

DISSERTATION REVIEW

Neurophilosophy of Second Language Learning: Conscious and Unconscious Aspects

by PhD candidate Venera Russo

The text is 189 pages long and is composed of introduction, three chapters, conclusion, references, and acknowledgments. The references section alone is 40 pages long and features an impressive number of titles.

In the introduction, the candidate states her reasons to engage in research of second language learning. The thesis of the work is not specified explicitly enough but I find this to be the closest description of the aim of the text: “to pose the basis for a theory of second language learning that takes into account also ontological aspects” (p. 10). Certain methodological considerations, such as the role of philosophy as a domain suitable for the integration of interdisciplinary results (*ibid.*), provide some additional insight into the author’s approach and goals.

The first chapter is of general and preparatory character and introduces additional reasons of why an interdisciplinary approach was adopted and clarification on how philosophy fits with such approach. The focus on Neurophilosophy is briefly discussed to give a clearer outlook on what type of interdisciplinary approach is employed in the dissertation. The chapter continues with references to the philosophy of mind, epistemology, and the Sapir-Whorf hypothesis in an attempt to relate them to the problem of second language acquisition.

The linguistic relativity hypothesis is introduced in order to delineate one of the main claims that emerge in the dissertation, namely that language acquisition (in general) is a socio-cultural instead of purely neurological process that thus needs to be studied through a variety of perspectives.

The chapter features useful insights from the field of Philosophy of Mind, such as the claim inspired by Bennett and Hacker that “the attribution of psychological states or cognitive functions to the brain are a misleading habit” (p. 24). However, this position certainly contradicts passages further in the text where exactly such type of attribution regularly takes place (for instance p. 50, where Wernicke’s area is described as responsible for the “extrapolation of meaning”). This point, as well as other important claims, are often bypassed too quickly. This deprives the dissertation of important discussions which are crucial for a philosophy work (albeit an interdisciplinary one).

Chapter 2 starts off from the premise that since language is made possible by brain functions, understanding what language is, how it is acquired, and how it is practised requires the import of neuroscientific results. The chapter introduces a large variety of neuroscientific models and theories relevant to the topics of modularity and localization of brain functions related to linguistic skills, general introduction on brain structures and functions related to language, more neuroscientific models on bilingualism and multilingual processing, yet more neuroscientific research related to the Critical Period Hypothesis and its alternative, namely neuroplasticity, in relation to the problem of how linguistic skills depend on the environment of the speaker. Relevant claims from the embodied cognition approach to stress the situated character of linguistic capability are reconstructed.

This chapter has two main problems: 1) it is not sufficiently focused on the purported topic of the dissertation, namely second language acquisition. Instead, a large number of neuroscientific discoveries related to the general topic of language are presented. Second language acquisition is addressed in the third section of the chapter; 2) the reconstruction of neuroscientific findings is often cursory and this makes them look random and unjustified. These issues can be solved by reducing the number of reconstructions to the ones that are strictly relevant to the author's thesis and adding more detailed information on how the corresponding experiments were conducted.

Again, important discussion points are bypassed. For instance, on p. 52 regarding the neurological correlates of speech perception we read that „The major problem on this topic, and in neurosciences in general, is that results largely depend on the conceptual framework they are built on. As a consequence, errors and misleading interpretations are frequent enough“. I find this point to be of major methodological importance to the dissertation and yet no discussion or any kind of attempt at solution is presented. Instead, the candidate simply continues with the reconstruction of neuroscientific models.

On the other hand, the variety of models and concepts from the field of neuroscience testify about the candidate's hard work and the amount of studied scientific literature. I found myself engaged in the imported neuroscientific data even without always clearly discerning its relation to the problem of second language acquisition.

An important conclusion in Chapter 2 is the rejection of the hypothesis that the acquisition of first and second language are different cognitive process. I think that with some further clarification and justification of this conclusion, the main discernable task of the dissertation

could have been considered as fulfilled. Thus, I am not really sure why the dissertation proceeds further after this point instead of elaborating it.

Chapter 3 is concerned with presenting language acquisition (again, not necessarily second language acquisition) in the framework of embodied cognition. However, it also presents neuroscientific findings related to other aspects of the distributed social and cultural character of language. The philosophical topics that the candidate relates to these aspects are the topics of the other as opposed to the ego (i.e., the speaker that acquires a language). A central theme here is the reconstruction of the mirror neurons theories which present various explanations and predictions related to language acquisition. I was surprised by the fact that the candidate did not examine mirror neurons talk critically although at the same time Hickok's famous critical article is referred to on p. 135. Again, this is a missed opportunity for discussion and argumentation, and this time it clearly affects in a negative way the interdisciplinary approach of the dissertation. Philosophy can contribute to the elucidation of neuroscientific claims and, in some occasions, to determining the limitations of their applicability. This is no less an interdisciplinary approach than the quotation of neuroscientific discoveries under a philosophical headline.

In addition, the chapter attempts to present a neurophilosophical rendition of the problem of consciousness (including references to Antonio Damasio's work), reconstructs methodologies of language teaching that employ neuroscientific findings, presents findings related to conscious and unconscious aspects of language learning, and ends with a demonstration of how the neurological correlates of "emotions" are crucial for the acquisition of language.

In the very first section of this chapter, dubbed "Neurophilosophical approach to the problem of consciousness", Ms. Russo uses sociological work by Rose and Rose and Merlin Donald. These authors raise the claim that the neuroscientific focus on individual brains is determined by the "overemphasized" role of the individual in Western societies, as well as by the "political ideology of neoliberalism and cultural individualism" (p. 107). Without critical examination, Ms. Venera Russo takes these claims seriously and arrives at the conclusion that "it is necessary to consider second language learning as a progressive attempt to take part in a collective consciousness" (p. 108). This expression is left without further clarification, so I would like to ask: could the candidate please define the predicate "is collective consciousness"? And, as an additional question, are mirror neurons the supposed neurological correlate of collective consciousness?

In the conclusion of the dissertation the candidate elaborates a bit on several theses already stated under some of the reconstructions of neuroscientific findings in the previous chapters. The proper way to state theses, however, is to describe them as goals in the introduction rather than as results in the conclusion.

It seems to me that, based on the content of the dissertation, and especially Chapter 2, the central answer to the question of the acquisition of a second language seems to be that second language acquisition relies rather on the neuroplasticity of the brain instead on a critical sensitive period in which the “right kind of stimuli” need to be present (as claimed by the Critical Period Hypothesis).

Other positions adopted by the candidate, such as that language processing is modal and distributed, that social/cultural context plays a crucial role in language acquisition, the claim that experience shapes the neurological mechanisms of language acquisition etc., are applicable to language acquisition in general and not strictly to second language acquisition. I consider this to be a shortcoming for Ms. Venera Russo’s project insofar as it shows that the dissertation’s goals are not strictly defined and the content is not focused on the topic of the text but rather deals with a variety of topics more or less closely related to second language acquisition.

The other systematic issue, already exemplified above, is the lack of robust *philosophical* discussion. Likes and dislikes for certain claims, such as the Critical Period Hypothesis, occur too fast and thus seem to be biased. On the other hand, the truly impressive amount of studied literature presents material for discussion and argumentation that cannot be processed within the limits of a PhD thesis.

The particular rendition of interdisciplinarity in the text is problematic due to the same issue: philosophy is indeed a suitable domain for integration of results attained in other fields but this integration is not possible without philosophy itself, namely, without discussion and argumentation. The disproportionate focus on the reconstruction of neuroscientific findings leaves little space for the proper role of philosophy, namely providing cohesion between such findings, psychological talk, descriptions of behavior, sociology, linguistics, and renditions of classical philosophical problems related to knowledge, mind, and language, etc.

Rendering the connections between the subsections of the chapters in a clearer manner would also improve the structure and the clarity of the work. These connections suffer due to the lack of a clear enough thesis and the resultant “flooding” with related topics and reconstructions. On

some occasions, such as “Teaching methodologies” section, the reasons of their inclusion in the dissertation are explicitly stated (although in this specific case I found those reasons to be unconvincing). In other cases, however, I found myself wondering why a certain topic is included. Emotions, for instance, are indeed relevant for language (and second language acquisition) but so is the free will. It is hardly fruitful to include every aspect which is somehow relevant to the topic at hand.

The lack of philosophical cohesion between different types of contributions by various fields also creates conceptual mismatches that remain unaddressed. For instance, on p. 96, Ms. Russo states that “Superior mental flexibility is the result of intense and sustained experience acquired by bilinguals, thus marking cognitive functioning by means of neuroplasticity mechanisms.” The sentence includes psychological talk (“mental flexibility”) and neuroscientific talk (“neuroplasticity mechanisms”). I would like to ask: is “mental flexibility” of the same logical type as “neuroplasticity mechanisms”? Is it synonymous with “neuroplasticity mechanisms”? I ask the candidate to clarify the logical relation between these expressions.

Sociological claims involving the impact of “neoliberalism” on neuroscience also create unaddressed conundrums. Is not talk of neoliberalism made possible by the very same brains that scientists study “individually”? Which is the explanans and which is the explanandum? Does sociology explain neuroscience, or does neuroscience explain sociology? Again, the lack of discussion on typical philosophical matters such as this one presents a serious shortcoming for Ms. Russo’s work.

Despite my criticisms and questions, I do find that Ms. Venera Russo has done more than enough to satisfy the criteria usually applied in the assessment of PhD works in the Department of Philosophy in Sofia University. The astonishing erudition acquired by the candidate in the process of writing the dissertation is beyond any doubt. Good linguistic skills, authentic approach, and a curiosity worthy of a true researcher add to my positive impressions of the text. I also applaud the strive for interdisciplinarity as a general methodology. Some traditional philosophical problems and their proposed solutions need to be updated due to the currently available empirical evidence and the problem of language acquisition is indeed one of them.

Thus, I vote “yes” for awarding the educational and scientific degree “PhD in Philosophy” to Ms Venera Russo.

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