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Metalinguistic Knowledge/Awareness/Ability in Cognitive Translation Studies: Some Questions

Abstract

Throughout the history of contemporary Translation Studies, theoretical, empirical and pedagogically oriented work has made use of a range of notions that assume a translator's metalinguistic knowledge, or knowledge *about* language, rather than knowledge *of a language or languages*. Examples include ideas such as 'translation strategies', translational 'problem-solving', 'the monitor model' and models of translator competence. Issues related to learning, automatization, and consciousness also figure in many of the discussions. At the same time, studies in bi- and multilingualism and second (and third) language acquisition have also developed a range of related ideas and concepts to deal with some of the same issues and concerns in bi- and multilingual language production more broadly (see e.g. Jessner 2006: 40-43). Some recent translation process studies have begun to target questions related to metalinguistic awareness (e.g. Ehrensberger-Dow/Künzli 2010, Ehrensberger-Dow/Perrin 2009) while the underlying assumptions of some of the commonly used ideas are also being questioned (e.g. Muñoz Martín 2016a). The range of available ideas, the significant differences between them, and the increasingly important role these ideas are playing in cognitive translation research mandate a critical look at this conceptual field.

In this paper, I present some current views on metalinguistic knowledge/awareness/ability within the bi- and multilingualism and second language acquisition (SLA) literature, and compare these to some of the most widely used constructs in Cognitive Translation Studies (CTS). The aim is to clear the conceptual ground and to single out some of the most pressing questions to be addressed regarding this particular aspect of translational cognition.

Keywords

metalinguistic knowledge/awareness/ability; bilingual processing; implicit/explicit language knowledge; problem-solving model; monitor model

1. Introductory comments[1]

Contemporary Translation Studies, and particularly translation pedagogy, has long been concerned with the nature of the knowledge required to translate. Within more recent CTS, however, there has been rather less interest in the specifics of translator knowledge as the research emphasis has switched to characteristics of cognitive processing (e.g. the distribution of cognitive load, temporal characteristics of the process, or the effects of particular task specifications on these characteristics). At the same time, research effort within cognitive or process-oriented studies has gone into the investigation of the translational setting and circumstances, as required by the 'situated' or 4EA (embodied, embedded, enacted, extended, and affective) approach to cognition. This paper returns to questions of translator knowledge, and is concerned with a type of knowledge that may be more important in translation and interpreting than in other types of bi- or multilingu-

1 I would like to thank the editors and the anonymous referees for very helpful comments on an earlier version of this manuscript. All remaining flaws and weaknesses are my own.

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al tasks. This paper will consider translators' *metalinguistic knowledge,* or knowledge *about language* rather than knowledge *of* a particular language or languages.

Broadly speaking, as cognitive approaches to the study of translation become more developed, one of the consequences is that the complexity of the translation task is becoming increasingly visible in the range of constructs employed to account for various translational phenomena. One example concerns temporal sequencing in the translation process. Some early cognitively oriented approaches posited a linear sequence of, e.g. decoding, transfer and recoding tasks in translation and interpreting (e.g. Nida/Taber 1969); some recent approaches propose similar (sub)tasks, but suggest a more complex temporal sequencing of these and related tasks (e.g. Shreve/Lacruz 2014; see also Jakobsen/Jensen 2008). Constructs such as 'reading for translating' (Shreve et al. 1993, Macizo/Bajo 2006, Jakobsen/Jensen 2008) tap into new ideas related to the temporal characteristics of translational cognition and suggest that translationally relevant cognitive activities begin in what traditionally has been considered a 'pre-translational' phase.

Similarly, increasing theoretical complexity is visible in the constructs used to capture aspects of translational cognition related to, for instance, the question of conscious awareness or the existence or potential actions of a 'monitor' (Tirkkonen-Condit 2004, 2005). Issues related to types of knowledge (implicit/explicit or procedural/declarative) also arise regularly.

To mention two final complications, all of the types of constructs mentioned above, all of which aim at capturing key elements of translational cognition, have been demonstrated to show considerable variability across subject groups, suggesting that a detailed developmental perspective is also required. Furthermore, increasing focus on the neurocognitive substrate of several elements of bilingual or translational cognition makes a commitment to neurocognitive feasibility increasingly important (see Garcia et al. 2016).

While translation process research (TPR) and CTS more broadly continue to generate fascinating empirical results, it may be suggested that theorization is lagging somewhat behind, at least with regard to some areas of translational cognition. One of these areas is the nature of multilingual knowledge, including the role of *metalinguistic knowledge/awareness/ability*. This unwieldy cluster of related constructs aims to capture a speaker's knowledge *about* the structure and meaning of language *as such*, her awareness of such knowledge and her ability to use it in specific tasks. The three are not always carefully distinguished, and 'metalinguistic awareness' is often used as a blanket term (see Jessner 2006: 40-43). Moreover, the distinction between knowledge *of a language* and *knowledge about language in general* is not always easy to maintain, particularly when trying to identify the manifestation of such knowledge in empirical data. As a starting point, with regard to the former set of distinctions, I will assume that metalinguistic knowledge is somehow conceptually prior to awareness and ability: one must have knowledge in order to be aware of it or able to use it in specific tasks. I will try to use the appropriate term where possible, but where it is not possible to distinguish will use 'metalinguistic awareness' as a blanket term.

With regard to the distinction between knowledge of a language or languages (linguistic knowledge) and knowledge about language as such (metalinguistic knowledge), I assume an account that relates the two to one another without drawing a sharp border between them (Bialystok 2001). As a starting point I take Bialystok's definition of metalinguistic knowledge as "the explicit representation of abstract aspects of linguistic structure that become accessible through knowledge of a particular language" and metalinguistic ability as "the capacity to use knowledge about language as opposed to the capacity to use language" (2001: 124). Metalinguistic awareness, in this view, "implies that attention is actively focused on the domain of knowledge that describes the explicit properties of language' (2001: 127).

Metalinguistic awareness is a crucial element of the translation process, and is captured, among other things, by verbalizations such as the following, taken from studies using think-aloud protocols:

1) It's still a rather heavy sentence, […]
2) At the beginning, the time adverbial […]

(Ehrensberger-Dow/Perrin 2009: 280)

3) Nordsee… that's North Sea isn't it?
4) I can't really translate Kraft as strength

(Angelone 2010: 35)

In the examples, the translator is verbalizing knowledge about idealized syntactic structure (1 and 2) and the relationship of lexical items across languages (3 and 4). In the first two, the speaker articulates knowledge about the qualities of sentences ('weight' or the ordering of constituents) and makes assessments of emerging sentences as compared to an ideal. In the second two, the speaker demonstrates knowledge that lexical items can correspond across languages (or not).

In an important early work, Malakoff and Hakuta pointed out that the translation process actually incorporates two tasks: in their account, translators must "evaluate the equivalence of the meaning of the source-language and target-language texts and evaluate the appropriateness of the sentence structure used to convey the meaning" (1991: 149-150). In their view, translation is a "composite of communicative and metalinguistic skills" (1991: 150). Malakoff and Hakuta's view is slightly different from Bialystok's (adopted here), in that it posits a much narrower view of the use of metalinguistic knowledge. However, we might extrapolate from their insight to make a different point: that translation involves using metalinguistic knowledge about two different domains: 1) abstract qualities of language *and* 2) the nature of (potential) cross-linguistic relationships.

While metalinguistic awareness received a good deal of rather indirect attention in the early days of TPR, especially in the work done on within a problem-solving paradigm using think-aloud protocols (TAPs), I will argue that its theoretical development has not kept pace in recent years. As a consequence, the aim of this paper is to articulate the theoretical need for a cognitive theoretical construct to capture the metalinguistic dimensions of the translation process: a construct that is consonant with what we now know about bilingual and translational cognition. As part of the argument, some relevant questions will also be raised. The objective is not to articulate a finished construct, but to clear the conceptual space needed and to raise a number of relevant issues that must be dealt with in building such a construct.

The discussion will proceed as follows: Section 2 presents a review of previous work on relevant phenomena within Translation Studies. In Section 3, central concepts used in studies of metalinguistic awareness in bilingualism and second language acquisition are outlined. The main discussion of the theoretical issues at stake and the most urgent questions are discussed in Section 4, while Section 5 concludes.

2. Implicit notions of metalinguistic awareness in translation process research

Translators' metalinguistic awareness has figured within translation process research in various ways, though it has not always been referred to as such or even been explicitly theorized. This section will provide a brief overview of the chronological development of constructs within TPR that rely on implicit notions or incorporate explicit constructs of metalinguistic knowledge or awareness, as defined above[2]. As we shall see, the role and status of metalinguistic knowledge as a theoretical construct is closely linked to the underlying theory of cognition applied.

2 As so rightly pointed out by one of the referees, this survey assumes a somewhat arbitrary starting point. Relevant constructs are also found within Interpreting Studies (e.g. Gile 2009), perhaps even more urgently in sign language interpreting. I wish to thank this referee for poiting this out, and in a more comprehensive survey I would like to trace the history and relationships even further. For the purposes of the current discussion, I have chosen to limit the discussion to what is generally referred to by the scholars themselves as well as their successors, as 'translation process research'. The motivation for this cut-off point is that I wish to consider constructs that are still current within broadly cognitive approaches to translation.

2.1. Cognition as problem-solving: metalinguistic knowledge and 'problems' and 'strategies'

For the purposes of this discussion, the early period of cognitively oriented work is taken to start in the late 1960s and to continue through to the early 1990s. This work will be exemplified in the work of Krings (1986) and Lörscher (1986, 1991). This is not an exhaustive review (for an overview of TPR see Alves 2015; for critical comments on methodological aspects of this work, see Bernardini 2001).

The major studies of that early period of process-based research primarily theorized translational cognition in terms of a decision-making/problem-solving paradigm (cf. Muñoz Martín 2016a)[3]. While metalinguistic knowledge was not a subject of enquiry as such in the early studies, it is implicit in several of the most commonly researched areas, such as 'translation problems' and 'translation strategies' (e.g. Gerloff 1986, Krings 1986, Lörscher 1986, 1991). Recalling that our concern is with a translator's ability to 'step back […] and consider the linguistic form and structure underlying the meaning of an utterance' (Malakoff/Hakuta 1991:147), let us consider how this is reflected in the notions of 'translation problem' and 'translation strategy' in the earliest empirical studies of the translation process, i.e. TAP studies.

Krings (1986) distinguishes between 'translation problems', 'L2-competence problems', and 'translation competence problems' (1986: 112-171), with the latter two being subcategories of the first. L2-competence problems are considered to represent an intralingual deficit in knowledge or ability to select appropriate items in the L2, while translation competence problems are taken to constitute an interlingual shortcoming in the resolution of an equivalence issue (ibid.). As pointed out by Lörscher (1991: 93), the distinctions between the three are difficult to maintain empirically, and the superordinate category seems to represent a default empirical solution. In Krings' work, the translators' verbalizations were related to their knowledge of form-meaning relationships in the L2 or to their knowledge regarding interlingual relationships between the SL and TL in the translation task.

Krings also articulated another problem-related distinction: between comprehension and production problems (or a combination of the two) (1986: 144-152). This distinction is also adopted by Lörscher (1991: 95), who referred to these as 'reception' and 'production problems', respectively. The former category is relatively straightforward, but within the latter category, a further relevant distinction was made between production processes driven by meaning-related searches and those driven by TL form-related relationships.

Lörscher's empirical investigation was an important contribution to the study of translation processes. Building on the earlier work by Krings, he devised an analytical framework in which 'translation problems' were identified through the translators' explicit verbalizations as well as some non-verbal indicators, such as pauses. Importantly, his study involved the analysis of transcripts of oral translations of written documents, which was a rather uncommon data type in process studies at that time.[4]

Lörscher's (and previously Krings') notion of translation problem relies on an implicit notion of metalinguistic awareness: the subjects' articulation of a translation problem requires their pre- or recognition of a problem in either understanding a form-meaning relationship in the SL, the recognition of a linguistic gap in the TL, or a problem in establishing an equivalent form-meaning relationship in the TL. The empirical starting point with verbalization data and the analytical framework for its analysis clearly parallel the types of metalinguistic assessments outlined in Malakoff and Hakuta's account of "translation skill and metalinguistic awareness in bilinguals": assessments of meaning in both SL and TL, assessments of the relationship between ST and TT segments, and assessments of appropriateness for TT candidates (1991: 149-150).

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3 This is typical of this generation of theoretical models of cognition. See Gardner (1987) for a historical overview.

4 Here again I would like to thank one of the referees for pointing out that this data type has been more common in Interpreting Studies, e.g. Agrifoglio 2004, Chen 2015. Within TS, see Shreve et al. 2010.

In Lörscher's approach (and previously Krings'), the recognition of a translation problem is then linked to the translator's choice of a strategy to resolve it. These two constructs are linked in Lörscher's work in the following way:

> A translation strategy is a potentially conscious procedure for the solution of a problem which an individual is faced with when translating a text segment from one language to another. (1991: 76)

Both Krings and Lörscher rely on a construct of metalinguistic knowledge in their analysis of translation strategies. For Krings, metalinguistic knowledge is implied in both 'retrieval strategies', e.g. 'semantic analysis of the source-language text item' (1986: 269) and 'monitoring strategies' (e.g. 'L2 intuitions' or 'spot-the-difference', ibid.). For Lörscher, metalinguistic knowledge inheres in the discussion of the strategy element ('substrategy') referred to as 'check' (1991: 103ff). In this substrategy, the translator tries out potential translations in an attempt to arrive at a final solution. This kind of assessment must rely on metalinguistic knowledge, as the translator is evaluating linguistic choices and this can only be done from a metalinguistic perspective. Indeed, while more strictly 'linguistic' knowledge is also involved in the task (information about semantic, syntactic, genre-related factors), this information alone is not sufficient for the task. The same may be said of the substrategy of 'rephrasing' (p. 102), which can either involve segments of the ST or of the TT. These and other strategic procedures, as identified in this study, rely on the translator's ability to make use of metalinguistic knowledge abstracted from knowledge of the two languages involved in the translation act and about the relationships between them.

2.2. Literal translation and the monitor

Work done in the next round of process-oriented studies, those produced in the 1990s and early 2000s, also relied on a problem-solving model of translation, though the focus shifted somewhat from the identification of problems and strategies to the description of the cognitive process of 'monitoring'. As previously mentioned, both Krings and Lörscher posited a monitoring procedure. The work done by Tirkkonen-Condit (2004, 2005), however, broadened the discussion to include not only 'problems' but also a more default form of unproblematic processing. Thus, the 'monitor' and problem-solving processes are integrated in her notion of 'literal translation'. The process is described as follows:

> It looks as if literal translation is a default rendering procedure, which goes on until it is interrupted by a monitor that alerts about a problem in the outcome. The monitor's function is to trigger off conscious decision-making to solve the problem. Automation also affects the monitor, so that traces of its operation are not as frequently observable in the processes and products of experts as in those of novices and non-experts. (Tirkkonen-Condit 2005: 408)

As pointed out in Muñoz Martín (2014: 25, note 16), this approach builds on several similar accounts of monitoring and control processes visible in the work described in the previous section, as well as Levý's minimax strategy (1967), Jääskeläinen's (1993: 102) account of shifts between attention units and Muñoz's (1995: 180) description of the translation process. The difference in Tirkkonen-Condit is that the monitor has a somewhat ambiguous status: it is constantly running (at a subconscious level?) and at the same time serves as a trigger for conscious processing. It seems then, that in this case the monitor must use metalinguistic knowledge both at the subconscious and conscious levels, and in processes that are automatic as well as processes that require conscious problem-solving. Metalinguistic knowledge must be what informs the monitor of a problem or lack thereof, and it must be metalinguistic knowledge that is brought to bear in the resolution of the problem. This is never explicitly dealt with, however, and precisely what kind of cognitive mechanism this might be is not discussed in detail. Questions regarding the monitor's status have also been raised by Muñoz (2016a), and we shall return to it in Section 4.

2.3. Competence models: metalinguistic knowledge as 'strategic competence'

Another strand in this later stage in TPR involved the development of several different models of translation competence. The most well-known models are the PACTE model (see PACTE Group 2017 for the most recent account) and the TransComp model (Göpferich 2009). While neither of these models explicitly mentions metalinguistic knowledge or awareness, both posit a central strategic component to encompass a metacognitive control component, referred to as 'strategic competence' in both models (see also Muñoz 2014: 26-28 for related discussion).

Both models have been tested empirically (see PACTE Group 2017; see http://gams.uni-graz.at/fedora/get/container:tc/bdef:Container/get for relevant publications of the TransComp project), but for the purposes of this discussion, two studies are most relevant, as they both specifically focus on the question of metalinguistic awareness with reference to the models. In the first of these two studies, Ehrensberger-Dow/Perrin (2009) defined metalinguistic awareness as, '…the ability to reflect upon and manipulate language(s): a sensitivity to what is implied rather than stated; and an analytical attitude towards language' (2009: 277). The authors stated further: 'The strategic sub-competence, which controls the entire translation process, is where translators' metalinguistic awareness might be expected to be an important factor' (2009: 278). In this and the second study (Ehrensberger-Dow/Künzli 2010), a range of different methods are used to investigate students' metalinguistic awareness. Various measures are used to investigate keystroke data, screen recordings and retrospective verbalizations. The authors suggest that metalinguistic awareness develops in parallel with translation competence. The focus in these studies is on the empirical investigation, rather than theories of either competence or translational cognition. The authors assume that the notion under investigation is subsumed under the metacognitive 'strategic competence' construct.[5]

An alternative to these models is presented in Muñoz (2014). In his 'situated model of translation expertise', Muñoz posits five 'dimensions' that are proposed as 'scopes into a complex behavior' (2014: 18); in other words, the dimensions serve as a means of dealing with one or another aspect of a complex task in a relatively isolated fashion. Within this model, metalinguistic awareness is not explicitly mentioned, though metacognitive processes are linked to two of the five dimensions: knowledge and regulatory skills. Though it is beyond the scope of the present discussion to consider the differences between these models, which are indeed articulated by Muñoz (2014: 25-28), it is interesting to note the dissociation here between knowledge and regulatory mechanisms.

2.4. Metalinguistic knowledge in different processing types

A different development within TPR coincides chronologically with the strand described in Section 2.3. In this second strand, metalinguistic knowledge is implicit in constructs used to capture the differences between different processing types. In keystroke logs and eye-tracking data, the temporal profile of translation processes has been shown to alternate between translation activity that is rapid and uninterrupted and stretches that are slower and that contain less production. These two are referred to as 'challenged' and 'unchallenged' translation in Carl/Dragsted (2012). These authors describe the two process types as follows:

> "Challenged translation" […] is characterized by delayed text production and associated with extended reading activities into the ST or TT context, beyond 5 or 6 words from the current translation position, or a production pause exceeding by far the expected decoding time predicted by John. ([1996] 2012: 138)

While metalinguistic activity is not mentioned explicitly, the authors describe 'challenged translation' as periods in the translation process that include conscious assessments and evaluations,

5 As one of the referees pointed out, viewing metalinguistic competence as part of a 'strategic competence' or conflating the notions of ability and awareness may be problematic. The need to disentangle these related concepts is precisely the point.

or attempts to understand ST elements and/or assessments or evaluations of potential TT alternatives. The authors refer to a 'monitor', a device that triggers the switch from one processing mode to the other. As the authors put it, the monitor 'alerts about a problem in the outcome' and triggers 'conscious decision making to solve the problem' (Carl/Dragsted 2012: 128). This is Tirkkonen-Condit's monitor. While this 'monitor' may also be assumed to identify 'outcome' problems that are not strictly linguistic (e.g. memory problems), all of the linguistic problems (which are, of course, also linked to issues of access, etc.) will require some sort of metalinguistic engagement in order for their resolution to be found.

In a body of recent work, Schaeffer (2013) and Schaeffer/Carl (2013, 2014) and Schaeffer et al. (2017) have worked to reinstate the construct of 'literal translation' and to give it a cognitive basis. This work also involves two alternative processing modes, based on the psycholinguistic model proposed by Paradis (1994) and adapted for interpreting by Christoffels/de Groot (2005). This work posits two alternative modes, a 'horizontal' and a 'vertical' mode: the former is described as 'transcoding' and the latter as 'meaning-based'. The basic idea is that interpreting and translation occur in two different modes, one of which involves surface-level, or cognitively 'shallow' 'transcoding' of linguistic elements at any level (orthography, phonetics, phonology, morphology, syntax, semantics) and another which involves what the authors refer to as a deeper, 'meaning-based' use of 'contextualised propositional content' (2013: 182). In the Schaeffer/Carl approach, a 'revised monitor model' is proposed, and both vertical and horizontal processes are involved in the process. In the authors' revised monitor, the meaning-based (chronologically later) vertical processes serve as the monitor for the (earlier) horizontal transcoding. This new form of monitor is described with reference to psycholinguistic models of representation and processing (2013: 184-186). For the purposes of this discussion, it is important to note that the revised monitor performs a number of tasks that are metalinguistic in nature. As the authors state, 'the vertical processes control the acceptability of the target text, but also need to monitor equivalence' (2013: 186).

A final proposal must be mentioned in this review of theoretical constructs that entail a more or less implicit element of metalinguistic knowledge/ability. Halverson (2015) argues that the idea of 'literal translation' is counterproductive in TPR and theoretically impoverished in TS at large. In that paper, the argument is made for a different construct to do some of the work that the competence models are looking for in 'strategic competence' and that Schaeffer/Carl (2013) claim is involved in their model of 'automated processing'. An argument is made for the construct of 'default translation', which is intended to capture the fact that some translation choices are made quickly and frequently, both by individual translators and groups of translators. The notion of default translation is linked to the two cognitive linguistic concepts of *salience* and *entrenchment*[6], both of which are central to a usage-based cognitive theory. Metalinguistic knowledge is also part of the cognitive account, and would be involved both in the development of entrenched translation routines and in online processing.

2.5. Metacognition

Finally, in a related development, two scholars have recently begun discussing the role of 'metacognition' in translation processing. Shreve (2009) refers to Flavell (1979: 232), and defines metacognition as 'the ability to reflect upon, understand and thereby modulate one's own cognition' (Shreve 2009: 258). Shreve presents a detailed account of metacognitive activity in translation, and also links the construct to developmental processes. In the 2009 paper, particular attention is paid to the relationship between metacognitive processes and translator efforts to ensure appro-

6 Within cognitive grammar, 'salience' is a concept used to capture a key characteristic of cognitive semantic structure, i.e. that within cognitive semantic categories, not all members have equal 'weight' (Geeraerts 2006: 74), i.e. some elements are more 'salient' than others. The term 'entrenchment' refers to the process by which cognitive linguistic structures are established and maintained. The term is a multifaceted one, and a recent working definition states that, "entrenchment may be understood as referring to a set of cognitive processes – mainly memory consolidation, chunking and automatization – taking place in the minds of individual speakers" (Schmid 2017: 10).

priate 'recipient orientation' in the emerging target text. Shreve discusses translator choices related to lexis (including terminology) and syntactic features as they impact the orientation of a text to a specific target audience. In the context of the current discussion, it is important to note that Shreve's discussion focusses on *metacognition*, which then is broken down into two 'subconcepts': *metacognitive knowledge* (knowledge of cognition) and *metacognitive regulation* (control over cognition) (Shreve 2009: 258, author's emphasis). Both of these are broken down further, and a comprehensive account is given.

For the purposes of the current discussion, it is important to note that Shreve's account of metacognition in translation processes is a cognitive psychological proposal that describes several *linguistic* parameters of the translation process in terms of metacognitive parameters related to planning, evaluating and controlling (2009: 264, 266). Thus, while the account is highly relevant and points to several key issues, the question arises as to what impact the linguistic nature of the task might play.

In another study, Angelone (2010) investigates 'uncertainty, uncertainty management and metacognitive problem solving in the translation task'. Angelone points out that

> [m]uch of the literature on metacognition holds that it is activated as a result of problem solving activity, and Shreve (2009) has explicity argued that the metacognition that occurs in translation is almost exclusively activated as a result of the cognitive problems posed by the characteristics of the translation situation. (2010: 24)

Angelone takes problem-solving as his starting point for an analysis of metacognition in coping with uncertainty in the translation process. In the study, he develops translator profiles on the basis of the metacognitive activity demonstrated in professional and trainee translators. The metacognitive activity is classified according to whether or not the activity was explicitly articulated, by the type of textual unit affected (lexis, term, etc.), by clustering of stages in the problem-solving process, and by the locus of the problem (comprehension, production, transfer). In this study as well, translator actions that are intrinsically linguistic in nature are investigated through the lens of planning and evaluating (metacognition).

2.6. Summing up: metalinguistic awareness in Translation Studies

At this stage in the discussion, it may be helpful to summarize the observations made regarding the use of more or less explicit notions of metalinguistic awareness (or more broadly knowledge/awareness/ability) in TPR. The sketch given in this section indicates three things:

> 1. that metalinguistic knowledge/awareness/ability is linked to TPR that assumes a problem-solving approach to translational cognition.
>
> 2. that while metalinguistic knowledge/awareness/ability is not explicitly mentioned, it is implicit in the following TPR constructs: *problem-solving, translation strategies, the monitor, translation competence/expertise,* and *metacognitive processing*.
>
> 3. that none of the TPR models or studies to date isolates or searches for a clear role for the *linguistic* level in its analysis. All of the constructs that entail a role for metalinguistic knowledge/awareness/ability have situated it relative to problem-solving as such, or as relative to translator competence or expertise.

It is important to keep these three summary points in mind as we move to consider related conceptual material within two neighboring fields: bilingualism and second language acquisition. The approaches there have been quite different, and it is in the interest of TS to investigate the implications of the discussions and debates for our further development.

3. Metalinguistic awareness in studies of bilingualism and second language acquisition: related constructs and issues

One of the consequences of approaching translational cognition without incorporating a clear role for the *linguistic* nature of the process at hand is that TPR risks ignoring many of the valuable and relevant insights that are currently emerging within cognitive studies of bilingualism, bilingual cognition and second language acquisition (SLA). If we take as our starting point not that translation is a particular form of cognition, but that it is a particular form of bi- or multilingual cognition, then there is much to learn from recent work within these neighbor disciplines.

In the following, we will focus on three key issues: 1) metalinguistic knowledge/ability and bilingualism, 2) implicit and explicit knowledge and learning in bilingual processes, and 3) developmental issues.

3.1. Metalinguistic awareness and bilingualism

A number of studies in bilingualism have demonstrated that bilinguals outperform monolinguals in tasks involving metalinguistic awareness (see Bialystok/Barac 2013 and work cited there). In other words, knowing more than one language is linked to enhanced ability to reflect upon and make use of knowledge about language. Bialystok (1993, 2001) distinguishes between two cognitive dimensions of language proficiency: *representational structures*, i.e. linguistic knowledge as cognitively manifested in the brain, and *control* of attention, or "the level of attention and inhibition recruited during cognitive processing" (Bialystok 2001:14-15). Bilinguals have demonstrated a range of cognitive advantages, both linguistic and non-linguistic, that have been linked to these two dimensions (see Bialystok et al. 2012 for a review). Both are undoubtedly involved in crucial ways in translational cognition. However, at present our concern is with metalinguistic knowledge and ability, which Bialystok et al. link to representational structures. An important finding in this regard is outlined in Bialystok/Barac (2013), where the authors demonstrated that 'representational structure is sensitive to increasing knowledge' (2013: 6), meaning that the more proficient a bilingual is in his/her languages, the more developed his/her metalinguistic ability. In the same paper, the authors also demonstrated that the development of the control mechanism (the specific mechanism by which a bilingual switches between languages and ensures that output is in the desired language) is not linked to proficiency as such, but to experience in a bilingual environment. In other words, experience in controlling language selection hones the control mechanism, while metalinguistic knowledge is developed along with the representational structures acquired with increasing proficiency.

A fully worked-out account of what this research means for cognitive investigations of translation is beyond the scope of the current paper. The point being made here is that metalinguistic awareness is viewed as a key feature of bilingual cognition and of its development. The role played by representational structures, a control mechanism, and bilingual processing as such in a specific and inherently metalinguistic task such as translation has yet to be fully integrated into a comprehensive cognitive theory of translation.

3.2. Implicit and explicit language knowledge and learning

One of the central issues concerning scholars of SLA is the role and significance of what are referred to as 'implicit' and 'explicit' forms of language learning and linguistic knowledge. The concepts are defined in a number of different ways, and their relative significance, potential roles, and possible interaction are all subject to opposing views. For the purposes of this discussion, we shall take the following definition as our starting point:

> Explicit learning is input processing with the conscious intention to find out whether the input information contains regularities and, if so, to work out the concepts and rules with which these regularities can be captured. Implicit learning is input processing without such an intention, taking place unconsciously. (Hulstijn 2005: 131)

Also relevant for our discussion is the claim by Ellis/Wulff, that "most language learning is implicit, most knowledge is tacit" (2015: 89). Linguistic knowledge is primarily understood as a form of "knowing how" (implicit), rather than "knowing that" (explicit), though both types are relevant. Distinguishing between explicit and implicit knowledge of language is not straightforward, as the means of making distinctions are contingent upon other prior commitments to a theory of language. In a review of the debate, R. Ellis (2005: 145-151) situates the two types along seven dimensions: awareness, type of knowledge, systematicity, accessibility, use of L2 knowledge, self-report and learnability. In this view, explicit knowledge is available for conscious awareness, represents declarative knowledge of grammatical rules and fragments, is anomalous and inconsistent, accessible by means of controlled processing and difficult to access during planning. It is verbalizable and learnable at any age. Implicit knowledge, on the other hand, is available only to intuitive awareness, consists of procedural knowledge of rules and fragments, is variable but systematic, accessible through automatic processing, accessible during fluent performance, nonverbalizable, and learnable only within a critical period (ibid.)

While there are a number of unresolved issues, theoretical differences, and conflicting empirical findings, it has also been stated that differences in these areas underlie a broader common research agenda in the field, which is to determine how the two types of linguistic knowledge interface, or interact (Van Patten/Williams 2015: 13). There is a recognition that language learning is sometimes implicit, occurring subconsciously, and sometimes explicit and carefully attended to. Similarly, some linguistic knowledge is available for conscious reflection and articulation, while some is not. These two types of language learning and knowledge are relevant to our understanding of the use of linguistic knowledge in translation tasks.

At first glance, it would seem that translators must make use of both implicit and explicit knowledge: after all, translation decisions are based on the wealth of cognitively available linguistic knowledge. On the other hand, all language production in a translation task must involve some degree of conscious awareness. It is not possible for a translator to choose any target text structure without being conscious of the choice at some stage, either after a long hesitation and assessment of alternatives, or upon immediate recognition of a rapid, automatic, far less deliberative choice. This means that translation involves a degree of consciousness with regard to both implicit and explicit knowledge at least. But how can this be?

This is where the uniquely metalinguistic nature of translation renders it particularly relevant for issues of language use in general. In one view of how implicit and explicit knowledge of language might interact in language use, N. Ellis claims that

> The interface is dynamic: it happens transiently during conscious processing but the influence upon implicit cognition endures thereafter. Explicit memories can also guide the conscious building of novel linguistic utterances through processes of analogy. Patterned practice and declarative pedagogical grammar rules both contribute to the conscious creation of utterances whose subsequent usage promotes implicit learning and proceduralization. (2005: 305)

In other words, in N. Ellis' view, implicit and explicit knowledge interface in conscious processing; moreover, metalinguistic knowledge plays a specific role here. In his view, "metalinguistic information connects with implicit learning, and they meet and interact in processing." (2005: 325). In this view, metalinguistic knowledge is used in rapid, dynamic, transient production events, and it is responsible for further fine-tuning of implicit knowledge. Thus metalinguistic knowledge is central to all language use and all linguistic development.

The important feature of this account is that metalinguistic awareness is central to the interface between implicit and explicit knowledge of language. Translation, however, is an extreme version of metalinguistic production: it requires the highest degree of attention to linguistic form and meaning of any linguistic task as it not only incorporates elements of selection, but also assessments of equivalence or similarity (Malakoff/Hakuta 1991: 149-150). Translation is thus a good case for the investigation of the implicit-explicit interface. Empirical investigations within TS, if framed appropriately, can speak to ongoing investigations of how this process works. Investigations of

translation processes that are consonant with SLA research in this area can provide interesting insights into a highly topical issue.

3.3. Developmental issues

The research outlined in the previous section has implications regarding the development of linguistic abilities and of translational ability. Developmental aspects were not identified as such in the preceding discussion, and will be sketched briefly here. Two main issues will be mentioned: 1) the role of acquisition setting in developing metalinguistic awareness and control, and 2) implicit and explicit learning and knowledge in developing bilingualism.

As mentioned in Section 3.1., recent research has demonstrated that increasing language proficiency enriches knowledge structures and metalinguistic awareness. Thus from a developmental perspective, the more proficient a bilingual becomes in the languages she speaks, the more metalinguistic capability she has. But bilingual processing also involves attentional control, and this develops in settings that involve bilingual language use, rather than exclusively monolingual use (Bialystok/Barac 2013). In acquiring and becoming more proficient in new languages, instruction in monolingual settings may succeed in developing language proficiency, but there may be less of an impact on the developing control faculty. We might at the very least assume then that novice translators who have learned their languages in different settings will have different initial states as they embark on a program of translator training. In other words, even students who test at similar levels of language proficiency may have very different cognitive starting points.

Differences in the cognitive characteristics of novice translators' bilingualism are not only a result of the instructional settings that they have been exposed to. The newly emerging work on non-professional interpreting and translation, or language-brokering (see e.g. Antonini 2010, Orellana 2009), is a welcome development[7]. In this work, studies provide evidence of the multiple types of bilingual interaction that children engage in in various types of bilingual families. Given what we know about the cognitive traces of such activity, it is clear that in our investigations of translational cognition, characteristics of individual translators' bilingual backgrounds must be factored in as variables in investigations of translational processes. The same must be said of the growing variation in the types of settings in which translational activity is carried out: these settings may be to different degrees professional or non-professional, individual or collaborative, locally situated or virtually extended, digital (and computer-assisted) or analog. The configurations of translational settings will also impact the cognitive development of those engaged in them.

As discussed in Section 3.2., language learning is largely implicit and language knowledge is largely tacit. On the other hand, explicit learning strategies also play an important role and are considered more effective than implicit ones for certain types of language phenomena (Ellis 2008: 4-6). The effectiveness of implicit or explicit learning strategies is related to characteristics of the languages involved and of their relationships to each other, implicating such issues as frequency, complexity, and salience (ibid.). Like the research within Bilingualism Studies, the SLA research in this area demonstrates that different learning settings, different life experiences and different language characteristics lead to different types of bilingual knowledge and processing. It seems obvious that variation across individuals must be accounted for in studies of translational cognition.

The conclusion here is that in cognitive terms, bilinguals vary considerably and that their language production will vary as a function of the ways in which they have learned and use(d) their languages. But the implications of the work sketched here are actually more far-reaching, and also impact our understanding of the relationship between bilingual capability and translational ability. In other words, this work raises questions that might lead to more detailed investigations of the cognitive development of translational ability.[8] Some of these will be raised in Section 4.

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7 Thanks to Bogusia Whyatt for bringing this work to my attention.

8 This could provide the cognitive account of what Toury (2012: 277-293) describes as the process by which a 'bilin-

4. What questions should we be asking?

At the end of Section 2, three main conclusions were presented regarding the implicit use of a concept of metalinguistic awareness in TS. The conclusions were (repeated here for convenience):

> 1. that metalinguistic awareness is linked to TPR work that assumes a problem-solving approach to translational cognition.
>
> 2. that while metalinguistic awareness is not explicitly mentioned, it is implicit in the following TPR constructs: *problem-solving, translation strategies, the monitor, translation competence/expertise,* and *metacognitive processing*.
>
> 3. that none of the TPR models or studies to date isolates or searches for a clear role for the *linguistic* level in its analysis. All of the constructs that entail a role for metalinguistic awareness/knowledge/ability have situated it relative to problem-solving as such, or as relative to translator competence or expertise.

In Section 3, relevant work on metalinguistic awareness within Bilingual cognition and SLA was sketched briefly. This brief overview demonstrated that metalinguistic awareness is central to bilingual cognition in general, both in terms of the development of bilingual capabilities (Bialystok et al. 2012) and as a crucial part of online processing itself (N. Ellis 2005).

This paper set two tasks with regard to the issue of metalinguistic awareness in translation: to clear some conceptual ground and to raise a number of questions as a means of moving forward. The ground-clearing has involved looking to see where TPR has shown a need to talk about metalinguistic matters and to see what role metalinguistic awareness plays in neighboring areas of linguistics. This exercise has revealed that in order for CTS, including TPR, to move forward, it must grapple with what may be, at worst, a case of incommensurability between current TS concepts and the current understanding of central issues within linguistics. At best, considering a set of questions might help to clarify current practices and reveal where surface incompatibilities might be overcome.

In this Section, the following questions are addressed with this overarching objective in mind:

1. What are the consequences of assuming that translation is a problem-solving process?
2. What constructs do we really need?
3. Is the difference between metacognitive and metalinguistic approaches important?

4.1. Translation as a problem-solving process

In several papers, Muñoz has raised numerous questions regarding the viability of the problem-solving paradigm for the study of translational cognition (2014, 2016a, 2016b). The task set in this discussion is much narrower, and pertains only to the area of metalinguistic awareness. In the overview given in Section 2, it was made clear that vital constructs used throughout the development of TPR have included more or less implicit notions of metalinguistic awareness. The constructs adopted were the logical consequence of the types of data employed (TAPs and keystroke logs): in the case of the former, strategies and problems are clearly identifiable in the transcripts, while in the case of the latter, changes in production speed or pause patterning must be accounted for. The constructs adopted were also the logical consequence of the assumption that cognition is problem-solving, as described in Muñoz (2016a).

What does the overview in Section 3 entail for the problem-solving paradigm in cognitive TS? First of all, following Muñoz (2016a) we might ask whether the problem-solving assumption allows us to capture the most important characteristics of translational processing. How does this starting point allow theorizing about the 'unchallenged' stretches of translation, where the 'monitor' has not 'triggered' a specific change in behavior? With regard to the monitor itself: How can a

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gual speaker becomes a translator'.

monitor both run at a subconscious level and at the same time function as a trigger for conscious processing? And is the monitor then not involved in conscious processing? (Muñoz Martín 2016a: 366-371). Current research in SLA suggests that it is important to consider conscious processing as the nexus at which implicit and explicit linguistic knowledge interact, and that metalinguistic awareness provides the 'window' linked to conscious awareness. This view provides TS with a way of looking at translational processes that can encompass the different temporal contours of translational processing without positing a homunculus or a consciousness switch (Muñoz 2016a, Muñoz/Martín 2018). It also forces cognitive translation scholars to engage with questions regarding how the bulk of linguistic knowledge, which is implicit and thus at best difficult to articulate, is utilized in a conscious translation process. Metalinguistic awareness is central to answering this question.

The revised monitor hypothesis (Schaeffer/Carl 2013) is an attempt to respond to some of these criticisms by suggesting that meaning-based processes serve as a monitor, running at the same time as transcoding ones, but with a time lag. Their model is based on Paradis (1994), whose proposal posits a strict division between explicit (declarative) and implicit (procedural) knowledge of language, with no possibility of a developmental interface between the two. Thus this model is not commensurable with the views discussed in Section 3. Further work on translational cognition must follow ongoing research in SLA as these contending positions are tested further.

Finally, adopting a problem-solving approach to translational cognition has led to the identification of metalinguistic awareness as a (primarily) strategic resource, to the extent that it is dealt with as a specific type of competence (see Section 2.3.). However, as shown in Section 3, metalinguistic knowledge, metalinguistic ability and metalinguistic awareness are central features of linguistic cognition in bilinguals. As such, it is problematic that the models do not include it as a part of their proposed 'bilingual competence', as distinct from strategic competence.

In sum, from the perspective of bilingualism and SLA, many previous and current practices within TPR adopt a somewhat anachronistic view of the role of metalinguistic awareness in bilingual processing, and this is linked to the underlying assumption that translation is a form of problem-solving. The consequences of adopting such a view are that new insights into bilingual processing are disallowed and important areas of translational cognition are not investigated. This look at one central construct suggests that an alternative view of cognition is called for, as suggested by Muñoz (2014, 2016a).

4.2. Necessary constructs

If the problem-solving paradigm is challenged, and alternative models of cognition adopted, then it is pertinent to consider what alternative constructs are required for cognitive investigations of translation processes and products. First of all, the research outlined in Section 3 demonstrated that TS must continue to incorporate models of bilingual language processing and representation if we are to be able to move forward. Secondly, it would seem that translation as a particular form of bilingual processing might have characteristics of its own that must be investigated.

The research on bilingualism showed that metalinguistic knowledge is an important element of regular linguistic processing. This must have implications for an utterly metalinguistic task such as translation. Given translation's unique metalinguistic nature, we might ask precisely what it is that makes it particular, and how we might account for that using existing cognitive linguistic theories. As we know, translation involves accessing and assessing, i.e. cognitively processing, implicit and explicit knowledge about what words and grammatical structures mean and how and when they might be used. Such assessments involve all levels of language (lexis, grammar, discourse). Every translational choice is a statement about the translator's understanding of linguistic meanings and about the appropriateness of a target structure in a given communicative setting. However, cognitively speaking, translation, unlike other forms of bilingual processing, involves

assessments of linguistic relationships across languages. These assessments are metalinguistic and they are unique to cross-linguistic processes.

This specific characteristic means that the metalinguistic information that is used in translation is in some ways similar to, but in one important way qualitatively different from, that used in bilingual language production in general. In the translational case, cross-linguistic relationships are assessed, a process which entails not just the relational aspects (do two structures correspond or not), but also more detailed judgements about the ways in which two structures may or may not correspond (in terms of semantic content, genre or register specificity, usage characteristics, etc). How can we isolate and account for this uniquely translational metalinguistic activity? How do we account for the acquisition of knowledge structures to underlie it, how much of our ability to carry out such assessments builds on implicit and explicit knowledge of cross-linguistic relationships? How does the ability to assess cross-linguistic relationships develop in the various kinds of bilingual trajectories that individuals may follow? How can we capture variability in the various translating populations that we might wish to investigate? We need constructs that will allow us to theorize translational cognition along these lines, using the theoretical tools that scholars in bilingualism and SLA have provided.

4.3. Metacognitive and metalinguistic processes

As discussed in Section 2.5, several scholars within TS have made use of a notion of 'metacognition', or, 'the ability to reflect upon, understand, and thereby modulate one's own cognition' (Shreve 2009: 258). One might argue that there really is no need to distinguish between this concept and that of 'metalinguistic awareness', which makes assumptions about the *content* of the meta-activity, about the nature of the knowledge being understood or acted upon. We must assume that scholars who do not make the distinction assume that it is not necessary.

We must ask, however, whether it is important. Why should translation scholars worry about the specifically *linguistic* nature of the cognitive activity or process? One answer is that evidence from a very large body of literature on bilingual cognition demonstrates that there is considerable variability in bilingual performance across bilinguals, and that this variability is the cognitive consequence of a number of developmental and acquisitional factors, some to do with forms of learning, some to do with use, some to do with the characteristics of the languages involved, etc. We know that the linguistic knowledge and processing capabilities that seemingly similar (i.e. equally proficient) bilinguals have may differ in important ways. If this is the case, should we not be building this into our theories?

Another issue concerns task specifications. While this topic has not been addressed here, the need to articulate the constituent processes involved in translation has been clearly argued by Shreve/Lacruz (2014). If the translation task is broken down, then it becomes difficult to ignore the particularly linguistic nature of several of the constituent parts. In a more fine-grained approach, the (meta)linguistic nature of key elements of the process cannot be grasped if the approach to the task remains at the level of 'cognitive processes' alone, without considering the specifically linguistic aspects of these processes. Several of these issues arise in the Shreve/Lacruz proposal.

More broadly, the question that arises has to do with the relationship between general models of cognition and models that are narrower in scope and that aim to account for particular processes, for instance language processing or translation. The onus is on any discipline to elaborate the relationships between models at different levels of scope, and to ensure that the insights provided by models at one level are not obscured or distorted through the lenses of models at higher or lower levels. Is there a risk of this in current models of translation processes?

5. Concluding remarks

The overview presented in this paper is a preliminary one, and does not provide exhaustive coverage of the work in TS, Bilingualism Studies, or in SLA. The objective here was simply to begin the process of articulating a theoretical space for metalinguistic awareness by considering evidence of the need for it in earlier TS work, and by considering its centrality in relevant neighboring disciplines of relevance for translation. The real work starts from here, and will involve a much deeper engagement with linguistic and psycholinguistic theory. One issue which has been avoided, more or less, in the discussion here is that of consciousness. In the early days, Lörscher defined a translation strategy as a 'potentially conscious procedure' (1991:76). We must interpret this as suggesting that translational strategies can also be subconscious, but what does this mean? Does it mean that the translator does not consciously reflect upon the procedure as a procedure, or that the translator does not consciously assess the resulting translational choice? How might the two be separated? While TPR has demonstrated evidence of the development of translation routines, the role of consciousness in translation processes is not fully articulated. The account presented in N. Ellis (2005) is one possible avenue to pursue.

Another issue which has not been explicitly dealt with in this paper is that of research methods. Methodological development within TPR has gone from TAPs to keystroke logs and eye-tracking data and now into neurological data, and this movement has led to research interest in cognitive events at levels that are not conscious. Moreover, methodological decisions regarding the analysis of all data types has serious implications for the cognitive theoretical interpretation of the data (see Muñoz/Martín 2018 on the analysis of pause data). Once again, it is imperative that methodological advances do not set the agenda for research without careful development of the theoretical framework to support empirical investigations. The cycle of empirically and theoretically motivated work must maintain a balance over time for the field at large to move forward.

In spite of the many weaknesses of this preliminary discussion, I would hope that we have established, as a starting point for further work, that:

1. metalinguistic awareness, knowledge, and ability are central to understanding bilingual cognition in general, and translational cognition in particular;

2. CTS requires a new set of constructs to capture metalinguistic knowledge, metalinguistic awareness, and metalinguistic ability and that

3. CTS ought not underestimate the significance of the fact that translation is an inherently *linguistic* task, and that linguistic theories and constructs ought to be prominent in theorizing cognitive processes in translation.

In pursuing more detailed, critical work on this construct, it is important to mention, in closing, that the usage-based cognitive linguistic perspective on SLA promoted in Section 3 is compatible with, and shares many of the fundamental assumptions of recent models of situated cognition, as articulated for translation by, for instance, Risku/Windhager/Apfelthaler (2013) and Muñoz (2014, 2016a). Works by Harder (2010) and Hulstijn et al. (2014) are illustrative of this development towards socio-cognitive theories of language and SLA. Ensuring the enrichment of CTS through the integration of insights from related cognitive linguistic fields should remain a high priority in the years to come.

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