

Coherence and Coreference*

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Coherence in conversations and in texts can be partially characterized by a set of coherence relations, motivated ultimately by the speaker's or writer's need to be understood. In this paper, formal definitions are given for several coherence relations, based on the operations of an inference system; that is, the relations between successive portions of a discourse are characterized in terms of the inferences that can be drawn from each. In analyzing a discourse, it is frequently the case that we would recognize it as coherent, in that it would satisfy the formal definition of some coherence relation, if only we could assume certain noun phrases to be coreferential. In such cases, we will simply assume the identity of the entities referred to, in what might be called a "petty conversational implicature," thereby solving the coherence and coreference problems simultaneously. Three examples of different kinds of reference problems are presented. In each, it is shown how the coherence of the discourse can be recognized, and how the reference problems are solved, almost as a by-product, by means of these petty conversational implicatures.

1. INTRODUCTION

Successive utterances in coherent discourse refer to the same entities. The common explanation for this is that the discourse is coherent *because* successive utterances are "about" the same entities. But this does not seem to stand up. The text

John took a train from Paris to Istanbul. He likes spinach.

is not coherent, even though "he" can refer only to John. At this point the reader may object, "Well, maybe the French spinach crop failed and Turkey is the only country. . . ." But the very fact that one is driven to such explanations indicates that some desire for coherence is operating, which is deeper than the notion of a discourse just being "about" some set of entities.

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