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                      Ambiguity and Complexity in Machine Translation / / by Bernard Scott

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                      Psycholinguistic and Neurolinguistic Assumptions -- On Language and
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Sommario/riassunto	This book is about machine translation (MT) and the classic problems associated with this language technology. It examines the causes of these problems and, for linguistic, rule-based systems, attributes the cause to language's ambiguity and complexity and their interplay in logic-driven processes. For non-linguistic, data-driven systems, the book attributes translation shortcomings to the very lack of linguistics. It then proposes a demonstrable way to relieve these drawbacks in the shape of a working translation model (Logos Model) that has taken its inspiration from key assumptions about psycholinguistic and neurolinguistic function. The book suggests that this brain-based mechanism is effective precisely because it bridges both linguistically driven and data-driven methodologies. It shows how simulation of this cerebral mechanism has freed this one MT model from the all-important, classic problem of complexity when coping with the ambiguities of language. Logos Model accomplishes this by a data-driven process that does not sacrifice linguistic knowledge, but that, like the brain, integrates linguistics within a data-driven process. As a consequence, the book suggests that the brain-like mechanism embedded in this model has the potential to contribute to further advances in machine translation in all its technological instantiations.