Computer Life (CPL) ISSN: 1819-4818
DELIVERING QUALITY SCIENCE TO THE WORLD

A Comparison of Machine and Human Translation

Xiaolei Wan

Department of Foreign Languages, Guagndong University of Science and Technology, Dongguan, China

---

Abstract: In this paper, similarities and differences between machine translation and human translation are studied and analyzed. The results show that there are indeed a lot of differences between the them. The conclusion is that machines will never replace human brains in translating.
Keywords: machine, human, translation.

---

1. INTRODUCTION

Machine Translation, also known as automatic translation, is the process of converting one natural language source language into another natural language target language by computer. It is a branch of computational linguistics, one of the ultimate goals of artificial intelligence, and has important scientific research value. At the same time, machine translation has important practical value. With the rapid development of economic globalization and Internet, machine translation technology plays an increasingly important role in promoting political, economic and cultural exchanges.

2. FACTS AND ANALYSES

The difference between artificial intelligence and human: 1. Artificial intelligence can not realize the natural interaction with human emotion, will, mentality, emotion, experience and so on. In essence, artificial intelligence is a mere concept of the physical world, unable to cross over into the realm of consciousness 2. The left and right hemispheres of the brain have different roles: The left hemisphere is good at rational and abstract thinking such as analysis, logic, deduction and reasoning; the right hemisphere is good at perceptual and image thinking such as intuition, emotion, art and inspiration. So far, all the intelligent performances of artificial intelligence only imitate the rational thinking mode of human left hemisphere, but not the perceptual thinking of the right hemisphere. "In other words, current AI technologies are still struggling to deal with the sociocultural and consciousness-related issues that have a significant impact on human consciousness, but which the human brain can easily cope with through long-term learning and growth in complex social environments. 3. Machines can't generate their own emotions. The robot system is able to partially understand the scene, environment and dialogue, and to make corresponding responses or expressions according to its results. But for a robot or an artificial intelligence system to be fully human, with spontaneous emotion and creativity, that's very difficult, or impossible. Translation studies is an academic interdiscipline dealing with the systematic study of the theory, description and application of translation, interpreting, and localization. As an interdiscipline, Translation Studies borrows much from the various fields of study that support

translation. These include comparative literature, computer science, history, linguistics, philology, philosophy, semiotics, and terminology. The term translation studies was coined by the Amsterdam-based American scholar James S. Holmes in his paper "The name and nature of translation studies" which is considered a foundational statement for the discipline. In English, writers occasionally use the term translatology (and less commonly traductology) to refer to translation studies, and the corresponding French term for the discipline is usually traductologie (as in the Société Française de Traductologie). In the United States there is a preference for the term Translation and Interpreting Studies (as in the American Translation and Interpreting Studies Association), although European tradition includes interpreting within translation studies (as in the European Society for Translation Studies).Schools of thought. The main schools of thought on the level of research have tended to cluster around key theoretical concepts, most of which have become objects of debate. Through to the 1950s and 1960s, discussions in translation studies tended to concern how best to attain "equivalence". The term "equivalence" had two distinct meanings, corresponding to different schools of thought. In the Russian tradition, "equivalence" was usually a one-to-one correspondence between linguistic forms, or a pair of authorized technical terms or phrases, such that "equivalence" was opposed to a range of "substitutions". However, in the French tradition of Vinay and Darbelnet, drawing on Bally, "equivalence" was the attainment of equal functional value, generally requiring changes in form. Catford's notion of equivalence in 1965 was as in the French tradition. In the course of the 1970s, Russian theorists adopted the wider sense of "equivalence" as something resulting from linguistic transformations. At about the same time, the Interpretive Theory of Translation introduced the notion of deverbalized sense into translation studies, drawing a distinction between word correspondences and sense equivalences, and showing the difference between dictionary definitions of words and phrases (word correspondences) and the sense of texts or fragments thereof in a given context (sense equivalences). The discussions of equivalence accompanied typologies of translation solutions (also called "procedures", "techniques" or "strategies"), as in Fedorov (1953) and Vinay and Darbelnet (1958). In 1958 Loh Dianyang's Translation: Its Principles and Techniques drew on Fedorov and English linguistics to present a typology of translation solutions between Chinese and English. In these traditions, discussions of the ways to attain equivalence have mostly been prescriptive and have been related to translator training. Descriptive translation studies Descriptive translation studies aims at building an empirical descriptive discipline, to fill one section of the Holmes map. The idea that scientific methodology could be applicable to cultural products had been developed by the Russian Formalists in the early years of the 20th century, and had been recovered by various researchers in Comparative Literature. It was now applied to literary translation. Part of this application was the theory of polysystems (Even-Zohar 1990) in which translated literature is seen as a sub-system of the receiving or target literary system. Gideon Toury bases his theory on the need to consider translations as "facts of the target culture" for the purposes of research. The concepts of "manipulation"and "patronage" have also been developed in relation to literary translations. Skopos theory Another paradigm shift in translation theory can be dated from 1984 in Europe. That year saw the publication of two books in German: Foundation for a General Theory of Translation by Katharina Reiss (also written Reiß) and Hans Vermeer, and Translatorial Action (Translatorisches Handeln) by Justa Holz-Mänttäri. From these two came what is known as Skopos theory, which gives

priority to the purpose to be fulfilled by the translation instead of prioritizing equivalence. Cultural translation The cultural turn meant still another step forward in the development of the discipline. It was sketched by Susan Bassnett and André Lefevere in Translation - History - Culture, and quickly represented by the exchanges between translation studies and other area studies and concepts: gender studies, cannibalism, post-colonialism or cultural studies, among others.

3. COMPARISON AND CONTRAST

The difference between human and artificial intelligence:

1. Artificial intelligence can not realize the natural interaction with human brain in emotion, will, mentality, emotion, experience and other aspects. In essence, artificial intelligence is only a concept of the physical world, which can't cross the field of consciousness.

2. The left and right hemispheres of human brain have different division of labor: the left hemisphere is good at rational abstract thinking such as analysis, logic, deduction and reasoning; the right hemisphere is good at perceptual image thinking such as intuition, emotion, art and inspiration. So far, all the intelligent performance of artificial intelligence only imitates the rational thinking mode of human left brain, but has no perceptual thinking of right brain at all. "That is to say, the current artificial intelligence technology is still difficult to deal with all kinds of problems in social culture and consciousness field with significant human subjective consciousness influence, while the human brain can easily deal with such problems through long-term learning and growth in complex social environment.

3. Machines can't produce their own emotions. The robot system can partially understand the scene, environment and dialogue content, and make corresponding reactions or expressions according to its results. However, it is difficult or impossible for robots or artificial intelligence systems to fully reach the level of human beings and have spontaneous emotions and creativity.

The 7 essential translator skills – your core competency These are the basic translator skills you need to work as a professional translator. 1. Advanced language knowledge You can’t translate something unless you understand it. And if you don’t understand the text fully, you risk misinterpreting it and delivering a translation that’s not completely accurate. So good translators need to understand all meaning – including all the subtle nuances implied in the text. That level of understanding requires advanced, near native level, knowledge of your source language. Nothing less will do. Language is constantly changing, so it’s an on-going process, not a target to reach then relax 2. Excellent writing skills To be a good translator you must be a very good, and not merely adequate, writer in your target language. You must have a way with words, the ability to write with flair. And you’ll likely need to do that across a variety of text styles – promotional and marketing, formal/legal, casual, technical, etc. To some extent you either have excellent writing ability and expression or you don’t. But it’s also a skill you can hone and improve with experience and application. Note down wording you come across that you really like, and add it to your repertoire 3. In-depth cultural knowledge Good translators have a deep understanding of both source and target cultures. That’s general cultural knowledge like values systems and how people view the world. And culture-specific aspects like pastimes, customs, etc. You’ll often need cultural knowledge to grasp the significance or implication of text you’re translating. And understanding the differences between your source and target language cultures will alert you to text that won’t work well or will have reduced impact when translated. How

to extend your cultural knowledge Spend time in both target and source culture countries Consume media in both languages Attend cultural events Research aspects of the culture you haven't personally experienced 4. Sound research skills Translators are always researching things – wording, meanings, vocab, jargon, background info. The more efficiently you can do it the better. How to refine your translation research skills Learn the tricks to refining Google searches See what your peers do Find and bookmark your most useful reference sources Ask on translator forums 5. Best practice translation and review processes Translation is mentally challenging, and it's dead easy for the odd shortcoming to slip through. A little inaccuracy here, less than ideal wording there. That's why good translators stick like barnacles to proven translation processes.5-step translation process summary You need to too. How to improve your translation processes Read this article And this one on reviewing translations Do a translation course – they'll drill sound processes into you Be disciplined! Don't rush your translation or be tempted to take shortcuts Work with a colleague and peer-review each other's work. Due to the technological development especially the transportation technology and the internet the world is becoming smaller and people from different cultures are closer to each other than ever.

4. EPILOGUE

In 2016, Google introduced a neural machine translation system into translation, which attracted a lot of attention around the world. Faced with the high accuracy of the translations translated by Google's neural machine translation system, some people worry that, in a trend like machine translation, human translation will eventually be replaced by machine translation. This paper discusses the view that machine translation will not replace human translation from three aspects: The nature and definition of translation, the shortage of machine translation and the relationship between machine translation and human translation.

REFERENCES

[1] Albat, Thomas Fritz. "Systems and Methods for Automatically Estimating a Translation Time." US Patent 0185235, 19 July 2012.

[2] Yehoshua Bar-Hillel (1964). Language and Information: Selected Essays on Their Theory and Application. Reading, MA: Addison-Wesley. pp. 174–179.

[3] Madsen, Mathias: The Limits of Machine Translation (2010)". Retrieved 12 June 2012.

[4] DuPont, Quinn (January 2018). "The Cryptological Origins of Machine Translation: From al-Kindi to Weaver". Amodern (8).