I am indebted to the following people for their generous contributions of time and information to the enrichment of this book. Heading my list is Philip Houben, librarian of the David Rumsey map collection and former librarian of the University of California, Berkeley map collection, who patiently answered my numerous queries about historic maps of San Francisco and reviewed my text. David Rumsey, author and map collector extraordinary, not only wrote the introduction to this book, but also provided information and advice along with reproductions of many of his maps for this book. Another Bay Area map collector, Warren Heckstoe, also shared his knowledge of historic maps and allowed me to reproduce one of the many important maps in his collection.

The staff members of the San Francisco Public Library's San Francisco History Center and the University of California, Berkeley Earth Sciences and Map Library were unfailingly helpful in guiding my search through their collections for notable historic maps and views of San Francisco.

Finally, I am grateful to the contemporary map makers who gave me permission to reproduce their work. Reitnau and Reitnau have designed many of the locally well-known maps of the city, four of their maps are reproduced here. Rick Waterman is starting a career in map design; the map of his reproduced here was created in San Francisco State University's Department of Cartography. Piers Brannin belongs to a group involved in mapping natural open spaces in San Francisco. The map included in this book shows the current state of their project.

Although they are not professional mapmakers, the architects working on the map project in Skidmore, Owings & Merrill's San Francisco office have demonstrated that, given the motivation, current technology can enable map-making that competes with the best commercially available products.

**SAN FRANCISCO: THE INSTANT CITY**

San Francisco is a city that springs to life in a relatively short time. From its burst of growth during the California gold rush in the mid-nineteenth century, the city took only a few decades to extend its reach from San Francisco Bay to the Pacific Ocean. In many ways the change in landscape has continued with remarkable dynamism right to the present day. The initial frenzied pace of development was caused by the inexorable wealth that poured into San Francisco from the gold mines. But the dynamic of boom, followed by bust, continued as the city moved into the twentieth century, punctuated by the immense destruction of the 1906 earthquake and fire. The rapid changes in the city are graphically recorded through historical maps of San Francisco. Mapmakers struggled to keep pace with the landscape morphing around them as they worked, with the result that maps were often out of date before they hit the press. Economic booms and busts were not all that made the maps on their mark. Even after the city was fully built out, earthquakes and fires continued to alter the physical environment. After each such event the city would rebuild and give birth to a new version of itself. All of these changes can be seen today through the prism of San Francisco's cartographic past.

This book presents a new way of seeing that past. Map historians and urban historians may use an occasional map or view, by way of illustration at best. But here the maps are the narrative, with words acting as glues on what the maps make vivid to us. This approach has certain unique advantages: telling the story through maps and views brings into focus the spatial aspects of the history. Events are always grounded, so to speak, firmly in physical space. Viewing a city such as San Francisco by examining its representation in maps and views allows the reader to move through space as well as through time. Thus we see the city evolve before our eyes. And we see not only the physical evolution of its urban space, but also—and again uniquely—the ways that cartography itself evolves as it develops and deploys new visualization techniques and tools.

It is especially appropriate to have Sally Woodbridge, an architectural historian intimately familiar with San Francisco's built environment, write this book. Streeted on a peninsula, San Francisco has been destined by nature to be a compact city. Architecture and the built environment play essential roles in determining its physical form. Consequently, the history of its architecture closely parallels and influences its cartographic history. Woodbridge is able to bring a fresh perspective to maps, seeing them in ways that a purely cartographic historian might miss and highlighting features that buildings and maps have in common. For me, a map collector with a special focus on my adopted home of San Francisco, it is especially exciting to see the ways that she tells the stories of the maps and buildings together, foregrounding the many issues affecting city planning in the past, the present, and into the future.

The progression of maps in this book reveals many of the basic features of mapping that inform cartography. Maps are never completely neutral, and in many ways their points of view are somewhat arbitrary, even if fixed in conventions we take for granted. The sheer cartonality of the orientation of north at the top, south on the bottom can be seen in the 1860 Map of The State of California (see page 62), a stunning image that places the state on a side in order to emphasize the centrality of San Francisco Bay. Maps also frequently distort space in order to respond to the needs of their users or sponsors; a case in point is the 1893 View of the Midwinter Fair in Golden Gate Park (see page 98), which prominently features the property for sale by the map's sponsor, Baldwin and Hammond, just beyond the park. Maps commonly respond to events: war, gold discoveries, land rushes—all produced prodigious numbers of maps. The 1848 Map of the Valley of the Sacramento including the Gold Region (see page 36) is an excellent example of the many California gold rush maps that proliferated during that tumultuous time. More enduringly, maps always strive to be useful, especially at the local level: guides and directories try to help the user navigate and find information, a task particularly important in a city whose topography is constantly shifting. The Illustrated Directory of San Francisco of 1895 (see page 101) is not only a superb example of this, but is also one of the best surviving visual records of the built city largely destroyed in the 1906 earthquake and fire. And maps have their own genealogy: they usually grow out of each other, with one influencing many succeeding maps as cartographers learn from each other and codify that learning in new maps.

The U.S. Census Survey maps of San Francisco of 1853, 1859, and 1869, grew out of each other and form the basis of many other maps because of their highly accurate cartography, one example being the state sponsored Map Exhibiting the Salt Marshes, Tule and Submerged Lands in and adjacent to the Bay of San Francisco and San Pablo (see page 90).
The narrative of maps in this book also reveals the growth of cartographic science and art from rather simple manuscript beginnings to our current day, three-dimensional Geographic Information Systems (GIS) maps. The Catlin's manuscript map of 1776 showing San Francisco Bay (see page 18) is more a work of art than science, yet it does give us a fairly accurate view of the landscape and it is certainly beautiful in its artistic art. This map for the first time establishes the magnificent San Francisco Bay as a body of water that is separate from Drake's Bay, and one that has its own entrance from the ocean, the Golden Gate. The Catlin's map begins the process of increasing accuracy in mapping San Francisco Bay for the next seventy-five years until the Gold Rush of 1849. At that time, maps shift in focus from the bay to the emerging city. In the maps of the city over the next one hundred and fifty years we see a steady progress of cartographic science that culminates in the present with the famous marriage of efforts by both cartographers and architects to render three dimensions in two, simultaneously demonstrated in the combination Computer Aided Design (CAD) and GIS maps of the built city in 2006 by the architectural firm of Skidmore, Owings & Merrill (see page 15). To have traveled from the Catlin's map to these last two in the short space of just over two hundred years is remarkable, and this book documents the journey.

The technology of mapping and the technology of rendering buildings come together through the computer programs of GIS and CAD. Both use software to render space, and both are part of a growing trend of harnessing the power of computers to render spaces—both geographical and architectural—with astonishing degrees of accuracy. Now we can move through these spaces in real time on our computers. These computer programs engender maps, in a sense, but not like our static maps of the past. Rather, they allow for the creation of dynamic documents that tell us where we are going, how to get there, and what the world will look like when we arrive. Combining this with instant delivery of maps over the Internet means that maps are returning to a more central role in our world, a role they clearly had in the past as evidenced by the numerous emblems in this book.

Maps of San Francisco have proven to be very important in shaping the destiny of the peninsula and its people, both in the practical sense of sorting out conflicting land titles, and in the larger sense of showing the potential redline of the entire city (as we see [beginning on page 108], for example, in the Burnham maps of 1907). And today, with the San Francisco Bay area playing a central role in the Internet and software revolutions, it is especially appropriate that it should be providing us with the very latest in Internet mapping from many search engines. The new three-dimensional, GIS-enabled globe programs that are proliferating on the Web let us see exactly how San Francisco fits in with the rest of the world, at many different scales. As more people experience maps in their everyday lives, they will begin to think in time and space as dynamically as must have the cartographers from the Gold Rush era, and see how we are all tied together on our small, finite planet. This is bound to help us better navigate the immense environmental challenges of our time.

The map of San Francisco Peninsula on the opposite page is a composite of two maps: the 1869 U.S. Coast Survey Map on the east side of the Peninsula and a 2000 Air Photo USA Satellite Image on the west. I have composed two maps into one to show in one view how the technology of mapping has changed over the last one hundred and thirty years, as well as how the city these technologies visualize has evolved. Visualization of landscape and space was once the province of the cartographic draughtsman using lines for streets, shading for wetlands, and hachures for hill shapes. All this is now captured by camera from above and enhanced through various manipulations of digital imagery and colors. Yet each method, the old and the new, has aspers that the other lacks. One hopes that in the future, the art of the old cartography can be combined successfully with the precision and comprehensiveness of the new. Looking at the two maps together, contrasting their styles and methods, shows part of the journey traveled by the maps and views in this book as San Francisco evolved into the city it is today.