Experimental syntax: Applying objective methods to sentence judgments. By WAYNE COWART. Thousand Oaks: Sage Publications, 1997. Pp. xii, 187. Paper $17.95.

Linguistic theory traditionally relies on evidence from acceptability judgments, which are typically obtained in an informal, intuitive fashion. Wayne Cowart's book discusses potential problems with this informal approach and introduces a framework for eliciting judgment based on standard methods from experimental psychology.

The book consists of a methodological part (Chs. 1, 2, 4, 6), which investigates the empirical properties of acceptability judgments and presents relevant experimental results, and a tutorial part (Chs. 3, 5, 7–12), which contains an introduction to the design and statistical evaluation of judgment experiments.

Ch. 1, 'Introduction: Are judgments stable?' (1–30) discusses the stability of judgments within populations of linguistically naive speakers. C presents experimental data for subjacency, *that*-trace effects, and binding theory. The data show significant acceptability differences that accord with the assumptions in the syntactic literature, but also reveal additional effects. C concludes that an experimental approach can uncover linguistic regularities that have gone unnoticed under the informal, intuition-based approach. The data show that the overall judgment patterns within a population are highly stable, but also reveal considerable variation within individual speakers. Similar to other types of behavioral data, linguistic judgments seem to exhibit a certain amount of random variation around a stable mean. This constitutes a potential problem for an informal approach to data collection, which does not provide adequate variance control, as standard methods of experimental design and statistical evaluation are not applied.

In Ch. 6, 'Response methods and scaling issues' (67–77), C argues that acceptability is best measured using a ratio scale. Such a continuous, open-ended scale yields maximally delicate data and allows for the application of parametric statistical tests. Ratio data can be obtained using magnitude estimation (ME), a standard experimental paradigm in psychophysics for measuring subjects' perceptions of sensory stimuli (loudness, brightness, etc.). Subjects are required to make judgments proportional to perceived stimulus intensity, e.g. by assigning numbers or by drawing lines of appropriate length. ME yields robust and delicate results for linguistic stimuli, as shown by Ellen Gurman Bard, Dan Robertson, and Antonella Sorace (Magnitude estimation of linguistic acceptability. *Language* 72.32–68, 1996).

C proposes to use scanable line drawing (SLD) as a technique for collecting ME data. Instead of drawing an actual line, subjects mark the end of the line by ticking a response field on a standardized questionnaire. The questionnaire can be evaluated automatically, thus facilitating data collection. However, SLD only allows for a discrete number of line lengths (ten in C's case) and hence fails to provide a continuous, open-ended scale. It limits the response ratio to 1:10 (if used optimally), whereas other studies found subject

to use considerably wider ranges, with 1:9.9 as the mean ratio (Bard et al., op. cit.). Hence is seems likely that SLD seriously distorts the response scale, probably reducing it to an ordinal scale. C obtains a significant correlation between SLD and numeric ME ($r^2 = .85$), but this is not sufficient to show that SLD yields ratio data and is able to make the same distinctions as standard ME.

The remainder of the book is a tutorial on the design and statistical evaluation of acceptability judgment experiments, based on C's methodological findings. The proposed approach can be realized efficiently and is accessible to linguists with limited background in experimental psychology. C deals with constructing sentence materials and questionnaires, issues of sample size and presenting stimuli. The statistical part introduces data analysis using t-tests, ANOVAs, and correlation measures. An appendix describes the use of spreadsheet software for constructing questionnaires and processing response data.

C's approach to linguistic data collection and his methodological findings are largely independent of his SLD technique and the potential problems with it. On the whole, C provides valuable guidelines for the experimentation with linguistic judgments, along with an accessible introduction to relevant psychological methods. [FRANK KELLER, *University of Edinburgh.*]