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*Real analysis and probability*, by R. M. Dudley. Wadsworth & Brooks/Cole Math Series, \$52.95. ISBN 0-534-10050-3

There exist many books on each of the areas of real analysis and probability, including some which attempt to treat both subjects in the same treatise. Therefore, one may ask for a compelling reason to publish yet another work on this conjunction of well-established subjects.

Real analysis at the graduate level traditionally consists of measure and integration theory with an introduction to functional analysis. The prevailing tendency has been to treat these topics at an abstract level, with little or no historical commentary and almost no explicit reference to either the motivation or the applications of the material. At the same time we are told that measure theory provides a rigorous foundation for probability theory, while functional analysis has its origins in the theory of integral equations and is central to the modern theory of partial differential equations, among other things. For some students these connections might bring the subject more to life, but traditional approaches have opted for the path of efficient pedagogy, leaving the student to fill in the gaps for himself or herself.

In the case of probability theory, the development of measure and integration theory is long overdue. The earliest form of the weak law of large numbers was proved by Jakob Bernoulli [Be] in 1713; the first version of the central limit theorem was published by Abraham de Moivre [M] (at the age of 66) in 1733, exactly 200 years prior to the measure-theoretic framework which Andre Kolmogorov [K] introduced in 1933. Perhaps the first person to have