As a boy growing up in California's Central Valley, I had no understanding of, or even interest in, how the state's climate and geography helped mold its institutions. The long, hot, dry summers, the gloriously blue skies, the parched brown carpet of grass that covered the foothills (save for a few weeks in the spring), the endless acres of irrigated farmland, the hydraulic web of dams, canals, and ditches, and countless other symptoms of aridity, were just part of life. Unfortunately, my ignorance of agriculture compounded my ignorance of the physical environment. We learned in school that California was a wealthy state, agriculturally, but we did not learn to recognize the plants that created that wealth. Nor did we learn who planted or harvested those crops, or how, or when. America may have been born on a farm, but it grew up in the city, most of my teachers told me, and when we studied politics, economics, culture, or society, urban institutions took precedence. College did not change my perceptions or attitudes. At the University of California, Berkeley, rural America seemed faintly absurd and always anachronistic. The nation's hinterland, I discovered, was saturated with religious fundamentalism and intolerance, plagued by dreary isolation, oppressive conventionality, and homogenized values, infected with a virulent strain of antiintellectualism. The "sturdy yeoman farmer" competed for historical attention with an amazing assortment of hicks and rubes. Agricultural history was not for me.

An odd set of circumstances, but especially the inspiration and guidance provided by professors W. Turrentine Jackson, James
Shideler, and Donald C. Swain at the University of California, Davis, where I received my Ph.D. degree, kindled my interest in natural resources history and cured me of most of my prejudices toward rural America. Nevertheless, I did not begin work on this book until 1977, when I moved to East Texas from San Diego and began teaching at Texas A&M University. In East Texas, humidity, rather than aridity, governs man and nature. There, many trees and shrubs keep their leaves all year long. In a region where rain falls twelve months a year, and often hardest in the spring and summer, the countryside wears many shades of green. The damp, smothering summer heat and an astounding array of formidable insects remind inhabitants that this is a land of too much water, not too little. The contrasts occurred to me time and again during the many summer months I spent working in California libraries and archives, grateful to escape the enervating Texas climate. My experience was the reverse of most Americans. I had migrated from West to East, from a dry environment to a wet one. But the effect was the same. I began to look at what had been taken for granted in a new light; hence this book.

Everybody talks about the importance of water in the American West, but few professional historians write about it. Stories of drought, depleted underground aquifers, conflicts over water rights, pollution, and massive state and federal subsidies to agriculture, fill columns in newspapers and popular magazines. But historians have focused largely on the romantic West of the nineteenth century: Indians, trappers and explorers, miners and cattlemen, and the railroads. A few, most notably Paul Wallace Gates, have explained patterns of land use in the West, but there is no comprehensive history of arid land reclamation, or even of western agriculture. This book constitutes the first full study of irrigation agriculture in an arid state.

It is not a comprehensive history of irrigation. Such important topics as the changing technology of dam, canal, and pump construction, the development of plant and soil sciences, and the relationship of irrigation to hydroelectric power generation—to name but a few—receive scant attention. Nor will readers find any extensive discussion of the Hetch-Hetchy, Owens Valley, or Colorado River controversies. Those stories have already been well told; my
concern is the broader story of the much larger supply of water used in agriculture.

I had two main purposes in writing this book. First, I wanted to show how irrigation contributed to the evolution of California agriculture from the pastoral and wheat boom era (1850–1890), through the horticultural small-farm phase (1880–1920), to the concentration of farms into ever larger “factories in the fields” in the 1920s and after. By the 1930s, if not sooner, irrigation had become the most important feature of California agriculture, as it was in many other arid states. Second, I wanted to show that irrigation was more than just a way to make money from the land. Nineteenth-century California bore little resemblance to the older agricultural states of New England and the Midwest, and social critics worried deeply about the Golden State’s future. Irrigation became a tool of social and economic reform, a tool by which the arid West could be made to conform to the familiar, traditional patterns of land tenure “back home.” Ironically, by the 1930s irrigation became the ally, instead of the enemy, of land monopoly and concentration. My title suggests this important change, though readers should be forewarned that this book is not directly concerned with the nature of the family farm or agribusiness.

Many topics and themes are explored in this volume. The dominant theme, one of importance to all Americans, is the persistent mismanagement and ineffectiveness of both private enterprise and government in regulating the use of water. The process of allocating this precious resource was seldom guided by either wisdom or equity. The California legislature was slow to enact water laws. When it did act, it failed to display much courage, imagination, or foresight. Nor could the state’s multitude of different water users coordinate their needs or reconcile their differences by themselves. The quest for a state water plan constitutes a second theme. The need to provide cheap water, move it great distances, and integrate wasteful local water systems stimulated consideration of such a plan. But the persistent public suspicion of government limited the state’s role. Other themes include the hostility toward land monopoly in nineteenth-century California; the importance of land speculation; the pervasive sectionalism that blocked most water legislation; the amazing political longevity of
the "mining block" in Sacramento, long after the industry's economic power had ebbed; and the inability of the federal government to stimulate irrigation or produce more rational water laws. The book also discusses the institutions associated with irrigation, ranging from private water companies to irrigation districts.

In short, this book does not fit neatly into any single category. It is as much about ideas as institutions, as much about government as agriculture, as much about land as water. Nor is it exclusively concerned with California. Every attempt has been made to link California's experience to the entire arid West.

In writing this book, I incurred debts too many to be acknowledged fully here. Lawrence B. Lee inspired me to undertake the study, and his careful, thorough scholarship has served as a model for my own. Larry, along with Elmo Richardson and Robert Dunbar, read the manuscript and offered many useful suggestions. Other scholars whose work and counsel I have freely drawn upon include, in no particular order, Norris Hundley, Paul W. Gates, Harry Scheiber, Samuel P. Hays, Gerald Nash, David J. Weber, Robert Kelley, Arthur Maass, W. Turrentine Jackson, James Shideler, and Donald C. Swain. My apologies to those whom I have overlooked.

Much of the research was done at the Bancroft Library, whose intelligent, efficient staff sets a high standard. Gerald Giefer and Susan Munkres at the Water Resources Center Archives on the Berkeley campus opened their valuable collections and provided many useful leads. So did Mrs. Bessie Raymond at the California Department of Water Resources Archives in Sacramento and Richard Crawford at the Natural Resources Branch of the National Archives in Washington, D.C. I also want to thank the librarians, curators, archivists, and other helpful workers at the Library of Congress; University of California, Berkeley, Law Library; Huntington Library; Special Collections repositories at UCLA and the University of California, Davis; California State Archives; California Room of the California State Library; and State of California Law Library. The Interlibrary Loan Office at Texas A&M University's Evans Library tracked down many obscure books, documents, and newspapers. Grants from the A&M College of Liberal Arts and the California Water Resources Center provided financial assistance. Professor J. Herbert Synder, director of the Water Resources Center,
deserves special recognition for encouraging the historical study of water in California. He has managed to be an extremely efficient administrator without forgetting the needs and concerns of the scholars he serves. Carole Knapp typed the manuscript with her customary speed and precision. Carol Leyba edited the manuscript with care, precision, and patience. The entire staff of the University of California Press, especially Stanley Holwitz, impressed me with its dedication, courtesy, and efficiency. My parents-in-law, Engel and Shirley Sluiter, extended many, many kindnesses. Without their hospitality, this book could not have been written. Similarly, Al Runte graciously shared his Washington, D.C., apartment during the summer of 1979. I also want to acknowledge the friendship of my colleagues Terry Anderson, Walter Buenger, and especially, Lawrence D. Cress. They did not read the manuscript and know little about this book. But they made writing it a lot easier. Mary Alice knows her contribution. Finally, I hope the dedication conveys some sense of my appreciation to a few of the teachers who have contributed so much to my life.

Bryan, Texas, 1983

D. J. P.