

CROSS-REFERENCE IN A SCIENTIFIC SUBLANGUAGE

by

MICHAEL GOTTFRIED

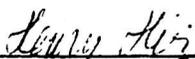
A Dissertation

in

LINGUISTICS

Presented to the Faculties of the University of
Pennsylvania in Partial Fulfillment of the Require-
ments for the Degree of Doctor of Philosophy.

1986



Supervisor of Dissertation



Graduate Group Chairperson

© COPYRIGHT
MICHAEL GOTTFRIED
1986

ACKNOWLEDGMENTS

My debts to others in the course of composing and preparing this work are extensive. To fully render my thanks is a pleasure, albeit a difficult one.

Among the greater rewards of both the present work and the previous project from which it grew has been an acquaintance with some of the methods and results of immunology. I owe much to the patient guidance of Drs. Susanna Harris and T. N. Harris of the Children's Hospital, University of Pennsylvania, in this effort. I would also like to thank them for consent to reprint their article: S. Harris and T. N. Harris, "Influenzal Antibodies in Lymphocytes of Rabbits following the Local Injection of Virus", Journal of Immunology, vol. 61, no. 2, pp. 193-207, © by William & Wilkins, 1949. Dr. T. N. Harris served as the principal immunologist-informant referred to in the text. He has been gracious in patiently responding to a steady volley of questions.

I would like to record as well my debt to the work of the late Beverly Robbins; the present essay owes much to her thorough analysis of the definite article in English.

Several persons have commented upon the work in its successive incarnations. Janis Vieland read an early draft of chapter 1 and offered a number of suggestions which account for the considerably improved version presented

here. Professor Henry Hoenigswald of the University of Pennsylvania and Professor Charles Parsons of Columbia University, as members of the dissertation committee, provided instructive criticism of various chapters.

Thomas Ryckman has followed this work from its onset. Many of the understandings animating the work are the outgrowth of years of extensive discussion with him. In the present effort, he has always been generous in hearing out positions in various stages of articulation and has provided much useful criticism.

My debt to Professors Zellig Harris and Henry Hiż is a profound one. I would hope that some measure of what I have gained from them and their work may be found in the pages that follow. Henry Hiż has been an exemplary advisor as well as teacher, critic, goad, and friend. I wish to thank him and Danuta Hiż for the many kindnesses extended to me over the years.

The actual preparation of the manuscript has been a collaborative enterprise. Thanks are due to Dale Hoffer for ably reckoning with the novel notation presented in the fourth chapter and to Marcy Kass for assistance in matters of graphics. Most especially I wish to thank Sylvia Alexander. In her, both work and author found a superb typist, a conscientious editor, and a devoted friend.

ABSTRACT

CROSS-REFERENCE IN A SCIENTIFIC SUBLANGUAGE

by

MICHAEL GOTTFRIED

with

HENRY HIŻ
Supervisor

The thesis provides a definition of cross-reference and tests its adequacy in a description of referential relations within a research article in cellular immunology. Various of these cross-referential relations are examined to test and extend results obtained in the study of a scientific sublanguage. Chapters 1 and 2 consider in detail the concepts of cross-reference and scientific sublanguage, respectively. The first chapter introduces a number of concepts employed in the description, e.g., zero-referential, referential-classifier, and contrasts the present approach with those adopted in other work. Chapter 2 presents the methods of discourse- and sublanguage analysis used to establish a grammar for a subfield of cellular immunology and surveys the results pertinent to the present effort. In chapter 3, the text to be analyzed is introduced and preliminary results presented concerning referential classifiers for particular word-classes of the sublanguage grammar. Chapter 4 provides a description of cross-references within the article -- the recording of

these cross-references is made by a notation described in section 1; the notes to the description corroborate the adequacy of the definition and discuss various details. The fifth chapter discusses some of the results of the previous chapter. The adequacy of the definition of cross-reference is reviewed and emendations suggested. The third section surveys the wide range of referential classifiers for sentence-types of the sublanguage grammar; the fourth the various patterns of epiphoric cross-reference in the article. Other sections examine the status of various hypotheses designed to test results obtained for the sublanguage. Section 2 examines regularization of sublanguage sentence-types by reconstruction of zero-referentials. Section 5 considers the status of 'procedure'-related sentences to the sublanguage and notes in what way cross-reference is related to the organization of the text. The concept of scientific sublanguage is itself examined by noting whether sentence-types of the sublanguage are closed under resolution of cross-references. The largely positive results corroborate the status of the sublanguage as an integral part of discourses within this field of science.