

Preface

As a bombardier in the 493d Bomb Group of the Eighth Air Force in World War II, I was part of the operations that the operational analysts were studying. At that time, I was totally unaware of them. The analysts and I traveled in different circles. Most of them were stationed at Eighth Bomber Command Headquarters at Wycombe Abbey School, High Wycombe, England, about thirty miles northwest of London, whereas I was flying missions to Normandy and Germany from a base near the coast in Suffolk, England. The operational analysts had lots of dealings with lead crews, but I was not part of a lead crew.

As I progressed in my postwar career as a mathematician, I became aware that some of my teachers and older colleagues in mathematics had been operational analysts. The first of these was Dr. William L. Duren, Jr., chairman of the mathematics department at Tulane University, where I obtained a doctorate in mathematics. He had been an operations research man with the Second Air Force. He later became president of the Mathematical Association of America.

The mathematicians who served as operational analysts with the United States Army Eighth Air Force were: Dr. James W. Alexander, Dr. William L. Ayers, Mr. Blair M. Bennett, Dr. Harry C. Carver, Dr. James A. Clarkson, Dr. Robert P. Dilworth, Dr. Ray E. Gilman, Dr. Edwin Hewitt, Dr. Forrest R. Immer, Dr. Ralph D. James, Dr. George W. Mackey, Dr. John W. Odle, Dr. G. Baley Price, Dr. H. P. Robertson, Mr. Frank M. Stewart, Dr. Angus E. Taylor, Dr. W. John Youden, and Dr. J. W. T. Youngs.

In the operational analysis section of the Eighth Air Force, in addition to the eighteen mathematicians (including three who were not analysts), there were nine lawyers, thirteen physicists and engineers, an architect (Bissell Alderman), a newsman (Porter Henry), an economist (Dr. Richard G. Gettell), two business analysts (William J. Pilat and George P. Shettle), and several unclassified people. It was a highly talented group. Several of them later became members of the National Academy of Sciences. One of them, Dr. Richard Gettell, became president of Mount Holyoke College. Another, Dr. Angus E. Taylor, became the university provost, University of California

System. A number of these men held high offices in their professional societies. G. Baley Price, for example, became president of the Mathematical Association of America, and George Mackey became vice-president of the American Mathematical Society. One, John Marshall Harlan, became an associate justice of the United States Supreme Court. Leslie Arps became a founder and senior partner of a powerful law firm with main offices in New York City and branches in several other cities.

The operational analysis section of Eighth Fighter Command began with six analysts: Dr. Alva E. Brandt (mathematician), Dr. Ralph P. Johnson (physicist), Roland W. Larson (electrical engineer), Dr. Horace W. Norton (meteorologist), Theodore Tannenwald, Jr. (lawyer), Dr. Lauriston S. Taylor (physicist). Theodore Tannenwald, Jr., later became chief judge of the United States Tax Court in Washington, D.C. The first chief of this section was the distinguished physicist Lauriston S. Taylor.

I especially thank the following analysts for the use of their unpublished memoirs or their letters: Bissell Alderman, Leslie H. Arps, William L. Duren, Jr., J. Porter Henry, Jr., Edwin Hewitt, G. Baley Price, Theodore Tannenwald, Jr., Angus E. Taylor, and Lauriston S. Taylor.

My wife, Bert (Bertha) Moffit McArthur, was a faithful companion and assistant while I gathered the material for this book and while I wrote it. She helped to edit and proofread each chapter.

The American Mathematical Society has provided strong editorial support for the book. Mary Lane, the director of publication, assigned Caroline B. Tucker to work directly with me. She has worked cheerfully and efficiently.

Finally, Professor Hugh Miser, himself a mathematician and World War II operations analyst, gave the book a thorough reading. His experience as an analyst at the Pentagon gave him the interest and knowledge which, with his insight, enabled him to make many helpful suggestions for improving and enriching the book.

I am deeply grateful to each of them.

Much of the material on which this history is based was found in the archives of the Simpson Historical Research Center at Maxwell Air Force Base, Montgomery, Alabama. I spent six weeks there in the summer of 1981.

This history documents the very large role that mathematicians played in operations research in World War II.

Charles W. McArthur
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