

Darío Mantrana Gallego

## Review

María del Mar Sánchez Ramos & Celia Rico Pérez (2020):

*Traducción automática:*

*Conceptos clave, procesos de evaluación y técnicas de posesición.*

Granada: Comares, 111 pp.

Nowadays, we live in a digitised world which is evolving exponentially day by day. We are currently experiencing a technological revolution. This phenomenon can also be seen in the field of machine translation. Machine translation (MT) is playing an ever-increasingly important role in our daily lives, even though some translation experts are reluctant to embrace it. With all of its technological developments, MT is both quick and provides great results. During the 30s and 40s, George Artsrouni und Petr Smirnov-Troyanskii took the first steps towards creating the precursor to what is known as MT today. Nevertheless, it was not until the end of the 40s that the MT was born, when Warren Weaver and Andrew Booth considered using computers for translating languages. Since then, the MT continues to innovate and evolve through its engines changing the translator's profession as we know it. It is for this reason that MT remains relevant today in the translation studies field. Sánchez Ramos and Rico Pérez present a great book on the concept of MT, evaluation methods, pre-editing and post-editing.

The volume is divided into 5 chapters. The way in which the concepts are presented in each chapter helps the reader understand the bigger picture of MT a simple format. The book is aimed at those people interested in technology and translation. However, it is primarily focused on teaching students within the translation study field. It covers all the important theory related to MT. In addition, it also offers a practical section which helps reinforce the knowledge acquired in each chapter. Every chapter begins with a very detailed and comprehensive definition of the topic in question, followed by an extensive bibliography, a further reading list, and finally, a glossary of terms. Each chapter concludes with a self-assessment questionnaire with its corresponding answers as well as a couple of questions by way of reflection.

MT has become a way of life for some professional translators, given that it is closely related to individual productivity. Machine translation as a concept is quite comprehensive and interdisciplinary, owing to the fact that it integrates a vast number of fields such as computational linguistics, artificial intelligence and linguistics. In the first chapter,

Sánchez Ramos and Rico Pérez provide a concise, yet fairly complete definition of MT, while at the same time providing a brief historical summary. This chapter submerges the reader in a trip through time, in which they are offered some of the greatest milestones in MT evolution and its respective, historical projects since the Second World War up until the present day. It also includes a selection on different reports and a significant number of MT projects.

The second chapter outlines the main types of MT engines. Research and studies on how to improve MT systems and how to create new projects, methods and techniques are just some of the topics included in this chapter, all of which have led to the development of MT engines. Sánchez Ramos and Rico Pérez enlighten the reader on rule-based machine translation, statistical machine translation, example-based machine translation, hybrid machine translation along with the most recent MT engine, neural machine translation. A subchapter is dedicated to each MT engine and the authors explain how a specific system works, how the translation task is perceived and discuss engine architecture. In addition to the above, it also covers the advantages and disadvantages of each system.

In the third chapter, Sánchez Ramos and Rico Pérez focus on manual and automatic evaluation metrics. These evaluation metrics may have diverse purposes, such as evaluating the source text quality, system improvement over time, analysing output as well as evaluating the target text quality or the MT engine usability, among others. The authors highlight the importance of considering the purpose of the evaluation in order to choose the appropriate evaluation metric system. The aforementioned should be carried out before starting any evaluation or analysis. In order to introduce the reader to this topic, the authors provide a general overview and an historical outline of the evaluation

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#### Redaktion

Leona Van Vaerenbergh  
University of Antwerp  
Arts and Philosophy  
Applied Linguistics / Translation and Interpreting  
O. L. V. van Lourdeslaan 17/5  
B-1090 Brussel  
Belgien  
[Leona.VanVaerenbergh@uantwerpen.be](mailto:Leona.VanVaerenbergh@uantwerpen.be)

Klaus Schubert  
Universität Hildesheim  
Institut für Übersetzungswissenschaft  
und Fachkommunikation  
Universitätsplatz 1  
D-31141 Hildesheim  
Deutschland  
[klaus.schubert@uni-hildesheim.de](mailto:klaus.schubert@uni-hildesheim.de)

metrics. Following this brief introduction, Sánchez Ramos and Rico Pérez delve into manual and automatic evaluation metrics to highlight their advantages and disadvantages. These metrics are based on different quality criteria: adequacy (accuracy and fidelity) and fluency. In a manual evaluation, the evaluators classify the errors, assign a score for the MT output or compare outputs from different MT engines from the best to the worst. Within the manual evaluation metrics, the authors present three models: SAEJ2450, MQM and TAUS. Conversely, the automatic evaluation may be a desired option in order to avoid unnecessary cost and manpower. The authors describe three metrics: BLEU, whose metric criterion is precision (correct words in MT output), METEOR, which is based on recall (correct words in reference) and TER, which includes Levenshtein edit distance (number of insertions, deletions or substitutions required to obtain a MT output with the reference translation).

The fourth chapter deals with controlled language and pre-editing. The first refers to certain rules with regard to technical texts, in which complex grammatical structures and word ambiguity can be avoided. Moreover, controlled language may help the reader to understand the text easily and due to the restricted grammar and vocabulary rules, writing text with controlled language makes the texts more precise. Equally, pre-editing entails reviewing the source texts and correcting errors in order to avoid ambiguity and improve the MT output quality. In other words, pre-editing sets restrictions for existing texts, while controlled languages are rules set out for texts still to be written. Sánchez Ramos and Rico Pérez go through the rules of controlled languages and pre-editing including some illustrations.

The next and last chapter conducts an exploration into the activity of post-editing (PE). Post editing begins as soon as the MT output is ready and involves changing the MT output in order to reach a good quality translation. The authors define the above concept and explain the differences among post-editing, reviewing and translating. The chapter concludes with the presentation of two post-editing strategies: light post-editing (LPE) and full post-editing (FPE). In addition, Sánchez Ramos and Rico Pérez broach the PE rules and guidelines as well as the skills needed for post-editors.

This volume has demanded both devotion and commitment, something which is evident in the quality of work. The authors expose the concepts in a well-organised manner enabling the reader to understand the book effortlessly. Notwithstanding, the vast number of learning resources given by the authors contribute to enhance and expand the reader's knowledge and experience. Every chapter is testimony to the amount of work, effort and research carried out by the authors. *Traducción automática: Conceptos clave, procesos de evaluación y técnicas de posesición* is also extremely useful for any researcher, teacher or student who may wish to learn and research more about MT. The goals set out by Sánchez Ramos and Rico Pérez in the introduction are more than achieved. The detailed explanations, reflections and examples bring the reader closer to the subject of MT and help students within the translation study field have a better understanding of the world of MT and all that it encompasses. Last, and

by no means least, the book is a relevant and up-to-date study regarding the latest achievements and improvements in MT.

*Reviewer*

Darío Mantrana Gallego is a PhD student in Translation Studies at the University of Alcalá (Madrid). His research focuses on economic translation and new technologies, in particular, neural machine translation engines. Darío is a sworn translator/interpreter ES-DE in both Germany and Spain.

E-mail: [d.mantrana@edu.uah.es](mailto:d.mantrana@edu.uah.es)

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