Malte Battefeld

Review: Jackendoff, Ray & Jenny Audring. 2020. *The Texture of the Lexicon: Relational Morphology and the Parallel Architecture.* Oxford: Oxford University Press. xiii + 312 pages.

Ray Jackendoff and Jenny Audring (henceforth: J&A) are known for their work to extend the Parallel Architecture (PA) framework (Jackendoff 1997, 2002; Culicover & Jackendoff 2005) to the domain of morphology. This approach has now resulted in a full-length book, entitled *The Texture of the Lexicon*. It develops a theory called Relational Morphology (RM) whose main principles and concepts have also been presented in articles and book chapters elsewhere (Jackendoff & Audring 2016, 2018, 2019, 2020; Culicover, Jackendoff & Audring 2017; Audring 2019, 2022). Given that Booij's Construction Morphology (CxM) builds on and has borrowed from Jackendoff's PA (cf. Booij 2010; Booij & Audring 2017), RM is of obvious relevance to construction-based morphological theorizing. In fact, RM and CxM can be thought of as mutually compatible, cross-fertilizing "sister theories" (Booij, this volume) that differ in focus rather than kind.

J&A have more up their sleeves, however, than just an innovative theoretical approach to morphology, the lexicon, and their interrelation. While RM is principally concerned with word-formation and inflexion, it has considerable implications for the theory of the lexicon at large, which is argued to be intricately interwoven with morphological patterns and therefore to be richly textured (cf. the title of the book), and for the theory of syntax. In this sense, the present work feeds back into and enhances Jackendoff's original PA model. Rather than simply integrating morphology into existing PA theory, J&A ask a new question: what does the architecture of language need to look like so that morphology fits in smoothly? Their thinking leads them to believe that no less than a "major reconceptualization of linguistic theory" is required (p. 3).

Before addressing the book's content, it is worth noting that PA and by extension RM are part of the family of constructionist approaches in the sense of Goldberg (2013). Shared tenets include the assumption of a lexicon–grammar continuum and the recasting of procedural syntactic or morphological rules as declarative schemas, which are stored and processed in the same format as lexical elements. A minor difference is that Construction Grammar (CxG) usually refers to the heterogeneous repository of linguistic elements and patterns – fully specified words, maximally abstract syntactic templates and everything in between – as the "constructicon", whereas PA prefers "lexicon"; in a similar vein, CxG's "constructions" are referred to as "lexical items" under PA. More consequential is the fact that constructions in CxG normally conflate phonology and (morpho)syntax into a single form side, which is linked to a meaning or function, whereas the PA/RM model posits three interfacing levels (phonology, syntax, and semantics) which form independent "generative" components, on the grounds that each level has unique combinatorial principles and that none can be derived from any of the others. Crucially, lexical items under PA/RM may or may not include all three types of information, making the possibility of "meaningless constructions" more plausible than under CxG. A short exchange of arguments over meaningless constructions in PA and CxG can be found in Goldberg (2013, 19) and Jackendoff (2013, 78–83).

The book under review is divided into three parts, each of which in turn consists of three chapters. Part 1 ("The Theory") develops the theoretical framework of RM, expounds the place of morphology in the theory, and discusses how it is embedded in the lexicon at large (a.k.a. the constructicon). Part 2 ("Using and Refining the Tools") demonstrates how the framework can be applied to a number of traditional "morphological nuts" (cf. Culicover 1999), while also refining the theoretical machinery in practice. Part 3 ("Beyond Morphological Theory") reconnects RM to the original PA approach by discussing linguistic phenomena outside the morphological realm. Some greater questions in linguistic theory such as language processing and acquisition are also addressed, and speculations are offered on possible connections of the lexicon as envisioned by the PA/RM model to other cognitive capacities. After the end of Part 3, the book is rounded off by the References section and two indices: one with affixes, words, constructions, and schemas, and one with subjects and authors.

The first part, and especially the first chapter, deserves special attention as it sets the stage for the RM model and presents its fundamentals. Chapter 1, "Situating Morphology", broaches the main issues, outlining the PA/RM model and its formalism, and addressing how lexical items and morphology fit in. Any morphological theory is confronted with the simultaneous presence of regularity on the one hand (more or less productive patterns that may bring forth new formations) and formal and/or semantic idiosyncrasy on the other hand (irregularities that have to be stored). J&A point out that linguistic theory, especially the mainstream generative enterprise, has generally been biased towards regularity, resorting to "lexical (redundancy) rules" to make sense of the ubiquity of unpredictable forms and meanings in morphology. J&A's own, very different solution is presented in the form of the Relational Hypothesis, which states that only a subset of linguistic patterns, formerly known as rules and now called schemas, can be used generatively/productively, whereas the majority has a purely relational function. In other words, linguistic knowledge is primarily based on stored, interrelated structures, while generativity/productivity is the add-on. J&A should be complimented for explicitly making this point, which is elaborated on in the rest of the book, echoing insights into prefabs and collocations in early constructionist reasoning; as Goldberg (2013: 26) puts it, "[s]peakers are at once impressively creative and impressively repetitive". J&A also emphasize that there is no morphological component as such in RM. Instead, they assume three additional linguistic components: word phonology, morphosyntax, and lexical semantics, again each with unique combinatorial principles. They are linked by interfaces with each other and with phrasal phonology, phrasal syntax, and phrasal semantics, respectively. So-called interface and relational links complete a model of the lexicon which abounds with linkages, for example between words such as *pig* and *piggish* or between morphological patterns such as adjectival N-*ish* and its instantiations like *piggish*, *childish*, or *foolish*. The fact that the suffix *-ish* has morphosyntax and phonology, but no meaning on its own, echoes the insight from CxM that affixes only carry meaning as part of a morphological schema and are therefore not themselves constructions (cf. Booij 2010). On the other hand, the semantic level allows for idiosyncrasies as in the case of *piggish*, in which the regular meaning 'like a pig' co-exists with the idiosyncratic meaning 'sloppy, greedy'. By contrast, *foolish* only has the literal reading 'like a fool'.

The second chapter, "The functions of schemas", goes into more detail about the role of declarative schemas in RM. To illustrate some of the irregularities that a procedural, rule-based view of morphology has difficulties dealing with, J&A discuss non-productive patterns such as deadjectival verbs of the type *whit-en*, *hard-en* etc., complex forms without a lexical base such as *cran-berry*, *scrumpt-ious* or *oodle-s*, semantic idiosyncrasies despite formal regularity as in *piggish* (cf. above), and stored regular forms such as *hope-ful* or *cat-s*. RM's answer to these challenges is that schemas deduced by speakers may be partially productive, or not productive at all, thereby functioning relationally only. Under the Relational Hypothesis, all schemas have a relational function, but only some schemas are used productively to construct new formations. In this way, generalizations over idiosyncratic and regular instances are both accounted for. Productivity "emerges from and rides on top of the system of lexical relations" (p. 53). Since schemas may simultaneously encompass open and closed variables, productivity should be encoded on variables rather than on the schemas themselves.

Chapter 3, "Motivation in the lexicon", discusses lexical storage and argues that a full entry inheritance approach that allows for redundant storage of words and morphological patterns is preferable to an impoverished entry theory. At the same time, inheritance normally implies directionality, i. e. asymmetric top-down or bottom-up relations, and therefore fails to account for horizontal, same-level relations, e. g. between the fully specified words *pig* and *piggish*. J&A's alternative proposal is to replace inheritance hierarchies with the relational links introduced in the first two chapters, allowing words and/or schemas to motivate each other reciprocally without any directionality. The authors also suggest that relational links arise from a particular cognitive mechanism, the domain-general same-except relation. This emerges from the human capacity to recognize items that are almost the same, yet slightly different, and plays an important role in recognizing ablaut und umlaut patterns such as *sing–sang* or *goose–geese*, among other things.

Chapter 4, "Formalizing morphological phenomena", opens the second part of the book, in which the RM formalism is put into practice. The chapter deals in depth with morphologically complex items in derivation that display some kind of idiosyncrasy, mainly morphosyntax–phonology mismatches; at 44 pages it is the longest of the nine chapters. Among the phenomena addressed by J&A are morphologically unique suffixes such *-ledge*

in *knowledge*, bound roots such as *jeal-* in *jealous*, phonological strings that are associated with a meaning without morpheme status such as *-illion* in *million*, and so-called strawberry morphs such as *honey* and *moon* in *honeymoon*. Despite their particularities, all these instances exhibit relational linkages to other lexical items with which they share parts of their form, in these cases to the verb *know*, the adjectival N-*ous* schema, other numerals such as *billion* or *trillion*, and the morphosyntax and phonology (but not semantics) of the words *honey* and *moon*. Conversion, linking elements in compounding, blends, truncations, and reduplication contribute further to the great wealth and detail that characterize this chapter. Two theoretically relevant conclusions are drawn by the authors: that morphosyntactic features are unordered in inflexion, whereas affixes in derivation may be unordered vis-à-vis the base; and that the second-order schemas in CxM (cf. Booij, this volume) should be recast as so-called sister schemas with relational links, e. g. the nominal X-*ist* and X-*ism* schemas, which generalize over paradigmatically related formations such as *impressionist–impressionism* or *pacifist–pacifism*. A star notation is also introduced to mark different kinds of stem allomorphy (e. g. /g *uw* s/ vs. /g *i* s/).

In Chapter 5, "Formalizing Inflection", J&A first clarify what differentiates inflectional morphology from derivation. Next, they apply the RM formalism to various English and German verb paradigms, and discuss morphosyntactic polysemy as represented by the fact that weak and strong verbs preserve their usual inflectional, e. g. past tense, forms within idiomatic expressions such as *chew the fat* or *take part in*. Again, J&A argue that relational links account for such phenomena nicely.

Chapter 6, "Morphological conditioned phonological alternations", begins with a recap of how phonology is integrated into the broader PA framework and how phonetics and phonotactics fit in. Among the alternation phenomena addressed are final devoicing in Dutch *paard* (cf. *paar*[t] 'horse' vs. *paar*[d]*en* 'horses') and German *lieb* (cf. *lie*[p] 'dear' vs. *Lie*[b]*e* 'love'), vowel and stress shifts in English (cf. *cour*ʹ[ej]*geous* vs. ʹ*cour*[ə]*ge*), and blends with derivational affixes that result in slightly different phonological features as in the t/ʃ alternation of *infect* vs. *infectious*.

Chapter 7, "Language processing and language acquisition through the lens of Relational Morphology", kicks off the third part of the book, linking up the model with insights from some of the relevant, mostly psycholinguistic, literature. J&A touch on long-term

memory, which is presumed to encompasses linguistic knowledge in the form of lexical items of the PA/RM type, and working memory, the faculty responsible for building linguistic structures online. Processing in comprehension is assumed to be "opportunistic", that is, to activate any item with sufficient similarity while progressively making sense of what is heard (or, in sign languages, seen). Items will display differences with respect to how strongly they are activated, and may compete with each other, depending on whether they remain active in long-term memory through, for instance, repeated use. The process of spreading activation is explicitly envisaged as a function of relational links. J&A then consider language acquisition from the viewpoint of the RM/PA model. According to them, language learning amounts to storing pieces of phonology, (morpho-)syntax, and semantics in the lexicon, connecting these via interface links and relating the lexical items thus acquired to other lexical items by means of relational links. Relational schemas are acquired first, and potentially become productive later on.

Chapter 8, "Applying the tools to other domains", reconnects the RM model to the PA framework by introducing the Relational Hypothesis back into syntax, including the assumption of non-productive schemas and sister schemas. Among the syntactic phenomena discussed are the NPN construction (e. g. in *tit for tat*) and the dative alternation. Once again, relational links are said to account for formal or semantic similarities between related constructions. This approach is theoretically more parsimonious than the so-called "allostructions" of CxG (cf. Cappelle 2006, De Vaere, Kolkmann & Belligh 2020, Zehentner 2023), i. e. constructions displaying some kind of alternation that are dominated by a highly general, underspecified construction. J&A then go on by broaching the connection of their model with speech register, bilingualism, dialect, orthography, and even generative metrics, offering plenty of interesting observations. The last part of this chapter is devoted to speculations on how the RM view of the lexicon might be extended to other cognitive capacities such as knowledge of music, the understanding of physical objects, knowledge of geography and spatial layout, and social knowledge.

Chapter 9, "Coda: What have we done?", briefly highlights the most important findings of the book. In addition, it raises and answers some potential objections to the model, for instance with respect to how constrained it is – if at all. Finally, J&A summarize the book by addressing the scope of their theory. They consider RM to be a step towards a unified

linguistic theory that is, at least in principle, able to express the relationship of language with other mental capacities.

The Texture of the Lexicon is an ambitious work that doesn't fail to impress. While its main purpose is to update and refine the original PA framework, it may alternatively serve as a highly accessible introduction to this line of thinking for those unfamiliar with Jackendoff's previous work. In either case, it can be warmly recommended to anyone sympathetic to cognitive, usage-based approaches to language, or broadly interested in linguistic theory. While arguing consistently against "Mainstream Generative Grammar", J&A's tone remains conciliatory throughout. Another strong point is the authors' effort to further develop the formalism already familiar from the PA model, a welcome move given that formalisms do not tend to be a major concern under usage-based approaches. The formalism developed within the scope of the PA/RM model strikes one as accessible and intuitive.

As with any book with such a broad scope, it is relatively easy to point out shortcomings, or minor aspects with which one takes issue. For example, the empirically oriented second part of the book is largely based on the three West Germanic languages Dutch, English, and German. While these are clearly the languages that the authors are most familiar with, the theory could have been put to the test against linguistically more diverse examples, something that is for now left to future study. Another potential point of criticism is J&A's treatment of (non-)productivity, which, though well-informed, is less than convincing overall. J&A seem to regard productivity as a feature of linguistic structures sui generis, rather than as an epiphenomenon emerging from language use. This contrasts with Barðdal's (2008) insight that productivity and analogy are flip sides of the same coin. Since any recognizable pattern can serve as the basis for analogy, true non-productivity may even be considered an impossibility. Finally, although the PA/RM model is designed to make sense of linguistic knowledge in synchrony only, it could easily be extended to the diachronic realm: by conceptualizing lexical items as constantly emerging in language use, and by integrating the concept of entrenchment, which can be applied to both lexical items and to interface and relational linkages. Either way, it will be exciting to see how the PA/RM model will contribute to the refinement of constructionist approaches to morphology and, indeed, to linguistic theory at large.

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Malte Battefeld

Universiteit Gent

Vakgroep Taalkunde – Duits

Blandijnberg 2

9000 Gent, Belgium

malte.battefeld@ugent.be