

9 HERBERT BRUDERER'S BOOK

We have mentioned Herr Bruderer's book in previous newsletters and we now reproduce an extract from a list giving details, followed by the book's foreword and a summary of its contents. Herr Bruderer is the Representative of the Group for Switzerland and his address is given on page 1 of this newsletter. His telephone number in Bern Switzerland is (031) 924013.

3. Herbert E. Bruderer, Handbook of Machine Translation and Machine-aided Translation. Automatic Translation of Natural Languages and Multilingual Terminology Data Banks. North-Holland Publishing Company, Amsterdam, Oxford, New York 1979, 959 pages, ISBN 0-7204-0717-6, price not yet fixed
Foreword by Professor K. Bauknecht, Department of Computer Science, University of Zurich
English translation by the Commission of the European Communities, Brussels
Bibliography with some 1600 references.

Direktbestellungen für alle vier Bücher/Book orders (all four titles): Verlag Linguistik, Postfach 149, CH-3110 Münsingen/Bern, Schweiz/Switzerland - Keine Ansichtssendungen

Postscheckkonto: Burgdorf 34-16403

Foreword

Machine and machine-aided translation has long been a research field fascinating both to linguists and to computer scientists. Research projects, differing widely in their precise objects and in the means at their disposal, are in progress in many centres. It is the merit of the present work that it provides an excellent survey of the present state of development and practical application of machine and machine-aided translation of natural languages.

The book is the result of a comprehensive tapping of the sources and of a detailed unravelling of the complex material gathered - it can certainly be reckoned one of the most comprehensive and up-to-date accounts relevant to this field.

This work by Bruderer is a mine of information, both for the practical worker and the theoretician: for each individual translation system it gives linguistic, data processing and economic details. Furthermore, the work covers the assessment of translation quality and in an appendix gives numerous examples of translations and interrogations. A list of over 100 addresses from both Eastern and Western countries, a bibliography of about 1500 references and a detailed alphabetical subject index all testify to the breadth of the subject spectrum covered.

Linguists and information scientists alike will surely be deeply indebted to the author for his appraisal - a stock-taking which embodies the results of years of enquiry and tremendous labour and which will assuredly serve as a sound basis for further work in this field.

Prof. Dr. K. Bauknecht,
Institute of Computer Science,
University of Zurich.

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Summary

The present Handbook can be regarded as the most up-to-date, thorough and reliable treatment at present available on the subject of machine and machine-aided translation of natural languages. It consists essentially of four parts: an introduction, a set of descriptions of different systems, an account of a demonstration of an automatic translation system and an appendix.

The introduction gives an outline, in readily comprehensible terms, of the problems, the possibilities and the limitations of fully automatic and partly automatic translation and explains all the fundamental concepts. It pays special attention to the various stages of the translation process and illustrates these by means of diagrams.

The second part presents a comprehensive survey of the various translation systems - whether already operational or only experimental - which are available at the present time. More than 40 systems, including 7 multilingual terminology data banks, are described with respect to their linguistic, technical and commercial features. The uniformly structured form in which the information is set out makes for ready comparison of the systems. The systems come from America, Asia and Europe, from Eastern countries as well as Western. All the information is first-hand - it was collected by means of a questionnaire consisting of over a hundred questions and in the course of numerous personal discussions. The description was in the majority of cases subsequently checked through by technical personnel responsible for the development of the system. The Handbook also includes a complete list of terminological data bases, planned or in being.

The third part gives details of the trials of the SYSTRAN translation system organised by the author at the computing centre of the University of Zurich. This was the largest-scale demonstration of the SYSTRAN system held so far.

The Russian texts submitted for translation into English were "unseen" they were not known to the system developers. The report on the trials was supplemented by a careful quality evaluation of the results.

The Appendix provides a rich assortment of specimen interrogations of the terminology data banks and of translations carried out by various systems. It lists the important but often inaccessible addresses of the institutes working the systems and completes the Handbook with a comprehensive bibliography and a detailed subject, author and abbreviation index.

Even before publication this work has acquired world-wide a reputation as a standard book of reference. The book is intended as an aid to the research worker, the teacher and the general user.

Key words and phrases

Applied linguistics, computational linguistics, linguistic data processing, natural language processing, natural language understanding, mathematical linguistics, automatic translation, machine translation, mechanical translation, machine-aided translation, machine-assisted translation, computer-aided translation, computer-assisted translation, terminological data bank, terminology data bank, terminology bank, automatic language analysis, automatic syntactic analysis, parsing, artificial intelligence, machine intelligence, cybernetics.