

**Dissertation Summary:**  
The Semantic Architecture of the Faculty of Language:  
Compositional Operations and Complex Lexical  
Representations

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The Faculty of Language enables us to learn languages that we can use to express and understand an unbounded number of thoughts. What is the basic structure of this faculty of the mind such that it can perform that task? According to a distinguished tradition that runs through psychology, linguistics and philosophy, the first step to answer this question is to assume that the Faculty of Language is a cognitive *computational* system. This computational approach is generally adopted in investigations of our phonetic and syntactic competence. But some prominent theorists have argued that our semantic competence, our capacity to understand the meaning of expressions, is not sufficiently *systematic* to call for a computational explanation.

This dissertation begins with a defense of the view that our semantic competence is systematic and productive in just the way we would expect if the Faculty of Language were a recursive computational system, part of whose function is to compute not only the phonetic and syntactic structure of expressions but also their meaning (Chapters 1-2). Once this move is accepted, we can ask a more specific question about the basic structure of the Faculty of Language: What are the basic operations and representations which it uses to compute the meaning of expressions?

The main goal of this dissertation is to defend two claims about the kinds of operations and representations used by the Faculty of Language to compute the meaning of expressions:

- (I) The Faculty of Language is compositional in the sense that it computes the meaning of complex expressions from their structure and the meanings of their immediate constituents. Compositionality is an innate constraint on the operations of the Faculty of Language (Chapter 3).
- (II) The Faculty of Language uses lexical items which, in most cases, have internal semantic structure. This internal structure has a part which determines their extension and a part which does not determine their extension but that plays a role in certain compositions (Chapter 4-5).

(I) and (II) lie at the center of heated debates about the architecture of the Faculty of Language. My strategy for defending them flows from a general dissatisfaction with many of the current discussions: despite the occasional lip-service, theorists of language too often forget that questions about compositionally and lexical semantics are paradigmatic questions of cognitive science, which require a genuine interdisciplinary approach. For example, many theorists argue, against (I), that even if we assume that the Faculty of Language has access to non-compositional operations to compute the meaning of expressions, we can still

account for the systematicity of our semantic competence. While this is true, it is not a good reason to reject (I). For the assumption that the Faculty of Language can use non-compositional operations, while locally acceptable, has unacceptable consequences for language acquisition (Chapter 3).

Similarly, many linguists and philosophers try to account for a whole range of problematic expressions without significantly enriching the formal semantic framework which we inherited from Frege and Montague. So they are committed, against (II), to the view that lexical items do not have, or at least that the compositional operations are not sensitive to, non-extension determining internal semantic structure. As a result, some of their accounts look like implausible ad hoc attempts to save the original formal semantic framework. In the meantime, cognitive psychologists are actively developing sophisticated theories about the complex structure of our lexical concepts. If we reformulate our semantic theories so that they can use the most plausible of these complex structures, we can provide more principled compositional accounts for a whole range of problematic expressions (Chapter 4-5).

When tackling questions about the basic architecture of the Faculty of Language we have to face some classic debates in the philosophy of mind and language: nativism vs empiricism, descriptivism vs essentialism, and the priority of thought vs language. To defend (I) is to defend a form of nativism about the basic semantic operations of the Faculty of Language, for (I) says that compositionality is an innate constraint on the Faculty of Language. To defend (II) is to defend a peculiar mix between descriptivism and essentialism about lexical semantics, for (II) says that lexical terms have a dual structure with an extension-determining component and a descriptive, non-extension determining component. And to defend (I) and (II) is to defend, overall, the priority of thought over language, for both claims presuppose that we have conceptual and inferential capacities before we can acquire natural languages.