JAMES McCAWLEY, *Everything Linguists Have Always Wanted to Know About Logic.* Don Mills, Ont.: Oxford University Press; Chicago: University of Chicago Press 1981. Pp. xv + 508. Cdn$52.50; US$35.00 (cloth: ISBN 0-631-12614; 0-226-55617-4); US$12.50 (paper: ISBN 0-226-55618-2).

James McCawley is a noted linguist whose concern with semantic matters in dealing with linguistic issues is well-known amongst philosphers of language. McCawley's goal here was to write a textbook that surveyed all those areas of logic he thinks are potentially of use in analyzing natural language. By this he includes 'not only "basic" areas of logic, but areas such as presuppositional logic and fuzzy logic that are usually ignored in elementary logic courses.' It gives 'heavy emphasis to considerations of the analysis of natural language,' and is 'especially aimed at advanced undergraduate and first year graduate linguistics majors.' It therefore presupposes some knowledge of elementary transformational linguistics (but less than might be supposed from McCawley's introduction — most upper level philosophy students could follow the discussions). As McCawley conceives a course in elementary logic, it should concentrate on those issues which in other textbooks have been lumped together and treated as issues of 'translation into logical notation.' But on the other hand, this *is* a first course in logic; thus another thrust of the book is to make students conversant enough in elementary logic to allow them to continue in mainstream logic should they desire it. The book is weak in this latter task, since it does not treat the standard issues in a standard manner. As McCawley notes, his students, even the good ones, will never be able to pass as native speakers of standard logic.

McCawley's conception of his course is therefore different from that conception which philosophical logicians have of a course covering the issues McCawley thinks central. The course covering these issues would be called 'philosophical logic' or 'philosophy of logic' and would concern itself with issues in the formal semantics of natural language. The students coming into this course would have had a firm, one-year background in logic (using perhaps Thomason or Kalish and Montague as text) and perhaps an elementary transformational syntax course. Such are the students who are ready to take up the general issue of how best to represent ordinary language in such a way as to exhibit its logical form and further discuss what general features logical form is supposed to illuminate. McCawley's students, on the other hand have no background in formal logic. It is difficult to see, for example, how a novice with no previous logic is in a position to evaluate claims about whether, say, unrestricted quantification 'is the most pernicious and perverted doctrine in the history of logic' (xiv) before the student has even seen it in action and understood what formal metatheoretic properties follow from it.

McCawley claims to cover the material in this large book in two consecutive one-quarter courses. Presumably this can be done because of the nature of his students; but it would be very difficult to do this with lower-

level students in a standard introductory course. However, even with his advanced students, one suspects that many of the topics covered only receive cursory treatment. For, besides the standard material on propositional and predicate logic (with metatheory and extensive discussion of the justification for using them), there are chapters on set theory; speech acts and implicature; presupposition; modal and relevance logics; possible worlds; many-valued and fuzzy logics; lambda calculus, intensional logics, and Montague grammars; and a final chapter discussing other quantifiers, mass terms, generics, branching quantifiers, and multiply variable quantifiers. In these areas, each of which has generated a sizeable literature of its own, McCawley takes substantive and interesting philosophical positions; and it is difficult to see how a class of philosophically and logically naive students can get a fair grasp of the full range of issues involved.

The book *is* well-suited to the 'philosophical logic' course, though. There are several reasons for this — the wide range of topics covered; the wide range of positions surveyed on any particular topic; McCawley's ability to relate the abstract discussions to well-chosen natural language examples; and McCawley's taking stances with which other teachers using the book are sure to disagree.

Out of the many controversial positions McCawley takes, I shall here comment on two. First, McCawley holds that unrestricted quantification is 'responsible for an immense volume of pseudo-problems (particularly the alleged difficulties raised by the recognition of 'non-existent objects') that have consumed the energies of otherwise productive philosophers.' McCawley's solution — to use 'restricted quantification' along the lines of Hailperin ('A Theory of Restricted Quantification,' *JSL* 1957) or Bacon ('A Simple Treatment of Complex Terms,' *Jour. Phil.* 1965) — has no real bite because the truth conditions of his restrictedly quantified sentences are exactly the same as those of the corresponding unrestrictedly quantified sentences; McCawley has only made a pointless gesture toward English syntax without any corresponding real change in the semantics. Just as in standard logic it is hard to see that 'All men are animals' is better translated as $(\forall x)(Mx \rightarrow Ax)$ than as $(\forall y)\, Fy \rightarrow Gy)$, so too is it hard to see that McCawley's $(\forall{:}Mx)\, Ax$ is better than either. The reason behind one's indifference amongst these translations is that the semantics makes them be true in precisely the same circumstances. Similar remarks could be made about McCawley's choice of '$\wedge$' and '$\vee$' as being a variable polyadicity rather than binary connectives, and about his choice of a Polish notation.

McCawley's general response to all these criticisms is that he thinks that much more is relevant to a translation than just those things which affect truth conditions, and much of what he says in this regard is of considerable interest (although perhaps not in an elementary logic class). He also offers one 'semantic' argument in favour of restricted quantification: other quantifiers (*most, many, few,* etc.) must be treated in the restricted manner. By uniformity, one might also wish to treat *every* and *some* in the same way.

The second topic I wish to discuss is fuzzy logic. Fuzzy logic takes the

view that a proposition can take not only the two values 0 (false) and 1 (true), but any of the non-denumerable values between them. This is alleged to give sense to such claims as: (a) 'Either Bernie is tall or he isn't tall' (said of 5'11" Bernie) is not tautologous, i.e., is not valued 1; (b) There are degrees of counterexamplehood to such sentences as 'All fat people are jolly.'

McCawley shows extreme sensitivity to the difficulties involved in constructing truth conditions for a fuzzy logic (and their interaction with rules of inference), and indeed shows that there is no happy compositional method of giving the truth conditions for such a logic. In the course of this discussion McCawley considers (and rejects) the possibility of giving truth conditions for sentences like 'Some tall people are obnoxious', translated as (∃:Tx) Ox, so that these conditions come out different from those of 'Some obnoxious persons are tall', (∃:Ox)Tx. If this could be made to work, McCawley would have had some real ammunition in his war against unrestricted quantification, which forces them to be the same. But his solution was unfortunately doomed from the beginning. Scarpellini ('Die Nicht-Axiomatisierbarkeit des Unendlichwertigen Pradikatenkalkuls von Lukasiewicz,' *JSL* 1962; for a summary of this, and other suggestions about fuzzy logic, see Morgan and Pelletier, 'Some Notes Concerning Fuzzy Logics,' *Linguistics & Philosophy* 1977) proved that the class of formulae of any full fuzzy predicate logic which always take the value 1 is not recursively enumerable; hence the search for a correct natural deduction system must fail. What McCawley has done though, is show some clear and simple places where it will fail.

In sum, then, this is a very good book to use in an upper-level philosophical logic course — and I intend to so employ it. But it is not a suitable textbook for an introduction to symbolic logic of the traditional sort.

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JOHN O'NEILL, *Essaying Montaigne: A Study of the Renaissance Institution of Writing and Reading.* Don Mills, Ont.: Oxford University Press; Boston: Routledge & Kegan Paul 1982. Pp. x + 244. Cdn$41.25. US$35.75. ISBN 0-7100-0937-2.

Très tôt dans le *Discours de la servitude volontaire,* Etienne de La Boétie écrit que la 'nature' a cherché 'par tous moiens' à assurer 'nostre alliance et