision between philosophy and linguistics, but also because it touches on the essence of human language. There is a consensus, though, that references relate to the human language and the outside world. But how language expression refers to the outside world has always been an unexplained mystery in the field of philosophy and linguistics. Even if Abbott wrote the book, he could not answer. So the main purpose of this book is to stimulate further discussion and contemplation, as the problem of reference has been a longstanding one. Meaning of the book:

First, theory and general knowledge. The book adheres the core idea of formal semantics, which involves predicate logic, Montague grammar and intensional logic. This book introduces and discusses the definition, nature and grammatical phenomena of reference without using abstract concepts as much as possible. Even basic concepts are explained separately. At the same time, it also reduces the logical expression in formal semantics as much as possible, and reduces the reading burden of readers. This is a rich and easy-to-understand introductory textbook for beginners of

formal semantics. For the scholars engaged in the study of phenomena related to reference, the research ideas of formal semantics are also helpful to expand their research ideas.

Second, objectivity and inclusiveness. There has never been a pause in the study of reference, and various viewpoints abound. As far as possible, Abbott includes as many important and classic views and analyses in the scope of references, some of which are still controversial. But the purpose of this book is not to support or oppose a particular point of view, but to discuss the pros and cons of these ideas, and to open the mind to others.

Third, challenging and enlightening. Reference is actually an intersection problem between linguistics and philosophy. It is abstract, complicated and obscure. Many questions are more difficult to explain and demonstrate. With reference as its theme, the book is challenging. Furthermore, reference is not an isolated concept and needs to be combined with specific linguistic expressions. Aiming at proper nouns, quantitative phrases, definite phrases, index terms, pronouns and so on, the author presents the general situation of the study for the readers as comprehensively as possible in each chapter, and guides the readers to think deeply and pertinently, so it is a rather enlightening book.

This paper gives a detailed introduction to the contents of *Reference* and analyzes its significance in the study of formal semantics and reference. Hope to let more scholars know the academic value and significance of this book, and hope that the introduction of this book can provide reference and help for the related research.

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