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The logic of quantum mechanics, by Enrico G. Beltrametti and Gianni Cassinelli, Encyclopedia of Mathematics and its Applications, vol. 15, Addison-Wesley, Reading, Mass., 1981, xxvi + 305 pp., $31.50.

By their very nature, scientific theories cannot be proved. No matter how successful a theory has been in explaining the Universe, there always exists the possibility, however remote, that this particular theory is not the only one that can explain the given phenomena. There conceivably could exist another theory that could do just as well—if not better. This possibility is not as remote as it may seem. In the past, very few physical theories have lasted more than a century without being discarded or substantially modified.

Quantum theory was brought about at the turn of the century by the failure of classical physics to explain the results of more accurate experiments which could measure atomic phenomena. The success of the theory was overwhelming, and currently its acceptance among scientists is unquestioned. In the beginning the theory consisted of statements concerning physical quantities, but later writers attempted to axiomatize it and divorce it from concepts of