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Translatorial and non-translatorial automaticity: An integrative account

The paper examines empirically a subset of cognitive processes in trainee translators with the objective of gaining an insight into their decision-making. Specifically, we are interested in the nature and role of automated processing – above all, how pronounced it can be and how it influences the quality of decisions. The paper's objective is then to come up with an integrative view of the relationship between translatorial automaticity and cognitive automaticity in general, viz. that not associated with translation. This could help us better capture some of the characteristics of translator behaviour and supplement our understanding of translation competence. Results from experiments with trainees reported in the paper show no correlation between the two dimensions of automated processing, and indicate that translatorial automaticity could be harder to override than its more general counterpart.

Key words: interlingual translation; translation competence; processing in translation; dual-process theories; decision-making, translation and cognition, trainee translators.

1. Introduction

In their list of eight "essential features of the translation process (…) accounting for its complexity" Alves & Hurtado (2017: 537) single out "the existence of automatized (uncontrolled) and non-automatized (controlled) processes". Some valuable work has already been done on that topic in Translation Studies (e.g. Tirkkonen-Condit 2005; Carl & Dragsted 2012; Halverson 2015; Schaeffer et al. 2016), but the dynamics of fast/intuitive/effortless vs. slow/rational/effortful types of translatorial processing remain under-researched. The reasons are, in part, methodological. There is the question of operationalisation, i.e of how to ensure the comparability of findings across studies (cf. Hvelplund 2011: 59). The need for more research

into both theoretical and empirical aspects of automaticity in translation is especially striking if we compare the body of work on translation with how much has been happening in other domains of decision making, economics being one salient case (e.g. Brocas & Carillo 2014).

This paper aims to contribute to the research on processing in translation by bringing together a "cognitive-psychological" perspective on automaticity as it operates within one language and a "translation" perspective. The question that we attempt to answer is, first, about the nature and strength of translatorial and non-translatorial automaticity, and second, about the relationship between the two types. The findings are discussed in light of the relevant translation research, with a special emphasis on implications for translator training.

The article is structured as follows. First, we address the construct of automaticity in cognition in general (Section 2.1). Next, we zoom in on automaticity in language – with special attention to formulaicity and conventionalisation – and a link is drawn from automaticity as operating within a single language to automatic operations evidenced in interlingual translation (Section 2.2). Finally, as a step towards a more generalised account, the results of our study on translatorial and non-translatorial automaticity are reported in Section 3.

2. Automaticity in cognition, language, and translation

2.1. *Automaticity in cognition*

Scientific interest in automatic cognitive operations can be traced back at least as far back as James (1890), Bryan & Hatter (1899) and Jastrow (1906). Still, although not scientifically contentious today, only a few decades ago, the premise that humans rely on both automatic and non-automatic cognitive processes was seen as "radical" and "much of psychology continued to assume that everything we decided and did was the result of intentional, conscious thought" (Bargh 2017: 28).

Automatic and non-automatic processes are sometimes distinguished by drawing on the following sets of features (Moors & De Houwer 2006): intentional/unintentional, goal dependent/goal independent, controlled/uncontrolled (or controllable/uncontrollable), purely stimulus-driven/not purely stimulus-driven, conscious/unconscious, efficient/non-efficient, and fast/slow.[1] Automatic processes

[1] It should be mentioned, though, that the idea that any of these pairs of concepts are fully dichotomous, or that pairs like intentional/unintentional, goal-dependent/goal independent, etc. overlap completely with the differentiation between automatic and non-automatic processes (whether in

would include reflexes and emergency reactions (blinking, removing a hand from the source of hotness), impulsive processes (lashing out in anger, compulsive thoughts) but also, importantly for translation investigations, processes that require intentional development (riding a bike, playing the piano) (Moors 2016: 264).

Some further distinguishing properties of automatic and non-automatic modes of processing are proposed in Kahneman (2011: 80), who refers to the two modes as "System 1" and "System 2", respectively:

> System 1 does not keep track of alternatives that it rejects, or even of the fact that there were alternatives. Conscious doubt is not in the repertoire of System 1; it requires maintaining incompatible interpretations in mind at the same time, which demands mental effort. Uncertainty and doubt are the domain of System 2.

References to (lack of) doubt, uncertainty, and attention to alternatives will be made later in this paper, since manifestations of these on our experimental tasks will be taken as indicators of (non-)automatic processing.

Automaticity has been investigated as one mode of processing in what came to be known as "dual-process theories" (Wason & Evans 1975; Evans 1989; 2010; Stanovich 2011; Evans & Stanovich 2013). Dual-process theories postulate two "types"[2] of processing: Type 1 – automatic, and Type 2 – non-automatic. However, they have not remained unchallenged (e.g. Cleeremans & Jiménez 2002; Osman 2004; Gigerenzer 2011; Kruglanski & Gigerenzer 2011; Sorensen 2016). Some authors advocate a less "discretised" formulation, a notable alternative being the Cognitive Continuum Theory (CCT) (Hammond 1996; cf. Brunswik 1956). The CCT:

> (…) explicitly rejects a dichotomous view of intuition and analysis. This dichotomy is replaced by a continuum of cognitive modes that has intuition and analysis at its end points. As such, cognition is viewed not as strictly rational or intuitive, but as often falling between the extremes, and thereby being qua-

translation or any other observable behaviour) has been challenged. For some alternative views see further below in the text. A similar note pertains to the sets of terms in footnote 2 where – additionally – no full synonymy between the sets should be assumed.

[2] Whether these are optimally referred to as "types", "modes", or "systems" has been subject to discussion (cf. e.g. Evans & Stanovich 2013). Similarly, a range of labels has been in use for the respective types, drawing on notions like "automatic", "implicit", "intuitive", "heuristic", "impulsive", "experiential", and "reflexive" for one of them, and "deliberative", "explicit", "rational", "analytic" and "reflective" for the other (cf. e.g. Epstein 1994; Strack & Deutsch 2004; Kahneman 2011; Evans & Stanovich 2013).

> si-rational. Quasi-rationality refers to the region of cognition between the polar extremes of the continuum, and has properties of both intuition and analysis (Dunwoody et al. 2000: 36).

While the CCT has received empirical and theoretical support, notably in healthcare settings (Cader et al. 2005; Custers 2013; Parker-Tomlin et al. 2017), it still remains less extensively tested than dual-process theories. Dual-process theories have been successfully adopted across subfields of psychological science, like social cognition (Chaiken & Trope 1999; Smith & DeCoster 2000; Evans 2008), the psychology of learning (Reber 1993; Sun et al. 2005), aesthetics (Graf & Landwehr 2015; Mullennix et al. 2016), morality (Greene 2007; Brand 2016), or economics (Alós-Ferrer & Strack 2014; Brocas & Carrillo 2014). The differentiation of Type 1 and Type 2 processing has also received empirical support from studies applying a variety of methodologies. These methodologies range from those applied in neuroscience, viz. fMRI and near-infrared spectroscopy (Goel 2007; Lieberman 2009; Tsujii & Watanabe 2009), to vignettes, or uncomplicated question-answer formats designed to elicit evidence of cognitive operations. A typical instance of the latter is the instrument known as the Cognitive Reflection Test (Frederick 2005; see Section 3.3), which will be an important element of the analytical part of this study.

2.1. *Automaticity and language use: from one language to translation*

Automatic processes feature prominently in language use and the proposals discussed in this section rely on the concept or even use the term explicitly. The underlying idea is that combinations of linguistic elements are not created in a controlled and strategic manner for each communicative situation, but are stored and readily accessed as ready-made expressions.

One influential line of research has been developed around the constructs of formulaicity and prefabrication, on the one hand, and novelty or compositionality, on the other. The notions of novelty and compositionality reflect the claim that "a minimum of the sentences that we utter is learnt by heart as such (…) most of them, on the contrary, are composed on the spur of the moment" (Paul 1886: 97–98, quoted in Chomsky 2012). The central assumption behind the constructs of formulaicity and prefabrication is that, rather than starting from scratch every time a communicator wishes to use language, he or she takes advantage of what Becker (1975: 17) calls "ready-made frameworks on which to hang the expression of our ideas" or what Bolinger (1976: 1) refers to as "prefabs".

Significantly, developments in linguistic research have led to "the increasing recognition of the extent to which our potential to produce 'novel language' is restricted by our preference for 'prefabricated language' at different structural levels of language and across the full variety of communicative contexts, registers and modes of expression" (Pęzik 2018: 19). That crucially corresponds with Wray's observation that "formulaic language offers processing benefits to speakers and hearers, by providing a short cut to production and comprehension" (2009: 213). As Wray further remarks:

> One effective tool for drawing others into behaviors beneficial to us is to employ wordstrings that are in current use in our community. They enable us socially to align ourselves with others (I am like you because I talk like you, so you will want to help me), and as a way of minimizing the risk of misunderstanding, since wordstrings or partly lexicalized frames that have their own semantic entry require less decoding (2012: 231–232).

A kin construct is that of "conventionalisation" which has been studied extensively within the set of theories known as Cognitive Linguistics (Langacker 1987; 1991; 2017; Talmy 2000; Geeraerts & Cuyckens 2007; Dąbrowska & Divjak 2015; Dancygier 2017), where it is often discussed in conjunction with the related notion of "entrenchment".

Langacker (1987; 2007; 2008) sees conventionalisation as the extent to which a structure is cognitively routinised, shared among users, and recognised as having such status (Langacker 2007: 425). While conventionalisation is seen as a metric applicable to a language community, entrenchment is seen as a matter of individual speakers (Langacker 2008). Currently, work is being done that expands our understanding of how conventionalisation and entrenchment function (e.g. Blumenthal-Dramé 2012; Divjak & Caldwell-Harris 2015; Kerremans 2015; Schmid 2015; 2017). Among others, this work lays strong emphasis on corpus methods, operationalization, and empirical falsifiability. Let us now present in some detail one current perspective, viz. Schmid's (2015) Entrenchment-and-Conventionalisation Model (E-C Model). This proposal is remarkably comprehensive as it integrates multidisciplinary insights.

Schmid's (2015: 15) model is usage-based and as such largely consistent with the works of Bybee (1985; 2006), Barlow & Kemmer (2000), and Tomasello (2003). At the same time, the model is inspired by Cognitive Grammar (Langacker 1987; 2008; 2012), Construction Grammar (Goldberg 1995; Hilpert 2014), and by accounts that can be referred to as socio-cognitive (e.g. Kristiansen 2008; Harder 2010). Schmid also highlights affinities between his model and work done on com-

plex-adaptive systems (e.g. the Five Graces Group 2009), perspectives from cognitive neuroscience (Pulvermüller 2003; 2013), and earlier-mentioned research on formulaicity, to name but a few. The model rests on the following axioms:

1. Speakers use language in order to communicate.
2. For speakers to be able to do so, they need linguistic knowledge.
3. Linguistic knowledge is represented in individual language users' minds and brains.
4. Members of a speech community share linguistic knowledge.
5. No two members of a speech community have identical linguistic knowledge.
6. Individual and shared linguistic knowledge are both stable and subject to change.
7. Linguistic structure is shaped by language use.

Critically, for the E-C Model to be regarded valid, all the axioms have to be held valid. While this may be a reasonable assumption for most of the axioms, it is not the case with all of them, especially the axiom about the close link between language structure and use, as Schmid (2015: 1) points out. The model's key elements are usage, entrenchment, and conventionalisation with the latter two and the first one being in a relation of mutual influence. Schmid (2015: 6) defines conventionalisation as "continuous mutual coordination and matching of communicative knowledge and practices, subject to the exigencies of the entrenchment processes taking place in individual minds" and it includes mechanisms like "innovation", "co-adaptation", "diffusion", and "normation". Entrenchment is defined as "continuous routinization and re-organization of associations, depending on exposure to and frequency of identical or similar processing events, subject to the exigencies of the social environment" (Schmid 2015: 5) and it subsumes a set of three mechanisms: "association", "routinization", and "schematization". While linked by the construct of "usage", the main discerning feature of entrenchment and conventionalisation is that the former is a matter of (individual) cognitive processes, i.e. it operates in the minds of speakers and is, therefore, psychological, while the latter relies on (collective) sociopragmatic processes, i.e. it operates in communities and is, therefore, social (Schmid 2015: 6, 10). What is more, "entrenchment operates over patterns of associations and the activities involved in usage" while "conventionalization operates over utterance types" (Schmid 2015: 11).

Taking this intralingual account as a starting point, Deckert (2015: 30) proposes "a cross-systemic elaboration of conventionalisation", whereby structures are mapped between the source and target languages, conditioning what can be called the "automated interlingual mapping effect" found in trainee translators. The effect,

further outlined within the dual-process theories with evidence from written and audiovisual translation (Deckert 2016; 2017a; 2017b), consists in the activation of some target text variants as automatic (cf. Jääskeläinen & Tirkkonen-Condit 1991; Dragsted 2004; Tirkkonen-Condit 2005; Hvelplund 2011; 2016), uncontrolled, and fast, whereby other variants can be available but retrievable only upon switching to Type 2 processing.

It should be pointed out that what dual-process theories refer to as "automatic" or Type 1 processes, share features with the construct of "literal translation", or more appropriately and recently "default translation" (Carl & Dragsted 2012; Halverson 2015), or "unchallenged translation" (Carl & Dragsted 2012), as opposed to its "challenged" counterpart. In this vein, Halverson (2017a: 206–207) rightly notes that a relevant construct is "word translation perplexity" put forward by Carl et al. (2016) and defined as "how many translation choices a translator has at a given point of the source text, i.e. how many equally likely words can be produced for a source word in a given context (Carl et al. 2016: 29). The argument is that having a very small number of choices will be conducive to "automaticity".

The notion of "literal translation" or the "literal translation hypothesis" can be traced back to Ivir (1981) as well as Toury (1995) and is an important element of the monitor model (Ivir 1981; Toury 1995; Tirkkonen-Condit 2005; Tirkkonen-Condit; Mäkisalo & Immonen 2008). The model tackles aspects of automaticity in translatorial decisions and sees literal translation as produced first, to be then revised, if need be, according to the monitor, which alerts the translator. These postulates were revisited in Schaeffer & Carl's (2013) translation priming study. The authors drew on the distinction between vertical and horizontal translation (de Groot 1997) and discerned two modes that can be cognitively engaged in, even though the modes do not necessarily need to be used consecutively in all translation tasks. First, "an automatic translation procedure produces default translations on the basis of shared representations (horizontal translation)" (Schaeffer & Carl 2013: 186). Then, the authors go on to explain, this "regeneration on the basis of shared representations" continues under the condition that "the target text being produced conforms to the target norms and contextual considerations of the vertical processes". However, "when the target text is not acceptable, the interim translation, either kept in working memory or already partially produced as target text, is adapted to target norms by vertical encoding processes" (Schaeffer & Carl 2013: 185). The authors point out that their model has much in common with the one developed by Christoffels & de Groot (2005). A significant difference is that de Groot (2011) argues for separate input and output lexicons for the source and target languages while Schaeffer & Carl (2013) posit that the vertical processes monitor the outcome of

the horizontal processes, rather than positing a total of four lexicons.

The idea that translation can involve two stages is also voiced by Hansen (2003: 27), who observes that "(…) translators sometimes translate "automatically"; they feel a kind of "flow" and become aware of a poor translation at once, enabling them to find better solutions without great effort." Vitally, however, as argued in Deckert (2015; 2016; 2017a; 2017b), in a subset of cases the intervention from non-automatic processes might not take place even if the automatic variant is not acceptable. Nonetheless, this does not entail that the proposals are incongruent. Rather, a distinction should be introduced between three broad types of scenarios. The first scenario, arguably the most common one, is where the translator operates automatically without detriment to translation acceptability. The second scenario is where the translator operates automatically, realises the automatic target variant is not acceptable, and revises the original decision. The third scenario, the one addressed in the present study, is where the translator operates in the automatic mode, produces a target text that is unacceptable, and possibly fails to recognize the issue. In addition to offering new experimental evidence of translatorial automaticity, the study reported in the following sections also positions translatorial automaticity against cognitive automaticity in the non-translatorial sense.

3. The study

3.1. *Procedure, subjects, and materials*

Explorations of the translator's cognitive operations – the pivot of this contribution – are salient in a dynamic research programme within Translation Studies known as "translation process research" (or "TPR") (e.g. Muñoz 2016; Whyatt 2016; Lacruz & Jääskeläinen 2018, to name but a few of the recent publications). The translation process can be examined by methods roughly divided into product- and process-oriented. This distinction (e.g. Angelone 2018) is meant to discern methods that attempt to examine the process of target text production, for instance by monitoring the translator's gaze or keyboard activity, from those that examine the target text itself.

The first part of this study, which deals with translation, is product-based. An analogous method is then applied in the second part, which looks into non-translational data. A total of 55 subjects took part (14 male, 40 female;[3] mean age 21.12,[4] SD = 0.68). They completed three tasks, two of which featured experi-

[3] One subject did not provide gender information.

[4] In three cases age was not stated.

mental stimuli discussed in this paper.[5] As presented in Table 1 and Table 4, the stimuli were English sentences to be translated into Polish (Task 1) and puzzle-based questions to be answered (Task 2). Subjects were all final-year BA students and translation trainees, native speakers of Polish, with a proficient command of English (C2 according to the CEFR[6]). They were tested in four small groups, providing their answers individually on paper forms. Subjects who declared that they had seen one or more of the puzzles used in Task 2 (see Table 4) were excluded from the analysis since their prior knowledge of the puzzles and correct answer(s) would have affected our results. Additionally, those subjects would recognize the purpose of the task, i.e. that the items were designed to elicit an intuitive incorrect answer, which would condition their responses in both Task 1 and Task 2. The results obtained from Task 1 were then supplemented with data from a post-experimental questionnaire that was used to fine-tune the observations about the translator's automatic decisions. Finally, post-test debriefing discussions were held[7] enabling subjects to give their feedback once they knew the purpose of the test.

3.2. *Translatorial automaticity: Task 1*

Task 1 comprised a total of six English sentences. Subjects were instructed to render them into Polish, their mother tongue. Each of the experimental stimuli featured what can be termed a "trigger of automaticity" and they were interspersed with filler stimuli, as displayed in Table 1.

The expressions hypothesized to work as triggers of automaticity in stimuli 2, 4 and 5 draw on those used in the study reported by Deckert (2017) and they rely on "asymmetric interlingual structuring of content". What we mean by this is that the source structure is underspecified with respect to some feature that the target language conventionally codes. Importantly, the stimuli were designed in such a way as to make the feature hard to infer from contextual or co-textual evidence. In the case of *professor*, the gender was not clear from the English sentence. In the case of *friend*, the subjects could not infer either the gender of the individual or the degree of emotional closeness between the speaker and "the friend".

[5] The third task asked subjects to read a short text in English together with its Polish translation and to then express their opinion by answering seven questions. This task was administered between the ones discussed here, but is not relevant to the present analysis as the type of activity was different.

[6] The Common European Framework of Reference for Languages: Learning, Teaching, Assessment.

[7] All parts of the study, as summarised here, were conducted by the author.

Table 1. Stimuli used in the translation task (Task 1)

	Stimulus	Stimulus type	Automaticity trigger	Automated target variant
1.	What those teenagers wanted to do was to reinvent themselves.	filler	n/a	n/a
2.	Professor Smith visited Poland last month to give a series of lectures.	experimental	*professor*	profesor ‘male professor’
3.	That new film is hardly a masterpiece.	filler	n/a	n/a
4.	My friend succeeded in completing a PhD at Stanford.	experimental	*friend*	przyjaciel ‘close male friend’
5.	Mary was slowly approaching the bank.	experimental	*bank*	bank ‘bank as a financial institution’
6.	The company was eventually worth approximately 1.2 billion dollars.	experimental	*billion*	bilion ‘trillion’

The degree of closeness is conventionally contrasted lexically in Polish, e.g. by *znajomy* (‘an acquaintance’) and *przyjaciel* (‘a close friend’). While English also has separate lexical items for these two “prototypes”, it is our contention that in Polish it is harder to remain vague about the degree of closeness by not selecting the appropriate lexical variant. In the case of *bank* we are dealing with homonymy. Finally, stimulus 6 is different from the remaining three stimuli in that it features a “false friend”. English *billion* canonically stands for ‘1 000 000 000’, the number which is coded in Polish as *miliard*. The Polish word *bilion*, in turn, stands for ‘1 000 000 000 000’.

The assumption guiding this study is that while the number of target text candidates may be more than one, there invariably is a candidate whose selection is the result of automated Type 1 decision-making. More empirical work is needed to disentangle the historical, social, and psychological factors that may explain why some ST–TT pairings are more automated than others, but a working hypothesis is that these pairings are formed, at least in some part, by repeated exposition and use, which links the discussion back to the notions of entrenchment and conventionalisation (see Section 2.2). Such an explanation is consistent with Halverson’s (2003; 2010) postulates on the role of entrenchment, and particularly her observation that “the existence of highly entrenched translation pairs will impact the likelihood of

selecting a particular target language option" (Halverson 2017a: 207; 2017b). The explanation also fits with the default translation hypothesis which "suggests that entrenchment effects strengthen the coactivation of linguistic patterns and thus reduce the cognitive load during translation" (Hansen-Schirra 2017: 238). Clearly, effort reduction is an essential principle guiding human mental activity, and the argument voiced, among others, by dual-process theorists that humans tend to act as "cognitive misers" (Stanovich 2009) can account for a fair portion of their erroneous judgments (Toplak et al. 2011). In other words, "this strong bias to default to the simplest cognitive mechanism – to be a cognitive miser – means that humans are often less than rational" (Toplak et al. 2014: 148).

In the case of stimuli 2 and 4, the automated variants code "maleness" and in the case of stimulus 4 the additional component is that of "emotional closeness" expressed with the lexeme *przyjaciel*. For stimulus 5, the reflexive translation – in all likelihood resulting from formal resemblance – will be *bank* 'the financial institution'. A similar type of motivation is hypothesised to prompt the activation of *billion* as translation of stimulus 6 (cf. Schaeffer et al. 2016).

As the subjects' task was to provide their translation in the designated slots, for each of the six source sentences an additional slot was provided, where subjects could include any comments they might have had about the task and stimulus at hand. To ensure that subjects actually considered providing their feedback at this stage, they were instructed to even explicitly state if they had no comments regarding any of the six sentences, by writing "none".

Results: Task 1

The results on Task 1 are reported at two levels. First, our group-level results indicate how many of the four experimental stimuli were translated in the automatic mode (Table 2). Then, the results obtained from each stimulus are analysed individually (Table 3). The analysis of individual results may reveal differences in the responses to particular stimuli, and this needs to be kept in mind when drawing conclusions. The measure used to report group-level results will be referred to as the "index of translatorial automaticity" (i.e. the TA index). Index level "4" indicates that a subject resorted to automatic translation in the case of all four stimuli. However, since stimulus 4 could trigger an automatic response to two properties (gender and closeness), subjects could score 0, 0.5, or 1 depending on whether they responded automatically to neither, one, or both properties of the stimulus.

Table 2. Translatorial automaticity index scores

Translatorial automaticity index	Number of subjects	% of subjects
0	0	0
1	0	0
1.5	1	1.8
2	8	14.5
2.5	5	9.1
3	26	47.3
3.5	3	5.5
4	12	21.8

This discrete numerical scoring system is adapted from experimental psychological studies into automaticity but it should be borne in mind that ascribing uniform weights to individual test items is a simplification serving the practical purpose of measuring and comparing results, in our case, between Task 1 and Task 2.

As can be seen in Table 2, in the pool of 55 subjects, the TA index ranges from 1.5 to 4, with a variance of 0.98. The minimum score of 1.5 was found in only one subject (1.8%). The maximum index score was found in as many as 12 subjects (21.8%). The mean TA index is 3.03.

Now, let us look into automaticity scores as found in each of the four experimental stimuli, presented in Table 3. As was mentioned earlier in this section, the last experimental stimulus (*billion*) drew on a different mechanism than the remaining three stimuli, and this could explain the relatively low proportion of automated translations in the case of *billion*, compared to *professor*, *friend*, and *bank*.

Table 3. Translatorial automaticity across stimuli

Automaticity trigger	Total no. of translations	No. of automated translations		%
professor	55	55		100
friend	55	47	**gender**	85.5
			50	
			closeness	
			44	
bank	55	48		87.3
billion	55	16		29.1

The latter three stimuli were translated rather consistently in what we argue to be the automatic mode. But the level of consistency – and arguably automaticity – is most remarkable in the case of *professor*, where all the subjects translated with the masculine form. This finding dovetails with the result reported in Deckert (2017: 477–478), where the same proportion of trainee translators unreflectively rendered *prime minister* into Polish by linguistically coding masculinity.[8]

We also found that the triggers of automaticity received different amounts of attention, as reflected in the comments provided by our subjects. For instance, as many as eight subjects offered feedback on stimulus 5 (*bank*), stating that, given the scarcity of contextual clues, they were in two minds about the optimal target variant. Interestingly, some other, irrelevant elements of the source sentences were commented on too. Subjects expressed their doubts as to whether to retain the names *Mary* and *Smith* or to change them to *Maria* or *Kowalski* (a proverbial Polish surname). One subject pointed out that the adverb *eventually* (stimulus 6) could likely be mistranslated, which is a valid point given the word's formal similarity to the Polish word *ewentualnie* 'after all'. Other comments mentioned some further translation hurdles, viz. elements like *a series of lectures*, *Stanford* ('city' or 'university') and *PhD*. This gives us some insight into the subjects' decisions and – vitally for the current investigation – indicates that they did engage in reflective processing, even if it may not have been sufficient to override their susceptibility to automaticity.

It is critical to note that not a single person commented on the problem of resolving the gender ambiguity in stimulus 2 (*professor*), while a very analogous problem in stimulus 4 (*friend*) was identified and translated non-automatically a number of times. This – together with the uniformly "masculine" form of the translation equivalent of this stimulus – could imply that in the case of *professor* the cultural stereotype is particularly strong. Interestingly, it also shows that triggers that are typologically similar, viz. in this case those that rely on textual underspecification and ambiguity, can be functionally very different.

To further test the evidence of automaticity obtained in Task 1, we set out to check whether in the case of stimuli 2, 4 and 5 we could be dealing with a situation where subjects had conscious access to more than one variant when producing their translations – but nonetheless unanimously opted for one of them. We ran a study which replicated the procedure used in the main study but was additionally fol-

[8] In the case of *prime minister* gender is inferred from the Polish verb used with the Polish noun *premier* more than from the noun itself which would need to be coupled with *pani* (mrs./ms.), as in *pani premier*, to code femininity.

lowed by a post-experimental questionnaire. The questionnaire contained the formerly used stimuli but they were altered by underlining the hypothesised triggers of automaticity presented in Table 1. A pool of 18 BA students participated (6 male and 12 female, mean age = 21.28, SD = 1.07). These subjects were explicitly asked whether they had considered "any other translation of the underlined words" than the ones they had providedearlier. Space was allotted under each stimulus for subjects to state what that other variant had been or to write "no". The findings are presented in Table 4 below. As could be expected, our follow-up questionnaire allowed us to collect a larger number of relevant[9] comments than was possible from the comments section in the translation test itself.

Table 4. The number of comments provided in the main task and in the questionnaire, as against the total number of responses and the number of automated responses

Automaticity trigger	**Total translations**	**Automated translations**	**Relevant comment: main task**		**Relevant comment: questionnaire**	
professor	18	18	0		0	
friend	18	17	**gender**	**closeness**	**gender**	**closeness**
			3	1	10	13
bank	17	15	0		9	

In the case of *friend* and *bank*, the number of relevant comments increased respectively from 4 to 23[10] and from 0 to 9, when the questionnaire was incorporated. This shows that for some subjects the questionnaire indeed prompted a Type-1-to-Type-2 processing switch. However, even this extent of deliberative cognitive processing is arguably low. More importantly, it has been induced artificially by the experimenter after the translation had already been completed and as such cannot be considered as evidence of non-automaticity taking place in the course of translation itself. In the case of gender and closeness in *friend*, 44.4% and 27.8% of subjects still did not manage to identify the problems. In the case of *bank* this group is as large as 47.1%.

Very importantly, the increase in the amount of subject feedback is not uniform across automaticity triggers. In the case of gender in *professor*, the exceptionally

[9] By "relevant" comments, we mean those directly related to triggers of automaticity. Therefore, whenever subjects stated they had no comments, or provided comments on non-targeted aspects of the stimulus, the responses were seen as indicative of automaticity.

[10] I should be mentioned that only five subjects commented on the problem with both the "gender" and "closeness" facets of the stimulus *friend*.

strong entrenchment of the interlingual mapping is corroborated as none of the 18 subjects who provided the masculine target variant expressed any doubt about that decision – neither in the "comments" space under their translation nor in the post-experimental questionnaire. This is remarkable because – here and with the other triggers – it is plausible that, when responding to the post-experimental questionnaire, subjects may not have just been reflecting back on their past decision-making. Rather, whether intentionally or not, they may have been zooming in on the underlined elements and trying to come up with new variants, i.e. other than the ones they had already given. If that is the case, instances where no alternative translation was given in either the main task (as part of the target text or in the space provided for comments) or in the post-experimental questionnaire, constitute strong evidence of automaticity. This is consistent with Kahneman's (2011: 80) conviction that in the reflexive mode of processing we do not keep track of any other decision options than the one we are opting for (cf. Section 2.1).

To better contextualise the assumptions, procedure, and results reported so far, and before we move on to presenting the results of Task 2, let us digress and examine briefly the logic and implications of an analogous non-translational reasoning task. As a starting point, recall that Type 1 processes are characterized by high speed, little effort, and no control. One way to tap into such processes is to use question-answer formats (cf. also Task 2 below) that include questions like "What colour is milk?". In most standard communicative contexts, the answer will automatically present itself to the respondent. That is to say, the individual will not need to invest much time or effort, or exert control over his or her cognitive operations to deliver the answer "white". This can be compared against the kind of processing necessary to arrive at the answer to "How much is 43 x 21?" Here, Type 1 processing will most likely provide no answer; rather, a series of steps will need to be taken in a controlled and more effortful procedure, i.e. Type 2 processing will be engaged.

The operations involved in completing the two tasks reported on in this study are a special case of Type 1 operations. These kind of operations could be triggered by a question like "What do cows drink?". For many, if not most, individuals, an answer presents itself as readily as in the case of the question "What colour is milk?". But the critical difference is that the "ready" answer to "What do cows drink?" – arguably "milk" – is not correct. At the same time, the other essential point is that even though "milk" is activated as the answer, the respondent surely knows that this answer is incorrect. By "know" we mean that this information is stored in the individual's long-term memory as part of their knowledge, and not that the person actively accesses that knowledge on this occasion. The distinction is

vital because the question we are dealing with here is not so much whether or not the automatic answer is initially activated, but whether the respondent ultimately decides to give the answer "milk", possibly after some deliberation. This is where methodological considerations have to be factored in; it matters, for example, whether the question is asked in writing or in a face-to-face exchange, if only because different amounts of time are available to produce an answer (cf. Finucane et al. 2000). In that sense it could be expected that an individual is more likely to say "milk" if the question is posed orally.

As argued earlier, in this study the assumption of automatic processing follows from our observation that subjects tended to stick with the answers they first provided despite a range of factors and prompts such as the following: the stimuli were short, which should have made it easier to identify the problematic elements, the stimuli were provided in writing, the subjects were asked to comment on potential issues with the stimuli, and finally, in the post-experimental questionnaire, they were explicitly asked about any other translation variants they might have considered for what we postulated to be the triggers of automaticity. Returning to the milk analogy, individuals may well be expected to answer "milk" if the question "What do cows drink?" were asked by an experimenter in a face-to-face interview. However, we would expect fewer individuals to answer "milk" if they were answering in writing. Even fewer individuals would stick to that answer if they were asked about whether they thought there was anything problematic about the question, not to mention if they got yet another chance to realise that the original answer was not the right one; that is, if – with the words "cow" and "drink" now underlined – they were asked again whether they had considered any other answers. It would be very surprising if, with all these chances for reconsideration and repair, not a single person switched to the answer "water" or at least signalled that "milk", although it came to mind first, was not the correct answer. It would be also be curious, and indicative of automaticity in the processing of the concepts "cows" and "drinking", if individuals provided comments on other aspects of the question, for instance about different breeds of cattle possibly having different habits.

Therefore, when in our study the original answer provided by the subject was retained, and remained unfurnished with any relevant commentary, this was interpreted as evidence of automaticity. The argument we advance is that, e.g. the pairing of *professor* and 'male professor' is so entrenched that even after being prompted to allocate additional attentional resources, the subjects may still not be able to identify the problem.

3.3. *Non-translatorial automaticity: Task 2*

Task 2, designed to address the question of non-translatorial automaticity, was based on the Cognitive Reflection Test 2 (CRT-2), developed by Thomson & Oppenheimer (2016). The CRT-2 builds on the first 3-item version of the CRT (Frederick 2005), mentioned in Section 2.1, which has been shown to work as a diagnostic of bias susceptibility, moral judgments, and belief in God, among others (cf. e.g. Oechssler et al. 2009; Toplak et al. 2011; Shenhav et al. 2011; Paxton et al. 2012; Pennycook et. al. 2014; Baron et al. 2015). The CRT comprises the following question items, which are expected to trigger incorrect automatic responses:

(1) A bat and a ball cost $1.10 in total. The bat costs $1.00 more than the ball. How much does the ball cost? _____ cents

(2) If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets? _____ minutes

(3) In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake? _____ days

Given CRT's mathematical orientation, the use of the follow-up version (CRT-2) is advantageous since it does not conflate cognitive reflection and numeracy. Also, using the CRT-2 minimises the risk of subjects' prior exposure to the question items, which is an increasingly frequent problem with the CRT. Nonetheless, some subjects reported they had been exposed to CRT-2 and were therefore excluded from the analysis, as explained in Section 3.1. The CRT-2, administered as Task 2, features the following questions as triggers of automatic incorrect responses (Table 5).

Table 5. Stimuli in Task 2 (CRT-2)

	Stimulus	**Automated response**	**Non-automated response**
1	If you're running a race and you pass the person in second place, what place are you in?	1	2
2	A farmer had 15 sheep and all but 8 died. How many are left?	7	8
3	Emily's father has three daughters. The first two are named April and May. What is the third daughter's name?	June	Emily
4	How many cubic centimetres of dirt are there in a hole that is 3 cm deep x 3 cm wide x 3 cm long?	27	none

Analogously to the stimuli in Task 1, for respondents to come up with the correct answer they need to switch to the deliberative mode of thinking.

Results: Task 2 (CRT-2)

Drawing on the logic of the TA index as proposed for Task 1, we will discuss the findings of Task 2 by using an analogous measure, i.e. the "non-translatorial automaticity" (NTA) index. The values of the index vary from 0 (no automatic responses) to 4 (all responses automatic), with a variance of 1.03. Notably, Table 6 shows that every possible score was found in the results. It is even more interesting to note that as many as 14 subjects (25.5 %) scored 0, which means they did not settle for the automatic answer in any of the four questions. On the other hand, only three subjects (5.5 %) reached an index score of 4, meaning they provided intuitive answers to all four items. The mean NTA index is 1.16.

Table 6. Non-translatorial automaticity index scores

Non-translatorial automaticity index	Number of subjects	% of subjects
0	14	25.5
1	25	45.5
2	12	21.8
3	1	1.8
4	3	5.5

Finally, we obtained additional feedback from subjects on both Task 1 and Task 2 in debriefing discussions held immediately after the test sessions. As the subjects and the experimenter went over the stimuli one by one, the subjects expressed surprise that they had failed to spot the "obvious problems". They reacted with incredulity to how they had made some of their decisions unreflectively. While not quantifiable, this relatively unmediated subject input is very valuable as it sheds more light on the questions addressed in this paper.

3.4. *Translatorial and non-translatorial automaticity*

Let us summarise the results of Task 1 and Task 2. The variance in TA and NTA indices is comparable, with 0.98 in the former and 1.03 in the latter. However, there are major divergences to be highlighted, surfacing in the index values across Task 1 and Task 2. First, differences are expressed in the ratios of maximum/minimum scores. In Task 1 the maximum index is found in 21.8% of subjects

while in Task 2 it is found in 5.5%. Even more strikingly, while the minimum index score is found in a total of 25.5% of respondents in Task 2, in Task 1 there are no subjects with an index score of 0 (or 0.5 or 1). In that group, the lowest value is 1.5 and it is found in only one subject, with a further group of eight subjects (14.5%) reaching the index score 2. The discrepancy is corroborated by the comparison of mean scores between tasks.

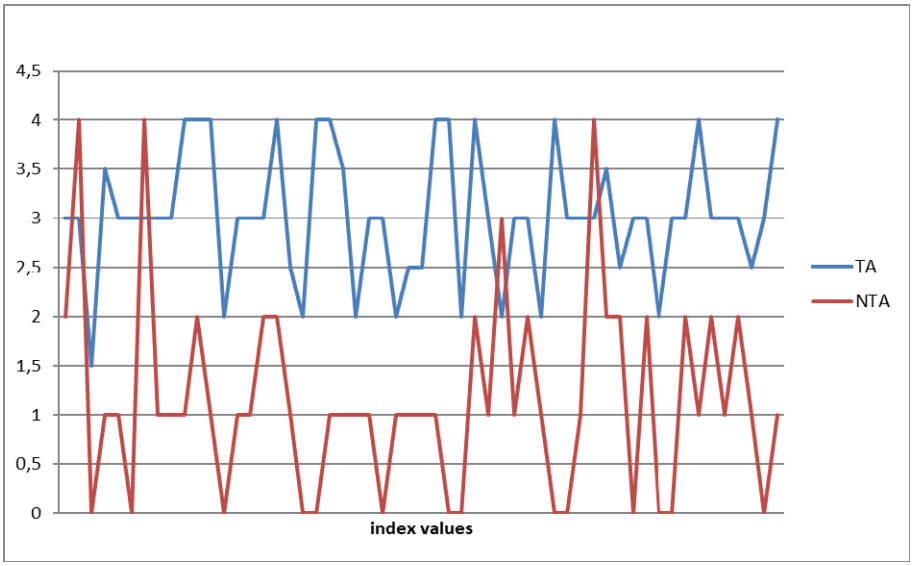

Figure 1. Translatorial and non-translatorial index values across the subject pool

The difference between Task 1 (M = 3.03, SD = 0.99) and Task 2 (M = 1.16, SD = 1.01) is statistically significant, as confirmed by a two-tailed Student T-Test, t(109) = 11.26164, p < .00001. The differences are also illustrated in Figure 1 above.

The central question is whether there is a correlation between the strength of automaticity in translatorial and non-translatorial decision-making. As the data do not follow a normal distribution, we computed the Spearman's rank correlation coefficient and established only negligible correlation, $r_s(53) = 0.12$, N = 110, p = .35. This indicates that there is no evidence of TA and NTA indices being associated.

4. Discussion

The purpose of this study was to look into translatorial automaticity and relate it to non-translatorial automaticity, as these operate in a subset of decision-making contexts that are conducive to suboptimal automatic decisions. Keeping in mind the

methodological considerations addressed further in this section, and the qualitative differences between Task 1 and Task 2 (by their very nature they use different types of stimuli), the findings can be interpreted as initial evidence that translatorial automaticity and automaticity in non-translational tasks might not overlap. More work is needed to further test the claim, especially given that – to the best of the author's knowledge – no studies focused on the relationship before.

By extension, the results could be taken as some indication that translation is a special type of cognitive activity. One important determinant of this "special" status could be that our subjects were translation trainees. Interestingly, rather than weakening the strength of automaticity in translatorial activity, their translation experience, or perhaps more precisely the awareness of having some experience and having developed some competence, could be increasing the subjects' confidence levels, which in turn could result in partial desensitisation to inconspicuous translation problems. The notable aspect here seems to be the "inconspicuousness" or lack of "ostensiveness" of automaticity triggers in Task 1, which constitutes a challenge. What we mean by this is that automaticity was triggered by very basic source text elements,[11] ones which the students took for granted, if only because they did not have to look them up. The problem ties to that of "pre-choice behaviour" discussed by Wilss (1994), where the focus should ideally be on both "determining when and how to decide" (Wilss 1994: 148).

From the didactic angle, referring to the work by Chesterman (1997), PACTE (2003; 2014; 2015), Shreve (2006) as well as Alves & Gonçalves (2007), Alves & Hurtado (2017: 541) offer a definition of translation competence as "a cyclical process from an initial kind of novice behavior to a stage of consolidation of competences, geared by a process of gradual automatization as proceduralization occurs". On this account, Type 1 translator behaviour is framed positively as an index of proficiency and experience (cf. Krings 1986; Jääskeläinen & Tirkkonen-Condit 1991; Pym 2011). Likewise, Kiraly (1995: 68) observes that "to the extent that the skills are well-mastered and permanent, information processing can be said to be automatic" and Delisle (1984: 82, as quoted in Kiraly (1995)), talks about situations where "the discovery of an equivalent does occur more or less spontaneously. During these moments of inspiration, the linking of concepts is instantaneous. It results from perfect comprehension of the ideas to be rendered and the direct availability of the linguistic means to express them".

[11] That is to say, it is unlikely that our subjects did not know that *professor* is dual gender or that they were unable to encode either of these gender variants in the target language.

Indeed, on the whole, if one had to say if automaticity – either translatorial or non-translatorial – is desirable or not, the answer would in all likelihood be positive. This, however, should not let us underappreciate the fact that Type 1 processing can result in deficient decisions (cf. Ivanova 1998). Pertinently, a line of thinking which has to be considered as a source of such suboptimal Type 1 choices in translation, and an area where special trainee sensitisation is therefore necessary, is what Mossop (1983) calls "automatic correspondence". It hinges on the misconception that linguistic systems relate to one another in a straightforward fashion, which in turn – as Mossop (1983: 273–277) argues – is shaped by second language learning, bilingual dictionaries/terminology banks, as well as machine translation. That automatic processes in professionals can lead to inferior translation quality is also brought up by Jääskeläinen (2010).

If translation expertise is conceived of as "an increased capacity to recognize translation problems and an increased ability to effectively resolve problems of transfer by applying schematized knowledge and proceduralized problem resolution methods" (Shreve & Lacruz 2017: 129), then a skill associated with the "recognition" capacity would be to monitor the very process and transition from automatic to non-automatic cognition where the former is likely to result in deficiencies.

Such a component can be identified in PACTE's (2003: 59) strategic subcompetence,[12] most easily in (2) and (4) below:

> (1) to plan the process and carry out the translation project (choice of the most adequate method); (2) to evaluate the process and the partial results obtained in relation to the final purpose; (3) to activate the different sub-competencies and compensate for deficiencies in them; (4) to identify translation problems and apply procedures to solve them.

A kin skill is signalled by Hansen (2003: 29), who talks about the translators' "ability to spot and solve translation problems, and their ability to evaluate their tentative translation elements and their target texts".

[12] It could be noted, however, that PACTE's (2018) account comprises a set of five competences: language competence; cultural, world knowledge and thematic competence; instrumental competence; translation service provision competence; and translation problem solving competence. Perhaps partly because, as the PACTE group emphasize, the competences cannot be construed as discrete, it could be more difficult to discern the skill approximating that of managing the translator's automaticity in this recent formulation.

The proposals surveyed above – together with the current study – highlight the interplay of the translator's reflexive and reflective processes. That interplay has theoretical as well practical implications for the understanding of translatorial activity. As a bottom line, it will be a desirable skill of an expert translator to optimally coordinate automatic and non-automatic cognitive operations. Such coordination will be conducive to the translator's productivity, on the one hand, and to translation quality assurance, on the other. It should, therefore, receive due attention early in the translator training process.

On a methodological note, as was hinted at earlier in the paper, we should keep it in mind that results will be differently generalisable depending on the actual choice of experimental stimuli. As far as Task 1 goes, given the typological differences among stimuli and their varying automaticity-triggering potential, further experiments could test subjects using more stimuli of each type. This would make it possible to arrive at a more fine-grained picture of the factors that motivate translatorial automaticity. In this study, the number of stimuli was determined by the need to keep Task 1 analogous to the Task 2, which used an existing test. A methodological concern to keep in mind here, and applies more generally to experimental tasks of this type, is that a larger number of stimuli, even if interspersed with fillers, increases the likelihood that subjects would identify the purpose of the task. A similar risk would exist if the number of stimuli remained fairly small, but the stimuli were only of one type (e.g. only false friends).

The product-based method, used is this study, has one main advantage over the more process-based ones, which constitute a natural alternative. With a product-based approach, the study's ecological validity is increased because the approach engages subjects in a task that approximates rather closely the actual translation tasks they are used to performing. While using process-oriented methods has important advantages, above all relative directness, the offset is that subjects are aware of being closely monitored, which has some influence on their performance. The aspect of performance that the current study is crucially interested in is control – since lack of control is a constituent of automaticity. Therefore, using a product-based method made it possible to minimize the effect of experimental procedure on the subjects' control and thus help prevent these effects from distorting the results. This is similar to the "white coat effect", originally identified in medicine (Pickering et al. 1988; Banegas et al. 2018), where elevated blood pressures are observed in patients if measurements are made in a medical setting. Similarly, Stanovich (2009: 66) makes the point that in a situation like test-taking, participants are "specifically cued to avoid minimal information processing" – which is associated with

automaticity, and therefore errors of reasoning are less likely to occur in such situations than ordinarily.

Another advantage of the approach illustrated in this paper is that it is comparatively easy to replicate. It avoids some of the problems of using eye-tracking methodologies (cf. O'Brien 2009), specifically, the need to have access to sophisticated equipment, and related issues of cost, rapid technological redundancy, or a steep learning curve (O'Brien 2009: 252–253). This, of course, does not minimise the importance of using sophisticated process-based method to gain further insight into translatorial automaticity. Despite the advantages of the product-based method, we should be careful not to over-interpret the identified problem-solving patterns. In our study, the main methodological caveat is that we base our conclusions on indirect evidence; viz. we reason about the subjects' cognitive processes based on the texts the subjects produce. Given that some indirectness between data and phenomena has to be factored in, irrespective of the method used, and that each methodological approach sheds light on the problem under scrutiny from a different angle, a way forward would be to triangulate methods. A further step would therefore be to tap the potential of eye-tracking, key-logging, and reaction time testing, as a desirable complement to the method demonstrated in this study.

5. Concluding remarks

Evans and Stanovich (2013: 223) argue for a dual-processing account where "rapid autonomous processes (Type 1) are assumed to yield default responses unless intervened on by distinctive higher order reasoning processes (Type 2)". As the findings discussed above show, the intervention from Type 2 processes might be hard to induce, for instance in the case of strongly conventionalised interlingual mappings, which is in accord with earlier results (Deckert 2015; 2016; 2017a; 2017b).

When it comes to the paper's objective of positioning automaticity of translatorial and non-translational decisions against each other (TA index and NTA index), we detected patterns demonstrating that in translation trainees translatorial automaticity could be harder to override than non-translatorial automaticity. This holds implications of didactic nature, highlighting the role of the trainer and course design in sensitising novice translators to the types of scenarios conducive to suboptimal Type 1 decision-making.

Also, no sufficient evidence has been found to argue that an individual's propensity to make automatic decisions in translation is positively or negatively correlated with his or her propensity to make non-translational automatic decisions. This

opens an interesting avenue of research to ascertain in what respects and to what extent translatorial cognition is commensurate with cognition across other domains of decision-making.

References

Alós-Ferrer, Carlos & Strack, Fritz. 2014. From dual processes to multiple selves: implications for economic behavior. *Journal of Economic Psychology* 41. 1–11. doi.org/10.1016/j.joep.2013.12.005

Alves, Fabio & Gonçalves, José Luiz. 2007. Modelling translator's competence: relevance and expertise under scrutiny. In Gambier, Yves & Shlesinger, Miriam & Stolze, Radegundis (eds.), *Translation studies: doubts and directions. Selected papers from the IV Congress of the European Society for Translation Studies*, 41–55. Amsterdam: John Benjamins. doi.org/10.1075/btl.72.07alv

Alves, Fabio & Hurtado Albir, Amparo. 2017. Evolution, challenges, and perspectives for research on cognitive aspects of translation. In Schwieter, John. W. & Ferreira, Aline (eds.), *The handbook of translation and cognition*, 535–554. Wiley-Blackwell: Hoboken. doi.org/10.1002/9781119241485.ch29

Angelone, Erik. 2018. Reconceptualizing problems in translation using triangulated process and product data. In Lacruz, Isabel & Jääskeläinen, Riitta 2018. (eds.), *Innovation and expansion in translation process research*, 17–36. Amsterdam: John Benjamins. doi.org/10.1075/ata.18.02ang

Banegas, José R. & Ruilope, Luis M. & de la Sierra, Alejandro & Vinyoles, Ernest & Gorostidi, Manuel & de la Cruz, Juan J. & Ruiz-Hurtado, Gema & Segura, Julián & Rodríguez-Artalejo, Fernando & Williams, Bryan 2018. Relationship between clinic and ambulatory blood-pressure measurements and mortality. *New England Journal of Medicine* 378(16). 1509–1520. doi.org/10.1056/NEJMoa1712231

Bargh, John. 2017. *Before you know it: the unconscious reasons we do what we do*. Touchstone: New York.

Barlow, Michael & Kemmer, Suzanne (eds.). 2000. *Usage based models of language*. Stanford, CA: CSLI Publications.

Baron, Jonathan & Sydney, Scott & Fincher, Katrina & Metz, Emlen S. 2015. Why does the Cognitive Reflection Test (sometimes) predict utilitarian moral judgment (and other things)? *Journal of Applied Research in Memory and Cognition* 4(3). 265–284. doi.org/10.1016/j.jarmac.2014.09.003

Becker, Joseph. D. 1975. The phrasal lexicon. *Proceedings of the 1975 workshop on Theoretical issues in natural language processing*, 60–63.

Brand, Cordula (ed.). 2016. *Dual-process theories in moral psychology*. Wiesbaden: Springer VS. doi.org/10.1007/978-3-658-12053-5

Brocas, Isabelle & Carrillo, Juan D. 2014. Dual-process theories of decision-making: a selective survey. *Journal of Economic Psychology* 41. 45–54. doi.org/10.1016/j.joep.2013.01.004

Blumenthal-Dramé, Alice. 2012. *Entrenchment in usage-based theories. What corpus data do and do not reveal about the mind*. Berlin: de Gruyter Mouton.

Bolinger, Dwight. 1976. Meaning and memory. *Forum Linguisticum* 1. 1–14.

Brunswik, Egon. 1956. *Perception and the representative design of psychological experiments*, Berkeley, CA: University of California Press.

Bryan, William Lowe & Harter, Noble. 1899. Studies on the telegraphic language. The acquisition of a hierarchy of habits. *Psychological Review* 6. 345–375. doi.org/10.1037/h0073117

Bybee, Joan. 1985. *Morphology: A study of the relation between meaning and form*. Amsterdam: John Benjamins.

Bybee, Joan. 2006. From usage to grammar: the mind's response to repetition. *Language* 82(4). 711–733.

Cader, Raffik & Campbell, Steve & Watson, Don. 2005. Cognitive Continuum Theory in nursing decision-making. *Journal of Advanced Nursing* 49(4). 397–405. doi.org/10.1111/j.1365-2648.2004.03303.x

Carl, Michael & Dragsted, Barbara 2012. Inside the monitor model: processes of default and challenged translation production. *Translation: Corpora, computation, cognition* 2(1). 127–145. doi.org/10.5281/zenodo.1019685

Carl, Michael & Schaeffer, Moritz & Bangalore, Srinivas. 2016. The CRITT Translation Process Research Database. In Carl, Michael & Bangalore, Srinivas & Schaeffer, Moritz (eds.), *New directions in empirical translation process research: exploring the CRITT TPR-DB*, 13–54. Heidelberg: Springer. doi.org/10.1007/978-3-319-20358-4_2

Chaiken, Shelly & Trope, Yaacov (eds.). 1999. *Dual-process theories in social psychology*. New York: Guilford Press.

Christoffels, Ingrid K. & de Groot, Annette M. B. 2005. Simultaneous interpreting: a cognitive perspective. In Kroll, Judith F. & de Groot, Annette M. B. (eds.), *Handbook of bilingualism: psycholinguistic approaches*, 454–479. New York: Oxford University Press.

Chomsky, Noam. 2012. The logical basis of linguistic theory. In Kiefer, Ferenc & van Sterkenburg, Piet (eds.), *Eight decades of general linguistics*, 123–236. Leiden: Brill. doi.org/10.1163/9789004242050_009

Chesterman, Andrew. 1997. *Memes of translation*. Amsterdam: Benjamins. doi.org/10.1075/btl.22

Cleeremans, Axel & Jiménez, Luis. 2002. Implicit learning and consciousness: a graded, dynamical perspective. In French, Robert M. & Cleeremans, Axel (eds.), *Implicit learning and consciousness: an empirical, philosophical and computational consensus in the*

making, 1–40. Hove: Psychology Press.

Custers, Eugène. 2013. Medical education and Cognitive Continuum Theory: an alternative perspective on medical problem solving and clinical reasoning. *Academic Medicine* 88(8). 1074–1080. doi.org/10.1097/ACM.0b013e31829a3b10

Dancygier, Barbara (ed.). 2017. *The Cambridge handbook of cognitive linguistics*. Cambridge: Cambridge University Press. doi.org/10.1017/9781316339732

Dąbrowska, Ewa, & Divjak, Dagmar 2015. (eds.). *Handbook of cognitive linguistics*. Berlin: Walter de Gruyter.

Deckert, Mikołaj. 2015. The automated interlingual mapping effect in trainee subtitlers. *JoSTrans: The Journal of Specialised Translation* 24. 28–43.

Deckert, Mikołaj. 2016. Translatorial dual-processing – evidence from interlingual trainee subtitling. *Babel* 62(3). 495–515. doi.org/10.1075/babel.62.3.07dec

Deckert, Mikołaj. 2017a. Asymmetry and automaticity in translation. *Translation and Interpreting Studies* 12(3). 469–488. doi.org/10.1075/tis.12.3.06dec

Deckert, Mikołaj. 2017b. Regulacja w procesie przekładu. In Lewandowska-Tomaszczyk, Barbara (ed.), *Kompetencje współczesnego tłumacza*, 33–44. Konin: Wydawnictwo PWSZ w Koninie.

Delisle, Jean. 1984. *L'analyse du discours comme méthode de traduction: initiation à la traduction française de textes pragmatiques anglais*. Ottawa: University of Ottawa Press.

Divjak, Dagmar & Caldwell-Harris, Catherine L. 2015. Frequency and entrenchment. In Dąbrowska, Ewa & Divjak, Dagmar (eds.), *Handbook of cognitive linguistics*, 53–75. Berlin: Walter de Gruyter. doi.org/10.1515/9783110292022-004

Dragsted, Barbara. 2004. *Segmentation in translation and translation memory systems: An empirical investigation of cognitive segmentation and effects of integrating a TM system into the translation process*. Copenhagen: Samfundslitteratur. Copenhagen Business School, Ph.D. series.

Dunwoody, Philip T. & Haarbauer, Eric & Mahan, Robert P. & Marino, Christopher & Tang, Chu-Chun. 2000. Cognitive adaptation and its consequences: a test of cognitive continuum theory. *Journal of Behavioral Decision Making* 13(1). 35–54.

Epstein, Seymour. 1994. Integration of the cognitive and the psychodynamic unconscious. *American Psychologist* 49. 709–724

Evans, Jonathan St. B. T. 1989. *Bias in human reasoning: causes and consequences*. Brighton: Erlbaum.

Evans, Jonathan St. B. T. 2010. *Thinking twice: two minds in one brain*. Oxford: Oxford University Press.

Evans, Jonathan St. BT. 2008. Dual-processing accounts of reasoning, judgment, and social cognition. *Annual Review of Psychology* 59. 255–278. doi.org/10.1146/annurev.psych.59.103006.093629

Evans, Jonathan St. B. T. & Stanovich, Keith E. 2013. Dual-process theories of higher cognition: advancing the debate. *Perspectives on Psychological Science* 8. 223–241 and 263–271. doi.org/10.1177/1745691612460685, doi.org/10.1177/1745691613483774

Finucane, Melissa L. & Alhakami, Ali & Slovic, Paul & Johnson, Stephen M. 2000. The affect heuristic in judgments of risks and benefits. *Journal of Behavioral Decision Making* 13(1). 1–17.

The Five Graces Group [= Clay Becker, Richard Blythe, Joan Bybee, Morten H. Christiansen, William Croft, Nick C. Ellis, John Holland, Jinyun Ke, Diane Larsen-Freeman, Tim Schoenemann]. 2009. Language is a complex adaptive system: position paper. In Ellis, Nick C. & Larsen-Freeman, Diane (eds.), *Language as a complex adaptive system*, 1–26. Chichester: Wiley-Blackwell. [= *Language Learning* 59: Suppl. 1]. doi.org/10.1111/j.1467-9922.2009.00533.x

Frederick, Shane 2005. Cognitive reflection and decision making. *Journal of Economic Perspectives* 19(4). 25–42. doi.org/10.1257/089533005775196732

Geeraerts, Dirk & Cuyckens, Hubert 2007. (eds.). *The Oxford handbook of cognitive linguistics*. Oxford: Oxford University Press. doi.org/10.1093/oxfordhb/9780199738632.001.0001

Gigerenzer, Gerd. 2011. Personal reflections on theory and psychology. *Theory & Psychology* 20. 733–743. doi.org/10.1177/0959354310378184

Goel, Vinod. 2007. Anatomy of deductive reasoning. *Trends in Cognitive Sciences* 11. 435–441. doi.org/10.1016/j.tics.2007.09.003

Goldberg, Adele. 1995. *Constructions: a construction grammar approach to argument structure*. Chicago, IL: Chicago University Press.

Graf, Laura K. M. & Landwehr, Jan R. 2015. A dual-process perspective on fluency-based aesthetics: the pleasure-interest model of aesthetic liking. *Personality and Social Psychology Review* 19(4). 395–410. doi.org/10.1177/1088868315574978

Greene, Joshua D. 2007. Why are VMPFC patients more utilitarian? A dual-process theory of moral judgment explains. *Trends in Cognitive Sciences* 11(8). 322–323. doi.org/10.1016/j.tics.2007.06.004

de Groot, Annette M. B. 1997. The cognitive study of translation and interpretation: three approaches. In Danks, Joseph H. & Shreve, Gregory M. & Fountain, Stephen B. & McBeath, Michael (eds.), *Cognitive processes in translation and interpreting*, 25–56. Thousand Oaks, CA: SAGE Publications.

de Groot, Annette M. B. 2011. *Language and cognition in bilinguals and multilinguals: an introduction*. New York: Psychology Press.

Halverson, Sandra L. 2003. The cognitive basis of translation universals. *Target* 15(2). 197–241. doi.org/10.1075/target.15.2.02hal

Halverson, Sandra L. 2010. Cognitive translation studies: developments in theory and method. In Shreve, Gregory M. & Angelone, E. (eds.), *Translation and cognition*, 349–

369. Amsterdam: John Benjamins. doi.org/10.1075/ata.xv.18hal

Halverson, Sandra L. 2015. Cognitive Translation Studies and the merging of empirical paradigms: the case of "literal translation". *Translation Spaces* 4(2). 310–340. doi.org/10.1075/ts.4.2.07hal

Halverson, Sandra L. 2017a. Multimethod approaches. In Schwieter, John. W. & Ferreira, Aline (eds.), *The handbook of translation and cognition*, 195–212. Hoboken: Wiley-Blackwell. doi.org/10.1002/9781119241485.ch11

Halverson, Sandra L. 2017b. Developing a cognitive semantic model: magnetism, gravitational pull, and questions of data and method. In Sutter, Gert de & Lefer, Marie-Aude & Delaere, Isabelle (eds.), *Empirical translation studies: new methodological and theoretical traditions*, 9–45. Berlin: Mouton de Gruyter.

Hammond, Kenneth R. 1996. *Human judgment and social policy: irreducible uncertainty, inevitable error, unavoidable injustice*. New York: Oxford University Press.

Hansen, Gyde. 2003. Controlling the process. Theoretical and methodological reflections on research into translation processes. In Alves, Fabio (ed.), *Triangulating translation: perspectives in process oriented research*, 25–42. Amsterdam: John Benjamins. doi.org/10.1075/btl.45.05han

Hansen-Schirra, Silvia. 2017. EEG and universal language processing in translation. In Schwieter, John W. & Ferreira, Aline (eds.), *The handbook of translation and cognition*, 232–247. Hoboken: Wiley-Blackwell. doi.org/10.1002/9781119241485.ch13

Harder, Peter. 2010. *Meaning in mind and society. A functional contribution to the social turn in cognitive linguistics*. Berlin: De Gruyter.

Hilpert, Martin. 2014. *Construction grammar and its application to English*. Edinburgh: Edinburgh University Press.

Hvelplund, Kristian Tangsgaard 2011. *Allocation of cognitive resources in translation: an eye-tracking and key-logging study*. Frederiksberg: Samfundslitteratur.

Hvelplund, Kristian Tangsgaard. 2016. Cognitive efficiency in translation. In Muñoz Martín, Ricardo (ed.), *Reembedding translation process research*, 149–170. Amsterdam: John Benjamins. doi.org/10.1075/btl.128.08hve

Ivanova, Adelina. 1998. Educating the language elite: teaching translation for translator training. In Malmkjær, Kirsten (ed.), *Translation & language teaching: language teaching & translation*, 91–110. Manchester: St. Jerome Publishing.

Ivir, Vladimir. 1981. Formal correspondence vs. translation equivalence revisited. *Poetics Today* 2. 51–59. doi.org/10.2307/1772485

James, William. 1890. *The principles of psychology*. New York: Holt, Rinehart & Winston.

Jastrow, Joseph. 1906. *The subconscious*. Boston: Houghton, Mifflin and Company.

Jääskeläinen, Riitta. 2010. Are all professionals experts? Definitions of expertise and reinterpretation of research evidence in process studies. In Shreve, Gregory M. & Angelo-

ne, Erik (eds.), *Translation and cognition*, 213–227. Amsterdam: John Benjamins. doi.org/10.1075/ata.xv.12jaa

Jääskeläinen, Riitta & Tirkkonen-Condit, Sonja. 1991. Automatised processes in professional vs. non-professional translation: a think-aloud protocol study. In Tirkkonen-Condit, Sonja (ed.), *Empirical research in translation and intercultural studies*, 89–109. Tübingen: Gunter Narr.

Kahneman, Daniel. 2011. *Thinking, fast and slow*. London: Penguin Books. https://doi.org/10.1111/j.1460-2466.2012.01674.x

Kerremans, Daphné. 2015. *A web of new words. A corpus-based study of the conventionalization process of English neologisms*. Frankfurt am Main: Peter Lang. doi.org/10.3726/978-3-653-04788-2

Kiraly, Donald C. 1995. *Pathways to translation: from process to pedagogy*. Kent: Kent State University Press.

Krings, Hans P. 1986. Translation problems and translation strategies of advanced German learners of French. In House, Juliane & Blum-Kulka, Shoshana (eds.), *Interlingual and intercultural communication: discourse and cognition in translation and second language acquisition studies*, 263–275. Tübingen: Gunter Narr.

Kristiansen, Gitte. 2008. Style-shifting and shifting styles: a socio-cognitive approach to lectal variation. In Kristiansen, Gitte & Dirven, René (eds.), *Cognitive sociolinguistics. Language variation, cultural models, social systems*, 45–90. Berlin: Mouton de Gruyter. doi.org/10.1515/9783110199154.1.45

Kruglanski, Arie W. & Gigerenzer, Gerd. 2011. Intuitive and deliberative judgements are based on common principles. *Psychological Review* 118. 97–109. doi.org/10.1037/a0020762

Lacruz, Isabel & Jääskeläinen, Riitta (eds.). 2018. *Innovation and expansion in translation process research*. Amsterdam: John Benjamins. doi.org/10.1075/ata.xviii

Langacker, Ronald W. 1987. *Foundations of Cognitive Grammar. Vol. 1: Theoretical prerequisites*. Stanford, CA: Stanford University Press.

Langacker, Ronald W. 1991. *Foundations of Cognitive Grammar. Vol. 2: Descriptive application*. Stanford, CA: Stanford University Press.

Langacker, Ronald W. 2007. Cognitive Grammar. In Geeraerts, Dirk & Cuyckens, Hubert

(eds.), *The Oxford handbook of cognitive linguistics*, 421–462. Oxford: Oxford University Press. doi.org/10.1093/oxfordhb/9780199738632.013.0017

Langacker, Ronald W. 2008. *Cognitive Grammar: a basic introduction*. Oxford: Oxford University Press. doi.org/10.1093/acprof:oso/9780195331967.001.0001

Langacker, Ronald W. 2012. *Essentials of cognitive grammar*. Oxford: Oxford University Press.

Langacker, Ronald W. 2017. *Ten lectures on the elaboration of Cognitive Grammar*. Leiden: Brill. doi.org/10.1163/9789004347472

Lieberman, Matthew D. 2009. What zombies can't do: a social cognitive neuroscience approach to the irreducibility of reflective consciousness. In Evans, Jonathan St. B. T. & Frankish, Keith E. (eds.), *In two minds: dual processes and beyond*, 293–316. Oxford: Oxford University Press. doi.org/10.1093/acprof:oso/9780199230167.003.0013

Moors, Agnes & De Houwer, Jan. 2006. Automaticity: a theoretical and conceptual analysis. *Psychological Bulletin* 132(2). 297–326. doi.org/10.1037/0033-2909.132.2.297

Moors, Agnes. 2016. Automaticity: componential, causal, and mechanistic explanations. *Annual Review of Psychology* 67. 263–287. doi.org/10.1146/annurev-psych-122414-033550

Mossop, Brian. 1983. The translator as rapporteur: a concept for training and self-improvement. *Meta: Journal des Traducteurs* 28(3). 244–278. doi.org/10.7202/003674ar

Mullennix, John W. & Varmecky, Amy & Chan, Chi H. & Korenoski, Stephen & Mickey, Zach & Polaski-Hoffman, Lisa. 2016. The effect of color on automaticity of aesthetic judgments. *Empirical Studies of the Arts* 34(1). 8–34. doi.org/10.1177/0276237415621183

Muñoz Martín, Ricardo (ed.). 2016. *Reembedding translation process research*. Amsterdam: John Benjamins. doi.org/10.1075/btl.128

O'Brien, Sharon. 2009. Eye tracking in translation process research: methodological challenges and solutions. In Mees, Inger M. & Alves, Fabio & Göpferich, Susanne, (eds.), *Methodology, technology and innovation in translation process research: a tribute to Arnt Lykke Jakobsen*, Copenhagen studies in language 38, 251–266. Copenhagen: Samfundslitteratur.

Oechssler, Jörg & Roider, Andreas & Schmitz, Patrick. W. 2009. Cognitive abilities and behavioral biases. *Journal of Economic Behavior & Organization* 72(1). 147–152. doi.org/10.1016/j.jebo.2009.04.018

Osman, Magda. 2004. An evaluation of dual-process theories of reasoning. *Psychonomic Bulletin & Review* 11(6). 988–1010. doi.org/10.3758/BF03196730

PACTE Group. 2003. Building a translation competence model. In Alves, Fabio (ed.), *Triangulating translation: perspectives in process oriented research*, 43–66. Amsterdam: Benjamins. doi.org/10.1075/btl.45.06pac

PACTE Group. 2014. First results of PACTE group's experimental research on translation competence acquisition: the acquisition of declarative knowledge of translation. *MonTI. Special issue* 1. 85–115. doi.org/10.6035/MonTI.2014.ne1.2

PACTE Group. 2015. Results of PACTE's experimental research on the acquisition of translation competence: the acquisition of declarative and procedural knowledge in translation. The dynamic translation index. *Translation Spaces* 4(1). *Special issue: Translation as a Cognitive Activity*. 29–53. doi.org/10.1075/ts.4.1.02bee

PACTE Group. 2018. Competence levels in translation: working towards a European framework. *The Interpreter and Translator Trainer* 12(2). 111–131. doi.org/10.1080/1750399X.2018.1466093

Parker-Tomlin, Michelle & Boschen, Mark & Morrissey, Shirley & Glendon, Ian. 2017. Cognitive continuum theory in interprofessional healthcare: a critical analysis. *Journal of Interprofessional Care* 31(4). 446–454. doi.org/10.1080/13561820.2017.1301899

Paxton, Joseph M. & Ungar, Leo & Greene, Joshua. D. 2012. Reflection and reasoning in moral judgment. *Cognitive Science* 36(1). 163–177. doi.org/10.1111/j.1551-6709.2011.01210.x

Pennycook, Gordon & Cheyne, James Allan & Barr, Nathaniel & Koehler, Derek J. & Fugelsang, Jonathan A. 2014. The role of analytic thinking in moral judgements and values. *Thinking & Reasoning* 20(2). 188–214. doi.org/10.1080/13546783.2013.865000

Pęzik, Piotr. 2018. *Facets of prefabrication: perspectives on modelling and detecting phraseological units*. Łódź University Press: Łódź.

Pickering, Thomas G. & James, Gary D. & Boddie, Charlene & Harshfield, Gregory A. & Blank, Seymour & Laragh, John H. 1988. How common is white coat hypertension?. *JAMA – Journal of the American Medical Association* 259(2). 225–228.

Pulvermüller, Friedemann. 2003. *The neuroscience of language: on brain circuits of words and serial order*. Cambridge: Cambridge University Press.

Pulvermüller, Friedemann. 2013. How neurons make meaning: brain mechanisms for embodied and abstract-symbolic semantics. *Trends in Cognitive Sciences* 17(9). 458– 470. doi.org/10.1016/j.tics.2013.06.004

Pym, Anthony. 2011. Training translators. In Malmkjær, Kristen & Windle, Kevin (eds.), *The Oxford handbook of translation studies*. Oxford: Oxford University Press. doi.org/10.1093/oxfordhb/9780199239306.013.0032

Reber, Arthur S. 1993. *Implicit learning and tacit knowledge: an essay on the cognitive unconscious*. New York: Oxford University Press.

Schaeffer, Moritz & Carl, Michael. 2013. Shared representations and the translation process: a recursive model. *Translation and Interpreting Studies* 8(2). 169–190. doi.org/10.1075/tis.8.2.03sch

Schaeffer, Moritz & Dragsted, Barbara & Hvelplund, Kristian Tangsgaard & Balling, Laura Winther & Carl, Michael. 2016. Word translation entropy: evidence of early target language activation during reading for translation. In Carl, Michael & Bangalore, Srinivas & Schaeffer, Moritz (eds.), *New directions in empirical translation process research: exploring the CRITT TPR-DB*, 183–210. Cham: Springer. doi.org/10.1007/978-3-319-20358-4_9

Schmid, Hans-Jörg. 2015. A blueprint of the Entrenchment-and-Conventionalization Model. *Yearbook of the German Cognitive Linguistics Association* 3(1). 3–26. doi.org/10.1515/gcla-2015-0002

Schmid, Hans-Jörg (ed.). 2017. *Entrenchment and the psychology of language learning: how we reorganize and adapt linguistic knowledge*. Boston: APA and Berlin: Walter de Gruyter.

Shenhav, Amitai & Rand, David G. & Greene, Joshua D. 2011. Divine intuition: cognitive style influences belief in God. *Journal of Experimental Psychology: General* 141(3). 423–428. doi.org/10.1037/a0025391

Shreve, Gregory M. 2006. The deliberate practice: translation and expertise. *Journal of Translation Studies* 9(1). 27–42.

Shreve, Gregory M. & Lacruz, Isabel. 2017. Aspects of a cognitive model of translation. In Schwieter, John. W. & Ferreira, Aline (eds.), *The handbook of translation and cognition*, 127–143. Hoboken: Wiley-Blackwell. doi.org/10.1002/9781119241485.ch7

Smith, Eliot R. & DeCoster, Jamie. 2000. Dual-process models in social and cognitive psychology: conceptual integration and links to underlying memory systems. *Personality and Social Psychology Review* 4(2). 108–131. doi.org/10.1207/S15327957PSPR0402_01

Sorensen, David. 2016. *The unity of higher cognition: the case against dual process theory*. Master's Thesis, Atlanta: Georgia State University.

Stanovich, Keith E. 2009. *What intelligence tests miss: the psychology of rational thought*. New Haven, CT: Yale University Press.

Stanovich, Keith E. 2011. *Rationality and the reflective mind*. New York: Oxford University Press. doi.org/10.1093/acprof:oso/9780195341140.001.0001

Strack, Fritz & Deutsch, Roland. 2004. Reflective and impulsive determinants of social behaviour. *Personality and Social Psychology Review* 8(3). 220–247. doi.org/10.1207/s15327957pspr0803_1

Sun, Ron & Slusarz, Paul & Terry, Chris. 2005. The interaction of the explicit and the implicit in skill learning: a dual-process approach. *Psychological review* 112(1). 159–192. doi.org/10.1037/0033-295X.112.1.159

Talmy, Leonard. 2000. *Toward a cognitive semantics*. *Vol 1. Concept structuring systems*. Cambridge, MA: MIT Press. http://dx.doi.org/10.7551/mitpress/6847.001.0001

Thomson, Keela S. & Oppenheimer, Daniel M. 2016. Investigating an alternate form of the cognitive reflection test. *Judgment and Decision Making* 11(1). 99–113.

Tirkkonen-Condit, Sonja. 2005. The monitor model revisited: evidence from process research. *Meta* 50:2. 405–414. doi.org/10.7202/010990ar

Tirkkonen-Condit, Sonja & Mäkisalo, Jukka & Immonen, Sini. 2008. The translation process – interplay between literal rendering and a search for sense. *Across Languages and Cultures* 9. 1–15. doi.org/10.1556/Acr.9.2008.1.1

Tomasello, Michael. 2003. *Constructing a language. A usage-based theory of language acquisition*. Cambridge, MA: Harvard University Press.

Toplak, Maggie E. & West, Richard F. & Stanovich, Keith E. 2011. The Cognitive Reflection Test as a predictor of performance on heuristics-and-biases tasks. *Memory & Cognition* 39(7). 1275–1289. doi.org/10.3758/s13421-011-0104-1

Toplak, Maggie E. & West, Richard F. & Stanovich, Keith E. 2014. Assessing miserly information processing: an expansion of the Cognitive Reflection Test. *Thinking & Reasoning* 20(2). 147–168. doi.org/10.1080/13546783.2013.844729

Toury, Gideon. 1995. *Descriptive Translation Studies and beyond*. Amsterdam: John Benjamins. doi.org/10.1075/btl.4

Tsujii, Takeo & Watanabe, Shigeru. 2009. Neural correlates of dual-task effect on belief-bias syllogistic reasoning: a near-infrared spectroscopy study. *Brain Research* 1287. 118–125. doi.org/10.1016/j.brainres.2009.06.080

Wason, Peter C. & Evans, Jonathan St. B. T. 1975. Dual processes in reasoning?. *Cognition* 3(2). 141–154. doi.org/10.1016/0010-0277(74)90017-1

Whyatt, Bogusława (ed.). 2016. *Language processing in translation*. *Poznań Studies in Contemporary Linguistics* 52(2).

Wilss, Wolfram. 1994. A framework for decision-making in translation. *Target* 6(2). 131–150. doi.org/10.1075/target.6.2.02wil

Wray, Alison. 2009. Formulaic language in learners and native speakers. *Language Teaching* 32(4). 213–231. doi.org/10.1017/S0261444800014154

Wray, Alison. 2013. Formulaic language. *Language Teaching* 46(3). 316–334. doi.org/10.1017/S0261444813000013

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TRANSLATORISCHE UND AUßERTRANSLATORISCHE AUTOMATIZITÄT: EINE INTEGRATIVE DARSTELLUNG

Zweck dieser Abhandlung ist die empirische Untersuchung einer Teilmenge kognitiver Prozesse bei Übersetzern in der Ausbildung mit dem Ziel, einen Einblick in deren Entscheidungsfindung zu gewinnen. Dabei ist insbesondere die Art und Funktion der automatisierten Verarbeitung von Interesse – v. a. wie ausgeprägt diese sein kann und wie sie die Qualität von Entscheidungen beeinflusst. Ein weiteres Ziel der Abhandlung ist es, zu einer integrativen Sicht auf die Beziehung zwischen translatorischer Automatizität und kognitiver Automatizität allgemein, d. h. nicht im Zusammenhang mit Übersetzung, zu gelangen.

Dies könnte zur besseren Erfassung bestimmter Merkmale des Übersetzerverhaltens beitragen und unser Verständnis der Übersetzungskompetenz verbessern. Die in der Abhandlung erläuterten Ergebnisse aus Experimenten mit Übersetzern in der Ausbildung weisen auf keinen Zusammenhang zwischen den beiden Dimensionen der automatisierten Verarbeitung hin und zeigen, dass sich die Ausschaltung der translatorischen Automatizität im Gegensatz zu der Ausschaltung ihres allgemeineren Gegenstücks als schwieriger erweisen könnte.

Schlüsselwörter: sprachübergreifende Übersetzung; Übersetzungskompetenz; Verarbeitung bei der Übersetzung; Zwei-Prozess-Theorien; Entscheidungsfindung, Übersetzung und Kognition; Übersetzer in der Ausbildung.