

PREFACE

The present essay has, as it were, a dual focus. On the one hand, it presents, and tests the adequacy of, a definition of cross-reference in the description of referential relations within a research article of immunology. On the other hand, various of these cross-referential relations are examined to test and extend results previously obtained in the study of a scientific sublanguage. These coordinate tasks would be more faithfully rendered, perhaps, by the less than graceful title Cross-Reference and a Scientific Sublanguage.

The first two chapters set the stage for the investigation by examining in some detail the concepts of 'cross-reference' and 'scientific sublanguage'. In the first chapter, a definition of referential relation is forwarded which is intended to account for the variety of cross-references intuitively recognized in a text. In the course of establishing this definition, a number of other concepts are explicated -- among them, the notions of 'referential classifier' and 'zero-referential'. The last few sections of chapter 1 review briefly several topics important to the study of cross-reference, e.g., the distinction between anaphora and epiphora.

The article whose cross-referential relations are described later in this work is one of a corpus of research reports concerned with the cellular site of antibody forma-

tion (a problem once current in the field of immunology). In a previous study it was found that sentences within these reports can be regularized, i.e., paraphrastically transformed, into a designated normal form and that word-classes and sentence-types specific to this field of science can be established. Particular sentences (or: distinguished segments of sentences) within these reports which are described in terms of the specific word-classes and sentence-types can be said to constitute a 'scientific sublanguage'. Chapter 2 presents the methods of analysis employed in this previous study and surveys some of the major results, i.e., the sublanguage word-classes and sentence-types and the division between science-language sentences and 'meta-scientific segments'. Issues surrounding the precise specification of the immunology sublanguage are discussed as well.

Chapter 3 introduces the article to be analyzed and discusses the role of tables and figures in the description of cross-references within that article. This chapter also announces some preliminary results of the analysis needed for a full description of cross-reference. It was conjectured that in their various occurrences members of certain sublanguage word-classes are referred to by referential-classifiers which can serve to classify all other members of these word-classes. The largely positive results reported in section 3.2 of that chapter lead to a further conjecture, namely, that zero-referentials specific to the

immunology sublanguage can be reconstructed in various sentences of the article. The reconstruction of zero-referential classifiers allows for a description of the article in terms of a reduced number of sublanguage sentence-types.

The fourth chapter provides a record of cross-referential relations within the research article. The recording of cross-references is assisted by use of a notation explained in the first section of the chapter. Each cross-reference recorded in the article (section 2) is provided with a note which indicates the rules employed in replacement of a referential phrase by the phrase referred to, i.e., its referend, and discusses, where necessary, details of the analysis.

In chapter 5 some results provided by the analysis of the preceding chapter are discussed. These results confirm in large measure the definition of cross-referential proposed in chapter 1. It is noted that zero-referentials can in many cases be reconstructed as hypothesized in chapter 3 but that additional conditions need to be stipulated to exclude several exceptional cases. In the fourth section, epiphoric cross-references are surveyed (the diversity and extent of these referential relations presents a rich area for linguistic investigation).

Other sections within chapter 5 discuss results which bear upon the organization of the article as a discourse and the concept of scientific sublanguage itself. Sec-

tions 3-6 present a variety of cross-references in which a science-language sentence (an instance of a sublanguage sentence-type) is referred to by a referential-classifier. In the fifth section, cross-references to occurrences of phrases in sentences concerned with "methods and materials" are examined. This section also discusses some particular features of sentences of the article under the headings "Discussion" and "Summary" which suggest a closer relation between the concepts of referential-relation and consequence than hitherto expected.

Section 6 investigates two principal hypotheses of this inquiry -- that referentials in science-language sentences do not cross-refer to occurrences of phrases in meta-scientific segments of the article, and that resolution of such referentials does not lead to sentences outside of the sublanguage sentence-types previously established. The first hypothesis is not confirmed by this work; the second, aside from one or two questionable "exceptions", is confirmed. The closure of science-language sentences under resolution of referential phrases occurring within them supports the supposition that the sublanguage comprises an integral part of discourses within this field of science.