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University of Waterloo, Waterloo, Ontario N2L 3G1, Canada. *The Laws of Boole's Thought.*

Modern readers find Boole's writings on mathematical logic puzzling, as did Jevons, who wrote in 1864 that Boole's system used "dark and symbolic processes", and Jevons asks the reader to choose between his own "evident system" and the "dark system" of Boole. In 1869 Jevons says that the "quasimathematical methods of Dr. Boole especially are so mystical and abstruse, that they appear to pass beyond the comprehension and criticism of most other writers, and are calmly ignored." This comment applies today. Actually the secret of the dark system has been known for a quarter century. In 1976 T. Hailperin described exactly how Boole's system works, and showed why it works. However this information has not been assimilated into the general culture of mathematics and philosophy. In this talk a simple, natural development of Boole's system is presented, a development that makes clear the enormous gulf that exists between Boole's system and modern Boolean algebra. This mode of development may very well have been used by Boole as it casts his struggles for foundations in a clearer light. (Received September 04, 2000)