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Chapter 15

(RE)Conceptualising Translation in the Age of The Machine

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(RE)CONCEPTUALISING TRANSLATION IN THE AGE OF THE MACHINE

Michael Tieber

Introduction

As machine translation (MT) becomes increasingly prevalent and the dominant source of translations, we face a crucial question: what *is* translation when performed by a machine? Translation Studies (TS), as an academic discipline, possesses extensive expertise in defining and conceptualising translation, having evolved through translational concepts such as *recoding* (Kade 1968), *rewriting* (Lefevere 1982), or *deconstruction* (Arrojo 1995) to name but a few. In contrast, MT research and development (MT R&D) progresses independently of these theories and does not directly address or define the understanding inherent in and represented by MT systems. This makes translation concepts in MT R&D much vaguer and more difficult to grasp.

The pervasiveness and ubiquity of MT today profoundly influence how users and the general public perceive translation. Translation becomes simplified into a straightforward input-output process that appears easily manageable through technology, often sidelining human involvement. The media frequently reinforces this view, sometimes even imbuing MT with quasi-magical qualities (Nunes Vieira 2020). Such perceptions not only diminish the economic value of human translation (do Carmo 2020) but could also potentially undermine its cultural significance in society. Consequently, this devaluation can impact the prestige and social status of the translation profession (Dreesen and Bubenhofer 2020). TS has a responsibility to emphasise the cultural and social roles of translation and preserve its value as a human practice in transcultural communication and knowledge exchange. At the same time, the widespread presence of MT could also draw greater public attention to the broader field of translation. This heightened visibility presents an opportunity to inform the public about the cultural and social significance of translation and its role in fostering cross-cultural understanding.

This paper contrasts the conceptualisations of translation in TS and MT R&D, advocating for translation concepts that enable interdisciplinary integration. Such a framework can describe and evaluate the suitability of human, machine, and hybrid forms of translation in various contexts and for various purposes. The first section outlines the evolution of translation concepts in TS, emphasising significant shifts in conceptualisations of translation from its early days to contemporary perspectives. The section tracks down distinct turns in the discipline's history, each representing shifts in academic thought about translation as a practice and a product. In this context, Asscher

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(2023) argues that both prescriptive and descriptive approaches in TS – centred on equivalence and reception, respectively – can accommodate MT as a legitimate object of study. The second section focuses on exploring the conceptualisations of translation within the domain of MT R&D, contrasting it with notions of translation in TS. The section highlights how different paradigms in MT R&D relate to distinct views of translation, driven by technological advancements and operational requirements while also pointing out how they diverge from the sociocultural perspectives on translation emphasised in TS. The third section examines how the ubiquitous use of MT systems shapes public perceptions of translation. By presenting translation as an easily accessible commodity, the cultural significance and economic value of human translation risk being diminished. The final section demonstrates how to counter this trend by introducing broader translation concepts beyond TS and MT R&D. It argues that TS must adopt and promote inclusive, specific, and adaptive translation concepts to safeguard the analytical precision of this fundamental concept. This approach will help TS foster a more informed public perception of translation and provide a clearer framework for evaluating the benefits and limitations of different translation forms.

1 The evolution of translation concepts in translation studies

It is evident that TS looks back on decades of engaging with translation in both theory and practice, continually exploring, describing, and refining translation as an analytical term. Deemed the "fundamental concept" of TS (Zwischenberger 2019: 256), the discipline has undergone a notable evolution in its perception of translation both as a process and as a product. The notion of translation within TS underwent a significant transformation, for instance, from *recoding* (Kade 1968) to *cannibalism* (Campos 1981), *rewriting* (Lefevere 1992/2017), *manipulation* (Hermans 1985) or *deconstruction* (Arrojo 1995) to name but a few. Before advancing this discussion, it is important to acknowledge that Eurocentric views have significantly influenced TS as a whole, which also becomes evident in the conceptualisations of translation discussed in this chapter. Although Eurocentric perspectives have faced criticism for neglecting issues of identity, power, and cultural context (see e.g., van Doorslaer and Flynn 2013), their theoretical frameworks continue to provide a crucial intellectual foundation for the discipline. Consequently, these perspectives serve as a key analytical and argumentative pillar for this chapter.

Prior to TS emerging as an independent discipline, the academic study of translation occurred within literary studies and, primarily, within applied linguistics, shaping the understanding of translation during the 1950s and 1960s. These formative years of translation research were marked by an anticipated breakthrough in MT, expecting the development of fully automatic high-quality (FAHQ) translation systems.

Rozmysłowicz (2019) contends that the development of TS as an academic discipline is closely tied to efforts of establishing a scientific foundation for translation machines following World War II, a correlation evident in static and equivalence-based translation theories of the 1950s and 60s. Warren Weaver (1949/1955), in his frequently referenced memorandum, characterised translation as akin to "cryptography" and "decoding". In a similar vein, Otto Kade, a key figure in the Leipzig School of translation, formulated a translation framework centred on the idea of "code-switching" [Kodierungswechsel] or "transcoding" [Umschlüsselung] (Kade 1968). The emphasis on linguistic aspects of translation and concepts such as *equivalence* (Nida and Taber 1969), *invariance* (Oettinger 1960) or *substitution* (Catford 1965) left a deep imprint on the understanding of translation for years to come. These mechanistic understandings of translation, rooted in applied linguistics, align closely with the principles of rule-based machine translation (RBMT). Kade (1968), for example, described translation as a process involving the core stages of decoding,

transferring, and re-encoding, which, according to him, apply to both human and machine translation. Early research on translation thus primarily focused on identifying linguistic rules – lexical, grammatical, and otherwise – that govern translation and could potentially be applied universally to both human and machine translation. Asscher (2023) also notes overlaps between MT and what he terms the "objectivist" tradition in TS, which emphasises linguistic equivalence as a strict correspondence between source and target texts. This perspective agrees with the approach in RBMT, in which "MT thus implies an objectively fixed relationship of equivalence between the ST and the TT – very reminiscent of the *a priori* prescriptive definitional tradition" (Asscher 2023: 8).

In the 1970s, linguistics began to lose its firm grip on translation research, and scholars started to express interest in *communication* as a pertinent factor for translation. This shift in focus is exemplified in a definition by Gert Jäger, a colleague of Kade's within the Leipzig School: "The purpose of translation is to ensure communication. . . . The essence of translation hence lies in the extralinguistic realm" (Jäger 1975: 36, my translation). Jäger's assertion can be interpreted as an indication that translation research was starting to move away from relatively mechanical notions such as equivalence or substitution towards a more functional – context-open – understanding of translational practice. This trend continued into the 1980s, as translation research increasingly emancipated itself from the confines of linguistics and literary studies and began to establish itself as an independent discipline. Peter Newmark played a significant role in this evolution by challenging the notion of equivalent effect, arguing that its analytical value is negligible. Instead, he introduced the concept of *communicative translation*, which "attempts to produce on its readers an effect as close as possible to that obtained on the readers of the original" (Newmark 1981: 39), thereby distancing himself from the principle of full equivalence.

Jäger's and Newmark's translation theories represent just two instances of a broader trend in TS towards emphasising the role of communication and implicitly assigning greater responsibility to translators. This trend becomes more pronounced in Justa Holz-Mänttäri's *translatorial action theory*, which presents translation as a purpose-driven and outcome-oriented intercultural transfer process: "[It] is not about translating words, sentences or texts but is in every case about guiding the intended co-operation over cultural barriers enabling functionally oriented communication" (Holz-Mänttäri 1984: 7–8). This perspective positions translation as an expert endeavour aimed at producing a target text that is functionally communicative for the intended audience. By recognising translators as experts in translatorial actions responsible for the success of intercultural communication, Holz-Mänttäri empowers translators significantly. She describes translation as purpose-driven and outcome-oriented human interaction, further departing from earlier linguistic approaches.

Closely connected to Holz-Mänttäri's action theory is Reiß and Vermeer's (1984/1991) *skopos theory* claiming that all translatorial action is determined by its skopos ("aim" or "purpose"). Both theories describe translation as a process of negotiation with a purpose and a result. Reiß and Vermeer emphasise that a translation must be fit for purpose and functionally adequate, which requires knowing what function the target text should perform for the target audience. A translation becomes an "offer of information" (Reiß and Vermeer 1984/1991: 119) in a target culture which is based on an offer of information in a source culture and language. Both action and skopos theory marked the emergence of functional theories in TS, signifying a definitive departure from purely linguistic frameworks and marking the trajectory of TS toward emancipation as a discipline distinct from linguistics. Moreover, functional theories underscore the vital role of the translator, who must make informed decisions and negotiate between various stakeholders within a social network (source text author, client, target text audience, etc.). This functional concept of translation and translators contrasts with the notion of fully automated machine translation governed

solely by linguistic rules, which remained the dominant paradigm in MT research until the 1980s (Tieber 2022).

The gap between the emerging field of TS and applied research on MT would continue to widen as translation theories progressed from being "functional" to "cultural". Rozmysłowicz (2014: 147) delineates how TS in its pursuit to establish itself as an "emancipated, critical, and self-reflective discipline", departed from its linguistic roots and transitioned to viewing translation as a cultural activity (cf. Lefevere and Bassnett 1998). This shift, known as the "cultural turn", finds its origins in the seminal works of Vermeer (1978) and Toury (1980), who were among the pioneers in conceptualising translation as a sociocultural phenomenon. Under the "cultural turn" and in connection with postcolonial and deconstructionist paradigms, translation concepts from TS were no longer compatible with a mechanistic understanding of translation. According to Rozmysłowicz (2014: 148), this led to the assertion that "the idea of machine translation clashes with the self-understanding of translation studies". In response to the cultural turn, TS began to focus on the sociocultural contexts shaping translation practices, relegating MT to the periphery of the discipline due to its perceived opposition to the socially and culturally embedded nature of translation as a practice and translators as its central protagonists (see also Rozmysłowicz 2019: 23f.).

The transition towards socioculturally oriented viewpoints on translation was marked by the rise of descriptive translation studies (DTS) with Toury (1980) emerging as a key proponent. He advocated for the establishment of a systematic descriptive branch within the discipline tasked with investigating the role of translations within the social and literary frameworks of their respective target cultures. Toury (2012: 85) views translations as a distinct subsystem within a target culture. Unlike prescriptive translation theories, he claims that equivalence is not dictated by external linguistic, aesthetic, or ethical standards but is an inherent characteristic of all translations. Asscher (2024) therefore argues that DTS is the most suitable theoretical framework for conceptualising data-driven MT, as it acknowledges how the norms and conventions of the target culture shape and guide the translation process. Asscher (2024: 269) hence identifies substantial commonalities between DTS and corpus-based MT systems:

> In today's MT, we may think of all ST-TT pairs included in the algorithm's bilingual training corpus as representing equivalences, and the whole corpus can be thought of as an aggregated representation of equivalence. This aggregated representation of equivalence, embodied in a corpus of previous human translations, is the premise and basis of the computational process that turns the ST input into TT output.

Asscher (2024) highlights significant parallels between corpus-based MT and DTS, particularly in the notion of *translation norms* which he defines as sociocultural constraints specific to a particular culture, society, and era (Toury 2012: 63–78). These norms are internalised by translators through their training and imposed on them by the expectations of clients, target audiences, critics, and others. Modern data-driven MT systems generate translations through statistical analysis, aiming to identify the most frequently used translation solutions for segments of the source text within the algorithm's bilingual corpus. According to Asscher (2024: 274), DTS is, therefore, an example of how translation theories from TS can contribute to a better understanding of the nature of MT systems. TS can thus help highlight the notions of translation inherent in different MT models. Section two will delve deeper into this aspect by contrasting the conceptualisations of translation within MT R&D with those in TS.

DTS redirected attention towards an exploration of translations within their cultural and social contexts. This shift mirrors a broader evolution in TS, which has transitioned from a focus on

linguistics to texts, communication, and, ultimately, discourse, culture, and politics. This progression is evident in the characterisation of TS as a series of "turns" (Snell-Hornby 2006), each emphasising a distinct facet of translation as both a process and an outcome.

In the early 2000s, the succession of "turns" in TS continued with the emergence of the "sociological turn", which involves a greater focus on the agency of translators and interpreters, as well as the social factors influencing translation and interpreting (e.g., Angelleli 2014). In recent years, technology has become "central to the definition of translation activity" (Cronin 2013: 2), profoundly shaping not only how translation is conceptualised but also influencing the role, dynamics, and status of translators, as well as how language service providers perceive the translation landscape (Jiménez-Crespo 2020). This technological turn necessitates a systematic re-examination of traditional notions of translation (Cronin 2013: 1). Despite the undeniable transformation of translation into a form of "human-computer interaction" (O'Brien 2012), and the significant impact of technology on every aspect of translation – from commission, production, distribution, and consumption – TS as a discipline has been reluctant to fully recognise the performative power of MT on its epistemological and theoretical outlook. Resistance, stemming from a certain anthropocentric bias of TS, hindered recognition of MT systems' transformative impact on the translation field (Rozmysłowicz 2023). However, this resistance is gradually dissolving as scholars begin to acknowledge MT's significant influence on translation practices and contexts (e.g., Tieber and Baumgarten 2024). Crucially, the "technological turn" did therefore not result from interdisciplinary borrowing, as seen with previous shifts in TS, but rather from the emergence of new technology-driven forms of translation practice (Jiménez-Crespo 2020: 331) and a reevaluation of what translation means and encompasses in the age of digitisation and machinisation. Under this new paradigm, translation has been described as "technology-mediated", referring to the fact that technology is not merely an auxiliary tool but an integral part of translation, shaping and influencing the practice itself (Alonso and Calvo 2015). O'Thomas (2017) takes this discussion a step further by characterising translation as a "post-human" endeavour. He emphasises how MT disrupts the traditional role of human translators, often reducing them to post-editing tasks. The growing reliance on technology blurs the distinction between human and machine involvement in translation, challenging human translators as the exclusive "analogue gatekeepers" of the process (O'Thomas 2017: 296).

This discussion illustrates the evolution of translation conceptualisations within TS, initially focused on language, text, and equivalence, before broadening to audience-oriented conceptions influenced by the "cultural turn". Rather than following a strict linear progression, these shifts reveal a dynamic field where translation concepts are continuously reshaped by evolving conditions and multiple overlapping "turns". As Gambier (2023) observes, TS is not "a valley with a single river that once in a while turns in one direction or another but rather like a delta, a complex network of streams, all interconnected and leading to a vast ocean somewhere ahead". This broad array of theoretical branches and methodologies makes TS particularly suited to critically engage with emerging conceptualisations of translation from MT research and development.

2 Translation concepts in machine translation

The notions of translation in TS are inextricably linked with the discipline's evolutionary turns, making it easy to identify conceptualisations of translation within TS. This contrasts with MT R&D, where in-depth discussions on the theoretical foundations of translation are often lacking. Consequently, unearthing the underlying concepts of translation within MT R&D proves to be considerably more challenging. But delving into the understanding of translation within this

domain can still prove valuable as it furnishes a deeper comprehension of MT systems, one that transcends mere technical functionalities. Such an understanding would offer insights into what it truly means when a machine engages in translation (cf. Tieber 2019: 250–252). An indirect method to elucidate the translation concepts prevalent in the field of MT R&D involves analysing the various MT paradigms throughout its history. By scrutinising each paradigm, we can discern the underlying translation notions implicit within them.

The beginnings of MT R&D are commonly traced back to the 1950s and 1960s, marked by the initial experiments, prototypes, and public demonstrations of MT systems. Early MT development was significantly shaped by Warren Weaver's memorandum which has been called the "founding document" of MT research (Rozmysłowicz 2019: 23) as it laid the conceptual groundwork to initiate the first wave of empirical research in this area. Inspired by Claude Shannon's mathematical theory of communication (1948), Weaver likened language to code and translation to a process of "decoding" (Weaver 1955: 18). This cryptographic perspective on translation provided the conceptual framework for the emergence of rule-based machine translation (RBMT), which remained the predominant MT model until the 1980s (Hutchins 2015: 128). RBMT utilises linguistic knowledge to map lexical and grammatical elements between languages, requiring developers to manually craft rules and algorithms.

RBMT, largely influenced by Weaver's memorandum on translation, embodies a concept of translation governed by universally applicable rules. It is based on the premise that possessing lexical and grammatical knowledge of both the source and target languages is sufficient for translation. The main objective within the RBMT paradigm is to unveil rules of alignment and correspondence between languages to achieve equivalence between source and target texts (Shiwen and Xiaojing 2015). The idea behind RBMT corresponds well with the concept of a "translation grammar" [Übersetzungsgrammatik] proposed by representatives of the Leipzig school of translation (Neubert and Kade 1973), which aims to establish general procedural rules for human translators. Weaver's equating of translation with cryptography, the proposal to develop a "translation grammar", and the general idea behind RBMT align with the notion of translation as "code cracking" aiming to establish universally applicable translation rules. The initial MT paradigm thus conceptualised translation as an activity independent of culture and governed by absolute and perpetually stable rules. Both TS and MT R&D would later abandon this concept, albeit for different reasons. In TS, scholars grew increasingly disillusioned with purely linguistic approaches to translation and early, often simplistic interpretations of equivalence, which some began to view as conceptually exhausted (cf. Zheng *et al.* 2023).

In MT R&D, technological advancements facilitated the evolution and exploration of novel approaches to MT. The availability of increased computing capacity and access to vast mono- and bilingual corpora provided the groundwork for corpus-based MT. As a result, RBMT was gradually supplanted by more promising data-driven approaches. This transition not only enhanced translation quality but also simplified the development of systems for new language pairs as it eliminated the need to craft rules for each specific case.

Rather than conceiving of translation as mere *decoding* (Weaver 1955: 18), it began to be viewed as a process of *recycling* existing example translations. Makoto Nagao, the pioneer of example-based machine translation (EBMT), saw this approach as a means to align MT more closely with human translation:

> Man does not translate a simple sentence by deep linguistic analysis, rather, man does translation, first, by properly decomposing an input sentence into certain fragmental phrases, . . . then by translating these phrases into other language phrases, and finally by properly

> composing these fragmental translations into one long sentence. The translation of each fragmental phrase will be done by the analogy translation principle with proper examples as its reference.
>
> (Nagao 1984: 178–179)

Nagao suggests that breaking down a text into smaller units and then searching for translations in existing data for the respective language pair corresponds with the processes used by professional human translators. Although Nagao's portrayal of human translation might appear simplistic from a TS perspective, he effectively illustrates the EBMT paradigm in an understandable manner. He compares it to three steps: *segmentation* of the target text into smaller chunks, the *reuse of existing translation data* to find matches between source language and target language segments, and finally, the *recomposition* of these short target language units to create a fluent representation in the target language.

Instead of manually formulating translation rules and inputting them into a machine, Nagao (1984) proposed that the machine acquire knowledge necessary for translation. Under the data-driven paradigm, machines observe how similar problems have been solved in the past. We see the same approach in translation memory systems, where existing translation data is stored in the form of source and target segments and presented to translators. These translation memories, along with other parallel corpora, form the basis that EBMT and other data-driven approaches use to generate new translations. By conceptualising translation as "recycling" and leveraging existing translation data, the development of MT systems became significantly more efficient. This approach also laid the groundwork for other data-driven methodologies, such as statistical machine translation (SMT), which in itself represents a distinct conceptualisation of translation.

As Kenny (2022) outlines, SMT uses two types of statistical models based on training data. The first one, a bilingual model, stores source and target language training data in the form of phrase pairings. Each pairing has a probability score. The second model is a monolingual model of the target language, which represents the probability of seeing a particular sequence of words in the target language. Translation in SMT involves generating many thousands of hypothetical translations for the input sentence and calculating which one is the most probable. SMT developers gather translation data from various sources such as multilingual parliaments (e.g., the European Parliament), international organisations, and the Internet to train their models. In terms of translation conceptualisations, the development of SMT systems involves using existing human translation data or artificially generated parallel texts as the basis to create translation and target language models that *calculate* the most *probable* translations. The latest offshoot of the data-driven paradigm in MT is neural machine translation (NMT), which can be viewed as an advancement of SMT, given the close relationship between their approaches and mechanisms. While both models use vast amounts of data to train their models, NMT employs artificial neural networks to represent individual words and their relationship to other words. As Forcada (2017) explains, an NMT system is constructed gradually by exposing a learning algorithm to extensive amounts of parallel language data. Through successive iterations, the algorithm learns and adjusts weights within the neural network so that the model's predictions progressively approximate the desired outcome. NMT thereby addresses translation as a problem for which humans have already provided an answer. Typically, an MT system is tasked with predicting the translation of a word sequence it has not encountered before. By learning from human translations, NMT can autonomously derive its own solutions to new problems.

The significant improvement in quality brought about by this approach led Facebook's former engineering director, Alan Packer, to suggest that "Neural network-based MT can, rather than

provide a literal translation, find the cultural equivalent in another language" (Marking 2016). Packer's statement implies that NMT considers the cultural context of the source and target texts. However, as noted by Kenny (2022: 39), "[a]n NMT system . . . does not recognise when it is being idiomatic or using a cultural equivalent. . . . Instead, it outputs what it has learned from data". Statements like Packer's can thus potentially mislead the general public regarding the translation concept in NMT, fostering unrealistic expectations.

By examining the operating principles of different MT systems, several conceptualisations of translation in MT R&D have emerged. A more empirical approach was taken by Tieber (2023), who interviewed 15 researchers and developers, revealing how the working principles of neural MT shape conceptualisations of translation in MT R&D. Taking inspiration from the Social Construction of Technology approach (Pinch and Bijker 1984), this study revealed a notable discrepancy between the translation concepts commonly discussed in MT R&D (e.g., *reproduction, data processing, calculation*, etc.) and those emphasised within modern TS. Nevertheless, MT researchers and developers generally demonstrated awareness of the differences between human and machine translation, as exemplified by one of the interviewees:

> So, the basic difference between a machine and a human is that the machine has no understanding whatsoever of what the words mean. And there is no model of the world, there is no knowledge. It is literally just looking at correlations between frequencies of lexical items and contexts. So, it's very good at creating statistics about large amounts of data, about one word following another.
>
> (Interview I from Tieber 2023: 181)

There seems to be no unified concept of translation within MT R&D, as the primary objective is simply to build systems capable of "reproduction" that will meet user expectations (Tieber 2023: 171). MT researchers and developers in Tieber's study further emphasised that translation concepts within MT R&D must align with the operating principles of machines, particularly with machine learning. As a result, the understanding of translation in this field is shaped by the technological possibilities and limitations (Tieber 2023: 206–208), reflecting MT R&D's emphasis on procedural aspects of translation. In contrast, contemporary TS often prioritises cultural and sociological dimensions. When TS scholars explore the processes involved, they often do so through a cognitive framework (cf. Alves and Jakobsen 2021), examining the mental processes underlying translation rather than treating it as a purely mechanistic operation.

Examining the major MT paradigms since the 1950s (RBMT, EBMT, SMT, NMT) has demonstrated that for MT to be effective, the translation process must align with the operational principles of machines. Consequently, translation concepts within MT R&D naturally adhere to mechanistic paradigms, as evidenced by the inherent notions of translation within each MT model (such as *decoding, recycling, reproduction*, etc.). Given the pervasive nature of MT today, these conceptions of translation may indirectly reach users, potentially influencing public understanding. While direct influence may come more from advertisers, media, and industry advocates (as will be discussed in the next section), the underlying technical approaches to translation can still subtly shape the broader narrative.

3 Machine translation and public perception of translation

The preceding sections have highlighted what could be termed as competing and even contradictory conceptualisations of translation between TS and MT R&D. This divide likely stems from

each field's focus: TS emphasises the cultural and sociological dimensions of translation, while MT R&D prioritises operational principles and procedural efficiency. However, MT's growing influence on translation practice and scholarship has raised concerns within TS – concerns that are not as readily addressed or acknowledged within MT R&D. This imbalance is mainly due to significant advancements in quality and accessibility that enabled MT to emerge as today's primary global generator of translations (Och 2012; Kuczmarski 2018). Rozmysłowicz (2023: 2) argues that "this fact poses a challenge to the self-understanding of Translation Studies as a discipline within the humanities and educator of professional translators". He elaborates that current MT systems achieve their success by utilising translation knowledge that is created independently of TS. They learn from existing translations, often produced by humans, in a "bottom-up" manner (Rozmysłowicz 2023).

Not only does the knowledge driving MT originate outside the realm of TS. As a consumer product, MT propagates its own narratives and worldviews about translation. In other words, through widespread use, MT systems actively shape particular beliefs and expectations about translation among the general public. Dreesen and Bubenhofer (2020) argue that the mere existence and utilisation of MT as a technology changes the way we, as a society, perceive translation as a cultural practice. For example, the straightforward input-output mechanics of MT imply the existence of a single, unambiguous translation for a given source text. In TS, the concept of translation has evolved from a "frozen conceptualization" based on the paradigm of equivalence towards much more flexible and holistic concepts (Gambier 2023: 320–321). Yet, the machinisation of translation and the translation concepts implied by MT reintroduce the idea of translation as an apparently easily solvable problem with a single, mechanical solution.

The omnipresence of MT in our daily lives, seamlessly integrated into websites, smartphone apps, and social media, has made translation appear as a commodity that is easily and quickly accessible, ideally free of charge. The pervasive presence of MT has contributed to the reification of translation, thereby diminishing its cultural value. This transformation is already evident in the translation industry, where digitisation and the rise of MT have made time, efficiency, and cost the primary parameters governing the translation market, with human translators barely benefiting from productivity gains. In this context, do Carmo (2020: 52) observes that "the disruption caused by MT has further accelerated the devaluation of human translation".

As MT penetrates more areas of transcultural communication, it transforms the discourse about translation in society. Translation is increasingly perceived as a task that can effortlessly be performed by a technological tool without human involvement (Dreesen and Bubenhofer 2020). The reliance of NMT on translation data crafted by human translators is often overlooked, as users typically perceive only the technological execution of tasks but not the human contribution behind it. The vital role of human translation, without which NMT would be unattainable, remains concealed within the hidden operational framework of the technology. This concealment has profound implications for the societal perception and appreciation of the value of translation.

Another factor influencing the public perception of MT and translation in general is how the media portray MT in their coverage. In an analysis of how the English-language press frames MT, Nunes Vieira (2020: 98) found that news reporting on MT is "significantly more positive than negative". Some articles even attribute to MT "infallible, if not 'magical', powers" (Nunes Vieira 2020: 108), while in others, "MT is personified or regarded as a human-like feature" (Nunes Vieira 2020: 109). In contrast, articles discussing negative aspects of the technology tend to attribute problems to "misuse" rather than intrinsic issues with the technology itself (Nunes Vieira 2020: 111).

"Translation think tanks" such as the Translation Automation User Society (TAUS) and the research hub Slator significantly contribute to what Baumgarten (2024) describes as

"techno-triumphalism" in the language service industry. Through various media, including market reports, research articles, podcasts, webinars, and marketing events, they promote a discourse that strongly advocates for the benefits and capabilities of technology in enhancing translation processes and outcomes. Baumgarten argues that this perspective often overlooks or minimises the social, cultural, and ethical implications of these advancements. Such undifferentiated and in some cases even biased discourses foster unrealistic expectations about the potential and limitations of MT. It can therefore be said that both the use of MT in the translation industry and by laypeople, as well as how the technology is portrayed by the media and by "translation think tanks", affect our understanding of this technology and, by extension, our general notion of translation.

At a broader level, the extensive utilisation of MT influences our perception of multilingualism and language acquisition. The widespread availability of MT implies that translation is always and instantly accessible and free of cost. Such a perception risks diminishing the cultural significance of translation as an age-old human practice. The omnipresence of MT, thus, not only has the potential to diminish the economic value of human translation within the language service industry (do Carmo 2020) but also calls into question the value of translation as a form of human "capital" in the sense of Bourdieu (1979). Language and translation skills can be seen as "cultural capital" for individual translators, acquired through significant investment in time and money, typically via university education (cf. Bourdieu 1982). With the increased use of MT, the cultural capital of human translators is ostensibly devalued since human translation services become more challenging to monetise (Bubenhofer and Dreesen 2020). Additionally, the importance and value of natural (human) language in MT development will likely also diminish as MT will increasingly rely on "synthetic" language and translation data, generated for instance via back-translation (cf. Albarino 2023; Nikolovski 2022). Consequently, the translation profession risks losing some of its prestige and social status that it has enjoyed for centuries, during which human translators have been essential pillars of transcultural communication and knowledge exchange.

This section has illustrated how MT's conception of translation as mere decoding, recycling, and reproduction – combined with its free and easy accessibility – has shaped public perceptions of translation. Yet, MT's omnipresence has also brought greater visibility to translation as a whole, helping the "historically invisible practice crossover to the mainstream" (Asscher 2023: 14). However, with "MT increasingly associated with the concept of translation in popular culture" (Asscher 2023: 14), people may give less thought to the role of human involvement in the translation process. The following section delves into conceptualisations beyond the domains of TS and MT R&D, underscoring the significance of specific, inclusive, and adaptable conceptions of translation.

4 Reconceptualising translation

It has been demonstrated so far that TS is well-equipped to analyse and conceptualise translation within the framework of MT due to its diverse theoretical approaches, many of which intersect – and sometimes compete – with MT models. The field's varied perspectives have proven adaptable to MT, allowing TS scholars to critically engage with core concepts across different MT approaches. Asscher (2023) demonstrates how differing theoretical branches in TS, such as objectivist, prescriptive, and descriptive, each address translation uniquely but remain broadly compatible with MT. Notably, the descriptive branch, pioneered by Gideon Toury (1980; 1985), is particularly suited to conceptualise MT, as it defines translation through the lens of its practices and perceptions within specific cultural and social contexts. As Asscher (2023: 12) articulates, in DTS, "translation is what translation does", emphasising that the "fuzzy" nature of translation

as a concept enables it to "[adapt] to the MT era – and descriptive approaches are well-suited to encompass this shift".

TS understands translation as its fundamental concept, yet it does not hold a monopoly over the interpretation of this term. Given its interpretative flexibility, various disciplines in the humanities have embraced translation as an analytical concept, earning it the description of a "travelling concept" (Zwischenberger 2020: 175). The popularity of translation as an analytical lens and its incorporation into other disciplines led Bassnett (1998) to speak of a "translational turn in cultural studies". According to Bachmann-Medick (2013: 186), the prerequisite for this development was "broadening and expanding the category of translation". She further argued, that "[t]ranslation is no longer considered to be a mere linguistic or textual practice but rather a broad-based cultural and social activity" (Bachmann-Medick 2013: 186).

The translational turn in cultural studies has expanded the understanding of translation, paving the way for the development of concepts that go beyond what Jacobson (1959) termed "translation proper", such as interlingual translation. In his piece "Translation as conditio humana", the philosopher, novelist, and literary critic George Steiner (2004: 1) begins with the assertion: "Every language act is translation", implying that both language expression and comprehension inherently involve a form of translation. As a consequence, translation occurs when we articulate ideas into language or interpret the expressions of others to understand them. Gambier (2023: 317) observes that this perspective would make translation encompass all acts of meaning-making. Biosemiotic translation theories take this notion of translation even a step further and argue that translation should be reconceptualised as all meaning-making, not just meaning-making that includes language (Marais 2019). This approach defines translation as any form of semiotic transformation, encompassing language but not limiting it solely to linguistic activities. Furthermore, biosemiotic translation theories claim that translation is not exclusive to humans; instead, all living organisms engage in translational processes and maintain a translational relationship with their environment (Deely 2009).

Conceptualisations of translation from cultural studies and biosemiotic theories enrich our understanding of translation by extending it beyond linguistic and textual practices. They offer a valuable framework that captures the multifaceted nature of translation, promoting interdisciplinary collaboration and highlighting its integral role in all forms of communication and meaning-making. This panoramic perspective encourages a more comprehensive and nuanced appreciation of translation's diverse functions and significance. However, these broad interpretations of translation risk diluting its terminological precision, ultimately diminishing its usefulness as an analytical concept. Alfer, therefore, points to the danger of "other disciplines . . . running away with an increasingly loose and baggy notion of 'translation'" (2017: 281). This also affects the discourse about the criteria and concepts used to define MT as a form of translation. As our understanding of translation expands to encompass a wider range of phenomena, the distinctions between various forms of translation become blurred. Definitions of translation that fail to distinguish between human, machine, and other forms of translation, offer limited analytical value.

Due to its historical background and its role in educating professional translators and interpreters, the discipline of TS has a vested interest in developing and employing specific and concrete translation concepts. These concepts are essential for adequately describing and qualifying the many different forms of translation. While translation might be seen as a meaning-making practice in a general sense, TS must go further by providing a more precise and layered conceptualisation that captures translation in all its depth and specific forms. Such an approach allows for a more detailed understanding that aligns with TS's commitment to capturing the full range and diversity of *translation*. In line with this goal, TS has a responsibility to describe how different forms of

translation each fulfil their essential roles within society. This includes establishing translation concepts that allow for effective comparison of MT with human translation, clearly outlining the possibilities and limitations of each.

In light of this, TS as an academic discipline, along with professional translators' organisations, should adopt and propagate conceptions of translation that are: 1) inclusive, to encompass the wide range of translational activities from textual to cultural and social practices; 2) specific and precise, to describe and differentiate various forms of translation and avoid overly broad interpretations that dilute the term's analytical value and; 3) adaptive, to respond to changes and developments in translation practice, including advancements in translation technology. By adhering to these principles, TS can highlight the cultural value of translation in our society and contribute to a more informed public perception of human and machine translation, providing a clearer framework for evaluating the suitability of each in different contexts.

5 Conclusion

The digitisation and automation of translation profoundly affect our understanding of translation as both a product and a process. There are competing views between how TS has characterised translation through its various theoretical developments and the concept of translation inherent in MT systems. This chapter has explored and contrasted the conceptualisations of translation from TS, MT R&D, and other fields.

Through its various turns, TS has evolved and refined its conceptualisations of translation, moving from linguistic to communicative and cultural perspectives, and more recently, recognising the impact of technology on translation practices. When tracing the evolution of MT paradigms from rule-based to data-driven approaches, there appears to be a discrepancy between the mechanistic translation concepts from MT R&D – such as *recoding*, *reproduction*, and *calculation* – and concepts from TS, which emphasise translation as a culturally embedded social activity. Even so, as pointed out by Asscher (2023), both prescriptive and descriptive approaches from TS are adaptable enough to include MT as a legitimate subject within TS.

This chapter has also discussed how the widespread use of MT significantly shapes public beliefs and expectations about translation (cf. Dreesen and Bubenhofer 2020). The way MT systems are designed portrays translation as a straightforward input-output operation based on data processing, often concealing the essential human contribution behind its functioning. The widespread availability of MT promotes the belief that translation services are a commodity which is openly available and free of charge. Together with the undifferentiated and sometimes overly positive framing of MT in the media (Nunes Vieira 2020) and commercial language technology think tanks (Baumgarten 2024), this trend leads to the devaluation of human translation in both economic and social terms.

As an educator of professional translators, TS has a responsibility to counter uncritical discourses about MT promoting simplistic and mechanistic views of translation. This can be achieved through a general theory of translation that serves both TS and MT R&D, creating common ground and shared conceptual frameworks. Asscher (2024) has taken a crucial first step by suggesting Toury's (1980) DTS as a theory that can be applied to both human and data-driven machine translation. DTS is interested in the most common and probable translational tendencies found in existing translations, mirroring the neural MT paradigm. While DTS could provide a foundation for a comprehensive translation theory applicable to both human and machine translation, a general theory must also include concrete descriptors that can qualify different forms of translation in various contexts. To establish such a framework, this chapter advocates for the adoption of translation

concepts that balance inclusivity with specificity, encompassing a wide range of translation phenomena while preserving the term's analytical value. These conceptualisations must also adapt to technological developments that increasingly shape and influence translation practice. By creating and promoting translation concepts in line with these principles, TS can highlight the cultural significance of translation for society, inform public perception about the value of human translators in transcultural communication and knowledge exchange, and critically assess the capabilities and limitations of MT.

Further reading

Asscher, O. (2023) "The position of machine translation in translation studies", *Translation Spaces* 12(1), pp. 1−20. (This paper explores how definitional approaches to translation from TS align with different models in MT, arguing for MT's place in TS.)

Asscher, O. (2024) "The explanatory power of descriptive translation studies in the machine translation era", *Perspectives* 32(2), pp. 261–277. (The article argues that descriptive translation studies offer a suitable framework for understanding the characteristics of corpus-based MT.)

Dreesen, P. and Bubenhofer, N. (2020) "Das Konzept «Übersetzen» in der digitalen Transformation", *Germanistik in der Schweiz*, 16, pp. 26−49. (This paper explores our changing perception of translation in light of the growing prevalence of MT as the predominant mode of translation.)

Zheng, B., Tyulenev, S. and Marais, K. (2023) (eds) "The conceptualisation of translation in translation studies: Past, present and future", *Special Issue in Translation Studies* 16(2). (This special issue examines the sociocultural, cognitive, technological, and semiotic aspects of translation, employing cross-disciplinary methods to redefine both the concept of translation and the evolving role of translators within a dynamically changing landscape.)

Related topics

- Translation and Digital Capitalism
- Human/Machine. A (Different) Genealogy of Translation Studies
- Translation Technology and Human-Machine Interaction
- What does the Future hold for Translation Technologies

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