

Preface

Science is the creation of scientists, and every scientific advance bears somehow the mark of the man who made it.¹

Anne Roe, 1961

History of science is told through the endeavors, often heroic, of its primary characters. Historians tend to center on the heroes whose names and scientific accomplishments at times precede the disciplines in which they played a major role. Rarely is the history of a discipline “rewritten” by its practitioners to leave out the hero who indefatigably fought and strived toward its establishment. One such hero is Nicolas Rashevsky and mathematical biology the discipline he institutionalized.

The reasons behind this “rewriting” of history accompanied me on my journey of uncovering the intellectual identity of Nicolas Rashevsky. In what constitutes the first detailed biography of mathematical biologist Nicolas Rashevsky (1899–1972), spanning key aspects of his long scientific career, this book captures Rashevsky’s ways of thinking about the place mathematical biology should have in biology and his personal struggle for the acceptance of his views. Through his character and his struggles, I set out to unearth all that was involved in establishing a new way of thinking in biology in the early twentieth century.

Nicolas Rashevsky is one of the unique cases in twentieth-century biology, who crossed over to biology with the aim of discovering and explaining all the properties of the living world in terms of fundamental principles and parameters that govern the life sciences and can lead to “laws of nature.” While this book discusses the ways in which he succeeded and the ways in which he failed to reach his goal, it is his motivation, path, and struggles that are of particular interest, as these led to the establishment and institutionalization of a new discipline in biology: mathematical biology. Examining Rashevsky’s intellectual life provides an invaluable facet in

¹Roe, A. “The psychology of the scientist,” in Obler, Paul C., and Herman A. Estrin eds. *The new scientist*. 1962, pg. 82–94.

discipline-crossing act that accounts for the source of significant innovation and the structure of modern biology.

Tracking Rashevsky's struggle for the acceptance of his dream by the social and political organizations that constitute science provides new insights into the dynamics of "outsiders" and "boundary crossers" in biology as promoters of innovative thinking. While looking forward to new groundbreaking developments in twenty-first-century biology which are and will continue to be introduced by innovative and unorthodox thinkers, Rashevsky's story allows us to observe and learn about the problem of introducing a novel way of looking at biology. *Errare humanum est*, here is to learning from past mistakes!

Seoul, South Korea
March 2016

Maya M. Shmailov

Intellectual Pursuits of Nicolas Rashevsky

The Queer Duck of Biology

Shmailov, M.

2016, XXI, 199 p. 6 illus., 1 illus. in color., Hardcover

ISBN: 978-3-319-39921-8

A product of Birkhäuser Basel