

REFERENCES

- Bench-Capon, Trevor & Giovanni Sartor. 2003. A model of legal reasoning with cases incorporating theories and values. *Artificial Intelligence* 150.1–2, 97–143.
- Cotterill, Janet. 2000. Reading the rights: A cautionary tale of comprehension and comprehensibility. *Forensic Linguistics* 7.1, 4–26.
- Ellsworth, Phoebe C. 2005. Legal reasoning. In Keith J. Holyoak & Robert G. Morrison (eds.), *The Cambridge handbook of thinking and reasoning*, 685–703. Cambridge: Cambridge University Press.
- Green, Michael S. 2003. Dworkin's fallacy, or what the philosophy of language can't teach us about the law. *Virginia Law Review* 89.8, 1897–1952.
- Mortimer, John. 1988. *Rumpole and the age of miracles*. Harmondsworth: Penguin.
- O'Connor, Paul. 2007. *Blackstone's police manual*, 10th edn. Oxford: Oxford University Press.
- Slapper, Gary & David Kelly. 2011. *The English legal system*, 12th edn. London: Routledge.
- Soames, Scott. 2008. Interpreting legal texts: What is, and what is not, special about the law. In Scott Soames, *Philosophical essays*, vol. 1, 403–423. Princeton, NJ: Princeton University Press.
- Sprack, John. 2006. *A practical approach to criminal procedure*. Oxford: Oxford University Press.
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David Embick, *Localism versus globalism in morphology and phonology* (Linguistic Inquiry Monographs 60). Cambridge, MA: MIT Press, 2010. Pp. xii + 218.

Reviewed by BRIDGET SAMUELS, University of Maryland

For an entire century, since the heyday of Ferdinand de Saussure and Nikolai Trubetzkoy, linguists have failed to reach consensus on the question of what constitutes an acceptable explanation for the existence (or absence) of a particular phonological pattern, and in particular whether considerations about the suitability of phonological output from the standpoint of markedness play a direct role in the process through which such outputs arise. This debate has been played out on many stages and cast in many terms (see Chapter 2 of Samuels (2011) for a historical overview of thinking on markedness, teleology, functionalism, and naturalness in phonology). However, the debate has largely been confined to phonological and phonetic argumentation concerning phonological and phonetic evidence. In *Localism versus globalism in morphology and phonology*, David Embick broadens the debate, bringing morphological evidence to bear on the issue, in an attempt to reconcile what he sees as an unsustainable situation of disagreement or 'schism' between the Distributed Morphology (DM) view of morphosyntax and the Optimality Theory (OT) view of (morpho)phonology.

Embick states in the preface that the volume is about competition in grammar: Do complex phrases compete for realization, or is competition restricted to individual nodes? The former view, which he calls the ‘globalist’ view, is aligned with OT – a theory employing a high degree of parallelism, and in which an infinite number of complex objects compete for the realization of a given input – while the latter or ‘localist’ view is aligned with a cyclic, derivational model of grammar such as DM, which does not permit such competition. This dichotomy between DM-based morphosyntax and OT-based morphophonology motivates Embick’s focus on allomorphy as a window into the interactions between these two modules. The question at the heart of this research is whether morphology and phonology can interact globally; that is, whether they are one system or, alternatively, separate systems, able to interact only serially. The book is divided into two roughly equal parts: the first, ‘A localist theory’, develops the localist ‘ \mathbb{C}_1 -LIN’ (cyclic and linear) theory of allomorphy, and the second, ‘Phonologically conditioned allomorphy’, presents arguments for \mathbb{C}_1 -LIN as opposed to a globalist theory, based on the attested typology of allomorphy.

The \mathbb{C}_1 -LIN model developed in Part 1 and tested in Part 2 is a theory of conditions on contextual allomorphy and when it can be phonologically conditioned, building on the DM framework and a cyclic conception of morphosyntactic structure-building that is closely related to Derivation by Phase (Chomsky 2001, 2008), though the connection with the latter has been made more explicitly in other places (see, for example, Marvin 2002, Samuels to appear). Embick claims that vocabulary insertion proceeds in an inside-out cyclic fashion, such that the exponence of an outer node can only be sensitive to phonological properties of inner nodes. This vocabulary insertion process is subject to both linear and hierarchical locality conditions which depend crucially on a distinction between ‘cyclic’ and ‘non-cyclic’ nodes: the former trigger spell-out (and therefore vocabulary insertion) of any cyclic domains in their interior, while the latter do not. Because a root and its sister constitute the innermost domain, there is consequently a special relationship between the root and the categorial head (cyclic node) with which it is merged. This relationship is described in (1).

(1) *Cyclic generalizations* (14)

- (a) *Allomorphy*: For Root-attached x , special allomorphy for x may be determined by properties of the Root. A head x in the outer domain is not in a local relationship with the Root and thus cannot have its allomorphy determined by the Root.
- (b) *Interpretation*: The combination of Root-attached x and the Root might yield a special interpretation. When attached in the outer domain, the x heads yield predictable interpretation.

This distinction between ‘inner’ (root-merged) and ‘outer’ affixes is an old one, recapitulating in syntactic terms the distinction between Class 1

(stem-level) and Class 2 (word-level) affixes familiar from Lexical Phonology. Root nominals provide an example of the allomorphic idiosyncrasy available to *n* when merged directly to a root: compare *laugh-ter*, *marri-age*, *destruct-ion* to deverbal nouns (gerunds) which universally show *-ing* as the exponent of *n*, like *laughing*, *marrying*, *destroying*. On the semantic side, minimal pairs such as *lightning* ('the visual component of thunder') and *lightening* ('to make lighter') are hypothesized to show the interpretational counterpart of this inner vs. outer affix difference in behavior, as well as a corresponding phonological difference.

Given that spelled-out material is inaccessible to further stages of the derivation, cyclic opacity arises, preventing any other nodes from sharing such a close connection with the root. The effects of the locality constraints which are hypothesized to constrain such relationships in \mathbb{C}_1 -LIN are stated in (2).

(2) *Cyclic/noncyclic asymmetry* (16)

(a) ... α] x] Z]

Generalization: Noncyclic Z may show contextual allomorphy determined by α , as long as x is not overt.

(b) ... α] x] y]

Generalization: Cyclic y may NOT show contextual allomorphy determined by α , even if x is not overt.

There are no counterexamples to (2b), as far as I am aware. However, the status of (2a) is uncertain. Embick attributes interactions between α and Z to the possibility of 'pruning' x , such that linear adjacency between α and Z is achieved. The most extended discussion of pruning (58–60) provides no theory of when or why some null nodes are (apparently optionally) pruned, and lacks discussion that could help to situate the process in the larger context of interface operations. This is indicative of a general lack of elaboration on key points of interface other than vocabulary insertion, which is, to my mind, one of the weaknesses of the book. Though Embick seems to be of the opinion that these issues are orthogonal to the main thrust of the book, more in-depth consideration of the specific mechanics of linearization and the manipulation of features (for instance, through fission/fusion, local dislocation, head movement, and Agree) would have helped to clarify the predictions of the theory as well as what is at stake theoretically.

The major upshot of Part 1 is that \mathbb{C}_1 -LIN rules out a number of allomorphic alternations that one could conceivably find in the absence of strict locality restrictions of the type that this theory provides. In addition to the generalizations in (1) and (2), another important prediction is that phonologically-conditioned allomorphy can only be inward-sensitive if vocabulary insertion proceeds from the inside out. Overall, the ability of phonology to directly condition allomorph selection is substantially reduced in this localist theory as compared to a globalist one. There is no possibility of explanations

of the type which state that an allomorph X appears in environment Y BECAUSE it optimizes the output according to some phonological condition(s). In other words, when one observes that a particular morpheme has a vowel-initial allomorph which appears after consonant-final stems and a consonant-initial allomorph which appears after vowel-final stems, in the localist theory one cannot appeal to hiatus and/or cluster avoidance as the synchronic driving force behind such a distribution. All it is possible to state in the grammar is that a certain class of stems selects the vowel-initial allomorph and another class of stems selects the consonant-initial allomorph.

Embick calls criticism of this lack of explanatory power the ‘putative loss of generalization argument,’ summarized in (3):

(3) *Putative loss of generalization* (121)

Localist theories are inadequate because in the cases in which allomorph selection optimizes the output according to some metric, the allomorph selection procedure does not explicitly state the fact that the distribution is driven by global or output properties of the phonology.

Part 2 of Embick’s book is a multi-pronged attack against the putative loss of generalization argument. One argument is a theoretical one about the locus of explanation: the generalizations purported to be overlooked by the localist theory can still in fact be explained, albeit not within the grammar. Instead, ‘these generalizations fall under the purview of diachrony, acquisition, phonetics, processing, and so forth – perhaps in some combination’ (120). This resonates with the intuition at the core of the ‘substance-free phonology’ program (following Hale & Reiss 2000), which denies that markedness is part of phonological competence. Embick seeks to move beyond the potential stalemate of these conflicting intuitions by bringing empirical evidence to bear on the issue. Specifically, he attempts to show that there are cases where global effects could manifest but do not. Moreover, Embick claims that the globalist theory is not as insightful with respect to explaining the distribution of allomorphs as its proponents claim because phonologically conditioned allomorphy actually appears to be marginal; that is to say, allomorphic alternations are not actually predictable from the normal phonology of the language in many cases, which entails that there are fewer generalizations to be ‘lost’ than globalists claim, and that viewing allomorphy with a bias towards phonological conditioning can obscure generalizations as well.

Since globalist theories effectively generate a superset of what is available under localist theories like \mathbb{C}_1 -LIN, the burden of proof lies with the globalists, who must present evidence of phonologically-driven, non-local allomorph selection. Embick shows (174ff.) what such a case would look like in principle. Take, for example, the perfect in Latin, which has a default form *-u*. In cases where the default would create a ‘trapped’ medial unfooted syllable, it has been claimed (see Mester 1994), an allomorph *-s* appears

instead. Thus, a stem such as *mon*-‘warn’ takes the default perfect *-u*, appearing in the first person singular perfect indicative active as [*mon-u*]-⟨*ī*⟩ (with an initial trochee and final extrametricality). A stem which ends in a heavy syllable would create a trapping configuration in this form: from the stem *aug*-‘increase’, *[*au*]*gu*⟨*ī*⟩. The actual attested form, [*aug*]-⟨*sī*⟩, avoids trapping. Crucially, note that the first person plural ending in this paradigm is *-imus*. The globalist theory, which allows the whole word’s metrical properties to drive allomorph selection, predicts the *-u* allomorph of the perfect: [*au*][*g-u-i*]-⟨*mus*⟩, which can be parsed exhaustively. This prediction is not borne out; the attested form is [*aug*]-*s-i*-⟨*mus*⟩, with trapping. Such a form exhibits what one might call opaque allomorph selection from the perspective of the surface form as a whole. It is technically compatible with both the localist theory (which could not generate the counterfactual **auguimus*) and the globalist one, but fails to exhibit global phonological conditioning predicted by the latter. Embick contends that there are in fact NO cases which bear out this globalist prediction. While absence of evidence cannot be taken as evidence of absence, in this or any other domain, Embick succeeds in providing a clear picture of what type of data could support a globalist theory while calling a localist one into question.

On their own, the arguments presented in Part 2 may not be particularly compelling. They show that the strongest predictions of globalism do not find empirical support, which is perhaps suggestive but not conclusive. And though the theory advanced in Part 1 receives a new name, C_1 -LIN, it provides little contribution to DM beyond the prior literature; other works by the same author and others are far more detailed in their exposition and advancement of DM concepts. Nevertheless, this work stands alongside a substantial and growing body of phonological literature exposing problems with globalist theories in general and OT in particular; see, for example, Vaux (2008). Many of these arguments are concerned with phonological opacity, a phenomenon which is closely related to the case studies in opaque allomorph selection presented by Embick. Other arguments, primarily presented by Scheer (2010), contend that the globalist intermingling of phonology and morphology cannot be maintained because it violates a particular conception of modularity. Embick hedges his bets on this issue, with the strongest statement in this regard coming at the end of the volume: he states at the outset that it is possible for morphology to adopt to a localist theory while phonology adheres to a globalist one, but concludes ultimately that ‘[g]lobalist theories of phonology cannot really abandon morphology’ in that way (192). Stronger statements about this topic can and have been made. Still, bringing morphological evidence to bear on what has previously been regarded as primarily a phonological issue is a new and interesting development, and it is my hope that Embick’s new line of argumentation will serve as a sharp reminder that, even as linguists’ domains of expertise become ever more specialized, we cannot theorize about each module in

isolation; a consistent overarching architecture of grammar must be a primary concern.

REFERENCES

- Chomsky, Noam. 2001. Derivation by phase. In Michael Kenstowicz (ed.), *Ken Hale: A life in language*, 1–52. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2008. On phases. In Robert Freidin, Carlos P. Otero & Maria Luisa Zubizarreta (eds.), *Foundational issues in linguistic theory: Essays in honor of Jean-Roger Vergnaud*, 133–166. Cambridge, MA: MIT Press.
- Hale, Mark & Charles Reiss. 2000. ‘Substance abuse’ and ‘dysfunctionalism’: Current trends in phonology. *Linguistic Inquiry* 31, 157–169.
- Marvin, Tatjana. 2002. *Topics in the stress & syntax of words*. Ph.D. dissertation, MIT.
- Mester, R. Armin. 1994. The quantitative trochee in Latin. *Natural Language & Linguistic Theory* 12, 1–61.
- Samuels, Bridget. 2011. *Phonological architecture: A biolinguistic perspective*. Oxford: Oxford University Press.
- Samuels, Bridget. To appear. Consequences of phases for morphophonology. In Ángel J. Gallego (ed.), *Phases: Developing the framework*. Berlin: Mouton de Gruyter.
- Scheer, Tobias. 2010. *A guide to morphosyntax–phonology interface theories: How extra-phonological information is treated in phonology since Trubetzkoy’s Grenzsignale*. Berlin: Mouton de Gruyter.
- Vaux, Bert. 2008. Why the phonological component must be serial & rule-based. In Bert Vaux & Andrew Nevins (eds.), *Rules, constraints, and phonological phenomena*, 20–60. Oxford: Oxford University Press.
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Ángel J. Gallego, *Phase theory* (Linguistik Aktuell/Linguistics Today 152). Amsterdam & Philadelphia, PA: John Benjamins, 2010. Pp. xii + 365.

Reviewed by LUIS VICENTE, Universität Potsdam

Phase theory is a minimally revised version of the author’s doctoral dissertation (Gallego 2007), whose title, *Phase theory and parametric variation*, might be a more accurate description of the character of this work. For *Phase theory* is not just about phase theory, rather it shows how phase theory can shed new light on various patterns of cross-linguistic variation. The underlying assumption of this book is that all parametric variation is connected to functional categories, and Ángel J. Gallego attempts to demonstrate that a large degree of variation reduces to the properties of a single functional feature (namely [T], as described in Pesetsky & Torrego 2001, 2004) in conjunction with the processes of Agree and Merge, as standardly understood in current Minimalist theorizing.