Translating between languages

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Abstract: Interlingual translation is often forgotten by the linguistics of language systems, which occasionally make translation seem impossible. It has also been sidelined by many communicative approaches to language teaching, where translation is sometimes regarded as a non-communicative intrusion into monolingual space. And yet translations are performed and used in countless different ways, and translation is one of the things people actually do with the languages they learn. If some kinds of linguistics, both theoretical and applied, have failed to pay due attention to translation, the various points of contact and divergence are worth revisiting. This chapter offers a historical survey of the relations between linguistics and translation, focusing on some reasons why translation is worth serious attention as an object of study.

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Introduction

If translation and linguistics were married, they would have "issues". One of those issues concerns a felt lack of support: "Linguistics alone won't help us", wrote the German translation scholar Hans Vermeer in 1987, and he gave his reasons: "First, because translating is not merely and not even primarily a linguistic process. Second, because linguistics has not yet formulated the right questions to tackle our problems. So let's look somewhere else" (Vermeer 1987: 29). That sounded like divorce. The problem was not that translators had somehow stopped working on language. After all, any knowledge about language, especially about texts, is potentially useful to trainee translators and translation scholars; a "linguistic approach" to translation theory is reported as being taught in 95% of 41 translation schools across Europe and North America (Ulrych 2005: 20); countless textbooks for translators run through the basics of several levels of linguistic analysis. The traditional linguistic approaches nevertheless concern languages and texts, the things translators work on. They mostly do not analyze the fact of translation itself, minimally seen through the relations between a text and its possible renditions – they are mostly not linguistics of translation, of the things translators do, and the ways they do it. That is why Vermeer felt there was a lack of support.

Vermeer's complaint echoed similar grumbles from the French translation scholar Georges Mounin, who was a little more explicit back in the 1960s: "As a distinctive

linguistic operation and a linguistic fact *sui generis*, translation has so far been absent from the linguistic science reflected in our major treatises" (1963: 8). Mounin, unlike Vermeer, was prepared to go on the attack:

Translating itself poses a theoretical problem for contemporary linguistics. If one accepts the current theses about the structure of lexicons, morphologies and syntaxes, one inevitably concludes that translation must be impossible. But translators exist; they produce; people make use of their products. We might almost say the existence of translation constitutes the scandal of contemporary linguistics. (Mounin 1963: 7; my translation)

Mounin was writing against the background of mainstream structuralist linguistics, which had developed from Saussure's separation of the language system from language use. For the Saussure of the *Cours de linguistique générale* (1916/1974: 115), the French word *mouton* corresponded to the semantic space of the two English words *sheep* (for the animal) and *mutton* (for the meat), so the French and English language systems cut up the world differently in that area. A radical structuralist might then claim that the word *sheep* cannot adequately translate the word *mouton*. Indeed, except for artificially constrained technical terms, translation itself might seem impossible. So Mounin retorted that what was impossible was structuralist linguistics, not translation. He then proposed an empirical approach, claiming that "untranslatability" was a marginal occurrence, to be assessed statistically by counting the few foreign words for which translators could really find no equivalents (1976: 51-56). This turn to empiricism, to the study of actual performances of translation, marked one of the main ways in which Translation Studies moved away from linguistics in the 1980s and 1990s, and so far has not really returned.

In order to understand that story, one must first admit that there are major preconceptions and misconceptions on both sides. Translation scholars still tend to think that all linguistics is structuralist and systemic, which is far from the case. At the same time, some linguists tend to think that all translation is a *literal* rendition of a text in a foreign language, which is also far from the case. Here we use "translation" as a general term for communicative events involving both written and spoken language, crosscultural mediation (in medical encounters, for example), localization (notably of software and websites) and machine translation (especially the systems based on statistics). The important point is not the many modes of communication, but the *communicative* status of all these different kinds of events: a translation not only represents a start text, it also interprets and mostly re-enacts that text for a new set of participants.

That wider view of translation creates a very interesting set of questions. For instance, we might take Saussure's *mouton* vs. *sheep* example and note that the different structures can only be seen if you *try to translate* one term as the other. That is, the linguist seeing the structures was necessarily translating – perhaps badly, for a limited communicative purpose, but still translating. And then one might go back in history and locate the operational difference in situations where Anglo-Saxon servants presented what they called *scēap* to their Norman masters, who might have called the same object *moton*, and both sides were necessarily translating the words of the other, in a situation that had not only language contact but also highly asymmetric power relations between social groups. Communicative translation is present in many linguistic encounters, if you

know where to look, as are those asymmetric relations. Translation involves much more than pairing together isolated words and sentences.

Comparative stylistics

No one doubts that different languages have different ways of saying things: *I like you* is *Me gustas* ("to me are likeable you") in Spanish, and if you do not use the transformation well you might finish up declaring love (*te quiero*) or getting into even deeper trouble. Contemporary semantics and pragmatics might look for ways to define what that "same thing" is; linguistic philosophers these days tend to doubt that the thing really is the "same"; but for nineteenth-century linguistics in the Germanic tradition, the main interest was in the systematic differences between the languages. So we begin from there.

For Wilhelm von Humboldt, each language expressed a "worldview" (1820) and the study of languages had as its general aim the characterization of those differences. Von Humboldt, however, was also a translator from Greek, and as a translator he saw his mission as being not to maintain separate worldviews but to enable one language to help the other develop: the most important aim of translation was "to expand the significance and expressive capacity of one's own language" (1816/1963: 81). In von Humboldt's case, structures from classical Greek were supposed to ennoble the rough-hewn qualities of German. This required a relatively literalist view of translation, although not blindly so. The general concept of translation as actively developing the target language can be traced through Schleiermacher (1813/1963) and Goethe (1819/1963) and became so influential that many of the Germanic reflections on translation through to the twentieth century actually talk more about relations between languages than about people or texts (in part because German as a national language did not belong to a unified state until 1871). Vermeer, who saw translation as fulfilling a communicative purpose between people, was certainly reacting against that kind of linguistics.

Towards the end of the nineteenth century, it became more commonplace for European linguists to assert that (major national) languages had different "personalities" or "essences", often because the languages had been shaped by the works of great writers. This gave rise to comparative stylistics, the study of the expressive resources that different languages distribute in different ways. Since translation was likely to alter those apparently autochthonous resources, it came to be seen as a source of interference rather than development. The Swiss linguist Charles Bally, perhaps best known in English as one of the co-editors of Saussure's *Cours*, started developing his stylistics from 1905. explicitly rejecting the "impressionistic" Germanic methods. Bally's approach concerned language usage (parole), specifically the options that each language makes available in order for a speaker to say something that both "sounds right" and expresses "affectivity", over and above obeying grammatical laws. Bally describes the origins of his linguistics as follows: "As I went through French texts with foreign students, as I translated German texts into French with them, I was naturally led to reflect on the difficulties they encountered and the differences they found between the two languages" (1932/1965: 8; my translation). So translation lay at the foundations of his reflections on language, and one of the explicit purposes of Bally's study of stylistics was indeed to correct the students' defective renditions. Translation thus fed into a mode of linguistics, which could in turn help improve translations.

The key difference here is that, whereas the Germanic tradition saw translation as a way of developing languages, Bally's comparative stylistics sought to correct literalism, and thus to maintain the differences between manners of expression by making translations more adaptive and natural. Bally's work never actually embarked on the second step, where comparative stylistics was supposed to help translators – he did not really move beyond a view of translation as an attempt at "mechanical correspondence from language to language" (1910: 4). Remarkably, Bally uses the term "functional equivalences" for the expressions the linguist compares within the one language, in fact as the linguist's basic tool for research (1932/1965: 40), but he never used that tool for relations between expressions in different languages. He simply did not trust translations.

The application of Bally's stylistics to translation had to wait for the work of the French linguists Jean-Paul Vinay and Jean Darbelnet, whose Stylistique comparée du français et de l'anglais: méthode de traduction (1958) lists seven main solution types (procédés, procedures) that translators could use: borrowing, calque, literal translation, transposition, modulation, correspondence (équivalence) and adaptation, along with a set of "prosodic effects" that included explicitation, implicitation and compensation. This, at least, was a classification of what translators are supposed to do, rather than of the things they work on. The operative assumption in Vinay and Darbelnet is that a translation is "literal" (word for word) until the result sounds "unnatural", at which point the translator can look at borrowing and calque, in the case of names and terms, and at various degrees of syntactic and semantic transformation for the rest, reaching the extreme where American "baseball" can be translated as French "cycling", since both function as national summer sports. As French linguists working in Canada, Vinay and Darbelnet insist that translators should use the more transformative solution types, lest Canadian French be excessively "developed" by American English. Their application of comparative stylistics was clearly opposed to the translation preferences of the Germanic tradition.

Vinay and Darbelnet's categories, which are pedagogically useful but have no cognitive underpinning, were applied to French-German by Malblanc (1963), then adapted by Vázquez-Ayora (1977) to translation between English and Spanish. In the 1990s the basic set of translation solutions proliferated in many textbooks for training translators, progressively shedding Vinay and Darbelnet's assumptions about the different "génies" that different languages were supposed to have.

An alternative tradition developed in Russian, actually prior to Vinay and Darbelnet and with a rather closer relation to official linguistics. In 1950 Stalin declared that a language did not belong to any particular social class. This political intervention allowed a return to formalist approaches to language, including synchronic analysis and applications to translation. In 1950 Yakob Retsker published a landmark paper on "regular correspondences" in translation, where he distinguished between 1) established equivalents (as in technical terms), 2) analogue translation, where the translator chooses between synonyms, and 3) "adequate" translation (or "substitution"), where the translator uses various resources to render the style and function of the text. This third category is where the various solution types, of the kind found in Vinay and Darbelnet, would fit in, although in the later Russian tradition they came to be called "transformations". This general view was picked up and developed in Andrei Fedorov's *Vvedenie v teoriju perevoda* (Introduction to the Theory of Translation) (1953), possibly the first book-

length linguistic approach to translation. Fedorov may sound like Bally when he proposes that "comparative study of two languages can map the differences between them, which helps to find corresponding solutions" (1953: 101 transl. by Nune Ayvazyan). However, Fedorov also defends the fundamental principle of translatability, which effectively means that translations here are not just indicators of difficulty but also bearers of value. From there, he attempts to map out how a successful translation can be "adequate" in both form and content, since the two levels are dialectically entwined in any text. He also sketches out a theory of how translation solutions depend on three broad text types: broad text types: referential texts, where the translator must pay careful attention to terms; publicity and propaganda, where the effect on the receiver is what counts; and literary works, where "it is important to reproduce the individual particularities of the text" (1953: 256). These were adapted from Sobolev (1950). In Fedorov's version, the grounding in the three linguistic persons is fairly clear, as is the attempt to make general linguistic principles compatible with literary criteria.

Translated into Chinese in 1955, Fedorov was the link explaining how similar solution types appear in Loh Dian-yang's *Translation: its principles and techniques*, published (in English) in Beijing in 1958, the same year as Vinay and Darbelnet. Loh also recognizes three main text types, with translation solutions being different for each. He similarly proposes a short list of main solution types: five for foreign terms, then omission, amplification, repetition, conversion, inversion and negation. These would be picked up in Zhang et al. (1980), who added "resegmentation" (since Chinese sentences tend to be shorter that English), constituting a pedagogical tradition that has survived through to today.

The approaches that found their springboard in comparative stylistics tend to be heavy with fascinating examples and light on clear linguistic principles. In this, they are rather different from the John Catford's Linguistic Theory of Translation (1965). Catford might also sound like Bally when he sees the study of translation as a branch of contrastive linguistics, related in such a way that translation is a method of research, a way of testing principles, and a potential beneficiary of linguistic findings. Working from Firth and Halliday, Catford also believes that meaning is formed by networks within individual languages, so there can be no question of translating meaning in any full sense (1965: 36-37) – he would not blithely accept Fedorov's principle of translatability. Yet translation can work in parts: Catford points out that equivalence is not operative on all language levels at once but tends to be "rank-bound". For example, there might be equivalence to a phonetics of a string, to the lexis, to the phrase, to the sentence, to the semantic function, and so on. Since most translating operates on one or several of these levels, "in the course of a text, equivalence may shift up and down the rank scale" (1965: 76). One might equally say that translators mix and match different types of translation solutions as they go along.

As Translation Studies took shape as an interdiscipline and moved away from linguistics in the 1980s, the analysis of stylistics and solution types only really survived in textbooks. In their place we find a series of grand binary oppositions such as "formal correspondence" vs. "dynamic equivalence" (Nida 1964), "documentary" vs. "instrumental" translation (Nord 1997), or "anti-illusory" vs. "illusory" translation (Levý 1963/2011), in which the first of these terms would have the translation follow the start text as closely as possible, whereas the second strives to produce a natural-sounding text

for the target situation. These oppositions go back to the pair "Germanizing" vs. "foreignizing" coined by Schleiermacher (1813/1963), and beyond that to the choice between rendering *ut interpres* (like a literalist interpreter) or *ut orator* (like a public speaker) in Cicero (46CE/1996). The grand oppositions also informed the way comparative stylistics was applied to translation: the Germanic tradition still preferred the side of literalism and development, the Francophone tradition generally preferred functionalism and the maintenance of differences. These binary oppositions allow for numerous ideological debates about how the self should relate to the other, or how a home culture should communicate with the rest, but there is little linguistics in them. As endpoints of continua, they concern the reasons why a translator might choose one kind of solution or another, but they should not be confused with the solution types themselves.

Linguistics cannot help translators make decisions (this was one of Vermeer's laments), but it can and has helped describe the toolbox with which they work. The lists of solution types still deserve attention, perhaps all the more now that they have shed many of the ideological presuppositions of their origins. If nothing else, the solution types underscore the range of translators' work: when new terms are required in a language, translators are there on the frontline, choosing between degrees of borrowing and calque, and when a culture chooses whether to imitate the foreign or stress its own independence, translators are also there, selecting between the degrees of adaptation.

Applications of transformational grammar

Although the solution types were developed from comparative stylistics, they were involved in several attempted trysts with other kinds of linguistics. In 1964, the linguist and Bible translator Eugene Nida proposed that Chomsky's early generative transformational grammar could help guide translators' decisions: "A generative grammar is based upon certain fundamental kernel sentences, out of which the language builds up its elaborate structure by various techniques of permutation, replacement, addition, and deletion" (1964: 60). Nida proposed that the translator could extract the kernels from the start text, then apply the same or different techniques ("transformations") to generate the target text. The transformations could be like the ones commonly used in English (passives from actives, questions from statements), but they can also include things that translators commonly do in order to produce a "natural" sounding text: changing the order of elements ("permutation"), changing word classes ("replacement"), explicitation ("addition") and implicitation ("deletion"). The actual kernels referred to in Nida are simple structures basically used for disambiguation, of the kind that owes more to Zellig Harris than to Chomsky: the phrase fat major's wife can be translated, says Nida, once we know it is derived from the two kernels *The major has a* wife and The wife is fat (1964: 61). One wonders why this is not simple componential analysis, but at the time it might have looked revolutionary.

Nida's evocation of transformational grammar in 1964 was an elegant way of explaining what was being translated: "kernels" could partly replace problematic idealist assumptions about "ideas" or "messages". It also located solution types within a linguistic scheme: the "procedures" described by Vinay and Darbelnet are now seen as the "techniques" or "adjustments" used in the transformations. The beautiful idea was

nevertheless promptly quashed by Chomsky's pronouncement, in the following year, that deep-seated universals did not "imply that there must be some reasonable procedure for translating between languages" (Chomsky 1965: 30). His linguistics was not going to support the venture.

Why Chomsky wrote that remains a point of conjecture. For Steiner (1975/1998: 111), it suggests the arbitrariness of a linguist's construal of any structures, and thus a major weakness within Chomsky's approach at the time; for Gentzler (2001: 50), it is more like a wise word of caution about what cannot *yet* be done with a developing linguistics; for Melby and Warner (1995: 179), more interestingly, it is a claim about the non-reversibility of transformations: while there can be a reasoned generation from deep structure to surface structure, there is no guarantee of a rational movement in the opposite direction. For example, *fat major's wife*, as a surface structure (which is what the translator is looking at), remains ambiguous because there is more than one possible underlying structure, and if you do not have prior knowledge of what is meant, the attribution of disambiguating kernels does not in itself remove the ambiguity. Of course, if you do know what the underlying structure is, then you can go from there to the surface, but if you only have the surface, you cannot reach the underlying structure with any certainty.

This non-reversibility has to do with a parallel debate that was going on at the time. The philosopher Willard Quine had formulated the principle of indeterminacy in translation, which posits that the one utterance can legitimately be translated in different ways, and that those different translations will "stand to each other in no plausible sort of equivalence relation however loose" (1960: 27). In a later formulation Quine added that "one translator would reject another's translation" (1969: 297). At its widest level, this is a principle about theories: the one object can adequately be explained by different theories. Chomsky, who had initially started from the recognition that the one language could be explained by different kinds of grammar, regarded Quine's principle of indeterminacy as "true and uninteresting" (1980: 14, 16). Yet it might be interesting for someone trying to explain how translation is possible.

In Nida's later work (especially in Nida and Taber 1969/1982: 39-40) we find insistence that the kinds of "kernels" translators work on are not at all deep-seated. In fact, the kernels turn out to be little more than componential analysis. A transformational approach was then nominally picked up by Vázquez-Ayora (1977), who set out to unite the "American school" of transformational linguistics with the "Franco-Canadian school" coming from Vinay and Darbelnet. The practical result for the types of translation solutions, however, was just another version of comparative stylistics in the Vinay and Darbelnet style, with very little trace of anything being drawn from a newer kind of linguistics. The translation theorists tried to use transformational grammar, but it just did not work.

In the meantime, the Soviet translation scholars consistently used the term "transformations" to describe translation solutions (for example in Retsker 1974, Barkhudarov 1975). However, as claimed by Shveitser (1973/1987: 51), they were ostensibly not borrowing from American transformational grammar, which they considered to be about syntax only – the Soviet typologies paid serious attention to meaning as well, citing Harris more than Chomsky. Komissarov (1972), who also uses the term "transformations", gives a passing nod to the notion of "kernel structures" as in

Nida but then quickly steers his interests towards quite another approach: the "statistically most probable" correspondences between elements in the two languages. This probabilistic approach may actually be in keeping with Retsker's initial premise of basing a linguistics of translation on "regular correspondences" (1950). Whatever the case, in the 1970s the Soviet translation theorists were thinking seriously about machine translation, and Komissarov's preference for statistics over kernel transfer now seems quite prophetic. In the end, as we shall see, the revolution has indeed come from statistics, and not from rational transformations.

In sum, transformational grammar did not have a glorious meeting with translation theory.

The pragmatics of translation

Other kinds of linguistics have found interesting things to say about translation, over and above descriptions of the texts and languages that translators work on. In the American analytical tradition, there have been attempts to describe translation as a special mode of reported speech. Bigelow (1978) analyzed the operator "translates as" as being both quotational (as in normal reported speech) and productive of new information (since it gives information about the other text). Others have seen that, when seen as reported speech, the prime interest of translation is the particular role attributed to the translator as reporter. Mossop (1983) and Folkart (1991) underscore the heuristic work of the translator as an active, intervening reporter, particularly in situations that Folkart describes as lacking "reversibility" or as being characterized by indeterminism. As Vázquez-Ayora put it (1979: 205), "in any translation function, interpretation is an integral operation [...]. Translation is an act of interpretation", so there must be an interpreting voice there. Others have approached the translator's discursive position in terms of Goffman's (1981) theory of footing, particularly the categories of "animator", "author" and "principal". There is debate about the extent to which translators are merely "animators", who present the words of others, or "authors" who select the sentiments expressed (Torikai 2009, Pym 2011), or indeed "principals", who actually take ethical responsibility for what they say, as might be clear in cases of self-translation (Boyden 2013).

The study of the translator's particular voice might be dated from Popovič's apparently neutral identification of "two stylistic norms in the translator's work: the norm of the original and the norm of the translation" (1968/70: 82) but the tendency within translation theory has increasingly been to regard the translator as a kind of author, mostly in the vague sense of a co-creator of meaning. The linguistic work of the translator nevertheless clashes with conventions like the "alien-I": when a translating translator says "I", they are not referring to themselves, and they are thus condemned to create a voice without pronoun. The alien-I, however, is by no means a feature of all the translations in the world (the late nineteenth-century Chinese translator Yan Fu, for example, referred to his author in the third person). Its function is subject to historical and political analysis.

Rather less attention has been paid to the *second* person of a translation, the person receiving the discourse. Pym (1992) has proposed that the social function of a translation is to convert an "excluded" receiver (who does not have access to the start

language) into an "observational" receiver (who can construe what is in the text), and sometimes into a "participative" receiver (who can respond to the text communicatively). The difference between the observational and participative positions would respond not only to factors such as text type and situational appropriateness, but also to the way in which the text can be translated to allow more or less receptor involvement. Only when the second person is potentially participative can a translation claim to anything like a performative status. Translations can actually cross these divisions, operating in terms of "heterolingual address" (Sakai 1997), which means speaking to several audiences at once: translations of Japanese culture not only inform the foreigner but also shape the image and boundaries of Japanese culture itself.

Much remains to be explored with respect to the limits of translation as a performative utterance (Robinson 2003, 2014), a text act (Morini 2013) or an event (Venuti 2013). The more literary uses of pragmatics currently tend to be concerned not so much about the conditions under which translational discourse normally operates and can be trusted, but with making translations less boring.

A major application of relevance theory to translation is in Gutt (1991/2000), who offers a slightly different take on translation as reported speech. Accepting that language is a set of communicative clues with recoverable implicatures, Gutt posits that the sentence "The back door is open" can be reported/translated in at least two ways:

Translation 1: "The back door is open."

Translation 2: "We should close the back door."

Translation 1 renders the form of the start utterance, presupposing that the receiver has access to the start situation. Translation 2, on the other hand, renders the implicature of the utterance, and does not presuppose that the receiver has full knowledge of the situation (although the receiver would in this case be less "participative"). Gutt's preference is for the first kind of translation, since he argues that the second kind would have no reason to be a translation (it might as well be a commentary on the start text, or on the situation). Working in the field of Bible translation, Gutt uses this theory to oppose the preference for "dynamic equivalence" expressed in the work of Nida, which would be based on what the Biblical texts mean rather than what they say. Gutt prefers to make the reader work.

The search for universals and laws

The kind of exploratory, quantitative research called for in Mounin (1963) or Komissarov (1972) flourished into a research programme from the late 1980s, taking shape around the Israeli translation scholar Gideon Toury's landmark *Descriptive Translation Studies and beyond* (1995/2012). In the decades since then we have learned a great deal about the historical and cultural varieties of translational discourse (increasingly in non-Western cultures), about the role of translation in the shaping of cultures and identities, and about the way concepts of translation respond to factors like communication technologies and power relations. Remarkably little of that knowledge, however, can be called linguistic in any strict sense. Translation scholars have increasingly sought their dancing partners in the fields of cultural studies, sociology and psychology.

A more linguistic pause in the trend nevertheless came in the late 1980s, when some scholars attempted to say how translations differ from non-translations, specifically with respect to the kind of language used. Translations can be compared with two kinds of non-translations: either the start text (as in traditional linguistic and pedagogical approaches) or a "parallel" or "comparable" text already in the target language (for example, an instruction manual translated into English can be compared with an instruction manual written directly in English). The aim in both cases was to isolate features peculiar to translations, independently of the languages involved. The search was thus for "universals of translation", not in any Chomskyan sense of deep-seated structures but more simply as linguistic features that tend to be found more in translations than in non-translations. Here are some of the proposed universals:

Lexical simplification is "the process and/or result of making do with *less* [different] words" (Blum-Kulka and Levenston 1983: 119). Translations tend to have a narrower range of lexical items and a higher proportion of high-frequency lexical items; the language is flatter, less structured, less ambiguous, less specific to a given text (cf. Toury 1995/2012).

Explicitation is a particular kind of simplification due to the greater "redundancy" of translations. For example, optional cohesive markers tend to be used more in translations than in non-translations (Blum-Kulka 1986/2004). If a non-translation has *The girl I saw*, a translation would tend to have *The girl that I saw*. The category is frequently extended to include cases of lexical explicitation. For example, "students of St. Mary's" may become "étudiantes de l'école St. Mary" in translation, where the French specifies that the students are women and St. Mary's is a school (Vinay and Darbelnet 1958/1972: 117).

Equalizing is the term used by Shlesinger (1989, cf. Pym 2007) to describe how translators and interpreters tend to avoid both highly some characteristics of spoken language (such as false starts, hesitations and colloquialisms) and highly some extremes of written language (such as complex syntax and ornamental phrases). Translations would tend towards a middle discursive ground.

Unique items are what the Finnish researcher Tirkkonen-Condit (2004) calls linguistic elements found in the target language but not in the start language. These items are less frequent in translations than in non-translations, since "they do not readily suggest themselves as translation equivalents" (2004: 177-178). This has been tested on linguistic structures in Finnish and Swedish, but it might also apply to something like the structure "to be + PAST PARTICIPLE" in English (as in "they are to be married"), which tends not to be found in translations. The avoidance of unique items clearly feeds into the principle of lexical simplification, to the extent that it is simply proposing a different discovery procedure.

These proposed universals have been derived from comparisons of written translations of technical and literary texts, increasingly through the study of corpora; they might not apply to audiovisual translation (subtitles, dubbing), theatre translation, software translation or the results of statistical machine translation, for example. Indeed, there has

been much less research on alternative or counter hypotheses. For example, there are literary translations where implicitation is actually more frequent than explicitation (Kamenická 2007), and explicitation may be a result of retelling, quite independently of any change in language. This should seriously question the proposed "universal" status of these phenomena, as indeed should the lack of controlled studies into their possible psychological or social causes. As they stand, though, these four proposed universals are broadly compatible with each other, telling a common story of translators who do not take risks, who are careful to ensure understanding, and who do so even at the expense of producing texts that are relatively anodyne. The underlying tendency to risk-aversion may not be universal (it could be restricted to situations where translators are not rewarded for taking communicative risks, whereas artistic authors are). The tendency to risk-aversion also stands fascinatingly opposed to the interest in translations as communicative events. The more recent theories could be seen as calls for translators to take more communicative risks.

Gideon Toury has called for work at a higher level of abstraction, where series of observations about translational tendencies (on the level of "universals") are mustered as support for proposed laws of translation. The general form of these laws would be probabilistic, of the form "If 1 and 2, and 3, and , then there is greater likelihood that X" (Toury 2004: 26), where 1, 2 and 3 are social, psychological or professional factors. Toury has proposed two laws that might be adapted to that format. The first is a general "law of growing standardization" (1995/2012: 303ff.), which brings together many of the tendencies seen on the level of universals ("standardization" means that translations are simpler, flatter, less structured, less ambiguous, less specific to a given text, and more habitual). Toury proposes that "the more peripheral [the status of translation], the more translation will accommodate itself to established models and repertoires" (Toury 1995/2012: 307); that is, to risk a paraphrase, the less translations are called on to actively shape and extend cultural repertoires, the less translators will be prepared to take communicative risks.

Toury's second law concerns the degree to which "interference" from the start language and text is tolerated in translations; that is, the degree to which a receiving culture will accept translations that sound foreign. Toury proposes that the greater the text unit (phrase, sentence, paragraph, chapter), the greater the interference. This is logical enough, since changing large units requires considerable effort, and translators are not usually rewarded for that work. Toury then proposes that "tolerance of interference [...] tend[s] to increase when translation is carried out from a 'major' or highly prestigious language/culture" (1995/2012: 314). That is, translations are more "foreignizing" when from a culture considered to be relatively prestigious – we copy those we admire. Alternatively, in terms of risk analysis, we might say that the prestige of a foreign culture, author or text might allow a certain risk-transfer: if there are problems in understanding, the receivers might attribute it to the greatness of the foreign text rather than to the ineptitude of the translator.

Research on these hypotheses has not progressed in any controlled way. It has tended to be overtaken by literary and cultural studies, on the one hand, and by research on translators' cognitive processes, on the other. The cognitive researchers use a variety of tools, including think-aloud protocols, screen-recording and eye-tracking to investigate differences in work habits (particularly between novices and professionals) and

interaction with translation memories and machine translation. Their categories are rarely linguistic in anything beyond the banal level of names for pieces of language. As Kussmaul (1995: 2) put it in the early days of process studies, "[t]he investigation of comprehension and production processes involves not only linguistic but also psychological, at least psychological and possibly also neuropsychological, knowledge and methods." As Vermeer had said, linguistics is not enough.

Translation technologies

The prime application of linguistics to translation should ideally be machine translation, and this connection did indeed underlie many of the other relationships. The automatic production of translations can be dated from Soviet work in the 1930s but its most public advance came following the successes of cryptology during the Second World War. The approach is famously characterized by Warren Weaver's statement in 1949: "When I look at an article in Russian, I say: 'This is really written in English, but it has been coded in some strange symbols. I will now proceed to decode." (1949/2003: 14). A code, in this sense, is a finite series of systemic rules (or an algorithm), and success comes from discovering the correct rules. Given the enthusiasm with which initial successes were met in the climate of the early Cold War, it is not difficult to understand how this approach spilled over into general optimism for a view of language as being based on series of applied rules. Not by chance, the Russians Revzin and Rozentsveig (1964) applied generative principles not just to machine translation but to a model of translation in general, and the Russian theorists consequently used the term "transformations" to describe the various solutions available to all translators. In the United States, Chomsky was funded by various branches of the US military prior to 1965, and we have seen that Nida and Vázquez-Ayora similarly attempted to see all translations as transformations. There was a general view that linguistic science would lead to generalized progress, with machine translation as the flagship.

This enthusiasm declined with the publication of the ALPAC Report (National Research Council 1966), which in hindsight was a lucid evaluation of the goals, costs and social alternatives to machine translation, including a discussion of language learning as the major alternative – if there was so much science in Russian, then why not make some scientists learn Russian? The ALPAC report curiously coincided with a period of détente in US-Soviet relations, when the spirit of competition had declined and long-term cooperation could briefly be envisaged. As the enthusiasm for machine translation declined, funding went more into computational linguistics (as recommended by ALPAC), and translation scholars started to look elsewhere.

Apart from very restricted semantic fields like bilingual weather reports in Canada, machine translation did not have a significant impact on the translation professions. Cost-beneficial advances nevertheless came with the translation memory tools marketed in the 1990s. These were basically software that stored the translator's previous renditions as paired segments (usually sentences), then recalled the previous rendition when the same or a similar segment was to be translated. For instance, imagine the translator has already rendered the following (to take an example from Austermühl 2001):

ST1: The matching technology used to find similar sentences has been re-designed in the new 32-bit version.

When a similar sentence appears, either in the same text, in an update of the document, or in a subsequent project, the two sentences are calculated to have a "fuzzy" match of 79 percent:

ST2: The matching technology used to find similar sentences has been <u>extended</u> in the Windows Version.

To render this second sentence, the translator merely has to change the two underlined items, which differ from the previous translation.

There was some basic linguistics involved in the identification and segmentation of parts of speech and the calculation of fuzzy matches, and the performance of translation memories could be improved with the introduction of language-pair-specific algorithms. At base, though, translation memories constituted an advance that came from pieces of software programming, increased memory capacity, and some mathematics – it was not particularly due to linguistics or translation studies. Over the years, translation memory suites have steadily become more sophisticated, incorporating terminology tools, advanced text processing, project management tools in some versions, and machine-translation feeds for segments that have no matches in the standing memory. Although the tools were originally marketed in terms of the time they could save translators, actual time savings depend very much on the degree of repetition in each text and the quality of the translation memory. The more consistent benefits have proven to be in greater terminological and phraseological consistency and the capacity to have different translators work on the same project simultaneously.

The most significant advance in recent years has come from statistical machine translation, developed by IBM from 1993 and used by Google's free online service from 2007, particularly thanks to the work of the computer scientist Franz Joseph Och. Statistical machine translation is based not on grammatical analysis but on the frequencies with which mathematically identified "phrasemes" are associated in a database of paired segments. There are many hybrid projects integrating statistical methods with rule-based approaches, but there is little doubt that the main advance has come from mathematics.

To give an idea of how statistical machine translation works, we might take a long-standing problem in literary translation. No one knows what Don Quixote ate on Saturdays. The Spanish text says "duelos y quebrantos", which different human translators into English have rendered as "hash", "boiled bones", "sorrows and troubles", "gripes and grumblings", "eggs and abstinence", "gripes and grumblings", "peas soup" and much else. "Duelos" can mean "pains"; "quebrantos" can mean "breakings", which might suggest how the grumblings and peas got into the translation. However, if you put the Spanish words into a statistical machine translation engine one by one, here is what happens:

Duelos: *duels* (along with suggestions of *mourning* and *grief*, since several "kernels" are possible)

Duelos y: duels and

Duelos y quebrantos: duels and losses

This is straight dictionary-type matching; it is not really helping. But wait, just add one or two more words:

Duelos y quebrantos los: scraps on

Duelos y quebrantos los sábados: scraps on Saturdays

The simple addition of the article "los" activates the statistically most probable match, drawn from a translation of *Don Quijote* that has been fed into the database. This kind of translating is thanks to statistics not linguistics. Its terminological hits can be surprisingly accurate, just as its syntactic misfortunes still depend to some degree on the proximity of the languages and the quality of the databases in question.

The main use of machine translation is still for informative "gist" versions and rough translations suitable for post-editing. Outputs can also be improved significantly by the use of pre-editing, which involves rewriting the start text in a controlled language (with simplified syntax and a standardized lexis).

The utopian promise of statistical machine translation was that, as databases grew, translations would become better, which would encourage greater use of them, hence further growth in the databases, and so on, in a virtuous circle. The main problem with that promise is that uninformed users mistake the suggestions for acceptable translations. Raw machine translation output then becomes available in electronic media and can be fed back into the databases, increasing the statistical probability of errors. The virtuous circle becomes a vicious circle.

The future of machine translation probably lies in situations where databases can be limited and controlled, as when companies develop their own in-house statistical machine translation systems, perhaps with standardized databases for each of their products. At this point, the use of statistical machine translation actually functions like a large translation memory.

In sum, the history of machine translation and translation memories underscores the historical relations between linguistics and translation. Despite great enthusiasm when it seemed that rule-based linguistics would solve translation problems, we now have genuinely useful technologies that assist (rather than replace) translators and whose recent developments have drawn on disciplines other than linguistics.

A future together?

Institutional relations between linguistics and translation studies remain strong in the United Kingdom and some of its former colonies, weak in the United States (where translation belongs more to Comparative Literature), and wavering almost everywhere else. One reason for this might lie in the economics of English as the global lingua franca, particularly in the reasons why foreign students seek courses in English-speaking countries – translation is a practical thing to teach those students.

In terms of research, there are nevertheless some areas in which translation scholars might turn to linguistics in search of models and guidance. One of them, as mentioned, concerns the limits and historical dynamics of the translation concept itself, particularly with respect to the pragmatics of the event. A second area might be the use of process research to test traditional linguistic assumptions about what translators do, for example whether there is automatized cognitive mapping from form to form or, instead, a visualized situation to which the target utterance is holistically judged to be suitable (both things certainly happen, and there are things in between, but we do not know exactly when or why). A third area, closely related, would be the integration of findings from neuroimaging experiments involving symmetric and asymmetric bilinguals (see, for example, Hull and Vaid 2007), where translation is involved in some of the experiments but has not really been reflected on as such. This research might explain anecdotal observations that people who learn L2 late in life tend to make better translators and interpreters. And one final area in which applied linguistics might fruitfully rethink translation is in L2 acquisition (see Cook 2010, Pvm et al. 2013). There, in the L2 class, the pragmatics of communicative events and awareness that mental translation is happening much of the time might come together. The result should be new teaching methods that include translation as one of the fundamental language skills, alongside speaking, listening, writing and reading.

In all these areas, the fundamental challenge is for translation to be approached as a communicative act.

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