

***Artificial intelligence and machine learning: How a better grasp of AI can frame and facilitate the dialogue about its role in the years to come***

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**Abstract**

The recent changes brought about by the advances of machine translation (MT), both in the public sphere and in the narrower field of the translation industry, often lead nowadays to rather strong and confrontational stances on the subject, sometimes to the point of caricature (Loock 2019). This situation is further complicated – and, in a sense, made possible – by the fact that MT is currently being developed in seemingly opposite directions: as a tool in the service of human translators as well as an autonomous piece of technology that threatens to replace them someday.

Machine translation has evolved a lot indeed since the first works of Weaver and Bar-Hillel (Wilks 2009), the rift between symbolism and connexionism (Fodor & Pylyshyn 1988) and the first winters of AI (Russel & Norvig 2010). Proof of that is the increasing presence of MT in our institutions (Fontenelle 2009). However, these tools remain subject to intrinsic constraints, the most obvious being intimately linked to the corpora that we use to train them. What is more, the intensity of the research around neural networks has given rise to a number of systems, architectures and approaches that can potentially result in different types of errors, uneven post-editing efforts and varying performance depending on the language combination, length of sentences, domain and type of data... (Schumacher 2019; Esperança-Rodier 2018). In many respects, it therefore seems important to facilitate a better grasp of how these tools work and how they were developed, if only rudimentarily as suggested by Loock (2019).

The main issue, in my opinion, has to do with the terminology overlap between the attractive *artificial intelligence* and conventional *machine learning* approaches. In that sense, choosing and showcasing the former also conveys a fictional image that is far remote from actual translation technologies. While these are indeed able to *learn* tasks on their own, they still lack a real understanding that would characterize AI, and they remain relatively weak when confronted to unseen or out of domain data. And the clash between these two realities can lead to the overly optimistic, or pessimistic, points of view that have become so common concerning MT.

A better understanding of neural machine translation, however, can help to moderate the discourse of its strongest opponents and unconditional supporters. Of course, the rise of MT goes in pair with certain changes, and that is also true for many other sectors that are yet less obvious than translation. The fields of health, law or even computer programming itself, for instance, are becoming a common occurrence in the press (Moutot 2019; Papa Techera 2019). More importantly, the integration of AI in such disciplines has already shown that the new developments do not necessarily go against the work of human professionals. On the contrary, these computer-assisted configurations allow them to focus on what matters more, and to add their personal touch to it. The most eloquent example of such gain, which is also at the basis of my research on literary machine translation, is a boost in creativity, that other translators have also noticed when working on technical and institutional documents, ever since CAT tools were introduced in the workflow (Strandvik 2001).

## References

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