

Csilla Rákosi: Foundational quandaries in Cognitive Linguistics: Uncertainty, inconsistency, and the evaluation of theories

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Introduction Metascientific studies are like soccer: everybody believes themselves to be qualified to voice an opinion. This report must start with the clear admission that the referee *doesn't feel qualified*. Reading the work was a very pleasant way for the referee to educate himself in these matters, and this is something that should be clearly stated at the outside as a major virtue of the dissertation:

The work provides a careful, detailed, well-conceived introduction to an entire field of study.

With slight modifications (e.g. the addition of a keyword index, and some restructuring) the work could even serve as a textbook, though clearly not an introductory one, as links to the philosophy of language, which share many of the same concerns, are not discussed. This is to some extent mitigated by the highly self-contained, and thoroughly logical organization, which I consider another major virtue:

The problems are clearly introduced, and logical, well-conceived solutions are offered. The deductive organization of the work is exemplary.

Based on these two virtues alone the work would merit awarding the DSc degree, but there is clearly more here, in terms of original content, than a masterful exposition of how the field works, and how the contributions

of the author fit in. Before turning to the discussion of this content, let me state this clearly: *the referee strongly supports awarding the DSc degree to the candidate, based on the dissertation alone*, but also based on her contributions to the field over the years (many of which are not incorporated in the current work).

The research It is a key characteristics of linguistics that, unlike in mathematics, the experts often disagree. As I wrote in the introductory chapter of *Mathematical Linguistics*: “It is hard to find any aspect of linguistics that is entirely uncontroversial, and to the mathematician less steeped in the broad tradition of the humanities it may appear that linguistic controversies are often settled on purely rhetorical grounds.” At the time I was rather worried about this, and saw no way out but to restrict attention to the common core. What is happening in this thesis is, frankly, much better: the author sees the problem, analyzes many manifestations of it in depth, and provides important principles that make a virtue out of necessity.

First, what I somewhat superficially called “rhetorical grounds” are here analyzed in terms of experimental complexes. This makes accessible precisely the parts of linguistics that are outside the common core, improving the coverage of linguistics hugely. There remain areas, in particular the study of linguistic universals, that are still out of scope, but much of generative argumentation, and equally important, much of psycholinguistics, is now covered by the apparatus, including the cognitive linguistic material that the dissertation puts in focus.

Second, a specific mechanism, paraconsistent logic, is offered in Kertész and Rákosi (2013) to handle inconsistencies. (In Kornai 2008:6.2 we used the same apparatus directly in linguistic semantics, rather than in a metalinguistic setting.)

The probabilistic view If there is any criticism of what is in general a very high quality work, it is in the treatment of probabilities. Rákosi follows in the footsteps of the young Chomsky, who considered logical structure primary and discussed probabilistic models only to the extent these could be grafted on the Chomsky hierarchy (which of course he didn’t call by this name). I have presented elsewhere (Az ellenforradalmár. In: Kenesei (ed) *Nyelv, biológia, szabadság. A 90 éves Chomsky jelentősége a tudományban és azon túl*) the reasons why this is wrong, and I see no reason to repeat

this criticism here, but I believe “weak falsificationism” does not provide sufficient strength to build a metatheory that can adequately encompass both pure symbol-manipulation and statistical models. As I wrote in *Probabilistic grammars and languages*, Journal of Logic, Language, and Information 20 (2011) 317328): “there are more things in probabilistic heaven and earth than are dreamt of in your grammatical philosophy”.

Summary and conclusions There is a long-standing debate whether hypothesis-driven *top-down* or data-driven *bottom-up* research has methodological priority, and this thesis can be viewed as contribution to this debate in the metalinguistic arena. The bottom-up material in the work is very considerable, but already pre-processed through the thinking of metatheoretically and/or philosophically inclined authors. The work of key Cognitive Linguistics scholars like Jackendoff, Talmy, Gärdenfors, or Langacker, who stay much closer to linguistic data (and indeed have brought to light a wealth of such data that cognitively inspired linguistics can only ignore at its peril) is not at all discussed. It is fair to say that the only major cognitive linguist whose work is treated at any depth is George Lakoff – obviously an excellent exemplar, but far from a representative sample from a much larger population. The thesis would greatly benefit from a more detailed discussion of where the author sees the connections with the empirical work of the cognitive school.

To summarize, the thesis under review clearly and unambiguously meets, and in many respects exceeds, the standard criteria for acceptance, and the opponent supports awarding the DSc.

András Kornai