

Representation and Resemblance in Translation

Scrutinizing Interpretive Language Use in Relevance Theory

Michael Carl

Abstract

Relevance Theory (RT; Gutt, 1989, 1991, 2000) stipulates that translation is an act of interpretive language use, establishing *interlingual interpretive* resemblance between source and target language utterances, rather than describing, assessing or transferring truth values of utterances. In an extension to the original RT framework, Gutt (2004, 2005) distinguishes between two modes of translation - a stimulus mode (S-mode) and an interpretive mode (I-mode) - by which translators establish interpretive resemblances across languages. S-mode translation is tightly linked to linguistic forms, while I-mode translation appeals to the translator's (self) awareness of the cognitive/cultural environment in which the translation unfolds.

In this chapter, I argue that interlingual resemblance and contentful representation, as in descriptive language use, are two incompatible categories and that translation – defined as interlingual interpretive resemblance – can be seen as a form of non-representational language production. I suggest that translation as interpretive language use is heavily based in priming processes. While perceptual/semantic/affective priming mechanisms drive S-mode translation, the phenomenal consciousness of subjective experiences underly I-mode translation.

Keywords: resemblance and non-representation, emotion in translation, priming,

1 Descriptive and interpretive language use

Gutt (1989, 1991, 2000) makes a distinction between descriptive and interpretive modes of communication (Sperber and Wilson 1986/1995, 231 ff.). An utterance, he says, can “be *used descriptively* when it is intended to be taken as true of a state of affairs in some possible world,” or it can be “*used interpretively* when it is intended to represent what someone said or thought” (Gutt 1989, 44). Translation is, for him, an instance of interlingual interpretive language use.

Gutt (1989, 56) defines “a thought [as] a mental representation that has a propositional form”, where the evaluation of the proposition relates to some state of affairs in a possible world. When a thought is activated (or emerges) in the human mind and the proposition represents something in a possible world, it is “called a *descriptive* use of that representation: it is entertained as a description of the state of affairs of which it is thought to be true” (emphasis in the original). This truth is objective in the sense that it does not depend on what one believes. Truth relates a proposition to an ontologically objective fact, a state of affairs. Descriptive language use is thus a mode of content-involving cognition (CIC, Hutto & Myin 2017) as it assumes the existence and processing of truth-based correctness conditions within an assumed ontological objectivity of the world.

In an example, Gutt (2000) defines covert translation as a form of descriptive language use. In covert translation, the source text (ST) is transparent, non-existent and not visible in the target:

"there need not be any resemblance to the original" (ibid. 57). The target texts (TTs) "are intended to achieve relevance in their own right, not in virtue of their interpretive resemblance with some source language original" (ibid. 59). What counts in covert translation is the descriptive accuracy, adequacy and effectiveness of the TT (Gutt 2000:217). This is fundamentally different in interpretive language use, which "comes with the intention of informing the target audience that the original author has said or written such-and-such". There must thus be an implicit or explicit "assumption that a source text has existed" (ibid., 215), which is not the case for descriptive language use. Gutt (2000:215) thus concludes that "translation cannot be covert."

In contrast to evaluating truth conditions, Gutt (1989, 1991, 2000) defines interpretive language use as a form of *interpretive resemblance* which draws on the structural relationships between "bodies of thoughts". Crucially, propositions have a logical form with sets of properties. Two (or more) propositions can be compared based on these logical properties, rather than on their truth values. Thus, in the case of interpretive language use, "our mind can entertain a mental representation or thought not in virtue of its being true of some state of affairs, but in virtue of its interpretive resemblance to some other representation" (Gutt 1989, 60) where the amount of structural resemblance between propositional forms (or parts thereof) accounts for their interpretive resemblance.

In this conception, there are thus two different notions of representation: one pertaining to *descriptive use* which relates to whether or not propositions (or symbols) truthfully describe state of affairs in a possible world, and another one pertaining to *interpretive use* which alludes to the (structural) resemblance of thoughts and/or properties of their (propositional) forms. However, using the same term (*representation*) for two quite different notions leads to troublesome confusion. As Searle (1983, 11) points out, "there is probably no more abused term in the history of philosophy than 'representation'" - which suggests that these different usages should be better kept apart, whenever possible.

The notion of representation is related to that of intentionality. Intentionality may be considered the ability of the mind to be about something, to have content, an object. These objects enable intentionality, they provide the content or aboutness of mental states, while intentionality gives meaning to specific mental objects. On the one hand, mental states are intentional because they involve contentful objects and, on the other hand, the content of these objects is how the mind achieves intentionality.

We can distinguish between mental objects that carry representational content which are states of mind that are about (or of) something in the outside world - states of affairs -, and mental objects with non-representational content that are about internal states, such as affect and emotions. Numerous authors maintain that representational content is tightly linked to linguistic expression. According to Baer (2021, 86) Fedorov stated in his 1953 *Introduction to Translation Theory* that "[t]hought or content exists in an inseparable unit with the linguistic form that embodies it. Content that is not subjected to expression is unthinkable." Similarly, Searle (1983) argues that certain mental states, such as basic sensory experiences, feelings or emotions are non-representational, since they do not inherently involve mental representation of an external object or a state of affairs.¹ Thoughts, desires, beliefs, perceptions, feelings, etc. are intentional and

¹ Not everyone agrees with this distinction between non-representationalism and representationalism. For Dretske (1995), "all facts about the mind are representational facts". Crane (2009) addresses the difference between phenomenal aspects of experience (how things seem to a subject, 'what it is like'), and the representational content of that experience ('how an

subjectively real - they are ontologically subjective (Searle 2013) -, but they are not internal representations of an outside state of affairs, they are non-representational.

In fact, it has been contested whether mental states are representationally contentful at all. Drawing on Merleau-Ponty (1945/2012), Kiverstein, J., Rietveld (2021) refute that

[linguistic] thought² has an existence in the mind of the speaker independently from, and prior to its being expressed in speech. The thought is accomplished in the bodily activity of talking with others, or in writing, and doesn't exist in the speaker's head as a ready-made thought prior to this activity of talking or writing. (S178)

There is no articulation prior to speaking (or writing), “there is at best an inarticulate feeling”. “Thinking”, Kiverstein, J., Rietveld (2021) say, “is instead accomplished in the activity of speaking just as music is performed in the playing of musical instruments” (S181)

This assumption, that the intentionality of mental states can have non-representational content, is endorsed by embodied and ecological views on cognition (Gibson 1979) which posit that perception does not require internal representations of the outside world. Instead, intentionality arises here from a direct engagement with the environment, rather than from representational contentful mental states.

Similarly, in Gutt's terms, translation involves similarities between “bodies of thought” (Gutt 2004), rather than representations of external states of affairs. An argument can thus be made that the act of translation is non-representational, because the translators' intentionality is directed towards detecting resemblances of a source and a target language utterance, rather than word-to-world correspondences or state of affairs in an external world.

2 Non-representational language use

A proposition is a statement that expresses a complete thought which can either be true or false with respect to the state of affairs it represents. According to Hutto & Myin (2017, 205), only individuals who acquire autobiographical narratives about their past could have any properly meaningful, representational-contentful thoughts about their memories. Children acquire autobiographical memory through the “mastery of special sociocultural practices [which] might be necessary to enable [them] to make any truth-evaluable, contentful claims about the past at all” (ibid. p.221). Children start by developing basic episodic remembering without correctness conditions, which successively and through social “claim-making practices” become declarative autobiographical memory. But declarative memory, Hutto and Myin say, “absolutely requires contentful representation” (ibid., 221). Thus, the availability of correctness conditions - acquired through “claim-making practices” - provides a necessary condition of representationhood. While Thompson (2018) points out that CIC “requires public symbols and social practices of symbolic

experience represents the world to be’) by distinguishing between *representational mode* and *representational content*, respectively. He posits that every conscious thought, perception or desire has an intentional object (the thing represented) and certain affective “colouring” to it (i.e., the subjective experience with it): “Objects are presented to us as meaningful in various ways, and part of this meaning is their affective significance” (ibid., 490). Crane thus finds “no good reason to think that there are emotions which lack intentional objects altogether.” (ibid.)

² “thought” could be defined broadly, encompassing reasoning, imagining, problem-solving, decision-making, reflecting, or simply processing sensory input, representing conscious or unconscious concepts, experiences, or emotions, etc. However, here the notion of thought, I take it, pretty much corresponds to Gutt's “mental representation that has a propositional form.”

communication; it is governed by semantic norms and has correctness conditions,” Robinson (2023) maintains that norms are formed in a bottom-up fashion, where we “turn repeated events into patterns that we take to be reality. Those patterns are norms” (2023, 94ff). Norm formation, he says, “rely on intuition or unconscious habit”, where affective and emotional factors - thus non-representational aspects - play a crucial role.

In this view, translation as interpretive language use is not only non-representational but also relies largely on non-declarative memory. Non-declarative memory, also known as implicit memory - which includes skills, habits and conditioned responses - may be acquired and used without explicit awareness and does not inherently require contentful representation or CIC (Hutto & Myin 2017). It allows translators to draw on linguistic and procedural knowledge subconsciously, making the translation process more efficient and accurate through automatic recall and applied skills.

Similar views have been put forward by Pym (2023) who explores how experienced translators develop automatic, procedural skills through practice, relying less on explicit, declarative memory and more on procedural memory. Similarly, Gile's (1995) "Effort Models" of interpreting and translation highlight that much of what translators and interpreters do becomes automatic over time, implying reliance on procedural memory. Halverson (2019, 190) argues that translators develop “easily accessible routinized knowledge” through repeated practice and – like Robinson, above - underscores that “conventionalized norms also have a fully embodied and affective nature” (Halverson and Kotze, 2022, 71)

Hutto and Myin (2017, 92) “suppose that some thoughts and speech acts are contentful in a representational sense, but we do not assume that all language is representational.” Hutto and Satne (2015, 521) point out that it is possible to think thoughts “that refer to things beyond themselves - thoughts that can be true or false.” While such thoughts are contentful (they have representational content) as they specify conditions under which they are true, this does not mean that all thoughts are representationally contentful. I can think of an event or tell a story without reference to truth values or correctness criteria. Equally, “not all kinds of culturally shaped acts of cognition are content-involving” (Hutto and Myin 2017, 12).

This is obviously also the case in translation. Gutt's notion of interpretive language use suggests that not all language acts are representational-contentful, and not all forms of understanding involve the evaluation and comparisons of propositions. Propositions, Gutt (1989, 56) says, “can contradict each other, imply each other and enter into other logical relationships with each other”. However, in many cases, understanding can be achieved through direct experience, without the need for explicit comparisons of contentful representation. Understanding may rely on more direct sensory processing, innate behaviors, and simple learning mechanisms. In the same way, it is possible to translate non-representational, contentless sentences, such as “colorless green ideas sleep furiously” into, say, French, by virtue of structural similarities and word meaning (Pereira 2000). But truth values also do not even need to be processed for translations of potentially representational utterances such as “It is raining in Rome”, since, according to Gutt, it is sufficient to establish their interpretive resemblance.

Similarly, Mandelkern and Linzen (2024) maintain that for “words to refer to something, it suffices to be part of a speech community that uses the word to refer to that thing.” This view is reminiscent of Kripke's (1980) Causal Theory of Reference, in which a name refers to an object by virtue of a causal chain of usage in a speech community: In an “Initial Baptism” a name is directly linked to an external object. Successively, speakers inherit the name from previous

speakers, so that even without knowing the object or with only minimal or even incorrect information, they can still refer to it. Eventually, language would become a closed system where, as Saussure (1959) advocates, meaning is produced grounded on the differences of the signifying elements in the system (Baer 2021, XV). In the case of translation, this amounts to the ability of finding a TL expression that occupies “as nearly as possible, the ‘same’ place in the ‘economy’ of the TL as the given SL category occupies in the SL” (Catford 1965). Meanings of lexical items depend, in this view, not on external reference but rather on the internal relationships between corresponding collocations. Mandelkern and Linzen (2024) explain that this can be formally characterized as vectors in a high-dimensional semantic space, as, for instance, in current generative AI systems (e.g., ChatGPT).

3 Structural similarity

Assessing structural similarities does not imply representational content or even “mentality”. Morgan (2014) points out that there is no distinction between receptors and structural representations: receptors establish homomorphisms which can function as behavior-guiding maps. A circadian clock, for instance, indicates a sleep–wake cycle that repeats roughly every 24 hours. It can also be observed in plants and shows a structural similarity with earth rotation. So-called structural representations are, thus, not “distinctively mental representations, for they can be found in all sorts of non-intentional systems such as plants” (Morgan 2014, pp. 266–267) or machines. However, it does not seem sensible to assume that the circadian clock in plants “represents” earth rotation, or that a thermometer “represents” temperature in the environment.

Cluster analysis is another case in point. A cluster of items or structures can be given a label that serves as a tag to refer to the instances clustered. New instances can be classified by their similarity to the instances in the various clusters, or their prototypical center of attraction. The labels (and the cluster instances these labels subsume) are durable; they may have an opaque internal structure and they stand-in for something; they can be manipulated offline, and they may reliably detect distal events. However, clusters (just as other structural resemblances) are generated based on the available differences of the instances classified and are thus “radically observer-dependent” (Morgan 2014, 266), rather than representing an outside state of affairs. Thus, a classifier - or any other structural resemblance - ‘represents’ at best itself rather than anything outside itself³ - in other words, it is *non-representational*.

Sperber and Wilson (1995) also discuss the relation between representation and structural resemblance. They maintain that “any natural or artificial phenomenon in the world [thus including propositions] can be used as a representation of some other phenomenon which it resembles in some respects.” (ibid., 227) However, they also maintain that “anything may resemble anything in at least some respect” (Sperber and Wilson 1995, 232) and conclude that “all phenomena [...] can be used to represent something they resemble” (Sperber and Wilson 1995, 227). But even if everything resembles every other thing in some way, this certainly does not imply that everything represents every other thing. For sure, not everything is about every other thing.

³ Classifiers produce power sets over N items. In a universe with N objects there are 2^N ways to group them into sets where each item has some similarity with every of the 2^{N-1} sets (Goodman, 1976). However, only a tiny fraction of the sets may have a measurable amount of relevance, which depends on external factors, as we discuss below.

Rather, it seems that the (degree of) similarity between an item and a symbol representing it is unimportant for their representationhood. For something to represent something else, it needs a declaration of this being so (a “claim-making practice”); similarity is not sufficient, not even necessary. Since Saussure (1959), it is generally assumed that symbols are entities that represent and that the form of the symbol is arbitrary: the connection between the form of a word and the concept (or the state of affairs) it represents is not based on any inherent similarity between them. Representationhood is achieved through shared understanding within a particular language community⁴. For instance, a (thought of a) snail may resemble a (thought of a) tree as they both live in the same forest, but in order for a snail-thought to represent a forest-thought, someone needs to declare it as such, for instance, in a game. While representations emerge under “claim-making practices”, as Hutto and Myin (2017, 145) say, this does not imply that translators engage in such practices. Unlike in a (e.g., children’s) game, a translator cannot (usually) claim “snail” to be the translation of “tree”. Translators search for (interlingual) similarities and for optimal interpretive resemblance. But how do they do that?

4 Translation and emotion

Emotions are critical in guiding adaptive behavior and for decision-making (Hubscher-Davidson 2017, Robinson 2023). Emotions and feelings play a crucial role in influencing cognitive processes, such as attention, memory, and problem solving. Phenomenal, first-person experiences of sensations, perceptions, emotions, feelings, etc. are immediately and directly accessible to the individual experiencing them. They do not require any inference or interpretation to be felt but they can impact the encoding and retrieval of information, affect the allocation of resources, and influence the evaluation of stimuli and events, including during translation.

Hubscher-Davidson (2017, 4), for instance, stresses that “Inevitably, translators will need to tap into their own resources of emotional experiences and emotional language in order to understand and transfer the information to the best of their abilities.” A successful, coherent interaction with the environment seems to require, for her, the integration of emotional experiences and cognitive resources. Similarly, for Robinson (2023, 86) feelings and emotions are part of minds and tools for thinking, which are, to a large extent, embodied and embedded. Feelings and emotions are, in his view, constitutive – rather than merely causal – for acting and collaborating within the environment. Affect, Robinson says, “is the glue that makes the world we cocreate with our environments cohere; and our access to that glue and that world/agent adherence/coherence is what makes all communication possible, intralingually, interlingually, and intersemiotically.” According to Robinson (2023, 86) the translator’s awareness is her “ability to understand other people’s feelings and feeling-saturated thoughts.” The awareness of the embodied cognitive/cultural environment in the source and target audiences and their differences would, thus, help in steering the selection of appropriate interlingual similarities. In this view, rather than representing the source/target culture and/or the communicative context as pre-given and extrinsic to the translation process, translation can be considered an inherently embodied activity.

While Gutt, does not seem to explicitly address phenomenal or emotional experiences of translators and their impact on translation in detail, this view appears to be compatible with his

⁴ However, this broad statement should be approached with caution. While large language models seem to be part of a language community, it is controversial whether they can be said to really understand and represent anything

notion of translation as interpretive resemblance. Gutt establishes descriptive language use as verificational with respect to some state of affairs that can be checked in an external world for truthfulness. That is, a statement is connected to its verifiability through empirical evidence of the outside world. For translation as an act of interpretive language use, this is not the case. Gutt (1989, 194) points out that, for instance in literary translation, scholars have paid “considerable attention to the preservation of the stylistic properties of texts”, including the emotions conveyed. Emotions are of great importance in interpretive language use, as every different sentence and paraphrase conveys different emotional nuances. There are usually numerous possible translations for every source expression - which may realize different emotional content – but, Seth (2022,53) explains, as we can be in only one emotional state at any one moment in time, the awareness of emotions leads to a “massive reduction of uncertainty”. In the translation context this would hence massively resolve translation ambiguity. Every conscious experience, Seth says, “is both informative and unified at the level of phenomenology”. (Seth 2022, 54) The phenomenology of experiences thus reduces ambiguity in human translation which is based to a significant amount on affect and emotion. For Clark (2015: 68), reduction of uncertainty is the “driving force behind gaze allocation and attentional shift.”

As translations express a speaker’s intentions or thoughts in another language, the success of translation may be judged by how well a translation communicates “bodies of thought” to the listener rather than by its factual accuracy. This view is further elaborated in Gutt’s (2004, 2005) notions of S-mode and I-mode translations.

5 S-mode translation

Gutt (2004, 2005) introduces a distinction between *stimulus* resemblance and *interpretive* resemblance of a message. In his metalinguistic account of RT, “the resemblance does not have to be between the intended interpretations but can also lie in the sharing of linguistic properties” (Gutt 2004, 4). Gutt’s metalinguistic account extends the notion of *translation as interpretive use* by allowing translators to conceptualize translation as “partial resemblance in linguistic properties” (Gutt 2004). The idea is further elaborated in (Gutt 2005) where Gutt introduces translation as a “higher-order act of communication” (HOAC). In the HOAC framework, he defines translation as an act of communication that is about another (lower-order) act of communication. On the one hand, the two acts of communication are embedded, the lower-order communication is the one being translated, while the higher-order communication is the act of translating. On the other hand, both acts of communication (lower and higher) consist of a perceptible stimulus – an observable audible or visible signal - and a message, i.e., the meaning-intention: “any act of communication concerned with another act of communication (now called **higher-order acts of communication**), can aim at providing information about **either** of its two key elements: the stimulus used or the interpretation intended in the original act” (Gutt 2004, 4, emphasis in original).

Translation as a HOAC can draw on the stimulus of the lower-order communication expression, “what is said” or it can relate to the interpretation, “what is meant”. It can replicate the source *stimulus* in the target language (so-called S-mode) or the intended interpretation when it alludes to the *message* (so-called I-mode). Gutt (2005, 35) specifies that “the stimulus is the *perceptible evidence* and the intended meaning is the *thoughts* of the communicator it provides evidence for.” Without delving into details, and in an attempt to support evidence for S-mode translation,

Gutt mentions that languages share “properties to a very remarkable extent” (2005, 42). Language expressions, he says, “may show greater resemblance than linguistic comparisons might suggest ... [so that] cross-language S-mode HOACs could replicate properties from any or all of these levels” (42) Gutt (2005) seems to think here of “the stimulus itself”, rather than thoughts or the properties of propositional forms.

In this view, translation can be based on the ‘S-mode’ – the similarity (or resemblance) of linguistic features, lexical or syntactic – when there are large commonalities in the communicative environment of the source and the target audience. That is, Gutt seems to suggest here that it is possible to reproduce properties of the ST stimulus in the target language without access to, or the evaluation of propositions or thoughts. Replication of stimulus characteristics into the TL may be sufficient for the informed target audience to reconstruct the interpretive resemblance with the source: “Since languages do share properties, it seems not unreasonable to consider an expression of language B a token of an expression of language A to the extent that they have properties in common” (Gutt 2005, 40).

As pointed out above, interpretive resemblance can be achieved by maintaining the structural similarity (e.g., of propositions) across languages: “Interpretive resemblance is defined primarily as a [structural] relationship between propositional forms”⁵ (Gutt 1989, 64). This view seems to stress coherence, rather than correspondence. Interpretive resemblance does not need to involve the assessment of contentful representation at all: “its application to representations such as thoughts or utterances is only by extension - in virtue of the fact that such representations have propositional forms.” (ibid.).

Provided the cognitive environments of the SL and the TL audience largely overlap, the receptor can recover the intended meaning from the traces of the stimulus translation by which a translator informs the audience merely of the evidence, rather than the meaning. This seems also in line with Sperber and Wilson (1995, 217) who state that “[t]here is a natural linkage between linguistic structure and pragmatic interpretation”: it implies that similar linguistic structure (i.e., the similarity of the stimulus in the source and the target) leads to similar pragmatic interpretation, even across languages. That is, S-mode translations are possible (lead to appropriate pragmatic interpretation) without a translator’s need for deep analysis or proper understanding of the SL message, provided there is a large enough overlap in the cognitive environment in the SL and TL audience.

Detecting and acting on structural resemblances, first of all helps an agent to act more efficiently in the world. Acting on structural resemblances is instrumental for survival, as it allows an agent to detect opportunities or dangers more quickly, to react dynamically in a changing environment and to efficiently transfer knowledge from one context to another. Detecting and evaluating similarities is arguably faster than (mentally) representing associated truth values. However, it has been suggested that translation in practice is largely accomplished through automatized translation routines (Halverson 2019), rather than based on interlingual structural similarities. The relation and interaction between word-for-word translation, automatized routines and structural similarity has recently been questioned, for instance in (Jacob et al 2024)

⁵ Wilson (2000) takes a slightly different stance. For her, “Interpretive resemblance is resemblance in content: that is, sharing of implications.” (143) However, Wilson acknowledges that similarity in form (usually) leads to similarity of interpretation. Gutt applies the notions in the translation context, where translators make use of formal similarity (i.e., s-mode translation) to arrive at shared implications (see also Catford 1965).

In contrast to the S-mode, I-mode translation may help translators bridge communication barriers, if the cognitive environment and/or the context between the SL and the TL audience is vastly different. In order to address this challenge, translators allegedly need to identify and "metarepresent" the differences in the background knowledge of the two SL and TL audiences. "Translation typically, though not necessarily, brings into contact people with different cognitive environments and therefore metarepresentation is one of the crucial challenges" (Gutt 2005, 5). According to Gutt, metarepresentation is required to understand the mutual cognitive environment of communication participants: "communicator and audience must be able to represent each other's thoughts, that is, they must be able to metarepresent" (Gutt 2005, 4). As the "communicator" in this citation is meant to be a translator (as opposed to the SL author), and given the discussion above, the notion of "metarepresentation" in the context of interpretive language use should not be confused with contentful representation of objects, events, or properties in an assumed pre-given, external world. Metarepresentation in interpretive language use, it appears, does not stipulate the evaluation of propositions and assessment of truth values.

But what then is metarepresentation in the translation context?

Wilson (2000, 142) introduces the notion of metarepresentation to capture all instances of "representation by resemblance". She argues that "all varieties of metarepresentation, public, mental and abstract, can be analysed in terms of a notion of representation by resemblance". However, with the discussion above, this term does not make much sense at all as it is seemingly a contradiction in terms. Tracing the notion of *representation by resemblance* leads back to Hume (1739). Hume suggested that mental representations are formed based on their resemblance to objects in the world. For Hume, feelings, including passions and emotions, are initially experienced as "vivid impressions", which then give rise to corresponding ideas and thoughts. The mind tends to associate ideas based on repeated experiences; the more frequently certain ideas are experienced together with states of affairs in the world, the stronger the association between them becomes.

But while, for Hume, ideas constitute the building blocks of thought, knowledge and reasoning, it is "passions" rather than reason, that cause human behavior. Passions, which include desire, affect, and emotion, are, according to Hume, the crucial elements in human behavior and decision making and the driving force for interacting with the world. This view seems to be compatible with Kiverstein, J., Rietveld (2021) statement (above) who state that contentful thought emerges from "inarticulate feeling" but does not exist prior to talking or writing. While Hume's notion of "representation by resemblance" emphasizes the copying of sensory experiences via "vivid impressions" into ideas, passions constitute, for him, the underlying non-representational mental content which are the forces underlying our motivations and interaction with the environment.

With a slightly different perspective, Sperber and Wilson's account of representation by resemblance is concerned with the human ability to understand and align with other people's mental states, beliefs, or emotions - which thus amounts to "non-representational content". Even though Sperber and Wilson do not indicate the origin of their notion of "representation by resemblance", their usage of the concept is connected to that of Hume in that they both involve how the mind constructs intentional objects. However, the representational mode (i.e., the "color" in Crane's (2009) terms) of these objects is different: Hume explains how contentful

representations emerge in the sensory-to-idea trajectory, whereas Sperber and Wilson address a more advanced notions of non-representational content in the communication of bodies of thought that alludes to the similarities of their conceptual and affective aspects. In this context, it is interesting that Tymoczko (2005, 38) cautions:

It is not possible to understand the nature of translation as an attempt to create a likeness to a source text without understanding the way that human beings process likenesses in general, including the way that perception of similarity is culture bound and related to categories of perception.

However, the understanding and processing of likeness is deeply anchored in affective and phenomenal experiences, including emotions, tone, style, and aesthetic qualities and how the feelings, and atmosphere conveyed in the source text are to be rendered in the target text.

On this background, it seems to me that Gutt's I-mode translation and thus the notion of "metarepresentation" could be (re-)conceived as the translator's embodied and enacted *awareness* with respect to the similarities between the cognitive/cultural environment of the source and the target audiences, as well as a *self-awareness* of her emotions and feelings that underly the assessment and selection of interlingual similarities. In this view, I-mode translation draws on the translator's intercultural and contextual consciousness, it establishes interpretive resemblances between languages by scrutinizing the affective significance of bodies of thought. Translators, thus, need to be aware of their affective states which shape the way they perceive and interpret information, leading to emotional biases that can cause skewed behavior.⁶

Alves (2007:65) stipulates that "the meta-representations translators have of the source culture/text as well as that of the target audience are the driving forces for the work they produce." However, a (meta) representation is not a force. In physics, a force is an interaction that can cause an object to be pushed or pulled, or to change its motion or shape. In this sense, knowledge of the source or target culture/audience must first be brought into conscious awareness so that it can interact with intuitions, emotions, or affect, in order to reduce translational uncertainty, and/or lead to appropriate tone, style or wording. Evans (2010) explains that "intervention on intuitions [i.e. S-mode translation] by reasoning requires both the cognitive capacity for the relevant reasoning and the awareness of the need for doing so" (p. 323). The term "meta-representations" in Alves' citation can then probably be interpreted as the translator's ability to bring into awareness their phenomenal experiences, emotions, feelings, or affect that is relevant in the translation context and the cognitive capacity to act appropriately.

By reflecting on their own intuitions, reactions and emotional responses, translators may gain insights into potential challenges, biases, and personal interpretations. The interaction between skills, knowledge, and conscious awareness can be thought of in terms of a dynamic flow between sensorimotor, cognitive and phenomenal processes. The crucial point is thereby the translator's ability for generating conscious awareness which provides her with the possibility to

⁶ This view is consistent with sensorimotor enactivism. Sensorimotor enactivism underscores the inseparability of perception and action: "perception and action form a causally circular process that couples the agent to the environment." (Kiverstein and Kirchhoff 2023) Sensorimotor contingencies (SMCs), that is, the relationships between actions (i.e., motor behavior, such as typing) and the sensory consequences (i.e., the observation of the outcomes of the translation actions), comprise the body and the environment. The mastery of SMCs determines the phenomenal character of experiences, where, in a state of deep immersion, translation would then become an operationally closed system: "The key point is that such [operationally closed] systems do not operate by representation. Instead of representing an independent world, they enact a world as a domain of distinctions that is inseparable from the structure embodied by the cognitive system" (Varela et al 1991, 139-140, emphasis in the original).

assess her own understanding and to reflect on linguistic choices, interpretations, and the impact of cultural nuances. According to Tye (1995, 115), reflecting on experiences and related emotions or feelings

involves bringing the experience under concepts. These concepts are what allow us to form conceptions through introspection of what it is like for us to undergo the experiences. Unless we apply such concepts, we are oblivious to our experiences.

In this view, I-mode translation involves phenomenal awareness – rather than contentful representation – to pinpoint nuances of cultural references and subsequently adapt translations to suit linguistic and cultural expectations. It presumably underlies planning and decision making about the tone and style of the translation, choosing appropriate vocabulary, sentence structures, or rhetorical devices, and maintaining coherence throughout the translation. The driving force for I-mode translation would thus consist in a process of making aware phenomenal qualities related to the resemblance of the source culture/text and the target audience.

Similarly, then, when Gonçalves (2020, 23) requests that “the translator must metarepresent the source text author’s mental representations related to that communicative context, as well as the source text audience’s, and mainly the TT audience’s mental representations”, under the suggested interpretation, this statement could be rephrased as a request for translators to develop an awareness of the source and target culture as well as a reflective self-awareness of their own emotional attitude and any possible biases which impact the selection of a translation solution.

This view is consistent with Pym’s (1991/2003) minimalist approach to functional translation competence. For Pym’s (2003, p. 489),

There can be no doubt that translators need to know a fair amount of grammar, rhetoric, terminology, computer skills, Internet savvy, world knowledge, teamwork cooperation, strategies for getting paid correctly, and the rest, but the specifically translational part of their practice is strictly neither linguistic nor solely commercial. It is a process of generation and selection, a problem-solving process that often occurs with apparent automatism.

In his minimalist approach, Pym suggests two skills: 1) the ability to generate a series of more than one viable TT and 2) the ability to select only one viable TT from this series, quickly and with justified confidence, taking into account cultural and contextual factors.

In translation practice, the criteria to assess and select appropriate levels of interpretive resemblance would probably be pre-established, prompted and/or primed through translation guidelines (or a translation brief). Depending on the specifications, a translation brief might not only activate translation routines, norms or styles, but also evoke associated feelings and affects that allow a translator to select one viable translation quickly, while cultural and emotional (self) awareness allow the translator to select the translation with justified confidence. For instance, a translation brief could mention the target audience's cultural context which might prime a translator to respect specific cultural sensitivities, even without explicitly directing them to do so.

According to Wikipedia,⁷ the notion of *translation brief* goes back to Nord (2006) and probably the Skopos theory. A translation brief helps the translator understand how best to tailor the translation to suit the needs of the specific target audience. A translation brief in concert with emotional awareness may answer Gutt’s (2000:234) request that “it is a crucial part of any communicator’s task [and thus translation] to anticipate the context actually available to the

⁷ https://en.wikipedia.org/wiki/Skopos_theory#Translation_brief.

audience and to design the stimulus accordingly”, and his assumption “that it will be interesting to find out how such complex task can be achieved.”

A translation brief specifies the intended audience and purpose of the translation in the target language. Translation guidelines bias (or prime) translators to activate particular “bodies of thought” (Gutt 2004: 13) that answer to specific translation expectations. Several translation companies offer guidelines that explain how to draft translation briefs.⁸

7 Priming in translation

In this Section, I propose priming as the psychological mechanism that underlies and explains Gutt’s notion of I-mode and S-mode translation as instantiations of interpretive language use. Gutt (2000:234) points out that:

The bulk of the mental activities of translation (as of communication in general) take place below the level of consciousness; this raises the question to what degree translators can make aware themselves of these processes?

I suggest that priming takes place on several levels in the translation process. Priming is a form of dynamic agent-environment interaction by which a stimulus influences the response(s) to a subsequent stimulus, but the agent is unaware of their connection⁹. Perceptual priming is a mechanism of implicit memory where the response is determined largely by the physical characteristics of the priming stimulus. In bilingualism studies, priming often investigates how a source language (SL) stimulus, a word, sentence or structure has facilitating effects on successive target language (TL) production. (De Groot 1992, Tokowicz and Kroll 2007, Hartsuiker and Pickering 2008)

Several bilingual priming studies suggest that an SL stimulus automatically activates shared interlingual connections across source and target language structures in the bilinguals brain (e.g., Tokowicz and Kroll 2007; Hartsuiker et al. 2008). There is now a general consensus that linguistic stimuli are activated non-selectively (de Groot 1992, Kroll and Stewart 1994, Dijkstra et al. 2018). That is, a source word activates potentially many phonetically or semantically similar source and target language words from which the most relevant in the current context is selected. According to Paradis (2004, 201), if two (or more) language systems are encoded in the translator’s mind, “the meanings of translation equivalents generally overlap partially, but seldom, if ever, completely.” This suggests that there will generally be more than one translation solution activated which partially overlap, and this explains the variation in the observed lexical and syntactic choices of translators.

It has been observed (e.g., in Halverson 2017) that a frequently occurring pair of source/target language items will become entrenched over time¹⁰. That is, a specific translation for a given ST expression will become more common and established in the translator’s mind as s/he experiences the same translation over and over again. This repetition will strengthen priming effects and reinforce the translational relation, without explicit awareness.

⁸ For instance: <https://www.translatemedia.com/us/blog-us/write-effective-translation-brief/> and <https://harryclarktranslation.co.nz/successful-translation-brief-made/>.

⁹ <https://thedeisionlab.com/biases/priming>

¹⁰ A similar assumption is also built into Hume’s assumption of how ideas emerge from sensory input.

Different priming effects have been reported to occur in different time scales; they can be quick, in the order of 200ms, while later processes such as syntactic integration, detection of errors, etc. are much slower and can be measured, for instance, by the P600 effect (Schacht et al. 2014). According to Estes and Jones (2009, 123) “associative priming and semantic priming are observed at short (i.e., < 300 ms.) and intermediate SOAs [stimulus onset asynchrony] (approximately 300 to 800 ms.), but associative priming continues to increase in magnitude across longer SOAs (i.e., ≥ 1000 ms.)” However, translation production can be quicker than 800ms SOAs between observing an ST word and typing its translation, suggesting that translators can generate translations as direct priming effects, and they may start typing translations before processing the entire source structure. It has been shown that:

- Priming effects exist for shared phonetic (e.g. cognates), semantic (Dimitropoulou et al. 2011; Schoonbaert et al. 2011) and for syntactic structures (Bangalore et al. 2016; Maier, Pickering and Hartsuiker 2017).
- Priming is more likely when ST-TT links are unambiguous. A number of studies (Tokowicz and Kroll 2007; Laxén and Lavaur 2010; Prior, Kroll and MacWhinney 2013; Eddington and Tokowicz 2013) show that translation recognition, as well as translation production is slowed down if a word has more translation alternatives.
- Priming effects decrease when items intervene between the trigger and the target: reversing word order is detrimental to priming effects. Effects are stronger if priming stimulus and target are adjacent and not separated by intervening linguistic material (Hartsuiker et al. 2008).

These studies show that a related prime results in faster response times than an unrelated prime. Priming also takes place in translation (Tokowicz and Kroll 2007, Laxén and Lavaur 2010, Boada et al. 2013, Eddington and Tokowicz 2013, Prior et al. 2013), where it has been shown that related words in two languages increase recognition speed as compared to unrelated words. These studies predict that a first translational response - i.e., a default translation (Carl and Dragsted 2012, Halverson 2019) - is stronger if the phonetic, orthographic or semantic similarity between the source and the target language is larger (less translation choice), if words translate compositionally in a one-to-one fashion (similar tokenization), or if the languages are syntactically closer to each other with no, or few long-distance re-orderings (Schaeffer et al, 2016).

Many of these studies investigate semantic or perceptual priming effects during a translation task. However, it can be expected that the translator’s emotional and affective associations as well as her cultural awareness and the communicative context impact translation priming processes. A translation brief, provided (or perhaps inferred) at the beginning of a translation job, may indicate the original source and the intended target audience, source and target languages, the type of document (e.g., scientific / technical / financial text, literary translation, etc.), the outlet of the final product (internet portal, book, journal, etc.), probably nationality and age of the target audience, interests, and personality characteristics, etc., so that a message with a tone of voice can be tailored to suit the market and intended audience. Those contexts may significantly bias the understanding of norms, values, and beliefs leading to different responses of the ST.

However, current post-editing (and translation) guidelines are sometimes perceived by translators as cumbersome if they do not specify the informational or cognitive load involved (Rico Pérez 2024). Translators may struggle to get even basic information about a translation’s broader context. This may lead to misconceptions of the desired translation quality, leaving open

criteria as to how the translation product will be evaluated from the perspective of the translators, employers, users, intermediaries and trainers as a function of the purpose of the communication. These parameters play a crucial role in the translators' emotional and affective attitudes which may determine how a translator relates to the translation job.

8 Concluding remarks

RT makes a distinction between descriptive and interpretive language use. Gutt (2000: 58) maintains that

"human beings have two different ways of entertaining thoughts - they can entertain them descriptively, in virtue of their being true of some state of affairs, and they can entertain them interpretively, in virtue of the interpretive resemblance they bear to some other thoughts."

Descriptive language use involves conveying information about the world, describing events, objects, states of affairs, etc. it "relate[s] the thought in question to some state of affairs in some (possible) world" (Gutt 2000, 36).

For Gutt, instances of descriptive interlingual text production do not count as translation. Rather, translation is a form of interlingual interpretive language use. The act of translation, in this view, is a form for (re)producing interlingual similarity, rather than relating, evaluating or assessing the truth of propositions. Interpretive language use - and thus translation - is based on interlingual semantic resemblance, while descriptive language use is bound to truthfulness representations.

This distinction matches the one made by Marconi (1997) and Calzavarini (2017), who separate inferential and referential aspects of semantic competence. The inferential aspect concerns the set of abilities and knowledge grounded in word-to-word relationships, manifested in behaviors such as providing definitions and paraphrases, identifying synonyms or antonyms, deducing facts from premises, translating between languages, and other abstract semantic tasks that rely solely on linguistic knowledge. The referential aspect of semantic competence, in contrast, concerns the ability to connect words to the world.

Within interpretive language use - or translation as inferential semantic competence - Gutt (2004, 2005) suggests a further distinction between a *stimulus* mode (S-mode, "what was said") and an *interpretive* mode (I-mode, "what was meant"): S-mode translation relies on the similarity of linguistic forms whereas I-mode translation alludes to the similarity of interpretations.

In this chapter I suggest that S-mode and I-mode translations are based primarily on perceptual, semantic, conceptual, or affective priming processes. Priming is an implicit memory process, by which a stimulus activates particular memory nodes, making related information or behavioral patterns more easily accessible. Priming provides a mechanism that biases translators to effectively select one solution from a potentially large number of possibilities in the current translation context. Yet, while S-mode translation alludes to affective, perceptual and semantic priming processes, I-mode translation is rooted in prompting (e.g., a translation brief) and phenomenal awareness of cultural/translation norms and the intended target audience expectations.

- Alves, F (2007) Cognitive Effort and Contextual Effect in Translation: A Relevance-theoretic Approach. *Journal of Translation Studies* 10(1) (2007), 57–76
- Baer, B.J., (2021) *Fedorov's Introduction to Translation Theory*. Routledge
- Bangalore, S., Behrens, B. and Carl, M., Ghankot, M. and Heilmann, A., Nitzke, J., Schaeffer, M. & Sturm, A. (2016) Syntactic Variance and Priming Effects in Translation. In *New Directions in Empirical Translation Process Research*. ISBN 978-3-319-20357-7, Pages 211-238
- Boada, R., SÁNCHEZ-CASAS, R. Gavilán, M., Gavilán, J. M., & Tokowicz, N. (2012) Effect of multiple translations and cognate status on translation recognition performance of balanced bilinguals. *Bilingualism: Language and Cognition* 16(1):183-197 DOI: 10.1017/S1366728912000223
- Calzavarini, F. (2017) Inferential and referential lexical semantic competence: A critical review of the supporting evidence. *Journal of Neurolinguistics*, Volume 44, Pages 163-189, <https://doi.org/10.1016/j.jneuroling.2017.04.002>.
- Carl, M., & Dragsted, B. (2012). Inside the Monitor Model: Processes of default and challenged translation production. *Translation: Corpora, Computation, Cognition*, 2, (127–145).
- Catford, J.C. (1965) *A Linguistic Theory of Translation: An Essay in Applied Linguistics*; Oxford Press: Oxford, UK.
- Chomsky, N. (1957). *Syntactic Structures*. The Hague/Paris: Mouton
- Clark, A. (2015). *Surfing Uncertainty: Prediction, Action, and the Embodied Mind*. New York: Oxford University Press USA.
- Crane, T. (2009). 'Intentionalism'. in Ansgar Beckermann, Brian P. McLaughlin, and Sven Walter (eds), *The Oxford Handbook of Philosophy of Mind*, Oxford Academic,
- De Groot, A. M. (1992). Determinants of word translation. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 18(5), 1001–1018. <https://doi.org/10.1037/0278-7393.18.5.1001>
- Dijkstra, T., Wahl, A., Buytenhuijs, F., Van Halem, N., Al-Jibouri, Z., De Korte, M., and Rekké, S. (2018). Multilink: A computational model for bilingual word recognition and word translation. *Bilingualism: Language and Cognition*, 22(4), (657-679).
- Dimitropoulou M, Duñabeitia JA and Carreiras M (2011) Two words, one meaning: evidence of automatic co-activation of translation equivalents. *Front. Psychology* 2:188. doi: 10.3389/fpsyg.2011.00188
- Dretske, F.I., (1995). *Naturalising the Mind*. Cambridge, MA: MIT Press.
- Eddington, C. M., & Tokowicz, N. (2015). How context and meaning similarity influence ambiguous word processing: The current state of the literature. *Psychonomic Bulletin & Review*, 22, 13-37.
- Estes, Z., & Jones, L.L. (2009). Integrative priming occurs rapidly and uncontrollably during lexical processing. *Journal of Experimental Psychology: General*, 138(1), 112–130. <https://doi.org/10.1037/a0014677>
- Evans, J.St.B.T. (2010). Intuition and reasoning: A dual-process perspective. *Psychological Inquiry*, 21, 313-32
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Boston, MA: Houghton Mifflin.
- Gile, D. *Basic Concepts and Models for Interpreter and Translator Training*. Benjamins: Amsterdam, The Netherlands; Philadelphia, PA, USA, 1995
- Gonçalves, J.L.V.R. (2020) Looking for Relevance into the Eyes: In search of interpretive resemblance in Translation through gazing data. *Articles Cad. Trad.* 40 <https://doi.org/10.5007/2175-7968.2020v40nesp2p17> <https://www.scielo.br/j/ct/a/kfrS4hGjqZHVCRxFrS68fYF/?lang=en>
- Goodman, N. (1976). *Languages of Art*. Hackett, Indianapolis, IA, 2nd edition

- Gutt, E. A. (1989). *Translation and relevance*. Thesis submitted for the degree of Doctor of Philosophy of the University of London.
- Gutt, E. A. (1991/2000). *Translation and relevance: Cognition and context*. Manchester: St. Jerome.
- Gutt, E. A. (2004). Applications of relevance theory to translation – a concise overview. *DOI: 10.13140/RG.2.2.33067.80162*.
- Gutt, E. A. (2005). On the significance of the cognitive core of translation. *The Translator*, 11(1), 25–49.
- Halverson, S.L. (2017) "Gravitational pull in translation. Testing a revised model". *Empirical Translation Studies: New Methodological and Theoretical Traditions*, edited by Gert De Sutter, Marie-Aude Lefer and Isabelle Delaere, Berlin, Boston: De Gruyter Mouton, 2017, pp. 9-46. <https://doi.org/10.1515/9783110459586-002>
- Halverson, S.L.; Kotze, H. Sociocognitive Constructs in Translation and Interpreting Studies (TIS): Do We Really Need Concepts Like Norms and Risk When We Have a Comprehensive Usage-Based Theory of Language? In *Contesting Epistemologies in Cognitive Translation and Interpreting Studies*; Halverson, S.L., García, Á.M., Eds.; Routledge: London, UK; New York, NY, USA, 2022; pp. 51–79.
- Halverson, Sandra Louise (2019). 'Default translation': a construct for cognitive translation and interpreting studies. *Translation, Cognition and Behavior*. ISSN: 2542-5277. 2 (2). s 187-210. doi:10.1075/tcb.00023.hal.
- Hartsuiker, R.J., & Pickering, M.J. (2008). Language integration in bilingual sentence production. *Acta Psychologica*, 128(3), 479–489. <https://doi.org/10.1016/j.actpsy.2007.08.005>
- Hartsuiker, R.J., Bernolet, S., Schoonbaert, S., Speybroeck, S., & Vanderelst, D. (2008). Syntactic priming persists while the lexical boost decays: Evidence from written and spoken dialogue. *Journal of Memory and Language*, 58(2), 214–238. <https://doi.org/10.1016/j.jml.2007.07.003>
- Hubscher-Davidson, S. (2017). *Translation and emotion: A psychological perspective*. Taylor & Francis Group.
- Hume, D. (1739) *A Treatise of Human Nature*. Clarendon Press, 1739. <https://oll.libertyfund.org/title/bigge-a-treatise-of-human-nature>
- Hutto, D.D. & Myin, M. (2017) *Evolving Enactivism*. The MIT Press
- Hutto, D.D. & Satne, G.L. (2015). The natural origins of content. *Philosophia*, 43 (3), 521-536.
- Jacob, G., Schaeffer, M.J., Oster, K.; Hansen-Schirra, S. (2024) The psycholinguistics of shining-through effects in translation: Cross-linguistic structural priming or serial lexical co-activation? *Appl. Psycholinguist.* 1–25.
- Kiverstein, J. & Rietveld, E. (2021) Scaling-up skilled intentionality to linguistic thought. *Synthese* 198 (Suppl 1), 175–194. <https://doi.org/10.1007/s11229-020-02540-3>
- Kiverstein, J., and Kirchhoff, M. (2023). Commentary on “Extended cognition and the search for the mark of constitution—A promising strategy?”. In M.-O. Casper & G. F. Artese (Eds.), *Situated cognition research: Methodological foundations* (pp. 147–153). Springer Nature Switzerland AG. https://doi.org/10.1007/978-3-031-39744-8_9
- Königs, F. (1987). “Was beim Übersetzen passiert: theoretische Aspekte, empirische Befunde und praktische Konsequenzen.” *Die neueren Sprachen* 2: 162–185.
- Kripke, S. (1980). *Naming and Necessity*. Harvard University Press, Cambridge, MA
- Kroll, J.F., & Stewart, E.J. (1994). Category interference in translation and picture naming: Evidence for asymmetric connections between bilingual memory representations. *Journal of Memory and Language*, 33, (149–174).
- Laxén, J., & Lavaur, J.-M. (2010). The role of semantics in translation recognition: Effects of number of translations, dominance of translations and semantic relatedness of multiple translations. *Bilingualism: Language and Cognition*, 13(2), 157–183. <https://doi.org/10.1017/S1366728909990472>

- Maier, M., Pickering, M.J., & Hartsuiker R.J., (2017) Does translation involve structural priming? *Quarterly Journal of Experimental Psychology*. 1575-1589
- Mandelkern, M., & Linzen, T. (2024) Do Language Models' Words Refer? <https://arxiv.org/abs/2308.05576>, [accessed 13. Sept. 2024]
- Marconi, D. (1997). *Lexical Competence*. Language, Speech, and Communication. MIT Press
- Merleau-Ponty, M. (1945/2012). *The phenomenology of perception*. (trans: Landes, D.A). London: Routledge
- Morgan, A., (2014). Representations gone mental. *Synthese* 191 (2):213-244.
- Paradis, M., (2004). *A Neurolinguistic Theory of Bilingualism*. Amsterdam: John Benjamins.
- Parr, T., Holmes, E., Friston, K.J. & Pezzulo, G. (2023). Cognitive effort and active inference. *Neuropsychologia*. (184), 6. <https://www.sciencedirect.com/science/article/pii/S0028393223000969>
- Parr, Thomas and Giovanni Pezzulo and Karl J. Friston (2022) Active Inference: The Free Energy Principle in Mind, Brain, and Behavior. MIT <https://mitpress.mit.edu/9780262045353/active-inference/>
- Pereira, F., (2000). "Formal grammar and information theory: together again?" *Philosophical Transactions of the Royal Society*. 358 (1769): 1239–1253.
- Prior A., Kroll J.F., MacWhinney B., (2013) Translation ambiguity but not word class predicts translation performance. *Biling (Camb Engl)*. 2013 Apr;16(2):458-474. doi: 10.1017/s1366728912000272. Epub 2012 Jul 13. PMID: 36636171; PMCID: PMC9833861.
- Pym, A. (1991): "A Definition of Translational Competence, Applied to the Teaching of Translation," Mladen Jovanovic (ed.) *Translation: A Creative Profession: 12th World Congress of FIT*. Proceedings, Belgrade: Prevodilac, 541-546.
- Pym, A. (2003). Redefining Translation Competence in an Electronic Age. In *Defense of a Minimalist Approach*. *Meta*, 48(4), 481–497. <https://doi.org/10.7202/008533a>
- Pym, A. (2023) *Exploring Translation Theories*, Routledge, (3rd edition)
- Rico P.C., (2024). Re-thinking Machine Translation Post-Editing Guidelines. *The Journal of Specialised Translation*, (41), 26–47. <https://doi.org/10.26034/cm.jostrans.2024.4696>
- Robinson, D., (2023) *Questions for Translation Studies*. Routledge, London
- Saussure, F. (1959). *Course in General Linguistics*. New York: McGraw-Hill.
- Schacht A., Sommer W., Shmuilovich O., Martíenz P.C., Martín-Loeches M., (2014) Differential Task Effects on N400 and P600 Elicited by Semantic and Syntactic Violations. *PLoS ONE* 9(3): e91226. <https://doi.org/10.1371/journal.pone.0091226>
- Schaeffer, M., and Carl, M., Lacruz, I., & Aizawa, A., (2016). Measuring Cognitive Translation Effort with Activity Units. Paper presented at EAMT 2016
- Schoonbaert S., Holcomb, P.J., Grainger, J., & Hartsuiker R.J., (2011) Testing asymmetries in noncognate translation priming: evidence from RTs and ERPs. *Psychophysiology*. 48(1):74-81. doi: 10.1111/j.1469-8986.2010.01048.x.
- Searle, J.R., (1983). *Intentionality: An Essay in the Philosophy of Mind*. New York: Cambridge University Press.
- Searle, J.R., (2013) Theory of mind and Darwin's legacy. *Proc Natl Acad Sci U S A*. 2013 Jun 18;110 Suppl 2(Suppl 2):10343-8. doi: 10.1073/pnas.1301214110.
- Sperber, D., & Wilson, Deirdre (1986/1995). *Relevance: communication and cognition* (second ed.). Oxford: Blackwell.
- Strømholth, H., Bremnes, Szymanik, J., & Baggio, G., (2022) Computational complexity explains neural differences in quantifier verification, *Cognition*, Volume 223, <https://doi.org/10.1016/j.cognition.2022.105013>.
- Thompson, E., (2018) Evolving Enactivism: Basic Minds Meet Content. Review of Daniel D. Hutto and Erik Myin, (2017) <https://ndpr.nd.edu/reviews/evolving-enactivism-basic-minds-meet-content/>

- Tokowicz, N., & Kroll, J.F., (2007). Number of Meanings and Concreteness: Consequences of Ambiguity Within and Across Languages. *Language and Cognitive Processes* 22(5) (727–779).
- Tye, M. (1995). *Ten Problems of Consciousness: A Representational Theory of the Phenomenal Mind*. MIT Press.
- Tymoczko, M., (2005) Trajectories of Research in Translation Studies. *Meta*. Volume 50, Number 4, p. 1082–1097
- Varela, F.J., Thompson, E., & Rosch, E., (1991). *The Embodied Mind: Cognitive Science and Human Experience*. Cambridge, MA: The MIT Press,
- Wilson, D., (2000). Metarepresentation in linguistic communication. In D. Sperber (ed.) *Metarepresentations: An Interdisciplinary Perspective*: 411-448. Oxford University Press, Oxford