

documents, which traditionally have been divided into two genres: Eddic and Skaldic verse with their several variants (*fornyrdislág, málahátt, bölkr*, etc) and their inherent characteristics (alliteration, *helming*, etc). The second section, chapter 1, contains over two hundred pages of Old Norse and Old Icelandic texts with a parallel translation into Spanish, each text being preceded by a short historical and literary introduction. Finally, the third section (chapters 2, 3, 4 and 5) includes two dictionaries, the first one is actually an Old Norse and Old Icelandic-Spanish glossary while the second is a valuable dictionary of some proper terms used in the texts with their definition and a brief historical comment in Spanish. This section also contains a useful appendix summarizing the most important grammatical aspects of Old Norse and Old Icelandic such as tables with noun declensions and verbal conjugations. Finally, the authors supply a very detailed and descriptive bibliography including dictionaries, glossaries and general as well as specific studies about Old Scandinavian Literature.

Although many Spanish linguists, scholars and translators did previously research on the rich Old Scandinavian literature, outstandingly Francisco Uriz and Jose Antonio Fernández Romero through their translations, this book truly represents the first comprehensive work covering this field in Spanish with academic purposes and fills an important gap by providing students and teachers with useful material for the classes and for the in-depth study of Old Icelandic and Old Norse languages and literatures.

Schwarzl, Anja (2001). *The (im)possibilities of machine translation*. Peter Lang. Frankfurt am Main. 323 pages.

Reviewed by Silvia Borrás Giner

The (im)possibilities of machine translation is an introduction to the world of automated translation. The author presents in this work the essential theoretical characteristics of human and machine translation processes and she also evaluates the quality and output of several programmes from a comparative perspective. The first introductory chapter focuses on the existing degrees of automation and on the various machine translation generations that have been developed up to now. Schwarzl shows and comments on the evolution of these machines from the mechanical translation phase to the artificial intelligence stage, i. e. from the lexical substitution approach to the application of world knowledge into algorithmic based systems. The second section of the work deals with the two different processes representing machine and human translation, including a comparative analysis between both processes. As regards the machine translation process, various theories and models are suggested to know how direct, interlingua and transfer systems operate. Furthermore, the author illustrates the linguistic problems created by different types of ambiguity and explains the possible solution from a syntactic and semantic perspective. Concerning the human translation process, some hypotheses are considered so as to understand what happens in the translator brain when this process takes place. Although no

decisive conclusions are given, *think aloud protocols* help Schwarzl to consider the psycholinguistic model as the most appropriate for the human translation process. As a result, the author maintains that the computer formal logic is not up to the same standard as the human natural one, because the former works retrospectively, that is, it lacks the flexibility to handle unexpected situations.

After comparing the processes of human and machine translation, the third chapter of the book is based on a more practical perspective. In order to assess the output of machine translation systems, three programmes (Langenscheidt T1 3.0, Globalink Power Translator Pro 6.0 and Pons Personal Translator Plus98) are thoroughly compared in accordance with several evaluation methods, namely, the four scale rating, the benchmark test, the backtranslation, the standardized error counting and the test suite. The first evaluation method, the four scale rating, grades the translated texts from perfectly intelligible to hopelessly unintelligible. The second one, the benchmark test, is used to indicate which grammatical features are covered or not by a machine translation system. The third method, backtranslation, undergoes a double translation process: the original text is first translated into the target language and then the translated output becomes the input for the second translation back into the source language. The fourth one, the standardized error counting, takes place at the post-editing stage and the last method, the test suite, is actually a secondary method which inevitably needs one of the aforementioned mechanisms to produce some comparable results. The author highly recommends that the evaluation of the different methods should be done by people not only bilingual but also familiar with the way a machine translation system works. The fourth chapter, entitled *future perspectives*, provides some guidelines for every machine translation specialist. In this section, special attention is paid to the research directions of computer science and mathematics. Here Schwarzl skips from the traditional approaches, namely the direct, interlingua and transfer systems, to new machine translation strategies based on artificial intelligence. As some specialists maintain, the current applications of expert systems, artificial intelligence, fuzzy logic, chaos theory and neural networks can expand and improve machine translation processes. According to the author, there is a lesson to be drawn from these recent research tendencies, because all new contributions might direct natural language processing in the long term. In the last part of the book Schwarzl provides some conclusions. Although it is the shortest chapter it perfectly reflects the essence and summarizes the most relevant ideas presented in all the previous sections. In short, machine translation could open up new important tasks for translators but it will never replace human translation, because at present human translation is more precise than machine translation. Nevertheless, the author foresees that experts systems, artificial intelligence, neural networks, fuzzy logic or chaos theory will advance machine translation results substantially. There is a final appendix at the end of this chapter.

This book is a very comprehensive introduction to the concepts and principles that characterize machine translation. Although it is divided into six chapters, it has basically two different parts: one theoretical and one more practical. In our view, this distribution makes the book easier to understand, because it first introduces the main standards of

machine translation processes and then focuses on the pragmatic and real performance of three specific systems. Moreover, most of the sections include a little compilation or summary of the principal ideas that have been disclosed and an evaluation of all methods and results presented. The only difficulty in this work is that the examples of machine translated texts are carried out both in German and in English.

Terttu Nevalainen and Helena Raumolin-Brunberg (2003): *Historical Sociolinguistics: Language Change in Tudor and Stuart England*. Great Britain: Pearson Education, 260 pages.

Reviewed by Sara Ponce Serrano

Historical Sociolinguistics: Language Change in Tudor and Stuart England is a comprehensive study of language variation and change from a social perspective. In the preface the authors present the process of data compilation together with the material used for the analysis. The research is based on an electronic collection of personal letters (*Corpus of Early English Correspondence 1410-1681*), consisting of 6,000 letters and approximately 800 writers. Through this corpus Nevalainen and Raumolin-Brunb analyse some of the linguistic changes present in literate sections of the English population and, for this purpose, they focus on the Late Middle and Early Modern English periods, with special attention to the Tudor and Stuart times, from an interdisciplinary Sociolinguistic approach.

The work is divided into ten chapters, including three different appendices which contain the methodology used in the graphical representation of data, numerical information in relation to the different linguistic changes and the list of letters used in the study. Chapter one serves as an introduction, followed by eight chapters and a final chapter summarising the conclusions in relation to the analysis previously done. Chapter two deals specifically with the study of the different models through which the social context of the English language can be studied. Several sociolinguistic paradigms are here commented and the repercussions of the different models in language change are described. In chapter three, Nevalainen and Raumolin-Brunberg present the historical data used consisting of personal correspondence from 1410 to 1681. The Tudor and Stuart England periods are the background for the reconstruction of the social contexts of language use. Chapter four is initially dedicated to the time courses of all linguistic changes analysed. In the second part of this chapter the authors provide the reader with different material related to several linguistic changes through the history of English. In the last part of this chapter fourteen grammatical changes previously analysed are illustrated and explained with several examples. In the four next chapters, six, seven, eight and nine, the authors relate these fourteen linguistic changes present in the history of the English language with several sociolinguistic factors: real and apparent time, gender, social status, regional and register variation and the role these issues played in language change.