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Prakash Mondal, *Language and Cognitive Structures of Emotion*. Palgrave Macmillan, 2016. Pp. xvii, 182. ISBN 978-33-193-3689-3.

Mondal introduces the goal of his monograph in the first sentence of the preface; it is to investigate “the relationship between intensionality, language and the cognitive structures underlying emotive expressions in language” (p. v). An accurate account of this relationship would be of great interest not just for linguists, but also for psychologists, cognitive scientists, and philosophers. The table of contents looks promising and the reader can hope to get clarification on the concepts of intentionality and intensionality, the relation between the two, and, perhaps most importantly, how the cognitive structures underlying emotive expressions might be related to intensionality. Furthermore, the uniqueness of the intentionality of emotive contents might be explained, one might learn about syntactic explanations for the behaviour of intensional emotive predicates and gain new insights into the nature of meaning. Mondal even proposes a correspondence theorem for the cognitive/conceptual structure of emotive expressions, and promises to offer a formal proof for this theorem. Finally, he wants to provide an evolutionary account and to touch upon linguistic and cognitive implications. Any author who can accomplish this ‘program’ would make a considerable contribution, and Mondal seems to be able to do it all on less than 180 pages. Convinced by the value of his contribution he “dedicate[s] this book to the intellectual world where it belongs” (p. ix).

Unfortunately, this book does not live up to its promising introduction. The attentive reader will already note some inconsistencies when reading in the preface “The descriptive portions in later chapters, especially chapter 5, capture the essential ideas developed ...” (p. viii). That is because the book consists of only four chapters of content and a rather short Chapter 5 (“Conclusions”), so there are no later ‘chapters’ than 5. Similarly, one is puzzled to find, beginning on p. 40 a three-page section titled ‘1.9. An overview

of the book', that contains some of the same information provided in the preface but also diverges from it non-trivially: whereas the preface promised "formal rigour" (p. viii), in section 1.9 Mondal merely alludes to an "informal proof of the Correspondence Theorem" (p. 42), and when this is finally attempted we are at "[a]n informal proof is sketched below" (p. 127). Still, one might be willing to blame, at least in part, the publisher Palgrave MacMillan (Springer Nature) for this kind of sloppiness. However, anyone persevering to the end of the volume will have discovered that what Mondal called a "blooming idea" (p. xi) never ripened into the fruit of a mature account.

Mondal follows throughout the Chomskyan tradition of looking at only a small segment of the work actually done in the field and taking this segment as representative. But even within this narrow focus he seems unaware of important developments or appears to be confused about the current commitments. For example, he claims "Semantics has not been much of a concern in mainstream *generative grammar*" (p. 80). It is true that semantics has not been the focus of the work of some generative grammarians. But the generalization ignores the important work of generative semanticists who had all contributed to the developing generative grammar framework (e.g., Katz & Fodor, 1964; Katz & Postal, 1964; Lakoff 1971; McCawley, 1976; Seuren, 1974) and by Chomsky himself (Chomsky, 1972). Later, Mondal refers to mappings from D-structure onto S-structure (p. 84), ignoring the fact that Chomsky's celebrated Minimalist Program (e.g., Chomsky 1993, 1995) eliminated D-structure from the generativist machinery. Chomsky's work has been criticized for decades (e.g., Postal 1988; Katz, 1996; Pullum, 1996; Culicover, 1999; Levine & Postal, 2004; Seuren, 2004; Behme, 2014), and given that most of the criticism remains unanswered, Mondal's inadequate familiarity with it might be excusable. But, especially in the attempted formal proof it becomes evident that his own analysis is not well worked out either. For example, he conflates the de-re/de-dicto distinction throughout with ordinary scope differences. Further, he lists $\{\emptyset\}$ as an element of power sets (in his (55) and (56)). This is an elementary mistake, as " \emptyset " (without the curly brackets) is itself the notation for a set (the null set). Finally, some of his examples are based on false or incomplete observations:

- (64) a. He **may** *want* a car.
 b. They **could** *desire* a big house.
- (65) a. She **may** *hate* paintings of her own.
 b. They **could/must** *fear* a guy.
- (66) a. He **could** *be happy* about a plan.
 b. They **might** *be puzzled* about a letter. (p. 118)

That Mondal's judgements are incomplete becomes clear in (67)–(69):

- (67) a. He may want two cars.
- b. They could desire two big houses.
- (68) a. She may hate two paintings of her own.
- b. They could/must fear two guys.
- (69) a. He could be happy about two plans.
- b. They might be puzzled about two letters.

(67)–(69) become scope-ambiguous, which they should not do in Mondal's analysis. Yet, Mondal never discusses any alternative analysis (e.g., Seuren) holding that the indefinite NPs in these examples, like *a car* in (64a), are not quantified NPs but predicate nominals (as in *John is an American*) used as comments to topics: *He may want a car* (i.e., (64a)) Seuren takes to be derived from "What he wants (= topic) may be a car (= comment)", and likewise for the other cases. But this an important issue, entirely ignored by Mondal.

While formal rigour or informal sketch of the correspondence theorem proof left much to be desired, one can still hope for other, more well-supported insights. Given that Mondal introduces twice a figure titled "Ontological organization of different classes of emotive predicates in a hierarchy" (Figure 1.2, p. 33 and repeated as Figure 4.2, p. 130), one would expect this hierarchy is an especially well worked out example of the overall project. Sadly, it becomes clear quickly that Mondal's claims about developmental psychology and biology are inadequately supported. Motivating the hierarchy he writes: "The range of emotions denoted ... by emotive predicates of desideration – is the most basic in terms of both ontogenetic and phylogenetic emergence in life forms. This range also represents the most basic class of emotions or affect naturalized on the grounds that other emotions are variations on and more complex combinations of the thematic features of these emotions ... Emotions in this class may have appeared first in the history of the origin of life-forms. Thus it may not come as a surprise that even mono-cellular life-forms had rudiments of wants and desires, which were adaptive as long as they helped such organisms in the survival process" (p. 134). It would of course require extensive work to transform these imprecise ideas into a rigorous theory that can be empirically tested. Mondal seems untroubled by the immense gaps in his 'phylogenetic' speculations when he continues: "A good example is the amoeba, which possesses such emotional programs, when it seeks food, avoids destruction and so forth. Even babies in the womb perhaps possess such emotional affect. The complexity of emotions increases when they are born" (pp. 134–135). The analogy here between single-celled organisms and the human fetus is ill-considered, and the

naive reference to “the amoeba”¹ further undermines the author’s point. Furthermore, Mondal admits that “[c]ategory membership [in the hierarchy] is not based on hard and fast generalization ... [and] that one may easily single out an emotive predicate from the class of heteroemotive predicates and argue that the emotion denoted by that predicate should come at the bottom of the hierarchies being more complex than it has been assumed to be” (p. 136). In other words, there are no clear criteria for placing emotive predicates on the hierarchy which is neither grounded in biology nor based on careful analysis of the linguistic component of emotive predicates.

Neither linguistic analysis nor evolutionary speculation live up to the expectations Mondal created in his introduction. But, perhaps most disappointing is that Mondal sees no need for cross-linguistic validation of his speculations. Instead of providing examples from different languages, Mondal argues that “the points to be driven home in this work do not so much hinge on cross-linguistic validation as on the extraction of, and further extrapolations to, logically compelling properties of emotive intentionality. This is so because of what qualifies as logically compelling or necessary property of emotive intentionality as may be manifested in natural language constructions does not supervene on any range of linguistic data amassed from diverse languages ... the insights into the nature of emotive intentionality uncovered ... in English are ... fairly adequate to help us make certain theoretical generalizations regarding the nature of meaning in relation to grammar” (p. 73). Here Mondal seems to rely on Chomsky’s [in]famous claim that he was willing “to propose a general principle of linguistic structure on the basis of observation of a single language” (Chomsky, 1980, p. 48). Yet, on the same page Chomsky cautioned “To test such a conclusion, we will naturally want to investigate other languages in comparable detail”. Such investigation is of course necessary to rule out that a rule proposed based on English alone is based on an idiosyncrasy of English. And, to end this review on a somewhat positive note, it appears that Mondal might be in a unique position to make a valuable contribution to the project that turned out too ambitious for him at this stage: being able to analyze examples from a language very different from English could provide support for some of his proposals and motivation to revise others.

[1] Biologists use the term ‘amoeba’ to refer to a diverse group of single-celled organisms that do not form a single taxonomic group and range in size from just a few micrometres (e.g., *Massisteria voersi*; Mylinkov *et al.*, 2015) to more than 10 cm in diameter (e.g., *Reticulammina cerebreformis*; Goodday *et al.*, 2011). Many species are free-living in freshwater, backwater, or the open ocean; others are parasitic, as for example the so-called ‘brain-eating amoeba’ *Naegleria fowleri* or the intestinal parasite *Entamoeba histolytica*.

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