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0. Introduction

This note is one in a series. The series consists of case studies concerned with the role that lexical information and lexically driven inference play in the construction of semantic representations of discourses. We hope that such studies will eventually lead to a clear perspective of the inferential mechanisms that are needed in text and discourse interpretation and of the kind of information which these mechanisms exploit as premises. There is—of this we are convinced—no quick and easy way to get at such a comprehensive picture; only a long and thorny path, leading past a large number of particular examples painstakingly scrutinized, is likely to lead us to such a comprehensive view. Each analysis along this path ought to produce some new insights into the nature of natural language interpretation; but it would be foolish to expect any one of them to reval the whole truth.

In this regard the present study is no exception. Like others we have carried out over the past two years, it yields some glimpses of the general principles that govern discourse interpretation. But a reasonably comprehensive understanding of those principles is, we fear, still a very long distance ahead.

The present study differs from our earlier case studies1 in that the problems it considers have a direct bearing on (automated) translation. For the case we will consider concerns the role which context plays in the

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* Most of what has gone into this paper arose out of joint work with Antje Roßdeutscher. Those familiar with that work will know the depth of my indebtedness.


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a Editors’ note: This article was originally published in M. Aurnague, A. Borillo, M. Borillo & E. Bras (eds.), Semantics of Time, Space and Movement—Proceedings of the 4th TMS International Workshop 1992, IRIT Université Paul Sabatier, Toulouse, 1993, 281–308. We carefully edited the article, corrected some typos, added full bibliographical references and brought some formulas in line with now more common usage. We would like to thank Tillmann Pross for careful proofreading.
interpretation of a lexically ambiguous word (the German verb *ausleihen*, which can mean either *borrow* or *lend*). When a German text is translated into, say, English, each occurrence of *ausleihen* must be disambiguated, for otherwise one would not know which of the two English verbs to use. Note, however, that it isn’t just when we translate into English that the ambiguity of *ausleihen* needs to be resolved. A German speaker will typically assign a particular reading to any occurrence of the verb he encounters, whether or not he knows English, let alone is engaged in English translation. So the same ought to be the case for any text-understanding system.

Nevertheless this paper holds a special moral for the business of translating by machine. It is a moral that comes in two parts. First, it should be evident from reading this note that an MT system able to deal with the problems we will discuss must have inferential capacities quite unlike anything that can be found in the systems which are in operation at the present time. If one keeps in mind that those problems are still quite trivial when compared with those that cause genuine trouble to professional translators, it is not easy to preserve even moderate optimism about the MT enterprise. At the very least they support a sense of sobriety.

That a certain sobriety is called for becomes especially clear when one realizes—and here we come to the second moral—that translation systems which can deal with the kind of problem we will discuss must be able to disambiguate not just in those (arguably infrequent) cases where disambiguation is directly needed for the choice of a suitable target language equivalent. Disambiguations like the one we will look at depend crucially on the availability of an explicit and unambiguous representation of the discourse or text which *precedes* the ambiguous item in question. This means that whenever the translation system encounters an expression whose disambiguation is needed for translation purposes, it must either have such a representation of the antecedent discourse, or else it will have to construct it then and there. In order to secure that the representation is there when required, the system will have to build it as it goes along, much as a question answering system would do with a text about which it must be able to answer subsequent queries. A system that forgoes building such representations in the hope that they won’t be needed, may be lucky in that no complicated context-dependent inferences will be wanted throughout the text with which it is dealing; but if it is not lucky, it will have to start all over or go back a considerable way; and so it might have been better off had it taken the more arduous course of building a proper discourse representation from the outset. There is no hope in either case that a powerful MT system can be significantly simpler than a fully-fledged discourse interpreter.