

Phillip Justin Rulon

https://doi.org/10.1007/BF02290168 Published online by Cambridge University Press

PSYCHOMETRIKA—VOL. 34, NO. 1
MARCH, 1969

Phillip Justin Rulon

(1900–1968)

Phillip Justin Rulon, President of the Psychometric Society in 1948–49 and Secretary of the Psychometric Corporation from 1940 to 1946, died in Philadelphia on June 30, 1968. He had gone there to prepare to teach summer courses in statistics and experimental design at the University of Pennsylvania; his death resulted from internal complications that developed after an accidental fall.

He was born in Keokuk, Iowa on March 11, 1900, but his family moved to California when he was young. He took his A.B. and M.A. degrees at Stanford University, where he came under the influence of Truman Kelley. His Ph.D. was in educational psychology, at the University of Minnesota. In 1930 he joined Truman Kelley at the Graduate School of Education at Harvard University, starting as an instructor and becoming a full professor in 1944. From 1943 to 1948 he was Acting Dean of the School. He retired in 1966 but maintained his characteristic vigorous pace in professional activities until shortly before his death. As a specialist in statistics and educational measurements, he had a part in the training of many well-known figures in the field of psychometrics—John Flanagan, Frederick Davis, and others.

Not a man given to prolific publication in the usual channels, he nevertheless gained an international reputation for the "Rulon formula" for split-half reliability and his widely-cited essays on the validity of achievement examinations. His contributions to the field were often devoted to clarifying and extending the most recently developed techniques and concepts. This was evident, for example, in his 1949 Psychometric Society presidential address, "Matrix representation of models for analysis of variance and covariance" (*Psychometrika*, 1949, **14**, 259–278).

He had a passion for finding applications for multivariate statistical procedures in educational research. The monograph he published with his student Walter Deemer (*Harvard Studies in Education*, No. 28) on the comparison of two shorthand systems was one of the first, and perhaps even now, the most extensive, major applications of the Johnson-Neyman technique for locating regions of significance in a multidimensional system. Strangely, however, he never became much interested in multiple-factor analysis; he was, like Truman Kelley, mistrustful of anything beyond the straightforward analysis of data by principal-axis techniques.

https://doi.org/10.1007/BF02290168 Published online by Cambridge University Press

In the late 1940's, Rulon developed a concern for the problem of multivariate classification, or as he himself termed it, the "profile problem" in selection and guidance. One of his students, Joseph Bryan, generalized Fisher's discriminant function to the case of more than two groups, completing his thesis in 1950 at about the same time that Rao, working quite independently, made a similar development. Throughout the subsequent years, Rulon's students applied the multiple discriminant function to numerous educational problems. This work culminated in the publication, in 1967, of *Multivariate Statistics for Personnel Classification*, by Rulon, Tiedeman, Tatsuoka, and Langmuir.

Not very well known is Rulon's work in developing new types of foreign language achievement tests during World War II, or his research on the construction of a "semantic test of intelligence" for illiterate Army recruits (described in a talk published in the *Proceedings of the 1952 ETS Invitational Conference on Testing Problems*).

He was in great demand as a consultant to the armed forces, and through the Educational Research Corporation, the private non-profit organization that he founded in 1938, conducted extensive research on the classification and training of aviators (he himself had a commercial pilot's license) and the development of devices to aid in that training.

He was also one of the first educational psychologists to become fascinated with educational uses of computing machinery. As early as 1930 he developed a technique, using Hollerith tabulating machines, for the scoring of tests having multiple item-weightings like the Strong Interest Blank. He had a large part in designing and building the first operational versions of E. F. Lindquist's optical-scanning test-scoring machine. When the IBM 650 computer came on the scene, he quickly mastered its programming and spent many hours at the console in gleeful amazement at how fast he could invert a matrix.

Rulon was a tall, well-built man who had a commanding presence whether in a seminar room or a convention hall. He had a reputation not only for his rather frightening and critical intelligence, but also for his wit—sometimes dry and sardonic, sometimes ingeniously frivolous, but always sharp and subtle. Students were in awe of him, but usually came to realize that he was one of the most generous and kindly of men. His pedagogical style is perhaps best revealed in a little known, whimsical fable, "The stanine and the separile," which he published in the February 1950 issue of the bulletin of the Educational Research Corporation. This is the tale of an imaginary Hexagon who consulted a Relentless Psychologist for advice as to whether he should join up with a group of Circles, or a group of Squares. As it happened, the Relentless Psychologist had already tested the Squares and the Circles. So he tested the Hexagon as well. After applying the Multiple Correlation Technique to the Hexagon's test scores, the Relentless Psychologist told the Hexagon

https://doi.org/10.1007/BF02290168 Published online by Cambridge University Press

that all he had to do was to decide whether he would like to be a Superior Circle or only a Mediocre Square. The choice was perfectly clear, of course, to the Relentless Psychologist. Confused, the Hexagon wandered off and told his woes to an Inveterate Statistician, who after examining the matter by means of his Discriminant Function, told the Hexagon in no uncertain terms that he was obviously much more like a Square than a Circle. Which made the Hexagon happy, because simply by rubbing off two of his corners he could become a Square. The tale ends with a moral: "The Multiple Correlation Technique applied successively to different groups yields information not given by the Discriminant Function applied to all the groups; and VICE VERSA." Rulon, by his own account, was both a Relentless Psychologist and an Inveterate Statistician.

JOHN B. CARROLL

https://doi.org/10.1007/BF02290168 Published online by Cambridge University Press