

MARSHALL STONE, AN AUTHOR REPEATEDLY INFLUENCING THE HISTORY OF DUALITY

RALF KRÖMER

The scientific work of Marshall Stone (1903-1989) is marked by several shifts of interest. He started his work with a thesis on the theory of differential equations written with G.D.Birkhoff and then shifted to work on functional analysis, more precisely operator theory (this shift apparently being motivated by a paper on quantum mechanics by von Neumann). In this latter context, Stone is among the first authors to define a notion central to some phenomena of duality in functional analysis, namely that of adjoint operator. It seems that Stone formed this concept by analogy with the concept of adjoint equation (stemming from Bôcher) in the context of differential equations. In turn, it was in the context of operator theory that Stone was led to his representation theorem for Boolean algebras (and thus to another shift of interest). From this new context emerged the duality theorem nowadays called Stone duality. I will present a preliminary narrative of this complicated history touching at various mathematical subdisciplines, and hope for a rich discussion leading to a more profound understanding of this history.