uniqueness result is very tidy: P is unique, and u is unique up to a positive affine (linear) transformation: v serves in place of u iff there are reals $\alpha > 0$ and β such that $v = \alpha u + \beta$.

The preceding theories, plus others that involve difference measurement, product structures with additive and nonadditive representations, expected utility, subjective probability, and measurement based on partial orders and binary choice probabilities, are discussed by Roberts. Because *Measurement theory* is designed to introduce the reader to the subject without getting bogged down in mathematical details, longer proofs that are available elsewhere are not repeated. The presentation is carefully developed and is mathematically rigorous in the best sense of that phrase. At the same time, the book proceeds at a relaxed and readable pace that reflects substantial concern and expertise on the author's part to communicate with readers not previously conversant in measurement theory.

As an introduction to the axiomatic approach to measurement theory, the book succeeds well. Its value as a general introduction to measurement is considerably enhanced by numerous examples from the behavioral and social sciences. One chapter is devoted to psychophysical scaling, and there are discussions of application in energy, air-pollution, and public health.

Roberts includes a wealth of exercises that extend the theory and suggest a variety of potential applications. He has used parts of the book in an undergraduate course in mathematical models in the social sciences, and most of the book with first-year graduate students in mathematics. While I believe that *Measurement theory* is well suited for introductory courses as well as informal learning situations, it should also prove useful as a reference source for people doing research in measurement theory.

All told, I feel that Roberts' book is superbly well done, and that it should serve handsomely as *the* introduction to the theory of measurement for many years to come.

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Étale cohomology, by J. S. Milne, Princeton Univ. Press, Princeton, N.J., 1980, xiii + 323 pp., $26.50.

A journalist once asked Sir Arthur Eddington (or perhaps it was Rutherford, the story is doubtless apocryphal anyway) whether he was one of only three men in the world who understood Einstein's theory of relativity. "And who," came the reply, "is the third?"

Here is a similar story I can vouch for personally. About a week after P. Deligne proved the last of the Weil conjectures several years ago (more about these in a moment) I received through the good offices of a friend who was in France at the time some fifty pages of detailed notes on the proof. This obviously was a hot item. I was visiting a major North American university, so I offered the chairman, himself a number theorist, the notes for Xeroxing.