The opportunities of epistemic pluralism for Cognitive Translation Studies

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As the object of study of Cognitive Translation Studies (CTS) expands to encompass social and cultural aspects of multilingual communicative events, scholars face the challenge of combining research methods and analytical perspectives to investigate cognitive phenomena. While plurality has been so far considered transitory, eventually converging on a unified theory of translation, I propose to adopt a functional assessment framework for competing models in order to endorse epistemic pluralism. The development of cognitive translatology as an emergent tradition combining multifarious approaches presents a new epistemological landscape in which epistemic pluralism can be embraced, fostered and practiced for the benefit of producing new knowledge. Far from being a relativist stance defending that all systems of knowledge are equally useful or appropriate, pluralism entails an assessment framework, which I introduce, so that we can improve our empirical designs and streamline our theoretical frameworks.

Keywords: Cognitive Translation Studies, epistemic pluralism, interdisciplinarity, construct development, theory, validity, consistency

La traductologie n'est plus une discipline errante mais elle n'est pas encore une discipline toujours cohérente.   (Gambier 2006: 41)

La evolución de un conocimiento puede adelantarsee a la de su lenguaje.
Pero también puede ocurrir que nada se mueva si el lenguaje no es el adecuado.
(Jorge Wagensberg)

1.   Introduction

Cognitive Translation Studies (CTS) has evolved considerably as an interdisciplinary field borrowing from other disciplines to investigate cognitive aspects of the translation process (Sheve & Angelone 2010; O'Brien 2013; Alves 2015). Once comprising but a small network of scholars, the field is now a worldwide

community of hundreds of researchers interested in an array of topics ranging from reading and writing, through bilingualism, mental processes, philosophy of science and philosophy of mind to ergonomics – and the list goes on. However, this growth could be stunted if we fail to face the theoretical challenges of inter-disciplinary research: the borrowing of constructs from other disciplines, the use of unexamined legacy concepts from initial stages in the development of the field and the implications of the cognitive research traditions informing CTS. There are voices pointing out that theoretical issues might already be stalling develop-ment: the CTS community keeps working at the intersection of multiple research domains, but an imbalance between methodological achievements (ways of inves-tigating translation processes) and theoretical development (ways of explaining what those methods uncover and informing the choice of those very methods) have cast doubts on the validity and limits of the knowledge generated (Jääskeläi-nen 2010; Muñoz 2010; Shreve & Lacruz 2015). A lively debate on methods and methodology (Neunzig 2002; Alves 2003; Mees et al. 2009) has downplayed dis-cussions at the theoretical level, where CTS has hosted new proposals with the ultimate aim of either complementing (Halverson 2010) or replacing existing con-structs and models (Muñoz 2014b). Yet issues of general theoretical (and also methodological) applicability, validity, unification of perspectives and the inter-relation of research objectives and traditions have remained an unresolved con-cern in the field (Dancette & Ménard 1996; Malmkjær 2000; Shreve 2002; Muñoz 2010, 2014b; Alves 2015). The present paper not only intends to draw attention to epistemic pluralism (Chang 2012) as an opportunity for CTS, but also to intro-duce an assessment framework for examining coexisting, and possibly competing, research constructs. This framework, which I call *conceptual performance model*, is based on the work of Larry Laudan (1977).

   Through the introduction of theoretical frameworks and concepts from sister disciplines, CTS has evolved into two research traditions, so-called paradigms, *cog-nitive translatology* (Muñoz 2009), based on the premises of embodied, embed-ded, enacted, extended, and affective cognition, and the cognitivist "classic TPR (Translation Process Research) paradigm" (detailed discussion in Muñoz 2010 and 2017). These cognitive science traditions, which coincide in some of their com-mitments and clash regarding others, present frameworks guiding theory devel-opment and empirical investigations and as such have been considered paradigms in the Kuhnian sense (Kuhn 1962; Muñoz 2010). The above mentioned unresolved concerns about the validity and applicability of constructs has led some scholars to find alternative perspectives and models, such as those of embodied cognition (for instance, Muñoz 2010), and to find solutions in analytical and methodological change: Angelone, Ehrensberger-Dow & Massey consider that "the analytic lenses and methods of process research can and should vary" (2015, 51). Accepting and

endorsing this variation requires pluralism as an epistemic approach, that is, accepting that there is more than one valid system of knowledge for investigating a given phenomenon. We will need to be mindful, however, that "the selection of relevant constructs or theories is not always straightforward" (Halverson 2017, 209) and that a methodology to identify the best option among many is necessary to navigate the diverging options pluralism entails.

Scientific progress is dependent on acknowledging the need to maintain more than one research tradition (Chang 2012). This coexistence can lead scientists to deliberately reflect on the suitability of said traditions. To do so, scholars will need a set of common, explicit criteria to determine which construct or wider tradition works best for them. It is important to stress that these common, explicit criteria do not necessarily imply agreement, or coherence, but are a shared assessment framework to ensure a minimal degree of communication sustaining pluralism.

Therefore, the objective here is not necessarily one of theoretical unification, but of achieving consensus on the criteria used to identify the clearer, most efficient constructs in explaining empirical evidence while preventing inconsistencies within the research traditions where those constructs are adopted. We need a framework to help us define constructs and identify differences among them. Otherwise we may simply accept the entrenchment of a given established theory or the uncritical acceptance of a new one. As Martín (2006, 47) remarks when talking about the disciplinary status of TS: "in the long run, the current effort at finding a common theoretical basis may result not in strengthening the discipline but in hampering its progress, to the extent that the marginalization of dissenting voices might prevent it from engaging in self-critical reflection and from being aware of its limitations."

2.   Embracing plurality

2.1   Another view of scientific progress

Scientific communities of practice progress as constructs and theories are reconsidered, redefined and contrasted: for instance, Pym's (2003) and Muñoz's (2014) positions on COMPETENCE and EXPERTISE respectively; Schäffer & Carl's view on LITERAL TRANSLATION, explained by a monitor model (2014), as opposed to Halverson's (2015, this issue) explanations of the same phenomenon based on linguistic entrenchment; and Jääskeläinen's (2010) doubts about the accepted categories of EXPERT and PROFESSIONAL. The negotiations that follow new ideas or problems indicate a growing discipline; theoretical advancement only thrives

where a plurality of educated views allows for disagreement, qualification, and competition.

However, in order to propose epistemic pluralism and subsequently present a comparative methodology such as the *conceptual performance model*, I need first to depart from a model of scientific progress that does not allow for the comparison and competition of theories and traditions without entailing a paradigm shift, that is, an absolute domination of one theoretical system by another leading to the abandonment of the first one (Kuhn 1962). Although critiques of the original Kuhnian model have been common currency among philosophers of science, including Kuhn himself (Lakatos 1970; Toumlin 1970; Kuhn 1970, 1977, 2000), the concept of PARADIGM has been, and still is, at the core of the epistemic discussion in CTS, where cognitivist, connectionist and embodied cognition frameworks have been defined as paradigms (Muñoz 2010, 2017; Alves 2015; Halverson 2017). However, none of them enjoys the privileged position of an established paradigm in the sense Kuhn (1962) originally devised and none imposes any orthodoxy over the other, which is why I will use the concept of *research tradition* (Laudan 1977). It does not presume the definitive establishment of *one* paradigm over the rest as the ultimate scientific aim, thus favoring pluralism.

Models do not usually supersede each other in clear-cut revolutions; scientists do not defect from their research agendas overnight; new constructs do not appear to instantly replace earlier ones on their own, suddenly, or even perfectly. More than abrupt shifts, we find gradual change. It is the case that sometimes constructs and research traditions thought long jettisoned cast long shadows over newcomers; for instance, the revival of LITERAL TRANSLATION in CTS (Schaeffer & Carl 2014). A research tradition may eventually replace another as a more widely accepted tradition. But such replacement would be caused by the constant competition of traditions in the form of research projects, not as an overthrow motivated by a change in researchers' views. Scientific progress is not a matter of generational gaps, but of sibling rivalry.

In this regard, introducing a new model, such as Laudan's research traditions, is a contribution to the debate over the evolution of CTS and of TS. That contribution does not represent a "revolutionary shift", but a change in perspective that does not fully break away from Kuhn's conceptualization of PARADIGM. Laudan redefines Kuhn's views to accommodate the realities of how science progresses in actual practice; in fact, his idea of progress as being based on problem-solving is definitely Kuhnian and even the plurality of perspectives and competing research traditions that the model affords is not that distant from Kuhn's views on revolutionary periods. As Chang (2012) points out, scientific plurality is not dramatically different from what one might expect of a Kuhnian period of revolutionary science, with the difference that such plurality is not here assumed to be a sign

of immature science (see Longino 2002,188). The main points of departure taken here from Kuhnian views as accepted in CTS are:

a. Incommensurability, or the impediment of mutual understanding across traditions, is not unsurmountable
b. Scientific unification is not considered an aim per se
c. Kuhn's 'normal science', research uncritically accepting the theoretical monopoly of a paradigm, is no longer deemed an ideal scientific practice
d. Problem-solving is not restricted to the confines of normal science
e. There is no reason to justify 'Kuhnian losses', the explanatory tools discarded in a paradigm shift. We can rather engage in a process of case-by-case comparative assessment.

Assuming that incommensurability does not cripple understanding, that Kuhn's normal science needs not be the norm, and that there is no reason why we should forget all theories in a tradition when starting to adopt theories in another tradition entail two relevant implications: the immediate benefit of allowing comparison of theories and research traditions, and the more important possibility of choosing rationally which explanatory tools are more adequate for our projects, that is, of benefitting from a plurality of views.

2.2   Active normative epistemic pluralism

There are phenomena so varied and complex that they cannot be accounted for from a single scientific perspective, a situation calling for pluralism (Kellert et al. 2006). Coliva & Pedersen (2017) offer a thorough discussion of *epistemic pluralism,* its forms and implications. Epistemic pluralism is here understood as the acceptance that there is more than one way of knowing, describing and understanding a given phenomenon. Translation and interpreting processes are good examples of this complexity, and a look at the methods applied to investigate them bears witness to this plurality: from ethnographic research on translators' workplaces, to experimental projects to observe translators' behavioral indicators of cognitive processing. There is a whole range of different methodological approaches that on their own provide interesting data about the translation process.[1] CTS scholars have embraced this methodological plurality (Angelone et al. 2015; Halverson 2017). In theoretical terms, however, the same scholars who celebrated having a panoply of methods, salute cognitive translatology for its

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1. See Horst (2016) for a discussion of how mutually exclusive models can provide valid empirical data, contributing to epistemic pluralism.

"great potential as a *unifying* catalyst for advancing cognitive process research in T&I" (Angelone et al. 2015, 68 my emphasis).

I would like to contend that, while a theoretical unification of CTS might bring some benefits (it would do away with all logical inconsistencies, for example), it is not a necessary pursuit. In fact, it does not seem to have offered yet a solution to the theoretical challenges discussed here. I believe that plurality is not a transitory, immature phase of CTS and that there is rational ground to actively embrace it not as a transient stage, but as an end. Understood as "the general tolerance of different kinds of things, or more particularly of different and perhaps incommensurable descriptions of the world" (Blackburn 2016), pluralism is often compared to irresponsibly accepting one view and its opposite at the same time, and so is often linked to relativism and "the more sinister doctrine that no view is true, or that all views are equally true" (Blackburn 2016). However, the kind of pluralism I endorse is by no means relativism:

> The most fundamental difference is that relativism involves a renunciation of judgment and commitment at least to a degree, which pluralism most definitely does not. The mature pluralist attitude is to engage productively with what one disagrees with, which is very far from the feared caricature of relativism in which one says "Whatever".   (Chang 2012, 261)

Also, pluralist views do not avoid the metaphysical commitments of an empirical agenda, such as the idea that there is a world out there that we can explore despite our theory-laden and context-bound observation methods: "even granting that they arise only in certain contexts of theoretical inquiry, even granting that their formulation will be influenced by our theoretical commitments, it is nonetheless the case that we *treat* empirical problems as if they were about the world" (Laudan 1977, 15, original emphasis). This position is linked to the philosophical stance identified as "embodied realism" (Lakoff & Johnson 1980), which I endorse, and which has also been adopted by other CTS scholars (Halverson 2013; Muñoz 2016).

Chang defends the idea that pluralism in science is not only to be tolerated, but actively sought for as a normative approach beneficial to scientific progress, he calls it "*active normative epistemic pluralism*" (2012, 268). Chang does not accept just "any" possible method or theory, but only those that abide by the requirements set up by science, those deemed acceptable; that is why his is a normative pluralism. Therefore, one needs first to make explicit what it is that the scientific enterprise aims for. Explicitly inspired by Feyerabend's anarchism, Chang intends to benefit from having many – but not just any – theoretical and methodological approaches: "(…) unlike Feyerabend, I want to do this in a systematic fashion,

by surveying all the various things that one might think science should desire to achieve" (2012, 269).

Like many other thinkers before him (Mill 1859; Peirce 1877; Wimsatt 2007), Chang points to humility, to the acknowledgement of the limitations of our capacity to understand and explain reality from a single "system of science", as the main rationale for pluralism (2012, 255). He elaborates on the benefits both of what he calls "toleration" and of "interaction" between different systems of knowledge – constructs, theories and research traditions (2012, 269–284), which I will summarize in the following.

Toleration entails protecting ourselves from the unpredictability of scientific results and the possible failure of individual projects. It also divides labor in the domain: different theories or models can explore different aspects of translation phenomena, and help us meet the same aim via different pathways provided there is no logical contradiction within each project. Schaeffer & Carl's construct of LITERAL TRANSLATION (2014) is built on computationalist assumptions that are incompatbile with the cognitive translatology assumptions informing Sandra Halverson's DEFAULT TRANSLATION (2015). Diverging methodologies and disciplinary approaches can be adopted to provide new, useful insights on the object of study – CTS scholars have recently engaged in ethnographic projects and taken emic perspectives on expertise acquisition and the translation process, for example (Risku 2014; Angelone & Marín 2017). Also, the preeminence of epistemic virtues and aims varies in scientific practice and over time (Mulkay 1975). There is no reason why all scientists in a domain should be committed to the same epistemic criteria, thus pluralism helps meet multiple aims.

Interactive pluralism highlights how the interrelations strengthen constructs. A benefit derived from interaction is integration – combining the results and practical applications of different, perhaps inconsistent systems of knowledge in one single project. The fact that two or more systems of knowledge provide antagonistic explanations of the same phenomena, or set out from widely diverging views of the world, is by no means an impediment to taking into consideration the knowledge they separately produce and jointly apply for the benefit of scientific success (see Gallie 1955 for the related tradition of essentially contested concepts).

Integration is particularly beneficial when one "system of knowledge" (a discipline, a research tradition) takes some constructs, empirical results or datagathering tools from another. Borrowing from other disciplines is one of the defining practices in CTS in terms of models, methods, techniques, materials, etc. (O'Brien 2013). This borrowing also happens within CTS, taking construct definitions from computationalist translatology into cognitive translatology and vice versa. The boundaries between cognitivist and cognitive translatologies are

permeable. Constructs – and methods, too – migrate from one tradition to another (e.g., EXPERTISE) or are at the core of both (MENTAL LOAD).

And, finally, there is competition – not necessarily aimed at overthrowing another system, but competition as a source of benefits, refinement and improvement. Competition is so useful that Chang even recommends finding new competitors for a knowledge system that supersedes another, competing system. Here is the main difference with regards to non-pluralist approaches: the argument for competition as an end in and of itself. In order to compete, the rules of the field need to be specified; and in order to specify the rules we need to put forward the objectives we aim at. Introducing a methodology that sets criteria for the comparison of constructs will allow us to engage in and reap the benefits of active normative epistemic pluralism in CTS.

3.   Framework for the assessment of constructs

3.1   Criteria for the evaluation of constructs

Let me begin with a terminological clarification. I have been using *concept* and *construct* without an apparent adequate distinction. This is only because, according to the definitions used here, a construct is a kind of concept. A concept is an abstract idea or notion that is associated with other ideas or objects. A concept, according Sellars (1963), is an inferential role in a network. *The Oxford Dictionary of Philosophy,* on the other hand, defines construct as a "concept based either on empirical observation or theoretical argumentation that is guided by a particular framework and subject to its application in a particular research design or model". In this section I will talk about construct application, terminological use and the assumptions about the object of study research traditions entail.

The criteria for the performance model, clarity, consistency, adequacy and effectiveness, are inspired by and derived from Laudan (1977). Laudan links scientific progress to the solving of both empirical problems (descriptions and explanations about the world) and conceptual problems – ambiguity in construct and theory construction, inconsistency across traditions and applicability of theories and constructs to empirical research, among others. If a theory solves the problems that it was devised to solve and does so in the face of another theory that failed to do that, then our first theory "shows progress" with respect to the second one. The progressiveness of a theory depends on its problem-solving rate: number and importance of (empirical or conceptual) problems solved minus number and importance problems created (1977, 68). The same can be applied to constructs, which can present and/or solve conceptual problems. Thus, the criteria here listed

aim at clarifying constructs, identifying the potential conceptual problems they can create, and considering the number of problems solved. That is why I adopt *effectiveness* (relating to the number of problems solved by a construct) rather than *parsimony* (understood as economy of means or elements used in solving that number of problems). These criteria also derive, as much of Laudan's work does, from Kuhn's late work, where he mentions *effectiveness, consistency, fruitfulness,* and *scope* (1977, 322).

In every field of practice the values, aims and best practices of a research community vary (Mulkay 1975). Relying on Laudan, who had also pointed out this variation (1984), Longino concludes that "The so-called epistemic virtues, then, are really, at best, standards around which a cognitive community can coalesce, standards that its members adopt as theirs, but not standards that hold universally (2002, 185)." In the case of CTS, a field that can be considered scientifically immature, empirical adequacy and methodological consistency seem to have been the central concern of researchers, sometimes to the detriment of discussions about theoretical clarity and potential inconsistencies brought along by unchallenged borrowings.[2] That is why the criteria have been chosen to jointly contribute the principle of charity, which "constrains the interpreter to maximize the truth or rationality in the subject's sayings" (Blackburn 2016). In other words, avoiding misrepresentation of the speaker's statement or opting for irrational interpretations when a rational one is available.

Even if debates about the objectives and tools, both theoretical and empirical, of CTS are as old as the field itself, no specific criteria for the assessment of constructs and their comparison have been adopted so far. The conceptual performance framework allows us to unpack construct use, to look at the assumptions and at the empirical applications of research traditions, and to examine inconsistencies and logical relations with other constructs. The framework, therefore, can be applied beyond the critique of existing or competing constructs. It can be used by proponents of new constructs as a methodology to build their case while avoiding ambiguity.

3.1.1 Clarity

The clarity of concepts and constructs has been related to scientific progress since the 19th century (Whewell 1840). For a construct to be clear it needs to be well defined in such an explicit way that there is no doubt as to what evidence or

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2. Studies describing the evolution of CTS in stages concur that the field has been dominated by a methodology-driven momentum, fueled by technological development, but that there seems to be a change of tendency with an ever-increasing interest in theoretical and metatheoretical, disciplinary discussions (see, for instance, Muñoz 2013, 2016b; Alves & Hurtado 2017).

empirical or conceptual problem it refers to and with which assumptions. It is relevant to note that just as Whewell's "conceptions," constructs evolve, are improved and change. We only need to look at the basic concepts in CTS to see that they have been given many different or slightly diverging definitions. There is no use pretending that scientists stop honing constructs; in fact, it is detrimental to progress. That is why instead of imposing rigidity on them, we need to require clarity. A construct is useless if it is poorly defined or if is defined in an idiosyncratic way that precludes further applicability, but those are not the only sources of ambiguity. Consider Malmkjær's (2000, 166) hypothetical example:

> if one wants to borrow the idea that translation is indeterminate (Quine 1957–8; 1959; 1960) – perhaps to explain why several translators working with the same text typically produce different text versions (which is not actually Quine's point at all) – then it is useful to be aware that within its original setting, the notion of translational indeterminacy is grounded in a combination of behaviourism, holism and empiricism, and that it implies that there cannot be a theory of translation, in Holmes' (1972/1988, 73) desired sense of a system which can "explain and predict what translating and translations are and will be."

The implications of the construct undermine our purpose as they deny a core axiom of Descriptive TS (and of CTS research traditions), namely, that behavioral patterns can be extracted and predictions made through the analysis of translation products and processes (Shreve 1997b). There are other, less blatant examples that do not entail denying the whole research tradition, maybe not even a single one of the core elements or axioms of the research tradition, but that nonetheless introduce internal inconsistencies among the elements of a theory because of lack of clarity. It is not only a matter of terminological choice; it is a conceptual problem. The conceptual problem arises because there is ambiguity, because there is a mismatch between the assumptions in the definition of our object of study and that of the construct we use to model and study the object.

3.1.2   *Adequacy*

Adequacy is easily summarized in the following question: is the construct definition adequate for the purpose to which it is being applied? A construct can be clear yet fail to solve a problem or maybe generate a new one if not correctly applied. Adequacy does not refer to the construct in isolation, but to its relations with other constructs in the theory or model and to the research tradition commitments. In cases where only one construct is available to scholars with no competing alternative construct, adequacy may be the first criterion to suffer. The result most probably will be the modification of the construct in the long run or the abandonment of it for a new one. In a highly common case scenario, the

construct will have changed but not the term used to label it – see, for instance, the evolution of TRANSLATION COMPETENCE as a deductive, aprioristic construct originating in Linguistics (Wilss 1976; Campbell 1991; PACTE 2003; Pym 2003). An obvious example in CTS are "legacy concepts" (Shreve & Angelone 2010) such as COMPETENCE and now also EXPERTISE, whose adequacy has been evolving alongside their definitions and descriptions, but not necessarily at the same pace. As CTS grows and broadens, and the profile of cognitive translatology becomes more defined on the one hand, and translation processes begin to be investigated from different levels (behavioral, neurological, etc.) on the other, the "research focus" becomes blurry and constructs as elemental as TRANSLATION TASK can easily become inadequate (Shreve & Diamond 2016, 152). Does the translation task include only the process of reading the source text and typing the target text? Does it include liaising with other stakeholders? Can an experimental lexical decision task be considered a translation task?

Also, for constructs whose aim is to solve empirical problems, they need to be empirically adequate to the relevant problem. The definition of the construct or of any claims derived from it must be substantiated with evidence that the empirical problems have been solved. So, for instance, EXPERTISE, defined as consistently superior performance at a set of tasks described in a translation performance model can be applied to solve the empirical problem of how translation expertise is developed (Ericsson 1996; Shreve 2002).

3.1.3   *Consistency*

Although closely linked to the two previous criteria, *consistency* refers to the relationship of the construct with the other items in the theoretical network where it is embedded. These relationships generate conceptual problems external to the construct when there is a clash or inconsistency between the assumptions on the object of study of one construct and another one within the same tradition. A construct can be consistent with the general theoretical framework or research tradition, but not adequate to the purpose it is applied to.

3.1.4   *Effectiveness*

According to Laudan's model of scientific progress, the more epistemic problems, either conceptual or empirical (doing away with theory-internal inconsistencies, explaining and predicting empirical data, etc.), a single construct can solve, the better it is (the more *effective*). I use *effectiveness,* which relates to the problems solved, instead of *parsimony* or *economy of means,* which relate to efficiency in solving them. Given that the measure of scientific progress here adopted is the epistemic problem-solving rate of constructs, the construct that solves more problems while posing the fewer – or minor – ones is more effective, progressive, and

therefore useful. A construct can be efficient, being an elegant, parsimonious solution to an epistemic problem, but if the epistemic problem-solving rate is negative, parsimony is reduced to an aesthetic consideration. Also, the solution to a problem does not depend on the construct *per se*, but on the complex set of assumptions established in the research tradition as well – in order to model a certain phenomenon a construct draws on the conception of the world of a given research tradition. It is ultimately impossible to corroborate or reject a hypothesis or theory without doing so with the whole system of beliefs and assumptions that support it (see Quine 1953; Duhem 1954). Besides, if we adopt problem-solving effectiveness as a measure of rational choice, nothing prevents us from accepting a less economic construct if it solves more problems or poses fewer ones.

3.2   The usefulness of the conceptual performance criteria

These criteria allow us to determine how useful and adequate constructs are with regard to our purposes, but also to identify any possible conceptual problem that might arise between the construct and the general assumptions in the research tradition within which it is being used. When weighting the problem-solving effectiveness of a construct it is important to bear in mind that construct definitions are not set in stone. Constructs never fully "mature" and it is precisely their changing nature that accounts for scientific progress. Their progression is a matter of degree and not of kind, and their assumptions can be made explicit. There may be the case where different construct definitions compete for adoption within a research tradition, or a change in a construct may trigger the emergence of an alternative research tradition, particularly so if it solves previously unsolved or anomalous problems.

The criteria intend to clarify constructs even when those constructs have had considerable longevity in the discipline. It does not matter how clear, how neatly fixed the definition of a construct is in principle – usage is flexible, and unstated assumptions can reshape the construct every time it is used in a study. One and the same term may have different implications, even mutually exclusive ones, if developed and used based on the axioms of one research tradition or another. This bears clear implications for conceptual clarity and empirical data interpretation, which underscores the importance of being explicit about what we mean by our particular uses of research constructs and which cognitive models we relate that use to – "our most important endeavor in the next decade will and should be to clarify the model of the mind we adhere to in every single research project" (Muñoz 2017, 556).

Also, applying this assessment framework would be instrumental for replicating and reproducing research. The scarcity of replication studies in CTS surely has

to do with the dazzling appeal of new directions and with the youth of the field (see Mayoral 2001), but the situation is also related to the absence of a point of comparison for research proposals that tread common territory but trail different assumptions – the lack of a methodology to navigate plurality. Every research project brings along presuppositions about its object of study and about the world, which more often than not remain unstated. It is invariably the case that those presuppositions permeate the statements that that research project offers to describe or explain the world.[3] Making these presuppositions explicit and open for discussion is considered one of the most important issues yet to be addressed by CTS researchers (Shreve & Angelone 2010; Alves 2015; Muñoz 2017).

3.3 A comparative analysis of TRANSLATION COMPETENCE and EXPERTISE

I will use TRANSLATION COMPETENCE (COMPETENCE) and EXPERTISE, two constructs at the core of CTS, in order to illustrate the comparative conceptual framework (PACTE 2003; Shreve 2002).

3.3.1 *Clarity*

According to PACTE, TRANSLATION COMPETENCE (COMPETENCE) is "the underlying system of knowledge" that enables translators to translate (2003, 47). COMPETENCE is expert knowledge that can be acquired in training and practice and that "should be defined in terms of declarative and procedural knowledge" (PACTE 2003, 58). According to Expertise Studies, however, experts are those who consistently exhibit outstanding performance at a given task (Ericsson 1996). Expertise is not only a combination of procedural and declarative knowledge necessary to perform a task, but a combination of hypothesized cognitive processes, knowledge and its rearrangement leading to outstanding performance as observable in translators' behavior and measured against a performance model (Shreve 2002; Muñoz 2014). COMPETENCE is being considered to be expert knowledge without assuming the entailments of EXPERTISE as described in the literature: equating COMPETENCE to expert knowledge without considering superior performance, the variability of actual performance or the need for a performance model leads to ambiguity.

3.3.2 *Adequacy*

COMPETENCE and its sub-competencies are useful tools to make explicit what translators need to know, and thus reverse engineer translation processes. However, while specification of desired outcomes is an efficient pedagogical course of

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3. Muñoz (2016b) discusses the assumptions underlying the mind-as-computer and its implications for CTS.

action, it may not be as convenient for empirical research. This does not mean that COMPETENCE is not valid, but that as a research construct to empirically investigate translators' behavior it is not as adequate as EXPERTISE. It might be argued that COMPETENCE can be adequate too if an operational definition of it can be provided that is empirically testable. The issue arises when the operationalization of COMPETENCE is expert knowledge needed to translate (PACTE 2003, 48). If we accept the definition of EXPERTISE in Expertise Studies, we will need to identify what the requirements of the representative task of the domain are, what the behavioral indicators of cognitive changes are – and how to measure them – to be able to define "expert knowledge". If we assume that EXPERT KNOWLEDGE can be defined by stating *a priori* the procedural and declarative knowledge needed to translate, we can do without a model of task requirements, and behavioral indicators will be reduced to retrospective assessment instruments. We could opt for the operational definition of COMPETENCE as EXPERT KNOWLEDGE as defined in Expertise Studies. But then, what would we need the term *translation competence* for?

Beyond the potential conceptual problems that this lack of adequacy might pose, COMPETENCE can be empirically adequate to test, for example, whether lay bilinguals (availing themselves of bilingual competence) process translation tasks differently than translation students (who, in their turn, have acquired translation competence). But such empirical testing would tell us about the influence and potential success of the training programs, rather than about expertise, expert knowledge, the translation process or the task. Again, the adequacy of a construct is relative to that of other constructs in solving a concrete problem. EXPERTISE, in comparison, can exhibit greater adequacy in terms of the explanation of expert behavior, but provided it is adequately operationalized and relates to a task model and a performance model.

3.3.3   *Consistency*

COMPETENCE is compatible with computationalist translatology axioms, and projects based on COMPETENCE can be argued to have thrived within that research tradition. The construct, however, presents some inconsistencies by implication with cognitive translatology. For example, aspects of COMPETENCE such as the strategic sub-competence (PACTE 2003, 57) assume that translation processing is based on a monitor model, and therefore that processing is sequential. This inconsistency, however, is not a conceptual problem when compared to EXPERTISE: both EXPERTISE and COMPETENCE as discussed in this section align with cognitivist axioms and derive their assumptions from them to solve Laudanian epistemic problems, both empirical and conceptual.

The problems of clarity and adequacy derived from considering COMPETENCE as expert knowledge generate inconsistency issues with the literature in Expertise Studies and psychology. Further, problems in operationalizing both COMPETENCE and EXPERT KNOWLEDGE make comparison of empirical results across fields or even within the same discipline or research tradition hardly possible. The operationalization problems and the subsequent replicability issues they may entail are not related exclusively to COMPETENCE, but to EXPERTISE as well.

3.3.4 *Effectiveness*

In principle, COMPETENCE does not require any other construct to solve any problems, while researchers interested in EXPERTISE need a defined model of the task as well as a task performance model to operationalize expertise (Shreve 2002:152). Therefore, any problem solved by EXPERTISE is solved in conjunction with, at least, two other constructs. This difference would make COMPETENCE a more effective construct than EXPERTISE as it solves a higher number of problems on its own despite the potential problems posed. Following the logic in its definition, COMPETENCE is *knowing* translation, and it specifies in its sub-competencies the types of knowledge one must have. But then, how do we know whether you have *that* knowledge if not by measuring performance? Would we not need a translation knowledge assessment model? Although the translation competence model does not explicitly mention either an instrument or a construct to that effect (PACTE 2003), translation products and processes need to be evaluated, even when the conditions and metrics of such evaluation are not stated and the construct sustaining them is, therefore, implicit (PACTE 2014, 89–90).

Both constructs are dependent on other constructs to be useful for problem-solving purposes, which makes them comparable in terms of effectiveness. The complexity or the number of elements in a construct are not relevant for the model of conceptual performance applied here. Of course, Occam's razor applies to CTS constructs all things being equal, but it is the problem-solving rate that drives any comparison in this model. I add this caveat because it may be the case that the internal complexity of a construct is detrimental to its problem-solving efficiency (see Pym 2003 for a discussion of componential models of translation competence).

3.3.5 *Summary of comparative analysis*

The analysis of COMPETENCE and EXPERTISE according to the criteria of the conceptual performance framework leaves us with the following main comparative points:

- *Clarity:* The definition of COMPETENCE as expert knowledge is unclear in the light of Expertise Studies, and so makes it problematic to derive hypotheses and to relate the construct to empirical data on expertise indicators. COMPETENCE seems to be closer to a functionalist definition of translation expert, which is instrumental to translator training (Holz-Mänttäri 1984).
- Adequacy: The ambiguities in COMPETENCE definition with regard to EXPERTISE challenge its adequacy as a theoretical tool useful to empirically investigate translators' cognitive development. Even the operationalization of COMPETENCE as expert knowledge can generate problems given those very ambiguities.
- *Consistency:* Both COMPETENCE and EXPERTISE are constructs embedded in the same research tradition, computationalist translatology, and as such they are consistent with it.
- *Effectiveness:* EXPERTISE and COMPETENCE are comparable in terms of effectiveness, but not in terms of economy. Even when COMPETENCE also needs "auxiliary" constructs such as a performance model, it is a more complex construct than EXPERTISE, which can be problematic if this complexity makes us lose aim at the main object of study.

4.   Final remarks and implications

The present work is an invitation to acknowledge, embrace and practice the variety of epistemic angles at the disposal of CTS scholars without sacrificing scientific rigour. For this variety to be actually useful, we need to agree on the scientific aims of our field and the parameters needed to meet them. In that spirit, I propose the criteria for a conceptual performance framework applicable to construct comparison and development. I do so in the hope of promoting disciplinary dialogue at a time when, as Gambier (2006, 41) puts it, translatology is no longer errant, but neither always coherent. And I would like to add that we should not necessarily strive to attain that coherence between us.

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