

Book Review: *The Kind of Motion We Call Heat, and Fluctuation Phenomena*

The Kind of Motion we Call Heat. Stephen G. Brush, North-Holland, Amsterdam, 1976, 1986. *Fluctuation Phenomena*, E. W. Montroll and J. L. Lebowitz, eds., North-Holland, Amsterdam, 1979, 1987.

If the titles of these books sound familiar, it is because they have been around for some time, indicated by their publication dates. They are classic volumes, long read or thumbed through by investigators in the statistical mechanics community. The original hard-covered editions of these books were priced for libraries only, while much of the material contained in them is just perfect for the beginning graduate student. Fortunately, North-Holland has reissued the books in paperback at a price that is reasonable for an individual. Not only will this policy win friends for the publishers, it probably also makes good economic sense.

For those unfamiliar with these books, the one by Brush is a collection of articles on the early history of the kinetic theory of gases, as well as a fascinating analysis and bibliography of the 19th century literature on that subject.

Montroll and Lebowitz's volume features a long article on stochastic processes by Montroll and West, which might be considered an easy ramble through Elliot Montroll's many contributions in the area of statistical physics; a useful introduction to the kinetics of nucleation by Metiu, Kitahara, and Ross; an account of rigorous results in metastability theory by Penrose and Lebowitz; an article mainly on the statistics of packing fractions by Zallen; and an introduction to the mathematics of fluctuation theory by Kac and Logan. While some of the material is dated, it should be high on the "must read" list of anyone interested in contemporary statistical physics.

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