Agricultural Production, the Phoenix Metropolis,
and the Postwar Suburban Landscape in Tempe, Arizona

by

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ABSTRACT

Historians typically view the postwar suburban metropolis from one of two vantages: from the vantage of urban capital as it flowed out of central cities into new automobile suburbs, where a new suburban culture emerged and flourished after 1945, or from the vantage of central cities, which become progressively hollowed out, leaving behind badly deteriorated inner-city services and facilities. Rarely, however, do historians view the postwar suburban metropolis from the vantage of peripheral small towns and rural countrysides. This study looks at the “metropolitan revolution” from the outside in, as the metropolis approached and then absorbed a landscape of farms and ranches centered on a small farm-service town. As a case study, it focuses on Tempe, Arizona, a town and rural countryside eight miles east of Phoenix.

During the postwar period, Tempe became part of the Phoenix metropolitan area. Agricultural production in Tempe yielded to suburban development, as a producer-oriented landscape of farms and ranches became a consumer-oriented landscape of residential subdivisions and university buildings. Intangible goods such as higher education eclipsed tangible goods such as grain, dairy, and cotton. Single-family houses supplanted farmland; shopping centers with parking lots undermined main street businesses; irradiation water became domestic water; and International-style university buildings displaced vernacular neighborhoods rooted in the early history of the settlement. In Tempe, the rural agricultural landscape gave way to a suburban landscape. But in important ways, the former shaped the latter, as the suburban metropolis inherited the underlying form and spatial relationships of farms and ranches.
ACKNOWLEDGEMENTS

History projects such as these have one author, but they reflect the efforts of many individuals. Phil VanderMeer has been an excellent teacher and mentor since I arrived at Arizona State University in 2008. His patience with me over the years, particularly though this dissertation process, has made it possible for me to complete my degree program. Karen Smith also provided consistent encouragement; she is responsible for asking the “so what” question that helped me frame my analysis. Victoria Thompson played a key role in my graduate education, both as director of graduate studies and as dissertation reader. Her comments about space, place, and architecture helped to clarify some of my thinking about how people in Tempe perceived changes in the landscape.

Two other faculty members at Arizona State University deserve acknowledgement. My inquiry into Tempe history began with a term paper in Peter Iverson’s 2008 course on place and possibility in the American West: his enthusiasm for that essay remained in the back of my mind as I considered dissertation subjects. Also in 2008, I had the pleasure of studying public history under the late Noel Stowe. Though my classmates and I only had a few months with Dr. Stowe, his discussions of local history and “change points” loomed large in my mind while formulating dissertation ideas. I also owe Dr. Stowe a deep debt of gratitude for arranging a four-year graduate assistantship that sustained me through my time at Arizona State University.

Now that I have completed my formal education, it seems appropriate to look back and acknowledge some of the other teachers, professors, and mentors who led me to this point. They include Casey O’Hair and Gil Gorospe at Roseville City School District
in California; Michael Brunner, Stephen Watrous, Mary Halavais, and Theresa Alfaro-Velcamp at Sonoma State University; Mark Summers and William Gibbs at University of Kentucky; Lee Simpson and Patrick Ettinger at California State University, Sacramento; and Nancy Dallett, Paul Hirt, Catherine O’Donnell, and Hava Samuelson at Arizona State University.

For a suburban metropolitan city, Tempe possesses a rich historical ethic. Brenda Abney and Jared Smith at Tempe History Museum graciously provided access to the museum’s array of research materials, including many reels of *Tempe Daily News* microfilm on loan. Scott Solliday provided some of his own research in support of this project; Scott knows more about Tempe history than anyone—there is probably no better way to familiarize oneself with the history of a locality than by reading through environmental compliance “gray literature” produced by historians such as Scott. Dan Killoren at Salt River Project made arrangements for me to access some of the research materials housed at Salt River Project headquarters. Likewise, Barbara Hoddy and her staff at the Arizona State University Archives and Special Collections provided valuable assistance during my many visits to the Luhrs Reading Room at Hayden Library. Libby Conyer and her colleagues at Arizona State Library, Archives, and Public Records also provided valuable assistance during my research trips to Phoenix. I also owe many thanks to the Maricopa County personnel who digitize Recorder’s Office records and aerial photograph collections. Finally, no one shaped my interest in Tempe history more than Joe Nucci, City of Tempe Historic Preservation Officer. Joe provided an internship that involved a lot of free-reign type of work through which I became familiar with the local
landscape. Joe also provided a model for mentorship which I try my best to emulate in my current role as a preservation professional in California.

For my family—words cannot adequately convey my appreciation. If only my parents, Rod and Karen, could have known upon dropping me off at Sonoma State in 1999 that I would remain enrolled in higher education for seventeen consecutive years. That would have been quite a surprise. Along the way, they have provided support in all different forms. My in-laws, Ken and Darlene, have shown equal support—particularly by graciously helping manage our household in the summer of 2016 while I went missing-in-action in order to finish the project. My older son, Oscar, played a key role too. I only began diligently writing once his infant cries began waking me up every morning at 5:00 a.m. His younger brother, Maxwell, also played a role by helping me realize that I needed to finish the project and move on with life. Finally, I owe the greatest debt of gratitude to my beautiful wife, Linnéa, a fine historian in her own right. Even if I had not finished my degree program at Arizona State, I still would have walked away ahead in life, because I met her there in class. Linnéa read parts of this study and offered suggestions. But most importantly, she encouraged me to finish this project; in fact on many occasions she wanted me to finish more than I wanted it for myself, so I could not have done it without her. To her I dedicate this study.
DEDICATION

For Linnéa
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Chapter 1

Introduction

Gene Marlatt arrived in Tempe in 1933. An automobile mechanic, he had worked on assembly lines at the REO Motor Company and Graham-Page in Los Angeles before the Great Depression derailed much of Southern California’s auto industry. “The work ran out in California,” Marlatt recalled years later, “and I came to Arizona to visit my mother.”\(^1\) It was a world away from Los Angeles. “Quiet, sleepy, rather dowdy,” is how one resident described Tempe in the 1930s.\(^2\) But with its diversified farming and ranching, Tempe, like other towns in the Salt River Valley, weathered the Great Depression better than comparably sized mining and manufacturing communities. Work remained available for a skilled mechanic, and Gene found a job fixing milk delivery trucks at the Borden creamery on the Tempe-Mesa Highway a mile east of town. “In any direction you looked,” Marlatt recalled of the surrounding landscape, “all you saw were fields—cotton and everything.”\(^3\) The creamery, in fact, served as a focal point for Tempe-area dairy ranching. Buying “all the milk the farmers have to sell,” or about forty thousand pounds of it every morning, the facility daily produced tens of thousands of cans of condensed milk.\(^4\) Marlatt sensed a business opportunity. Months after arriving in Tempe, he leased the creamery’s delivery truck shop and established Marlatt’s Garage, a

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full-service gas station with modern pumps and tanks. “I spent a lot of money but made it back,” he told interviewers years later. “It was a prosperous business.”

One might ask how Gene Marlatt prospered as a Depression-era auto mechanic in the cotton fields a mile east of Tempe. Initially, he enjoyed the patronage of long-distance commuters on the Tempe-Mesa Highway, the lone paved road linking Phoenix and Tucson. But in 1934, the state highway department opened a new highway route that diverted through-traffic a mile to the south, robbing Marlatt of customers. The real answer to the question of Marlatt’s success lies in the agricultural landscape. For more than twenty years, Gene Marlatt’s most regular customers consisted of local farmers and ranchers. Far from the hardscrabble homesteaders of the nineteenth century, Tempe’s modern farmers and ranchers required fuel for gas-powered equipment and services for pickup trucks and tractors. They had embraced the early-twentieth-century movement of American farmers to “modernize in just the same way as modern factories and business enterprises.” Though he never farmed or ranched, Gene Marlatt contributed to that movement. A 1940 classified ad shows that in addition to motor vehicles, Marlatt serviced cultivators and other farm equipment. Marlatt also developed close social ties with Tempe farmers and ranchers. In 1939 he married Mae Adams, a local farmer’s daughter; he also became associated with the Tempe Masonic Lodge No. 15 and attained

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7 “38—Livestock and Supplies,” *Arizona Republic*, 11 April 1940.
a leadership position within the organization. “There were no problems during the Depression here,” Gene insisted. “I liked the personal contact and had a lot of friends.”

Building relationships with Tempe farmers and ranchers made good business sense for Marlatt’s Garage. But Gene Marlatt had had few alternatives. He had to build relationships with Tempe-area farmers and ranchers because the world he encountered in Tempe in 1933 was a world oriented around agricultural production. More than just a town, “Tempe” implied both the town and its surrounding countryside, a 24,000-acre farming and ranching landscape irrigated under the Tempe Canal. Sixty years earlier, Anglo and Hispanic settlers had arrived on the south side of the Salt River to develop canal systems and plant fields. By the early twentieth century, Tempe farmers and ranchers produced a variety of agricultural goods: wheat, barley, alfalfa, cotton, dairy, cattle, and a range of fruits and vegetables. Agricultural production, in turn, sustained the town of Tempe, where the local economy rose and fell with the productive capacity of the surrounding countryside. A majority of the town’s laborers worked in processing plants such as the creamery, flour mill, and cotton gins, while along Mill Avenue, the commercial main street, business owners provided essential services to farmers and ranchers. Even the town’s teachers college, which occupied eighty acres south of town, owed much of its institutional appeal to the perceived wholesomeness of the surrounding agricultural landscape. “Tempe,” boasted school officials in their 1939-40 bulletin, “is in all respects an ideal location for a teachers college. One might characterize it as town of

pleasant homes, numbering about 3,000 residents, and situated in the center of the Salt River Valley, the wealthiest and most productive irrigation district in the United States.”

In that sense nearly every element of the Tempe landscape reflected or in some way contributed to agricultural production. The area east of town along the Tempe-Mesa Highway was no exception. The highway followed the meandering course of the Kirkland-McKinney Ditch, which drew water from the main Tempe Canal three miles upstream. Lined with cottonwood trees and other riparian plant life, it ambled along the south side of the road, pausing at timber gates that, when opened, irrigated fields south of Marlatt’s Garage. Those fields, almost all of them leased and worked by hired laborers, changed hands frequently over the years: by the time Gene Marlatt arrived, many were parceled down to less than ten acres, though some property owners such as the Tomlinson and Mullen families still maintained forty-acre farms.

West of Marlatt, a group of Tempe families with names such as Escalante, Galaz, and Granillo occupied la Cremería, one of several Hispanic barrios that clustered west and east of town. Most barrio residents descended from Sonoran settlers who had helped develop the Tempe Canal system in the 1870s. In lieu of cash wages, these settlers had accepted shares, or water rights, in the Tempe Irrigating Canal Company; they also patented quarter-section homesteads along laterals such as the Kirkland-McKinney Ditch, one of which became the subdivided barrio of la Cremería. Like all neighborhoods in

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Figure 1.1. Tempe-Mesa Highway, 1930. The building that became Marlatt’s Garage is at center. Below it, across the street, is the creamery complex. Above it stretches the Hispanic barrio of *la Cremería*. Courtesy Maricopa County.
town, la Cremería relied on the ditch as a source of water to nourish backyard gardens; by accounts the typical la Cremería backyard consisted of “figs, apricots, pomegranates, plums, citrus, quince—along with grapes and all variety of flowers.”

East of Marlatt’s Garage, the landscape became a noisier and fouler-smelling place, as industrial dairy production at the creamery assaulted senses during working hours. “I remember the cloying, nauseating smell of boiling milk,” recalled Jack O’Connor, who in his youth loaded cartons of condensed milk onto Southern Pacific freight trains at facility’s rear platform. Those trains, which ran along a spur on the north side of Tempe-Mesa Highway, made a terrific screeching noise as they applied brakes; delivery trucks and other trucks plying farmed goods along the Tempe-Mesa Highway added to the din, accompanied by the roar of gas-powered tractors and other farm equipment in nearby fields. Exposure to all of this made workdays at the creamery “hot, dirty, miserable,” as another former employee recalled. But at night, when the facility closed and traffic quieted, the sounds and smells of dairy production gave way to rural Salt River Valley noises: wind blowing through trees, water flowing through canal gates, coyotes howling, owls hooting, and crickets chirping. It was, as one local historian writes, “a very rural atmosphere.”


The Metropolitan Revolution

Within forty years, almost everything had changed. By the early 1970s, residential and commercial development extended several miles east, west, and south of the town’s 1930s limits. By then the teachers college, too, had mushroomed into one of the largest universities in the western United States—its enrollment approached thirty thousand, while the City of Tempe’s population exceeded sixty thousand. Just as remarkably, Tempe by the early 1970s produced little in the way of tangible goods such as grain, alfalfa, cotton, or dairy, but much in the way of intangibles such as teaching, learning, and research. By then, greater Phoenix had absorbed the town into its metropolitan maw: agricultural production yielded to suburban consumption, as a producer-oriented agricultural landscape of farms and ranches became a consumer-oriented suburban landscape of houses and university buildings. For Gene Marlatt, that meant new suburban neighbors, as residential subdivisions supplanted cotton fields east of town. Embracing his new customer base, Marlatt further modernized his gas station and made his garage an election day polling place; he also became known as a source of hard-to-find parts for customers throughout the greater Phoenix metropolis.14

The changes observed by Gene Marlatt in Tempe point to a story shared by countless small towns on the edges of American cities in the decades following World War II. After the war, Tempe, the farm-service town and rural countryside, became caught up in the what Jon Teaford calls the “metropolitan revolution.” Like the market revolution of the nineteenth century, the metropolitan revolution arrived on the heels of

new transportation technology that profoundly affected the spatial relationships of cities, towns, and rural countrysides in the United States. Beginning with the rise of the automobile in the 1920s, cities began extending outward, as affluent families moved into bedroom automobile suburbs. The process accelerated dramatically after 1945, as consumer demand for single-family housing, fueled by federal-aid highways, low interest loans for veterans, and federally-backed mortgages, encouraged extensive suburbanization. Rapidly, cities and towns such as Phoenix, Tempe, and Mesa in the rural Salt River Valley encroached upon one another as low-density suburban development metastasized. By 1970, the “single-focus” metropolis, characterized by a regional central city centered on a downtown, orbited by “satellite” farm-service towns centered on main streets, had largely disappeared. In its place emerged the polycentric metropolis, the “amorphous sprawl of population without a unifying hub or culture.” Activities once exclusive to downtowns and main streets—services, shopping, entertainment—suddenly became decentralized. “The central city,” observes Jon Teaford, became “no longer central; most Americans lived in regions, not cities.”

The postwar suburban metropolis, as Becky Nicolaides writes, left “an indelible imprint on American life.” But historians typically view that imprint from one of two vantages: from the vantage of urban capital as it flowed out to new automobile suburbs, where a dominant suburban culture flourished, or from the vantage of central cities, which become progressively hollowed out, leaving behind badly deteriorated services.

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and facilities. Early accounts begin with Kenneth T. Jackson, *Crabgrass Frontier* (1985); Jon C. Teaford, *The Twentieth-Century American City* (1986); and Carl Abbott, *Urban America in the Modern Age* (1987), each of which included chapter-length discussions of the social values, policy decisions, technological developments, and demographic shifts that initiated and accompanied the rise of automobile suburbs after 1945. Subsequent works clarified aspects of the story: in response to the myth of the white, conformist, suburban nuclear family, Rosalyn Baxandall and Elizabeth Ewen developed a social history of families who arrived in Levittown, New York after 1947, while Andrew Wiese focuses on African-American postwar suburbanization. Others link the hollowing out of central cities to corresponding aspects of postwar American life. Robert Self shows how white flight in Oakland prompted the development of black power and conservative tax revolt movements in Northern California; while Adam Rome draws connections between postwar suburbanization and the environmental movement of the late 1960s and 1970s. Robert Beauregard, meanwhile, suggests that postwar suburbanization projected a

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beguiling image of American consumerism as U.S. officials sought to contain Soviet
influence around the world.20

Rarely, however, do we read about the postwar suburban metropolis from the
vantage of farm-service towns and rural countrysides. In his discussion of western
“garden cities,” Carl Abbott observes that “in the regions that grew most rapidly, the
integrated landscape of cities, orchards, and fields, became the armature around which
postwar booms would pack new residents in the tens and hundreds of thousands.”21 But
that “armature” lacks fuller analysis. Not even the literature on American small towns
addresses cities such as Tempe. In his classic study of American small town life, Lewis
Atherton consciously “tried to deal primarily with towns outside the range of ‘standard
metropolitan districts,’” as defined by the 1950 census.22 Likewise, in the course of
researching for Main Street Blues, Richard Davies visited “hundreds of small
communities of less than 2,500 residents” and found that most of them, like his subject
town of Camden, Ohio, had, by the 1990s, sustained “a period of decline for nearly half a
century.”23

But what about small towns that did not decline after 1945? In a recent
historiographical essay, Ruth McManus and Philip Ethington call for longitudinal studies

20 Robert A. Beauregard, When America Became Suburban (Minneapolis: University of Minnesota Press, 2006).
22 Lewis Atherton, Main Street on the Middle Border (Bloomington: Indiana University Press, 1954), xvi-
xvii.
23 Richard O Davies, Main Street Blues: The Decline of Small-Town America (Columbus: Ohio State
University Press), 2.
of suburban places, studies that trace histories of suburbs beyond their initial boom years. The following study attempts just that: it seeks to better understand suburban Tempe in the context of its agricultural past. The danger, otherwise, is that planners in cities such as Tempe may fail to grasp the prewar histories of their communities and, in turn, fail to identify, preserve, and intelligently utilize remnants of the agricultural past. If landscape, as John Brinkerhoff Jackson writes, is “history made visible,” then without an adequate understanding of local history, how can planners adequately see the suburban landscape? Cities such as Tempe need a deeper understanding of their prewar pasts in order to develop a sense of place in their postwar neighborhoods.

Sprawl and Misrepresentations

Instead most urbanists write off cities such as Tempe as “sprawl,” the “low-density, scattered, discontinuous car-dependent construction,” that unfolded over the edges of American cities after 1945. As a descriptive term, “sprawl” adequately illustrates the discontiguous pattern of suburban growth that characterized suburban cities in the 1950s and 1960s. But it fails to consider history. Many wonder if western metropolises such as Phoenix still sprawl at all in the sense that infill has fused together its discontiguous parts; likewise “sprawl” also seems to ignore the ways in which prewar

24 Specifically McManus and Ethington call for studies that project histories of suburbs into the future; but my longitudinal study of suburban Tempe stretches the narrative backward into the area’s rural past to show how prewar landscapes of agricultural production shaped postwar landscapes of suburban consumption. Ruth McManus and Philip J. Ethington, “Suburbs in Transition: New Approaches to Suburban History,” Urban History 34 (August 2007): 317-337.


agricultural landscape shaped discontiguous growth patterns in the first place. As a concept, “sprawl” remains anchored in the postwar period. William H. Whyte’s 1958 essay, “Suburban Sprawl,” first introduced readers to concepts such as “leapfrog growth” and the threats it posed to “open space” in fast-growing regions such as Southern California, where “the subdivisions of one city” began to “meet up with the subdivisions of another,” and whereupon flying out of Los Angeles over San Bernardino one could see “a legion of bulldozers gnawing into the last remaining tract of green between the two cities.” “Aesthetically,” Whyte warned readers, “the result is a mess.” Many took his warning to heart. “Our towns,” writes James Howard Kunstler, “no longer have boundaries, but sprawl out of their old containers into the countryside, where the functions of the town—markets, restaurants, law offices, hair salons, TV repair shops—tend to destroy open space without adding up to a community.”

It may not have mattered to William Whyte, not may it matter to urbanists in our own time, but the “open space” that separated Los Angeles and San Bernardino had a rich history of its own. More than just “tracts of green,” it represented an agricultural landscape made green by irrigation projects engineered during the late nineteenth century: projects that sustained hundreds of miles of citrus groves that, in turn, sustained


small cities and farm-service towns along the Santa Ana River and its tributaries. The forgetting of that landscape, so prevalent among urbanists in our own time, owes to the fact that the metropolitan suburban landscape thoroughly obscured its agricultural predecessor. By the end of the 1960s, even longtime Tempe residents struggled to recognize the town and its surrounding countryside. “Today I am a stranger in my old home town,” lamented Jack O’Connor in 1969. “Phoenix has become a great city that has engulfed much of the pleasant Salt River valley countryside . . . the explosive growth of the university has eaten the heart out of old Tempe.”

In some ways, Jack O’Connor remains a stranger in our own time. Few know anything about pleasant valley countrysides engulfed or towns with their hearts eaten out. As Teaford notes, fast-growing cities on the edges of American metropolises presented as “a world that even scholars and journalists of the late twentieth century had a difficult time comprehending.” Few could even agree on what to call them. Phrases and neologisms such as “technoburb,” “urban village,” “multinucleated metropolitan regions,” “outtown,” “neocity,” “edge city,” and “boomburb” all appeared in the 1980s, 1990s, and 2000s. Similarly, concepts such as “postsuburban” distinguished cities on


31 O’Connor, Horse and Buggy West, 300-302.


the metropolitan fringe from classic bedroom suburbs.34 The new terminology, like “sprawl,” adequately described physical patterns of development, but most failed to consider the ways in which rural landscapes shaped postwar growth. In this literature the past is rarely prologue: out on the urban fringe urbanists puzzle over “new” or even “accidental” cities,” while many confuse newness with a lack of history altogether. James Howard Kunstler refers to cities such as Tempe as “places of no character, no history, and no community,” while Joel Garreau, in Edge Cities, puts it more succinctly: “Edge City’s problem is history. It has none.”35

A Kind of Palimpsest

But “edge cities” do have a history. Viewed longitudinally, they loom as artifacts of America’s midcentury transition from a producer society oriented around primary- and secondary-sector activities—farming, mining, manufacturing—to a consumer society oriented around retail trade, education, and other service-sector activities. The following study echoes some of the ideas formulated by Daniel Bell, who during late 1960s and early 1970s explored dimensions of what he called “post-industrial” society. In post-industrial society, informational goods supersede tangible goods as a basis for economic growth.36 “The ‘post-industrial society,’” Bell told readers in 1967, is


defined as one in which the economy [has] moved from being predominantly engaged in the production of goods to being preoccupied with services, research, education and amenities; in which the professional-technical class [has] become the major occupational group; and—most importantly—in which innovation in the society, as reflected in the changing relationship of science to technology, and economics to the polity, [is] increasingly dependent on advances in theoretical knowledge.\(^{37}\)

Like other metropolitan suburban cities, Tempe illustrates post-industrial society writ large over a farm-service town and rural countryside that, in the decades following the World War II, abandoned agricultural production in favor of service-sector activities. The absorption of Tempe into the Phoenix metropolis involved many factors: the emergence of Arizona State University as a training grounds for the Phoenix electronics industry, the opening of a four-lane highway through town, and the conversion of farms and ranches into residential subdivisions. All brought Tempe figuratively closer to Phoenix; none reinforced agricultural production.

Yet while postwar Tempe experienced dramatic changes, it also offers a story of continuity. “The post-industrial society does not displace the industrial society,” Bell reminded readers. “Like palimpsests, the new developments overlie the previous layers, erasing some features and thickening the texture of society as a whole.”\(^{38}\) M. R. G. Conzen uses the same analogy: “the cultural landscape in its existing character at any point of time is a kind of palimpsest, an accumulated, if partly erased and rewritten, record of human history” reflecting “the mode of life of any particular civilization.”\(^{39}\)

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\(^{37}\) Daniel Bell, “Notes on the post-industrial society (II)” in *National Affairs* 7 (Spring 1967), 102.

\(^{38}\) Bell, *The Coming of Post-Industrial Society*, xciv.

Tempe, the postwar suburban landscape inherited important aspects of its “existing character” from the prior landscape of farms and ranches. Postwar Tempe is an agricultural landscape adapted to the suburban metropolis: a place where section lines became arterial streets, where irrigation water became domestic water, and where orchards became the shade trees of residential subdivisions. As Dolores Hayden writes, “natural features such as hills or harbors, as well as streets, buildings, and patterns of settlement, frame the lives of many people and often outlast many lifetimes.” In Tempe they remain essential for developing a sense of place in the postwar suburban landscape.

The following study divides into three parts: Chapter 2 and Chapter 3 trace the evolution of Tempe’s agricultural landscape, which began as a Sonoran vernacular irrigation settlement and, during the early twentieth century, emerged as a modern farm-service town and countryside embedded within the regional urban system of the Salt River Valley. Chapter 4 and Chapter 5 then focus on the absorption of the agricultural landscape into the postwar Phoenix metropolis—a process initiated by the emergence of Arizona State University and furthered by a four-lane highway that streamlined automobile traffic through the region. Chapter 6 and Chapter 7 discuss the development of a suburban landscape in the surrounding rural countryside, where farms and ranches became overlaid with residential subdivisions, prompting a broad reconsideration of the purpose of flowing surface water in the Tempe area. Few summed up the changes in Tempe more concisely than Mary Leonhard in *Arizona Highways* on the occasion of the town’s 1971 centennial celebration: “Tempe,” she wrote, “for years a quiet farm

community, has changed a lot during the postwar population rush to Arizona. Nearly 70,000 people live there now. And more keep coming.\textsuperscript{41}

\textsuperscript{41} Mary Leonhard, “Tempe Arizona: One Hundred Years Young,” \textit{Arizona Highways} 47 (April 1971): 31.
Chapter 2
A Sonoran Vernacular Irrigation Settlement

The “postwar population rush” did much to transform Tempe and its agricultural landscape after 1945. But the “quiet farm community” possessed more complexity than observers such as Mary Leonhard might have acknowledged. With its farms, ranches, canals, and processing plants, the agricultural landscape in Tempe had every bit the “developed” quality of the suburban landscape that succeeded it. The following chapter describes the foundations of early Tempe, as a desert landscape on the south side of the Salt River emerged as a Sonoran vernacular irrigation settlement. It begins with a story of Winchester Miller and the Sotelo family, whose lives illustrate the depth of Anglo-Hispanic accommodations in early Tempe. Their work involved a range of undertakings: surveying the land, developing irrigation systems, establishing farms, ranches, and commercial enterprises, and building communities—the basics of a nineteenth-century western agricultural landscape.

*Winchester Miller and the Sotelo Family*

Winchester Miller and Tiburcio Sotelo arrived on the south side of the Salt River in 1869 and 1870. They came from different places and spoke different languages, but both shared an urge to renew their lives as farmers on unclaimed land in Central Arizona. Miller, a civil engineer from Iowa, had earlier attempted to move his family to California. In 1863 the Miller family joined a wagon train along the Butterfield stage route, but tragedy struck in El Paso when Melinda Miller died while delivering a child. After accompanying his children back to Iowa, Winchester Miller retraced his steps to Texas
and enlisted in the Confederate army. After the war, he resumed his journey to California, and along the way noted favorable prospects in the Salt River Valley. Miller returned there in 1869 to aid canal-building efforts and file a homestead claim on the south side of the river.42 Within months he was joined by Tiburcio Sotelo. The son of a Spanish comandante at Tubac, Sotelo grew up in the Santa Cruz Valley during a period of hostility between Mexican settlers and Apache fighters. By 1849 the situation had become so untenable that Tiburcio, his wife Manuela, and their young children fled south to the Altar Valley in Sonora. Fourteen years later they returned to Tubac, but found Tumacacori mission in ruins and records of the Sotelo land grant destroyed. Dispossessed of their land, the family settled in Tucson where Tiburcio and his oldest sons, José and Feliciano, worked as laborers. Upon hearing reports of canal building on the south side of the Salt River, they headed north, where Tiburcio filed a 160-acre homestead claim in Section 24, adjacent to the claim filed by Winchester Miller.43

It remains unknown whether Winchester Miller developed a close working relationship with his new neighbors. He had little chance: within two years Tiburcio, José, and Feliciano had perished in skirmishes with the Apache. Miller did, however, develop a very productive relationship with Tiburcio’s widow, Manuela, who arrived with her eight daughters and young son to inherit Tiburcio’s homestead. In January 1873, Winchester Miller married Maria Sotelo, Manuela’s oldest daughter, and thereupon

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established “a kindred relationship” with his Hispanic neighbors. For two decades the Sotelo family relied on Miller’s familiarity with American property law at a time when many Hispanics in Arizona became dispossessed of their lands. In 1890, he guided Manuela through the process of obtaining a patent on her husband’s homestead; he then arranged for a surveyor to plat a narrow subdivision on the north side of the Kirkland-McKinney Ditch, which bisected Manuela’s quarter-section. This subdivision, called the “Sotelo Addition to Tempe,” allowed Manuela to legally convey property to her children and their families. Known variously as “la Cremería,” “Sotelo Ranch,” or “Barrio del May’s,” the addition emerged as one of several Hispanic barrios located south and east of Tempe Butte.

North of the Sotelo Addition, Winchester Miller and Maria Sotelo established one of the finest ranches in early Tempe. At the northeast corner of what is now University Drive and Rural Road, the couple built a spacious two-story adobe house—an anomaly among the modest one-story Sonoran-style houses that dotted the early Tempe landscape. Besides cultivating staple crops such as wheat and barley, Miller maintained an orchard of plum, peach, pear, apricot, and apple trees. Behind the house, Maria maintained a subsistence vegetable garden; she almost certainly bartered with her mother, Manuela, who drew water from the Kirkland-McKinney Ditch to cultivate her own garden, which yielded corn, beans, squash, and herbs. Water gave the Sotelo Addition a sense of


permanence. In an era when Hispanic settlers also became dispossessed of their water rights, Manuela and neighboring irrigators along the Kirkland-McKinney Ditch enjoyed the security of knowing that their ally, Winchester Miller, controlled the local canal company as president and zanjero—the person responsible for manually opening and closing canal gates to ensure a fair distribution of water.47

The relationship between Winchester Miller and the Sotelo family underscores what one historian describes as “the interracial cooperation that characterized some late nineteenth-century Arizona communities including Tempe.”48 But cooperation between Anglos and Hispanics meant more than social accommodation: it had tangible effects on the landscape. Anglo settlers knew how to survey lands, set up county government, and mobilize canal-building in a capitalistic manner, but they had less first-hand experience meeting basic material needs in the Sonoran Desert. For this they turned to their Hispanic neighbors, who built early Tempe’s adobe buildings, engineered its canal system, planted its gardens, and introduced some of its early farming styles. “Mexicans and Anglos,” one local historian observes, “worked hand in hand to build early Tempe.”49 In so doing they transformed the desert in multiple ways to form the basis of Tempe’s agricultural landscape.


The Setting

Tempe is located in the Salt River Valley, an alluvial plain in the Sonoran Desert of North America, which covers most of southern Arizona and extends into the Mexican states of Sonora and Baja California. Physiographically, the Salt River Valley belongs to the Basin and Range province of western North America, which covers all of Nevada and much of eastern California, western and southern Arizona, southern New Mexico, and much of Sonora. Like all Basin and Range landforms, the Salt River Valley developed an estimated seventeen million years ago when disruptions along the San Andreas Fault in California stretched the earth’s surface west of the Rocky Mountains. In what is now the Basin and Range province, stretching ruptured fault lines along which great bands of rock uplifted and down-dropped, creating a rough, uneven topography of mountains, escarpments, and gorges. Over time, erosion stripped away looser sediments from the mountains; these sediments spread evenly over lower elevations to form broad plains of unconsolidated basin fill: valleys broken by elongate ranges and pock-marked by the remains of ancient uplifted volcanic rock, such as the four hundred-foot andesite butte that rises up along the south banks of the Salt River at Tempe.50

Shadowed by the Peninsular Ranges of California and Baja California, the Salt River Valley receives only seven inches of rainfall annually; temperatures during summer months regularly exceed one hundred degrees Fahrenheit. But while coastal mountains to the west block moist ocean air from reaching the Salt River Valley, larger mountains to

the north and east (see fig. 2.1) replenish it with an abundance of surface water. From its source in the White Mountains, the Salt River drains much of the Mogollon Rim region in eastern Arizona, and fifteen miles upstream from Tempe it absorbs the Verde River, which drains the Central Arizona Highlands that stretch more than one hundred miles north to the San Francisco Peaks in Coconino County. Between the two watersheds, the lower Salt River drains more than twelve thousand square miles, making the Salt River Valley, in the words of Thomas Sheridan, “the greatest conjunction of arable land and flowing water in the Southwest.”\textsuperscript{51} Flowing water, however, invites seasonal floods. In the years before storage dams, heavy runoff from the mountains periodically overwhelmed the Salt River and flooded the valley. But with floods came alluvium deposits that enriched the soil; flooding also caused excess surface water to percolate down into the basin fill, creating vast subterranean reservoirs called basin-fill aquifers.\textsuperscript{52}

Americans who arrived in the Salt River Valley in the aftermath of the Mexican American War marveled at the volume of water they saw flowing down the Salt River. Many made sanguine predictions about the valley’s agricultural future. In 1852. John Russell Bartlett of the U.S. and Mexican Boundary Commission led a party on “a short


Figure 2.1. Location Map. Tempe is located on the south side of the Salt River in Central Arizona, south of the Central Arizona Highlands and west of the White Mountains. Courtesy Arizona Geographic Alliance, Arizona State University.

trip up the river Salinas.” At the Salt-Gila confluence they observed an “exceedingly rich” basin one to four miles wide. “As it is but little elevated above the river,” noted
Bartlett, “it could be irrigated with ease.”53 All around them lay material evidence that an earlier people had undertaken such efforts: near the Salt-Gila confluence Bartlett discovered “an immense quality of broken pottery, metate stones for grinding corn, and an occasional stone axe or hoe.”54 Further upstream the party crossed a series of abandoned irrigation canals, some more than twenty feet wide, and observed the ruins of ancient buildings that presented “a striking resemblance to the mounds which mark the site of ancient Babylon.”55 Clearly, Bartlett concluded, the Salt River Valley had, at some point, sustained an irrigation society that cultivated the soil and built permanent settlements.

A decade later, residents of Arizona’s early mining communities made comparable discoveries and published similar assessments of the region’s agricultural potential. In 1864 Joseph Pratt Allyn, a territorial supreme court justice in Prescott, followed the Verde River downstream to where it met the Salt River on the east side of the valley. “There is an abundance of water,” he told readers of the Arizona Miner, “and acequias [ditches or canals] could easily be constructed to irrigate the whole.” On the south side of the valley, Allyn observed one exceptionally large canal embracing the ruins of a “city six or seven miles across, in a straight line, with the known density of an Aztec population.” Further south he ascended a mound formed by the foundations of an ancient building and surveyed the surrounding landscape: “the eye sweeps over the vast


54 Ibid., 243.

55 Ibid., 245.
extent,” Allyn noted. “The soil is rich, and only needs the moistening of irrigation to be transformed from a desert to a garden. Here is conjoined nearly a thousand square miles of fertile soil, smoothed out to the hand of the husbandman; and the largest quantity of running water in the Territory. Here was the dense population of the past. Here will be the granary of the future.”

*Early Surveys and Settlements*

There could be no granary, however, without newcomers. Eager to encourage settlement in the Salt River Valley, federal officials in 1867 dispatched surveyor William Pierce to assess the region’s prospects. His report, too, offered a favorable impression. “I consider this valley,” Pierce wrote, “as containing some of the best agricultural land I have yet seen in the Territory, and would recommend that it be subdivided at an early day.” Subdivision meant a cadastral survey, the government’s first step toward transferring public western lands into the hands of private owners. A cadastral survey involved partitioning the land into grids of square-mile sections subsumed within larger grids of thirty-six-square-mile townships. Actual disposal of public lands would occur at general land offices in Prescott and Florence, where applicants could file cash-entry claims; alternatively applicants they could file low-cost homestead claims on 160-acre quarter-section tracts, provided they demonstrate material evidence of farming within five years. In this manner, much of early Tempe became settled by prospective farmers.

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eager to obtain 160-acre homesteads. From his starting point on a hill near the
confluence of the Salt and Gila rivers, Pierce began mapping the valley. But before he
and his assistants could finish their work, Army officials withdrew the party’s military
escort, prompting Pierce to abort the survey for fear of Apache attack. This perennial
threat, coupled with the absence of a nearby market for farmed goods, accounts for the
absence of permanent settlement in the Salt River Valley through the early 1860s. By the
end of the decade, however, the U.S. Army had resolved both issues. In 1865, a company
of California Volunteers established Camp McDowell on the lower Verde River. Though
strategically located on a major north-south transportation corridor, Camp McDowell
possessed terrible farmland, and its officers soon began looking to the Salt River Valley
as a source of grain for soldiers and hay for horses. In 1866 they contracted with John
Smith, a former member of the company, to harvest wild hay on the north side of the Salt
River. Then a year later, Smith’s wagon driver, Jack Swilling, organized the Swilling
Irrigation and Canal Company. Swilling, like Bartlett and Allyn before him, recognized
the scale of ancient irrigation. After abandoning a strenuous ditch-digging project near
what is now Papago Park, he and his team of American and Hispanic laborers set about
clearing and re-opening ancient canals three miles to the west. The settlement that

58 According to Bureau of Land Management records, the General Land Office issued 101 land patents in
Township 1 North, Range 4 East, Gila-Salt River Meridian (the Tempe-area townsite) before 1900: 56 were
authorized under cash entry, 38 homestead, 4 scrip, and 3 timber culture. Historians sometimes judge the
Public Lands Survey System as a failure, especially in areas where profitable extensive agriculture required
farms larger than 160 acres. But in an a broad, alluvial valley well suited to irrigation, the system could
sustain profitable family farms, especially where conditions allowed for high-value intensive crops such as

developed around the canals became known as “Phoenix” for having risen from the ashes of the former civilization.  

Protection from the Apache, a nearby market for grain and hay, and a reputation for dry air and mild winters began attracting scores of settlers to the north side of the Salt River Valley. “So,” concluded an early Phoenix booster in a January 1868 letter to the Arizona Miner, “if you wish a good farm or mine, to get rid of your fever, or to spend a happy and prosperous New Year, come up the Salt River.” Many did just that, as Anglo settlers from northern Arizona mining communities joined Hispanic newcomers from southern Arizona and Sonora. In 1870, an officer stationed at Camp McDowell informed superiors of “a thriving settlement, named Phenix [sic], established by American and Mexican settlers.” That same year, Sylvester Mowry told San Francisco readers of a single twenty-acre farm in Phoenix that cleared $1,600 the previous calendar year. “The fact is, Lieutenant,” the farm’s owner told Mowry, “You only have to scratch the sile, turn on the water, and it laughs right off, with a crop.”

Reports such as these prompted the federal government to renew surveying efforts in the Salt River Valley. In the spring of 1868, brothers Wilfred and George Ingalls resumed Pierce’s unfinished work, staking out townships, sections, and quarter-sections


63 “Phoenix, —Salt River,” The Weekly Arizona Miner, 7 January 1871.
In the valley. In April 1868, they arrived at a point on the south side of the Salt River eight miles east of Phoenix, where they encountered “level land,” “1st and 2nd rate” soil, and desert scrub consisting of “mesquite and greasewood.” On their plat map they identified the area as Township 1 North, Range 4 East (see fig. 2.2). Earlier, in 1853, Bartlett and his surveying party had found the riparian zone along the base of the butte in this area “so thickly overgrown with weeds and brushes that we could not penetrate it;” but further back from the river they had encountered an open plain marked by “many traces of ancient irrigating canals”—evidence that Township 1 North, Range 4 East had, at one point, sustained irrigated agriculture. Besides level land and good soil, the township also featured a natural bedrock river crossing where wagon roads to Wickenburg, Camp McDowell, Phoenix, and Maricopa Wells all converged. The township seemed destined for settlement. The Army inspector James Fowler Rusling noted as much upon reaching the place in 1867: “there are fine lands all along the bottoms of the Salado, and enough water flowing there to irrigate many thousands of acres . . . in time no doubt there will be flourishing settlements there.”

In the fall-winter of 1869—the exact date remains unclear—William Kirkland and James McKinney of Phoenix arrived at the base of the butte and began organizing a team of laborers to establish a canal head upstream on the south side of the river near what is

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65 Wilfred F. Ingalls, April 1868, Cadastral Survey Field Notes for Township 1 North, Range 4 East, Bureau of Land Management, Arizona Public Room, Phoenix, Arizona.


Figure 2.2. General Land Office Plat Map, 1868. Courtesy U.S. Bureau of Land Management.

now Dobson Road in Mesa. Following the model set by Mormon irrigators in Utah, Kirkland and McKinney organized their project as a joint-stock water company. In lieu of cash, they offered laborers shares in the company with corresponding water rights. This

68 Farish, History of Arizona, 4:308.
attracted Anglo and Hispanic laborers—individuals such as Winchester Miller and Tiburcio Sotelo—eager to establish farms and replicate the success enjoyed by Phoenix farmers on the north side of the river. When finished, the Kirkland-McKinney Ditch angled south and east, terminating at Kirkland’s homestead on the east slope of the butte. On their heels, a group of Hispanic settlers arrived on the west side of the butte to begin developing a similar canal system with a head near what is now Beck Avenue in Tempe. Unfamiliar with the cadastral survey and American land tenure policies, they mistakenly squatted in Section 16, the township’s public school section—but their ditch eventually brought four thousand acres under cultivation.\(^\text{70}\)

*Charles Hayden*

For Miller, Sotelo, and others who arrived on the south side of the Salt River to claim public lands and establish farms and ranches, questions lingered about the viability of commercial agriculture on the south side of the Salt River. Who to mill the grain and sack the flour? Who besides the Army to buy it? Who to haul it to market? The answer was Charles Hayden. Born to an affluent Connecticut family, Charles Hayden had arrived in Independence, Missouri during the Mexican American War to assume operational

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control of his cousin’s dry goods store. After the war, he began making regular trading excursions from Independence to Santa Fe, and by the 1860s he and his business partners had established themselves as fixtures on the Santa Fe Trail, hauling merchandise to Santa Fe, El Paso, Tucson, Chihuahua, and scores of other southwestern mining towns and military forts. After the Civil War, Hayden relocated his business to Tucson. During the Apache Wars, he secured an Army contract to haul freight between Yuma, Tucson, and Prescott. On one of his trips, while staying overnight in Florence, he learned of a reliable Salt River crossing “at a large and small butte near the south bank of the river, opposite some rocky hills on the north side.”

Hayden arrived the following day to find the Salt River at flood stage. Waiting several days for the waters to recede, he ascended the butte and, like other surveyors, explorers, and visitors before him, developed a favorable impression of the area.

As his freighting business prospered through the late 1860s, Hayden observed the success of farmers in Phoenix and watched as Kirkland and McKinney began their irrigation project on the south side of the river. Then in November 1870 he moved to establish the Hayden Milling and Farm Ditch Company, which claimed 10,000 miners’ inches of water on the south side of the river. Primarily Hayden intended to build a flour mill: with scores of settlers establishing nearby grain farms, he may have imagined himself vertically integrating the flour mill with his freighting business to gain an advantage in the Prescott trade. A month later, Jack Swilling, B. W. Hardy, and four

71 Ilya Berelov and Victoria D. Vargas, “The Story of Charles Trumbull Hayden and His Family” in Vargas, Hayden Flour Mill, 1:44

associates from Phoenix followed Hayden’s lead, organizing the Hardy Irrigating Canal Company, which claimed 20,000 miners’ inches of water on the south side of the river for “milling, farming, and other purposes.” Issuing stock to investors at $100 and later $200 per share, they established a canal head near what is now Country Club Drive in Mesa. Like the Kirkland-McKinney Ditch, two miles to the west, the Hardy Irrigating Canal Company attracted Anglo and Hispanic laborers by offering shares in the company in exchange for work: one share for every 100 days of work, with additional half-day credits for every pack animal furnished (see fig. 2.3). Each share also came with a corresponding water right. One share, in theory, could irrigate a 160 acres.

In January 1871, both the Kirkland-McKinney group and Charles Hayden sold their canal and water interests to the Hardy Irrigation Canal Company, which changed its name to the Tempe Irrigating Canal Company. With the name “Tempe,” the company alluded to the Vale of Tempe in Greece in hopes of cultivating a similarly verdant landscape. To execute the merger, the company’s directors honored Kirkland-McKinney Ditch shareholders; they also offered Hayden seventeen shares, or 2,000 miners’ inches of water, on the condition that he move ahead with his flour mill plans. Upon joining the company, Hayden filed two 80-acre cash-entry claims in Section 15, which together encompassed the river crossing and the west slope of the butte, where a natural twenty-

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73 Quoted in Christine Lewis, “The Early History of the Tempe Canal Company,” *Arizona and the West* 7 (Autumn 1965): 229. A “miners’ inch” measures flow rather than volume; approximately 100 miners’ inches irrigated 160 acres, so theoretically 20,000 miners’ inches irrigated fifty sections of land, or one and a half townships.

74 Pry, *Oasis in the Valley*, 7-8.
four-foot drop in the terrain made for a good mill site. Laborers then relocated the head of the Kirkland-McKinney Ditch to the company’s main canal and extended it as a lateral around the base of the butte to the mill site, where the water accelerated through the drop; this extension of the Kirkland-McKinney Ditch became known as the Hayden Canal.

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Farming Landscapes

Like other western irrigation projects, the Tempe Canal system reflected new modes of production that flourished in the United States after the Civil War. At a time when Americans “assumed, as never before, that they had the power to create a world of their own design,” the Tempe Canal’s shareholders transformed the desert into productive farmland; they also engaged in a type of agriculture that, compared to traditional rain fed agriculture back east, seemed more controlled and more reliable.77 “Under the clouds,” noted one local booster, “the farmer’s business is a lottery. Under irrigation his business becomes a science. He knows what he can do. He knows what to do. He gets moisture where he needs it and gets it when it is needed most.”78 This “science” of irrigation, of course, depended on an array of working parts: a diversion dam, a head gate, canals, moveable gates, laterals, and ditches. It embodied the complexity of factories back east, and like others who engaged in new industrial modes of production after 1870, early Tempe settlers came to regard the working parts of their system as indispensable capital goods, the focal points of their new livelihoods. “To Arizona,” wrote a booster writer in 1890, “irrigation is what the life-blood is to man, or the piston-rod is to the steam engine.”79

When completed, the Tempe Canal system irrigated some 24,000 acres, a broad agricultural landscape extending east, south, and west of the butte. From its head on the


78 A. J. Wells, Salt River Valley Arizona (San Francisco: Sunset Magazine Homeseekers’ Bureau, 1912), 11.

79 John A. Black, Arizona: The Land of Sunshine and Silver, Health and Prosperity; the Place For Ideal Homes (Tucson: John A. Black, 1890), 58.
Salt River, the system consisted of a rock-and-brush diversion dam that channeled water through a moveable wood headgate into a twenty-foot-wide main canal. A mile downstream, the canal halted at a second gate before spilling into its half-mile-long “trunk ditch,” which fed smaller channels called laterals, each headed by moveable wood gates. Laterals received water from the trunk ditch according to a set schedule administered by zanjeros such as Winchester Miller, who opened and closed gates to regulate flows. The system’s first lateral, the Kirkland McKinney Ditch, irrigated the fields of homesteaders east of Tempe Butte before emptying into the Hayden Canal, which carried water to the mill site. A second lateral, the Western Branch, angled southwest to Section 25, where it split into two smaller laterals. A southern extension of the main Tempe Canal, finished by 1890, meandered south to a mile below the baseline, where it fed a second network of laterals that irrigated lands south of the immediate Tempe area.80

Gravity fed the entire system. The main Tempe Canal adhered to the contours of the terrain and meandered across the landscape, while laterals such as the Morrow Ditch and the Petersen Ditch, which split from the Western Branch, followed section and quarter-section lines that separated one farm from another. Moveable gates regulated the amount of water delivered into individual ditches; ditches in turn flooded fields at a high elevation points.81 Private property owners maintained their own ditches, but shared the

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81 For a description of this system as it existed in the twentieth century see William J. Frazer, “Changing Patterns of Land Utilization Within the Salt River Valley of Arizona,” PhD diss., University of Michigan, 1959, 174-175.
responsibility of maintaining laterals with their neighbors, while all water users in Tempe shared the costs of maintaining the main canal system. In this way, the system’s shareholders paid only for the maintenance of system components they used: by 1900 annual maintenance fees totaled about fifty dollars, while single shares in the Tempe Irrigating Canal Company appreciated to about four thousand dollars apiece, an indication of the system’s success and the wealth it generated for its water users.82

Early visitors marveled at the effect of irrigation on the Tempe landscape, as greasewood and mesquite gave way to green and gold fields of alfalfa and barley. “The irrigating canals or acequias,” noted New England journalist Sylvester Baxter in 1888, “are marked features of the landscape. They give the soil its fertility and are again converting these valleys into luxuriant gardens.”83 As an unintended consequence, canals, laterals, and ditches also sustained strands of cottonwood trees and other forms of herbaceous plant life that grew naturally in riparian zones along of the Salt River. “Where the canals or ditches have been established a few years,” noted Baxter, “long lines of trees mark their course and give beauty to the landscape.”84 For local boosters this became a selling point. “And let us ask you,” ventured the authors of an early promotional pamphlet, “is it not a pleasant sight to see a stream of pure water running through or upon one’s farm and growing upon either side of its banks evergreen or stately

84 Hinsley and Wilcox, eds., The Southwest of the American Imagination, 151-152.
shade trees?85 For generations of Tempe residents, the answer would have been a resounding “yes,” as irrigation canals served as favored places of recreation, particularly during hot summer months.

85 Salt River Valley, South Side: The Fruit Belt of Arizona (Tempe: Shultz & Franklin, 1892), 32.
Looking back, many of the area’s early farmers reminisced about how easily they had cleared the land and established farms. Lacking boulders, tree stumps, hills, and gullies, the Salt River Valley posed few of the challenges associated with farming starts back east—and just as well, too, as the area’s remoteness meant almost no access to modern equipment. “Freights were high and hard to get anything here,” recalled Charles Roberts, who farmed 160 acres in Section 24. “If a man had a plow a dozen borrowed it.” James T. Priest, who homesteaded along the northern edge of Section 20, recalls planting wheat with an “Indian plow,” or bent stick. But the forgiving desert soil accommodated such rudimentary tools: on the terraces of the river basin, plant life consisted mostly of loose scrub, which settlers easily cleared away. By the 1880s an experienced crew could clear 160 acres and prepare a new field in a matter of days. “The growth of sage-brush or greasewood,” observed Baxter,

is cleared off with slight trouble or cost; a stout bar or beam is dragged across the land by a pair of horses, one attached to each end. The bushes are displaced by the powerful leverage at their bases as the beam is dragged over them. The team then follows the same course in the reverse direction and completes the destruction, either yanking up the bushes by the roots, or breaking off the brittle wood close to the ground. The brush is finally gathered into great piles and burned, making a strong, clear flame that shows across the country for a great distance.

By the 1880s desert fires such as these lit the night sky on a regular basis. “Daily,” noted Baxter, “the rich fields widen and the desert shrinks; at night the burning brush on the clearings dots the horizon with its flames like the lamp-lines of a city’s environs.” Few could have failed to grasp the significance of this spectacle as the desert succumbed to a

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86 Anderson, Tempe Canal, South Side of Salt River, 6.

87 Hinsley and Wilcox, The Southwest of the American Imagination, 169.

88 Ibid., 114.
new landscape. “It is not long,” Baxter told readers, “before the whole country is cleared, changing the aspect of the locality entirely.” Seventy years later, the occasion would repeat itself.

Farming Livelihoods

Early Tempe farmers and ranchers often reaped remarkable rewards. “Many of these settlers who came into this valley a few years ago with nothing but their blankets,” noted Baxter in 1888, “have already handsome fortunes.” None more so than Niels Petersen, a Danish immigrant, who arrived in 1871 to work on the Tempe Canal. Petersen obtained two shares in the canal company and homesteaded on 160 acres in Section 29. Over time, he managed to buy out adjacent lands and additional water rights to the point where he had assembled a 1,250-acre ranch and became one of the area’s major producers of cattle, hay, and grain. His contemporary, Manuel Gonzales, succeeded in the same manner. Born and raised in Hermosillo, Mexico, Gonzales arrived in 1869 with his eight brothers to work on the Kirkland-McKinney Ditch. Obtaining a share in the canal company, he homesteaded on 160 acres in Section 13 and eventually acquired four additional quarter-sections. At the time of his death in 1898, Gonzales’ ranch produced wheat, barley, alfalfa, and corn. He also possessed forty heads of cattle and kept six horses, and a mule, and several dairy cows.

89 Ibid., 169.

90 Ibid., 170.


The success enjoyed by Niels Petersen and Manuel Gonzales underscores the degree to which Anglo and Hispanic settlers reaped rewards in early Tempe. Both groups played key roles in the development of the agricultural landscape. Unlike most of their Anglo counterparts, however, many Hispanic settlers arrived with practical knowledge of canal building, irrigation, and adobe construction as practiced by generations of ancestors in the river valleys of Sonora and southern Arizona. As builders, they constructed most of the area’s earliest dwellings. One local architectural historian observes that practically all of the buildings in early Tempe derived from the “Mexican flat-roofed dwelling type,” including those of Anglo settlers such as Niels Petersen, who for decades inhabited a modest one-room adobe house on his ranch.93 Open canals and ditches, too, had a Sonoran vernacular quality. In 1878 the journalist Richard Hinton lauded Hispanic settlers as “natural” engineers who could “construct an acequia with unerring exactness, find the right place at which the water may be reached, and whereat sufficient fall may be obtained.”94 The Hayden Canal offers case in point: brothers Juan and Placido Soza, who together grew up on an irrigated farm in the San Pedro Valley near Tucson, helped to engineer and then excavate the channel, which delivered water from the Kirkland-McKinney Ditch to Hayden’s flour mill. Juan Soza went on to work for Hayden for many years.

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years as miller; in 1873 he married one of Manuela Sotelo’s daughters and later emerged as a leader of the local Hispanic community.95

Communities

Nowhere did early Tempe more clearly express elements of Sonoran vernacular architecture than in San Pablo, an Hispanic barrio situated at the southern base of Tempe Butte. San Pablo started in 1873 when William Kirkland subdivided a triangular eighty-acre portion of his homestead into a townsite. With proceeds from the sale of town lots, Kirkland established a fund for the construction of a Catholic church. Dedicated to Our Lady of Mt. Carmel in 1881, the whitewashed adobe church (see fig. 2.5) became a gathering place for the Hispanic community in Tempe, and around it clustered rows of flat-roofed adobe houses set up against San Pablo’s unpaved streets in the manner of a Sonoran village. Two general stores and a saloon also served the neighborhood, and behind the church a footbridge spanning the Hayden Canal led to a small cemetery at the foot of the butte; locals also probably buried their dead on higher ground in the “saddle” of the butte. Though technically built on public land (Kirkland never patented his homestead), San Pablo thrived. Few if any protested its legality. In 1886 a Maricopa County judge resolved the matter by submitting a cash-entry claim on the eighty acres. Two years later, surveyors filed a plat called “East Tempe” allowing San Pablo residents to obtain legal title to their lots.96


San Pablo served as a focal point for the early Tempe Hispanic community. Anglos called it “Mexican Town,” “Sonora Town,” or “Chihuahua.” Some regarded it as a nuisance—reports of respectable men found “boiling drunk” in San Pablo peppered Phoenix and Tempe newspapers. One 1893 editorial called San Pablo “an eyesore to Tempe” and proposed it “be wiped off the face of the earth”—but no serious threats to the neighborhood came to pass until after 1950.97 Some appreciated aspects of Sonoran culture found only in the barrio. Jack O’Connor, who grew up in a house adjacent to San

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97 “Dissipated Funds,” Arizona Republican, 8 March 1895; “Sonora Town,” Arizona Republican, 29 July 1893.
Pablo, wrote nostalgically about its smells: “a mixture of damp earth” with “garlic, onions, and chili, faint overtones of human droppings, and woodsmoke—a spicy, delicious, characteristic smell found nowhere but in Mexican villages.”

From the standpoint of the agricultural landscape in Tempe, San Pablo served as an important source of labor—and nobody in early Tempe made better use of San Pablo’s labor force than Charles Hayden, whose flour mill, ferry service, freight yard, general store, and other business activities on the west side of the butte required a team of fifty workers, many of whom made the short walk from San Pablo. Hayden easily ranks as the doyen of early Tempe commerce. As a miller, he purchased locally grown wheat and barley; as the proprietor of a blacksmith shop and a Salt River ferry, he provided essential services to freighters; and as the proprietor of a general store, Hayden provided early Tempe residents access to imported goods. He also maintained a panoche sugar mill, a hog farm, and one of the finest Tempe orchards, which yielded figs, cherries, pomegranates, oranges, and lemons. His cluster of buildings and business activities on the south side of the Salt River greeted visitors from Phoenix and Camp McDowell. Accordingly, the U.S. Post Office called his cluster of buildings “Hayden’s Ferry” upon establishing a post office there in 1872. To many visitors, Hayden’s Ferry constituted the creation of an American town. “We cross the stream, which is fordable, at a point opposite Hayden’s mill,” observed a Prescott visitor in 1877. “The numerous buildings loom up before us and present the appearance of a town . . . we find a three-story mill, a

98 O’Connor, Horse and Buggy West, 96.

Figure 2.6. The Appearance of a Town at Hayden’s Ferry. Top, Charles Hayden at his general store with staff; bottom, Hayden’s flour mill. Courtesy Tempe History Museum.
store and numerous houses and buildings, all necessary to conduct the varied occupations of Mr. Hayden.”

By the 1880s, Hayden’s Ferry emerged as the central place of Tempe—the focal point of the area’s commercial activity and social life. At their sprawling adobe residence, built across the street from the mill, Hayden and his wife, Sallie Davis, hosted parties for local farmers and ranchers and maintained the area’s largest collection of books; the couple also took on boarders and eventually opened a hotel and restaurant on the property. Hayden’s Ferry, notes one historian, emerged as “the beehive around which swarmed the economic activity of the community.” Above it all, literally, stood Hayden’s adobe flour mill. Rising three stories above the base of the butte, it loomed large over the road leading visitors from the river to Hayden’s Ferry: this road became known as Mill Avenue. No institution in early Tempe seemed so overtly industrial. The mill obtained motive power from a waterwheel turning day and night, seven days a week. Every month the facility produced 300,000 pounds of flour, much of it shipped to northern mining communities. In 1880, Hayden doubled this output with the installation of a Leffel turbine; expansions to the physical plant followed as Hayden began marketing his flour throughout Arizona and the Southwest. To many visitors, Hayden’s mill evoked the scale of eastern industry and foretold of Hayden Ferry’s becoming a center of

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100 “From Our Regular Correspondent,” *Arizona Weekly Miner*, 27 April 1877.


agricultural production. “The water power there,” noted a visitor in 1879, “is sufficient to run a dozen factories, and it is only a question of time when Hayden’s ferry will be the Lowell of Arizona.”104

Harnessing water remains the most significant achievement of Tempe’s earliest settlers, who transformed a desert landscape into a productive agricultural landscape and built the foundations of a farm-service town at Hayden’s Ferry. During the 1870s and 1880s, Anglos from the north joined Hispanics from the south to develop an irrigation settlement on the south side of the Salt River—a settlement shaped by patterns of American land tenure but textured by elements of Sonoran vernacular architecture. Many aspects of the early settlement would persist through the early twentieth century: farmers and ranchers would continue cultivating wheat and barley, Hayden’s flour mill would continue churning out sacks of flour, and San Pablo would remain the center of Tempe’s Hispanic community. But other aspects of the early settlement would fade from view, as Tempe matured along the lines of a modern farm-service town: that meant diminishing many of the settlement’s Sonoran qualities in favor of an “American Eden” vision that its residents shared with settlers in Phoenix, Mesa, and other Salt River Valley communities—a vision that, above all, required railroad transportation to overcome geographical constraints.105

104 *The Salt River Herald*, 18 January 1879.

Chapter 3

“Distinctly an Agricultural Town”

During the late nineteenth and early twentieth centuries, Tempe greatly expanded the volume and variety of its agricultural production under the stimulus of railroads, capital investment, and institutional development—and in so doing distanced itself from its Sonoran vernacular origins to take on the outward appearances of a modern American farm-service town and rural countryside. The following chapter describes how Tempe’s agricultural landscape modernized through early twentieth century. It begins with a story about the “Kansas people,” a group of families who arrived in the early 1890s with different expectations for life in Tempe: access to imported manufactured goods, markets for specialized crops such as citrus, and a modern American farm-service town to provide all the essential services required by commercial farming and ranching. By the 1890s Tempe offered all of those possibilities. The isolated settlement had given way to a modern agricultural landscape: a countryside reinforced by industrial-scale processing plants and a farm-service town offering imported goods and building materials, all of it embedded with a larger regional urban system with access to distant markets.

“Kansas People”

Settlers from northeastern Kansas began arriving in Tempe in the fall of 1890. Called the “Kansas people” by local newspaper editors, they abandoned the Sunflower State after years of drought, harsh winters, and economic anxiety. Unlike earlier Tempe settlers such as Winchester Miller and Tiburcio Sotelo, they showed little interest in homesteading on 160 acres. Instead, they settled on what Arizona Republican editors
called “Salt River Ranches of Future,” intensively cultivated twenty-acre farms clustered together in “colonies.”'^106 Unlike earlier settlers, they arrived not on foot or by horse, nor did they come without wives and small children; instead they traveled as big groups of families aboard Santa Fe and Southern Pacific passenger trains, and they arrived with an abundance of material essentials. “For accompanying them on the same train,” noted observers of one colony that pulled into Tempe’s passenger station in 1891, “were five carloads of household goods and farming implements.”'^107

Pushed from Kansas by drought and blizzard, the Kansas people were also pulled to Tempe by glowing accounts of the area offered by Schultz & Franklin, a local real estate brokerage firm. In a pamphlet widely distributed in Kansas, the firm extolled Tempe’s climate—“where the sun shines over three hundred and forty days each year”—and, invoking a familiar refrain, touted irrigated agriculture as an improvement over the capriciousness of rain fed agriculture back east.^[108] Such a description would have resonated with drought-stricken Kansas farmers. A decade later it certainly would have resonated with William Ellsworth Smythe, the leading proponent of western irrigation. “Ten acres in southern Arizona constitutes a good-sized farm,” Smythe told readers in *The Conquest of Arid America*. “Variously planted to vegetables, small fruits, orchards, and grass, and cultivated by the most modern methods, such a farm should yield a far better living and make a surer provision for old age than one hundred acres in the Eastern or Middle States, which depend upon rainfall, and consequently produce the cheaper

106 “Beautiful Homes, Arizona Republican, 05 April 1891.

107 “Kansas Contributes,” Arizona Republican, 10 October 1891.

108 Salt River Valley, South Side, 32.
class of crops.” Small farms also pointed toward a more wholesome form of urbanization: “Instead of crowded cities festering with vice and poverty,” Smythe told readers, “throughout Arid America are farms that blend into beautiful towns, and towns that shade almost imperceptibly into peaceful farms.” By the early twentieth century Tempe was becoming just such a place. “It is distinctly an agricultural town,” local boosters reminded readers of *Arizona* magazine in 1910, even as aspects of modernization such as the railroad and the establishment of a teacher training institutions served to soften the rougher edges of Hayden’s Ferry.

*The Maricopa & Phoenix Railroad*

One cannot overstate the impact of railroading on nineteenth-century western landscapes, particularly where distance undermined the profitability of primary-sector activities such as farming and ranching. In 1877, the Southern Pacific bridged the Colorado River at Yuma to begin transforming southern Arizona into what Thomas Sheridan calls “an extractive colony of the United States.” But farmers in Tempe and the Salt River Valley found themselves on the margins of that colony, as the Southern Pacific tracks reached only the town of Maricopa, thirty miles to the south, before veering south toward Tucson. Talk of a narrow gauge line connecting Phoenix and Tucson by

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way of Tempe surfaced in 1883 but the project never got underway; then in December 1884 a group of Phoenix businessmen sent an emissary to San Francisco to make a direct appeal to Southern Pacific officials. A month later, with the Southern Pacific’s blessing, a group of investors incorporated the Maricopa & Phoenix Railroad. The new railroad would function as a spur from the Southern Pacific main line, connecting the town of Maricopa to Phoenix. The investors received assistance from the Pacific Improvement Company, a Southern Pacific subsidiary, but more substantial backing came from Maricopa County taxpayers, who authorized bonds to cover the costs of construction.113

But first the Maricopa & Phoenix Railroad had to settle on a route. Surveyors initially expressed preference for a line that skirted the western slope of South Mountain, south of Phoenix, bypassing Tempe and other settlements on the south side of the river. But in legislative proceedings, John S. Armstrong, the Maricopa County representative and a close ally of Charles Hayden, amended legislation to specify that the Maricopa & Phoenix span the Salt River “at Tempe” instead of “at or near Tempe,” ensuring that the railroad served settlements on both sides of the river. Work on the project got underway in November 1886. Right-of-way disputes with the Gila River Indian Reservation caused delays, but in spring 1887 the railroad bridged the Gila River and approached Tempe from the south. Armstrong, who had since entered into a business partnership with Niels Petersen, had the honor of shipping the railroad’s first load of freight from Tempe—three carloads of barley.114 Suddenly barley grown in Tempe reached Tucson in five hours and


114 Ibid., 2:492-501.
San Francisco in only forty hours.115 “The track is rapidly creeping into town,” wrote one excited observer, “and by Saturday evening Tempe will have a connection with the great outside world by bands of iron up to her very front doors . . .”116

By improving access to distant markets, the railroad transformed isolated western settlements. Tempe, to that point, had relied on teamsters and wagons as the only tenuous links to the outside world. “The radical efficiency of the railroad,” writes D. W. Meinig, “could not but have a powerful economic effect upon what had been a remote and land-bound region.”117 But the effect went beyond simply hauling greater volumes of goods at higher speeds. Railroads also fired the imaginations of capitalists, who suddenly perceived wonderful opportunities in places like Tempe which, to that point, had barely registered as dots on the map of capital investment. As William Robbins notes, isolated western settlements such as Tempe “underwent a dramatic transformation with the arrival of the transportation infrastructure so vital to capitalist expansion.”118 Suddenly the remote Sonoran vernacular irrigation settlement of Hayden’s Ferry had emerged as a magnet for capitalist investment and growth.

115 An early Maricopa & Phoenix timetable also indicates thirty-minute trips to Phoenix from Tempe and forty-five-minute trips to the town of Maricopa. See Myrick, Railroads of Arizona 2:iii; Southern Pacific Company, California, Texas, Mexico And Arizona Southern Pacific Co. "Sunset route" from New Orleans to the Pacific Coast (Chicago: Poole Brothers, 1892), http://www.davidrumsey.com/maps760032-22065.html (accessed 30 October 2016).


Tempe Land and Improvement Company

The railroad marks the beginning of modern Tempe and, symbolically, the end of Hayden’s Ferry. In April 1887, Lewis Blinn, a Tombstone lumber dealer and one of the principal investors of the Maricopa & Phoenix Railroad, purchased seven hundred acres along the western slope of Tempe Butte, including all of Charles Hayden’s land with the exception of his flour mill, general store, and residence. “It seems to us from this distance,” noted a Tucson newspaper in the wake of Blinn’s purchase, “that the little unassuming town of Tempe, surrounded as it is with not only the charms of an incomparable climate, but with every other attraction that tends to induce capital to locate on its acres, will ere long come a-booming to the front.” The a-booming began in the fall of 1887, when Blinn and Francis Cutting, another Maricopa & Phoenix shareholder, joined with E. B. Gage and C. W. Leach, Tombstone mine owners, and Charles Hooper, Blinn’s San Francisco lumber supplier, to form the Tempe Land and Improvement Company for the purposes of platting a townsite and selling town lots on the site of Hayden’s Ferry. On October 15, 1887 they filed their plat, “Map Showing the Business and Villa Sites For Sale by the Tempe Land and Improvement Co” (see. Fig. 3.1) and put Gage’s brother, George Gage, in charge of land sales. Initially Gage restricted the sale of town lots to an area north of Eighth Street (now University Boulevard). This effectively centralized the town’s business and residential districts to an area along Mill Avenue near Hayden’s properties, and along Maple and Ash streets to the west and Myrtle, Forest, and

Willow streets to the east. Through the fall and winter, observers noted “residences going up in all directions” accompanied by a “great demand” for “business property on Mill Street [sic].”

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If Hayden’s Ferry resembled a Sonoran village, then the new town of Tempe recalled an American midwestern town. George Gage’s house at the southwest corner of Mill Avenue and Eighth Street embodied the new architecture: wood frame construction with a gabled roof and elements of Georgian Revival style, all of it built with lumber imported from San Francisco and resold at Lewis Blinn’s Mill Avenue lumberyard. Around his property, Gage planted shade trees irrigated with water taken from the Hayden Canal and diverted through ditches that ambled along the margins of Tempe streets. For decades, onlookers praised Gage’s residence as “probably one of the most attractive homes in Tempe.” It was not, however, one of its most comfortable. Wood frame houses, like the brick commercial buildings that went up along Mill Avenue, possessed none of the thermal advantages of adobe construction, which moderated Sonoran Desert air temperature by retaining cool nighttime lows through the day and warm daytime highs through the night. Modern Tempe houses, in contrast, baked in the afternoon sun. But Tempe residents devised their own adaptations, building screened additions to their houses called “sleeping porches,” which brought in evening breezes and kept insects out. “All houses in Tempe had sleeping porches in those days,” recalled one early resident, “and almost everyone slept on those porches the year round.”

With the demise of “Hayden’s Ferry” went the influence of its patrón, Charles Hayden, who after 1890 emerged as just another business owner along Mill Avenue. Hayden’s flour mill remained a leading employer, but the railroad bridge over the Salt

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River rendered his ferry service obsolete, and his general store encountered a host of new competitors. By 1890, he and Sallie Hayden had converted their adobe house into a hotel and moved their three children to a ranch two miles east of town.¹²³ That distance from Mill Avenue probably contributed to Hayden’s diminished influence over the town’s affairs. In 1894 he opposed efforts to incorporate Tempe, warning against a concentration of local political power in the hands of a town council. But the measure passed, and through the 1890s Tempe residents authorized a series of bond measures that paid for street improvements, a municipal water supply, and other civic improvements.¹²⁴ Hayden’s fortunes, meanwhile, declined irrevocably amidst 1890s


economic hardships. Charles Hayden died in 1900 as a respected elder statesman in Arizona—albeit one with diminished influence over the direction of the settlement he had helped establish.

The Normal School

Two years prior to the railroad’s arrival, Charles Hayden made perhaps his most significant contribution to the development of Tempe—and it had nothing to do with freighting or milling. In January 1885, Hayden called a meeting of Tempe-area residents and pooled five hundred dollars to purchase five acres from a local butcher named George Wilson (Wilson later donated an adjoining fifteen acres). Hayden hoped that Wilson’s land, which fronted Eighth Street directly south of Tempe Butte and San Pablo, might strengthen the community’s bid for Arizona’s territorial normal school, which the legislature intended to establish that spring. The school would train public school teachers in Arizona, and for its host city it promised certain advantages: like other territorial institutions such as the insane asylum and the prison, the normal school brought with it a legislative appropriation, which meant steady jobs no matter local economic conditions. It also promised waves of incoming students to boost the outlook of local merchants. For these reasons, Hayden wanted it for Tempe, and just as he had during the Maricopa & Phoenix Railroad legislative proceedings, Hayden turned to John Armstrong to do Tempe’s bidding. In March 1885, Armstrong returned to Tempe from Prescott with the normal school and its five-thousand dollar appropriation in hand.125

When it opened in 1886, the entire institution consisted of a single one-story building set in the middle of George Wilson’s twenty acres. The building, designed by Phoenix architect James Creighton, certainly ranked as the most impressive edifice in Tempe. Built of red bricks made from clay dug out of Tempe Butte, the building featured a shaded wraparound porch topped by a flat mansard roof with decorative iron cornice: one observer called it “as good a building as was ever constructed for the money on this coast.” But the grounds failed to match the building’s grandeur. As a measure of gratitude, the school’s board of directors allowed Wilson to keep his cows on the property. But the cows developed an irritating habit of resting in the heat of the day on Creighton’s shaded porch, blocking the building’s high French doors—not the kind of rumination that school administrators had in mind. Only half-cleared of its cactus and mesquite, the remainder of the George Wilson’s twenty acres quickly became overrun with weeds. An expensive grove of ash trees planted in 1891-92 never took root, and in some ways the campus, for its first fifteen years, remained better suited to cows than to students.

Then after 1900, at a point when many Tempe-area farmers began introducing broader orchards and other aspects of commercial horticulture to their fields, Tempe Normal School embarked on an ambitious landscaping program under the direction of its seventh principal (and first president), Arthur John Matthews. An avocational gardener with an eye for planning, Matthews set about transforming the campus in the image of the surrounding agricultural landscape. His first act as president was to clear the cows off the

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porch, but more significantly he hired a landscape architect, George Hough Smith of Phoenix, who worked with Matthews to devise a campus layout. The first step involved reopening George Wilson’s ditch, which allowed Matthews and Smith to plant palms, mulberries, pepper, and other species of trees and shrubs, many of them new to Arizona. A cactus garden also took shape, and Matthews ordered the southern half of the school grounds cleared of weeds. The experimental planting continued for thirty years. During Matthews’ tenure as president, the campus obtained nearly three thousand trees and shrubs of 131 different varieties and added more than 5,700 linear feet of hedges. By the late 1930s, campus administrators bragged about their school’s “exceptionally attractive” campus setting made beautiful by its “profusion of trees, shrubs, and flowers.”

New campus buildings also took shape after 1900. Just before Matthews arrived, school administrators had added much needed classroom space with the construction of “Old Main,” a three-story Romanesque building that became the school’s architectural icon. To this Matthews added adjacent buildings of similar red sandstone construction: an auditorium to the west and a science building to the east, which formed opposite sides of a tree-shaded quadrangle with views of Tempe Butte. Building construction on

128 Ibid., 102, 148, 163-164.
campus kept pace with landscaping. When asked about his leadership principles, Matthews replied, “to build up—and build up,” and build up he did to the tune of eighteen new buildings during his tenure.\textsuperscript{132} Matthews also expanded the school’s educational mission beyond teacher training, adding industrial arts courses facilitated by a 1914 neoclassical-style building, and agricultural courses that drew the ire of University of Arizona officials in Tucson.\textsuperscript{133} Nearing retirement, Matthews also guided Tempe Normal School through a political process by which it gained authority to confer four-

\textsuperscript{132} Ibid., \textit{The Arizona State University Story}, 158, 210.

year bachelor’s degrees: in 1929 the school became renamed Arizona State Teachers College at Tempe. Even in retirement, however, Matthews remained involved in the development of campus grounds. In 1930 the school’s board assigned him the task of supervising tree-planting and gardening, a position he held for twelve years.\textsuperscript{134}

*Residential Additions*

The arrival of the railroad, the growth of modern town, and the development of the Normal School prompted the development of residential additions south of Eighth Street. Pushed south by growing commercial and industrial activity along Mill Avenue, residents of Tempe’s earliest additions made the town’s southern margins its most desirable, setting a precedent for the direction of future suburban growth—and like the town’s later suburbs, Tempe’s early additions developed in a manner closely intertwined with the development of the Normal School. In December 1886, less than a year after classes commenced, one of the Normal School’s board members, Ben Goldman, bought sixty acres along the eastern edge campus, south of Eighth Street. A year later, Goldman turned around and subdivided the land into a 235-lot tract called “Goldman’s Addition.” Because of its proximity to the Normal School, Goldman’s Addition drew immediate interest from speculators. Within a week of filing his plat, Goldman received five hundred dollars from a San Francisco investor in exchange for ten lots. That prompted other school officials to file their own subdivision plats. In December 1887, Hiram Farmer, the school’s first principal, subdivided a narrow strip of land in Section 21, a half mile west of campus, into a 46-lot tract called “Farmer’s Addition.” On the south side of

\textsuperscript{134} Hopkins and Thomas, *The Arizona State University Story*, 207.
Eighth Street, across the street from the Farmer’s Addition lots, Farmer and his wife then built a stately two-story adobe house that served for a time as the school’s first women’s dormitory.

Houses in Tempe’s residential additions soon attracted regional attention. “The Goldman Addition in east Tempe,” noted the Arizona Republican, “is soon to become the principal part of the town. Many new, handsome brick dwelling places will soon be erected there.”135 In truth, however, Goldman’s Addition, like the Normal School, developed slowly at first, and did not gain significant traction until after 1900. By 1903, the neighborhood’s 235 lots contained only 39 houses, but by 1913 that number had climbed to 84, and by the 1920s Goldman’s Addition appeared as a densely developed neighborhood, with a leafy appearance to match the richness of the Normal School grounds.136 The neighborhood’s success after 1900 prompted the Tempe Land and Improvement Company and its secretary, George Gage, to subdivide lands south of Eighth Street into eighty-acre tract called the “Gage Addition.” Opened in 1909, the Gage Addition filled in the half-mile undeveloped space between the Normal School and Farmer’s Addition, all of it vacant save for an elementary school. Boosters fawned over the location: “it would be hard to find a more choice location for a home,” claimed one real estate broker in 1915.137 Officials at the Normal School took notice. Worried that residential additions might strangle future campus expansions, they obtained Gage

135 “At Tempe and Mesa,” Arizona Republican, 27 February 1892.


137 “Building Activities in Gage Addition,” Arizona Republican, 22 March 1915.
Addition’s eastern lots in 1912, and in 1919 made an additional purchase of thirty-five acres that extended the school’s boundary south to Thirteenth Street.138

By opening up undeveloped lands south of Eighth Street to residential development, neighborhoods such as Goldman’s Addition and Gage Addition created a buffer between Tempe’s business district to the north and its farmlands to the south. Accordingly, they took on characteristics of both, blurring the lines between town and countryside. At the corner of Ninth Street and Myrtle, Charles Woolf, a retired cattle rancher, bought four lots from George Gage and built a two-story house: behind the house he planted peach and apricot trees, maintained a small vineyard, and kept a pasture where his trotting mare, Pet, and Jersey cow, Bossy, foraged on Bermuda grass with a flock of white leghorn chickens.139 Houses in Goldman’s Addition, too, maintained a ruralized quality. “Almost without exception,” recalls William Windes, whose family lived at 1017 Van Ness Avenue, “every family had a chicken pen in the back yard and most had an orchard of fruit trees and a garden. About one family in three had one or more cows and those who didn’t have cows bought milk from their neighbors.”140 In their front yard, the Windes family planted a large honeysuckle hedge to fence in their small orchard of apricot, peach, pear, and plum trees. Water was everywhere. “There were large, open irrigation ditches all over town,” recalled Windes. “Most streets had fairly deep ditches on both sides of the street and then there was always a fair-sized ditch


139 O’Connor, *Horse and Buggy West*, 47-48. The Woolf property is now the location of Lattie F. Coor Hall at Arizona State University.

leading into every yard.”141 Willow Ditch, the largest of the neighborhood ditches, flowed east to west along Thirteenth Street and effectively formed the southern boundary of town, with farms and ranches stretching further south for several miles.

A Modern Tempe Countryside

The railroad transformed the Sonoran village of Hayden’s Ferry into a modern American town; it accomplished much the same in the broader Tempe-area countryside. For almost two decades, Tempe farmers worked under strict limitations: a limited supply of goods hauled in by wagon, a limited range of building materials, and very limited consumer markets that extended no farther than nearby mining towns and military forts. Then in 1887 those limitations vanished. An inventory of imports in 1891 illustrates the range of goods made available by the railroad: modern farm equipment, wire, coal, iron, household goods, and above all, lumber, which made up nearly half of all incoming freight.142 The railroad also provided access to distant urban markets, which allowed Tempe farmers and ranchers to sell higher volumes of grain, hay, and cattle. For those with enough land to reap the rewards, the railroad made some Tempe ranchers very wealthy—none more so than Niels Petersen.143 No sooner did the Maricopa & Phoenix arrive in Tempe than Petersen began shipping 100,000 pounds of barley per week; he also took advantage of imported building materials to improve his own living standards. In 1892, Petersen commissioned James Creighton to design a two-story Queen Anne-
style brick mansion (see fig. 3.5) with stained glass windows, brass hardware, and other refinements—a dwelling dramatically different from the two-room adobe house he had previously occupied.144

With increased production on Tempe farms and ranches came new agricultural processing industries. In January 1891, Fred Hough, a dairy farmer southeast of town, began buying surplus milk from his neighbors. Unable to process such a large supply with his hand-crank separator, Hough purchased a steam-powered separator and built a refrigerator and storage room in his adobe cellar. The cellar, like the hand crank, soon proved inadequate, so Hough and an associate acquired twenty acres a mile east of town and built a brick creamery and ice factory; in 1893 they added a skimming station in Mesa. In search of financing to modernize both facilities, Hough and his associate in 1895 incorporated the Tempe-Mesa Produce Company, a cooperative owned by Tempe-area dairy farmers, with Hough acted as general manager.145 Expansions to the physical plant soon followed, and by 1899 the company emerged as a one of the leading dairy producers in Arizona, purchasing over 20,000 pounds of milk per day and generating ice at a capacity of five tons per day, resulting in “an immense lot of cheese and butter.”146

“It is quite a sight to take an early morning drive to the creamery plant of the Tempe-Mesa Produce company,” noted editors of the *Arizona Republican* in 1901. “Each morning a large number of farm wagons line up awaiting their turn to unload the many


146 “South Side,” *Arizona Republican*, 15 November 1899.
well-filled cans of milk. It speaks favorably of the conditions of the dairy industry about Tempe and the increasing business of this progressive firm.”¹⁴⁷ In 1907, California-based Pacific Creamery acquired the plant and began producing “Lily” brand condensed milk on site. By the early 1920s, workers produced over 4,000 pounds of ice cream and tens of thousands of cans of milk per day.¹⁴⁸

¹⁴⁷ “Tempe,” Arizona Republican, 3 November 1901.

“ Progressive” was an adjective assigned to almost anything that seemed to challenge the political, social, and economic status quo in the United States after 1900. In Tempe, “progressive” described aspects of modernization that made it possible for rural farmers such as Niels Petersen to amass fortunes, or for cooperative industries such as the Tempe-Mesa Produce Company to profit on behalf of its members. Railroads—first the Maricopa & Phoenix, but then after 1895 its branch line, the Phoenix, Tempe, & Mesa Railroad, and after 1903 its competitor, the Phoenix & Eastern Railroad—functioned as catalysts for modernization in Tempe. But as Deborah Fitzgerald observes, railroads alone represented only one aspect of the larger turn toward a modern agricultural landscape. Beginning in the late nineteenth century, American agricultural production became dependent upon a variety of systems, “networks of things people, regulations, landscapes, forms of expertise and practice, financial arrangements, and so forth” that allowed farms to produce goods marketed on a local, regional, and national basis.149 Hough’s creamery could not have succeeded without the Tempe Canal system, which watered local alfalfa fields that fed dairy cows. Local dairies, in turn, could not have delivered milk to the creamery without a system of improved county roads. The creamery, moreover, could not have shipped its finished dairy products to distant markets without the railroad spur that linked its rear platform to the main line of the Phoenix, Tempe, & Mesa Railroad. And finally, none of these systems could have become operational without financing arranged by banks in Tempe and Phoenix, which also made

loans to Tempe farmers and ranchers who mortgaged their properties in order to modernize operations.

The creamery and the flour mill ranked as a Tempe’s largest agricultural processing plants through 1940, but smaller facilities also emerged on the outskirts of town; these too served as important markets for locally produced farm goods. They included a branch of the Phoenix Flour Mills, which maintained a grain warehouse and barley cleaner on the south side of Eighth Street, east of Goldman’s Addition; the Arizona Honey Exchange warehouse on the south side of Tempe Butte; the Desert Citrus fruit juice cannery and citrus warehouses along the Maricopa & Phoenix tracks south of Eighth Street; and the Consolidated Citrus Growers packing houses along the tracks south of Fourth Street. Tempe also played a central role in the cotton boom that swept across Central Arizona during World War I. The Arizona Cotton Growers Association maintained its offices on the 400 block of Mill Avenue in the Andre Building, behind which the Tempe Ginning Company located its seed houses and cotton gins. A half-mile away, the cotton gins, seed warehouses, and baled cotton yard of the Tempe Cotton Exchange occupied the entire block between Ash Avenue, the railroad, Seventh Street, and Eighth Street. During the wartime boom, many Tempe-area ranchers plowed up decades-old wheat and alfalfa fields to take advantage of the inflated prices paid out for long-staple Pima cotton. Jack O’Connor recalls that one could walk through the middle of town and see cotton planted in vacant lots.

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151 O’Connor, Horse and Buggy West, 198.
In addition to smaller processing plants, Tempe also hosted laboratories, research stations and experimental farms where university-trained scientists made inquiries into aspects of southwestern agriculture—as modern an agricultural activity as one could imagine. The first involved the University of Arizona experimental agricultural station three miles south of Tempe, where in the spring of 1891—six months before the institution opened doors in Tucson—professor Frank Gulley, acting as university president, made studies of irrigation methods, conducted soil analyses, and planted experimental fruit trees, vines, bushes, and grasses, all of which helped the University meet its responsibilities as a land grant institution. A decade later, University of Arizona officials converted the station into an experimental date palm orchard with seedlings imported from North Africa, Persia, and the Arabian Peninsula.152 In 1912, Arizona State Teachers College at Tempe, too, began offering agricultural curriculum, and that year began operating an experimental farm in Section 16, the “school section” where Hispanic irrigators had mistakenly settled forty years earlier. After 1919, the teachers college farm moved to a thirty-five-acre site immediately south of the main campus, then in the 1930s moved again to Section 27, a mile south of campus, at what is now the intersection of College Avenue and Alameda Drive, where school officials partnered with the National Youth Administration to build a dairy barn, milking sheds, milk house, hog pens, and other farm structures.153 Joining the two college farms, the United States Bureau of


Entomology, in partnership with the University of Arizona, maintained a entomology laboratory at 415 East Eighth Street in Tempe, where government scientists made studies of southwestern insect pests such as the corn root aphid and the alfalfa caterpillar.¹⁵⁴

A Regional Urban System

In the geography of the early Salt River Valley, towns such as Tempe functioned not as a dominant cities, but as clusters of services required by modern farmers and ranchers. Though some farmers and ranchers lived as many as four miles from town, they all made regular round-trip journeys into town to obtain supplies and provisions, sell produce to wholesalers, attend school, worship in church, watch a show, and socialize in fraternal organizations and women’s clubs. In many ways, farmers and ranchers shaped the town. They produced agricultural goods—Tempe’s primary source of wealth—but also comprised the town’s largest consumer group, a fact reflected in Tempe’s population: by 1940 nearly 3,000 lived and worked in town, but more than 4,000 lived and worked in the surrounding countryside.¹⁵⁵ As a farm-service town, Tempe’s fortunes rose and fell with those of the surrounding countryside: “All this country,” noted a Tempe booster, “is tributary to Tempe . . . and the growth of any portion of the visible area described means increased business to Tempe and insures it to remain the metropolis of the South Side.”¹⁵⁶


¹⁵⁵ According to U.S. Census rolls for 1940, 2,962 people lived in Maricopa County Enumeration District nos. 69 and 70, while 4,096 people lived in Enumeration District nos. 79, 87, 88, 95, and 96.

What made one section of the agricultural landscape tributary to Tempe instead of, say, Mesa or Chandler, was a matter of geography and convenience. Almost all farmers and ranchers lived outside of Tempe’s city limits in the jurisdiction of Maricopa County. The decision to maintain social and economic ties with Tempe rested with farmers and ranchers themselves, who favored whichever town offered them the most convenience; the further one traveled from the center of Tempe, for example, the nearer one got to a point where farmers and ranchers more conveniently conducted business in Mesa, Chandler or some other town. At these points one could mark the boundaries of the “Tempe area,” the “Mesa area,” the “Chandler area,” and so on. As William Cronon observes, trade hinterlands in the nineteenth-century American West often corresponded with “the distance customers could travel on horseback and still return home in a single day” and that every western small town “counted for its customers on the rural residents who lived in its immediate vicinity.”

Once in town, farmers and ranchers conducted business on Mill Avenue, which served as the focal point, or central place, of the Tempe area. At 522 Mill Avenue, for example, Tempe farmers and ranchers could visit the offices of the Tempe Irrigating Canal Company to resolve water disputes; at the corners of Mill Avenue and Fifth and Sixth streets they could obtain a loan at Tempe National Bank or at Farmers & Merchants Bank; at the southwest corner of Mill and Fifth Street, they could visit the Laird & Dines Drug Company and obtain pharmaceuticals—the back of the store doubled as a nerve

157 William Cronon, *Nature’s Metropolis: Chicago and the Great West* (New York: W. W. Norton & Company, 1991), 280. School district boundaries also played a role in meting out boundaries between tributary rural areas: a farming family might technically live closer to Tempe, but if their children attended high school in Mesa, they probably maintained social lives in Mesa too.
center for Tempe-area politics. Across the street, at 520 Mill Avenue, they could obtain tools and other dry goods at the Tempe Hardware Company.\(^{158}\) Each played a role in the agricultural landscape by providing essential services to farmers and ranchers, who in turn reciprocated by producing agricultural goods—hay, grain, cattle, dairy, and cotton—that allowed the town to thrive. “The prosperity of Tempe will grow with that of the surrounding country,” observed a local newspaper editor in 1893. “Tempe is readily designated as the gatekeeper to the highly favored agricultural paradise.”\(^{159}\)

But while it provided essential services required by modern agriculture, Mill Avenue did not have everything people needed or desired. For more specialized goods and services, farmers and ranchers had to go to Phoenix. As the central city of the Salt River Valley, Phoenix possessed the region’s largest concentration of people and, naturally, its widest variety of goods and services, including things one could find nowhere else in the region. By the 1920s, the city had emerged as the region’s undisputed wholesale and commercial hub. Its specialty stores and department stores accounted for seventy-one percent of all retail sales in Maricopa County, meaning the city maintained a near monopoly on nonessential goods.\(^{160}\) “For years [Tempe was] just a little one-horse town,” recalls Irene Bishop, who grew up on a ranch four miles south of town. “When we were children, my mother made about two trips to Phoenix a year [with a] horse and

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\(^{159}\) “A Growing City,” Arizona Republican, 21 July 1893. Like Tempe with its Normal School, other Salt River Valley towns possessed non-agricultural institutions, including the LDS temple in Mesa and the San Marcos resort in Chandler.

\(^{160}\) VanderMeer, Desert Visions and the Making of Phoenix, 82-83, 46.
buggy [to] buy our new clothes and material.”¹⁶¹ Phoenix also offered entertainment options not available in smaller towns. Big venues such as the Fox and the Orpheum theaters booked live shows that bypassed main street theaters, and the city also maintained a county fairgrounds that hosted rodeos and circuses. “A friend of ours had a car and once in a while,” recalls Bishop, “as a real special treat, we would take the horse and buggy to [Tempe] and leave it at my uncle’s livery stable, which was on Second Street and Mill Avenue . . . And then this friend of mine and my husband’s sister would pick us up in the car and we would go to road shows at the old coliseum in Phoenix, because we didn’t have anything like that in Tempe.”¹⁶²

Besides commercial activities, nothing bound city, town, and countryside together more tightly than water. Initially, the valley’s major settlements had organized around proprietary canal systems maintained by local canal companies owned by local shareholder-farmers, an arrangement that created a strong sense of autonomy within valley settlements. Then a series of disasters struck in the 1890s. The decade began with a succession of winter floods on the Salt River that swept away diversion dams, melted adobe buildings, and even destroyed the Maricopa & Phoenix railroad bridge at Tempe. Then came the inverse hazard when the valley began receiving only half its average rainfall—the beginnings of a crippling drought that lasted more than a decade. The autonomy enjoyed by valley settlements could not compete with parched fields; irrigators came to realize, in the words of Thomas Sheridan, “that rugged independence meant the


¹⁶² Ibid., 54.
freedom to go broke.” In 1902 they relinquished their shares in various canal companies and mortgaged their farms in return for membership in a regional water users association, which arranged for the construction of a massive Bureau of Reclamation storage dam on the Salt River fifty miles upstream from Tempe. Completed in 1911 on the eve of Arizona statehood, Roosevelt Dam and its vast reservoir ameliorated the problems of flood and drought in the Salt River Valley; it also generated electricity that powered countless valley groundwater pumps.

Water storage, however, exacted a price, as water levels on the Salt River at Tempe and Phoenix became greatly reduced after 1911; then after 1939 they became totally negligible with the opening of Bartlett Dam upstream on the Verde River.

Through the early years of the twentieth century, the river had served as an important community gathering spot in Tempe, particularly where a large basalt boulder projected off the north face of Tempe Butte to form a swimming hole called “Point of Rocks.” William Windes characterized the river as “one of the great things in my young life” and described Point of Rocks as a place “where the river curved and gouged out a deep hole which was a very popular spot for swimmers and fisherman.”

Jack O’Connor recalls that local churches conducted baptisms at Point of Rocks. “In those days,” wrote O’Connor, “the Salt River, except for floods after melting snows or heavy rains in the mountains, ran clear and cool. There were willows and cottonwoods. . . The river sands

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163 Sheridan, Arizona, 214.


were always clean and the hole at the Point of Rocks was always deep.\textsuperscript{166} Storage dams, however, did away with all of that, running the river dry save for rare flood events.

Water storage, however, worked wonders for Salt River Valley farmers and ranchers, who no longer vied so antagonistically for scarce water resources as they had in the 1890s. It also gave rise to a new organization, Salt River Project, which assumed operational control of all the various canal systems in the Salt River Valley—all except the Tempe Canal. Because they enjoyed senior water rights, Tempe irrigators resisted the water users association until the early 1920s, when a rising water table and waterlogged fields persuaded them to join as a means of defraying the high costs of groundwater pumping. In 1922, the Tempe Irrigating Canal Company ceased to exist, as administrative control of Tempe’s water delivery system shifted from 522 Mill Avenue to Salt River Project headquarters at the intersection of Van Buren Street and Second Avenue in Phoenix.\textsuperscript{167} With that acquisition, Salt River Project effectively consolidated the interests of valley irrigators, a major step forward in the early development of a Phoenix metropolis.

Another major step forward involved the development of a network of paved surface roads linking city, town, and countryside—and in this instance Tempe maintained a key early position. Located at the foot of Tempe Butte, where a bedrock outcroppings formed a natural river crossing, Tempe had always served as key regional transportation corridor. Charles Hayden’s ferry service had lent the town its initial name, and in 1885

\textsuperscript{166} O’Connor, \textit{Horse and Buggy West}, 138.

\textsuperscript{167} Anderson, \textit{Tempe Canal, South Side of Salt River}, 35-41.
railroad engineers chose the Hayden’s Ferry crossing for the Maricopa & Phoenix bridge; builders of the Phoenix & Eastern bridge did the same in 1903. Then after 1910, as regional passenger rail service diminished, Tempe emerged as a crossroads of automobile traffic. It shared that honor with Phoenix, where the first non-railroad bridge over the Salt River opened in 1911. To quiet critics who claimed the Phoenix bridge served the narrow interests of Dwight Heard, an influential cattle rancher, legislators quickly turned their attention to the Tempe crossing, where in 1913 they opened a multiple-arch concrete bridge to facilitate Arizona’s planned north-south automobile highway. From Mesa, the highway led motorists along a paved road that followed the Kirkland-McKinney Ditch alignment. About a half-mile west of the creamery complex, the road entered Tempe city limits. From there, responsibility for paving Eighth Street and Mil Avenue fell upon city officials: “and those who are best acquainted with that little progressive city,” noted an Arizona goods roads enthusiast, “feel sure that it is but a question of a short time until the enterprising citizenship will add to the beauties of the town through this adequate street improvement.” Tempe officials finished their paving duties in early 1920, and the last remaining rural stretches of highway between Mesa, Tempe and Phoenix opened to the public that summer.

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168 After less than two years of service, the Phoenix & Eastern bridge came crashing down in a massive spring 1905 flood; thereafter the Phoenix & Eastern entered into a bridge sharing agreement with the Maricopa & Phoenix.


170 “Mesa-Tempe Road Will Be Paved Soon,” *Arizona Republican*, 08 February 1919.

Just in time too, because the resumption of overseas cotton production after World War I resulted in plummeting prices and severe losses for the local economy, which restricted Tempe’s ability to design or fund road construction. Highway building thereafter became a state and federal concern, as money from Washington, D.C. trickled into the Arizona Highway Department under the 1921 Federal-Aid Highway Act. As part of the legislation, federal officials assigned route numbers to interstate highways, four of which converged at the new Tempe bridge: U.S. 60, the Virginia-Los Angeles route; U.S. 70, the North Carolina-Los Angeles route; U.S. 80, the Georgia-San Diego route; and U.S 89, the Tucson-Salt Lake City route. Also in 1921, Maricopa County voters elected to improve their rural farm-to-market roads by authorizing a four million-dollar bond measure: by 1931 rural Tempe drivers enjoyed over seventeen miles of paved roads, all of them located along section lines, with the exception of Mill Avenue, which extended a mile and a half south of the townsite through sections 22 and 27.172

The great stock market crash of 1929 and ensuing Great Depression took another bite out of the local economy, but state and federal road-building activities in Tempe continued on. In 1930, the Arizona Highway Department used federal-aid money to build a new concrete arch bridge over the Salt River at Tempe to replace the antiquated 1913 bridge.173 This served as a mere prelude, however, to improvement projects lavished upon Tempe under the New Deal. In 1937-1940, Works Progress Administration laborers

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widened and paved streets, built sidewalks, and accomplished other beautification projects along nearly the entire stretch of highway connecting Phoenix, Tempe, and Mesa. This included an entirely new highway alignment through Tempe that eliminated right and left turns, and widened the roadway from two to four lanes. Works Progress Administration laborers also completed a Mill Avenue underpass under the Southern Pacific railroad tracks, eliminating a troublesome at-grade intersection that slowed traffic heading south from Tempe into the countryside.\textsuperscript{174} In later decades, both projects played key roles in unlocking the suburban development potential of the rural countryside south and east of town.

Consolidation of the canal systems and the widening and paving of surface roads helped solidify Tempe’s position within a regional urban-rural system. But initially neither had any effect on the position of agriculture as the major force shaping the landscape. With few exceptions, Tempe on the eve of U.S. entry into World War II resembled its turn-of-the-century form: a compact farm-service town with a small state teachers college, a patchwork of leafy neighborhoods and Sonoran-style barrios, all surrounded by a farming and ranching countryside stitched together by a network of tree-lined canals and irrigation ditches. In its 1940 edition, the Ayer Directory, with its pithy descriptions of American towns and cities, described Tempe in terms of its agricultural production and its transportation connections with the broader Phoenix area:

\textsuperscript{174} Arthur G. Horton, \textit{An Economic, Political, and Social Survey of Phoenix and the Valley of the Sun} (Tempe: Southside Progress, 1941), 41; \textit{Summary of Inventory of Physical Accomplishments by the Work Projects Administration: From July 1, 1935 to January 1, 1940} (Phoenix: Federal Works Agency, Work Projects Administration, 1940), 15-16, 22, 44.
Likewise, Works Progress Administration writers who passed through town in 1940 made observations that Schultz & Franklin could have made a half-century earlier: “Tall cottonwood, tamarisk, eucalyptus, and palm trees border [Tempe’s] broad paved streets, and its modern brick business buildings are interspersed with low flat-roofed adobes . . . it is on the Salt River in the midst of a general crop-growing, dairying, and stock-raising region.”

That region had, by the early 1940s, emerged as a modern American farm-service town and countryside oriented around the mass production and distribution of agricultural goods, a development made possible by the arrival of the railroad and the introduction of new processing plants such as the creamery and cotton gins. Railroads and then federal-aid highways, moreover, solidified Tempe’s position within an urban regional system in the Salt River Valley, one which connected Tempe to distant markets by way of Phoenix, bringing the isolated Sonoran vernacular irrigation settlement into the mainstream of American economic life. The teacher training college on the southern edge of town—on the surface a non-agricultural institution—took on characteristics of the surrounding agricultural landscape by using its share of irrigation water to cultivate a leafy campus grounds; adjacent residential additions developed in the same manner, as a semirural pattern of life in Goldman’s Addition and Gage Addition blurred the lines between town


and countryside. On the eve of United States entry into World War II, Tempe had emerged as a southwestern example of what Carl Abbott calls “ruralized urban development,” a “landscape of orchards, processing plants, electric rail lines, and closely packed towns and small cities that sketched the outlines of the metropolis to be filled in over the course of the century.”177 Yet few in 1941 foresaw any changes to the dominant position of agriculture in the life of the town: “the future of Tempe is that of a wholesome community of homes,” predicted Norman Taylor, pastor of the town’s First Methodist Church. “As a college town and an agricultural center it promises to continue to be a substantial little city without boom growth.”178 Taylor got one thing right: Tempe would remain a college town. Yet no one could imagine the trajectory of growth in store for Arizona State Teachers College, much less the changes in store for the neighborhoods surrounding it, as the teachers college emerged as the higher educational arm of the postwar Phoenix metropolis.

177 Abbott, How Cities Won the West, 95.

178 Quoted in Horton, An Economic, Political and Social Survey of Phoenix and the Valley of the Sun, 201.
Five years after Norman Taylor made his prediction, Tempe did, in fact, begin experiencing boom growth, as thousands of young people, many of them returning World War II veterans, descended on the town to enroll in the newly-renamed Arizona State College. The boom would amplify through the 1950s, setting in motion enormous changes on campus and in surrounding neighborhoods. The following chapter describes how the Phoenix metropolis made its initial incursion in Tempe: not by way of suburban road builders or homebuilders, but by way of Arizona State Teachers College, which after 1945 emerged as a regional university serving the greater Phoenix metropolis. The chapter begins with a story about George Bateman, an Arizona State science professor whose career accelerated dramatically after 1946; but with increased science curriculum came rounds of campus expansions that impinged on Bateman’s own neighborhood. Soon entire communities rooted in the early history of the farm-service town succumbed to new campus buildings—a sign that informational activities such as teaching, learning, and research had eclipsed agricultural production as the basis for growth in Tempe.

George Bateman

George Bateman arrived in Tempe in the summer of 1927. Raised on a farm in the Bear Lake region of southern Idaho, he had studied science at Utah State and obtained a Ph.D. in chemistry at Cornell University before accepting Arthur Matthews’s offer to join the faculty at Tempe State Teachers College. In doing so, he became the college’s first
instructor to hold a doctorate. Matthews had tremendous expectations for Bateman. Rather than simply teach chemistry, the young professor would develop an entire science program for the college. Bateman and his wife, Florence, had weighed several opportunities from different colleges around the country, but the Tempe job seemed most promising. In Ithaca they had met with a Mormon missionary who gave them a glowing recommendation of the Phoenix area. “A Chamber of Commerce,” Bateman later recalled, “could not have been more enthusiastic than he. He predicted that Phoenix would become one of America’s greatest cities, and that Tempe State would someday grow into a great University. . . It is interesting to note that these predictions came true and that I had a small part to play in the evolution of the old Normal School into a great State University.”

That evolution would require considerable time and patience. Bateman later remarked that living in Tempe during the late 1920s “was like living in a scientific desert,” while the 1930s at Arizona State Teachers College represented “the plodding years” for the institution, a period of reduced salaries and limited growth despite a new and ambitious college president, Grady Gammage. U.S. entry into World War II put an end to the plodding, but the war introduced new challenges, as enrollment dropped precipitously during the conflict. Then things turned around quickly. Like a hurricane making landfall, over a thousand students showed up at Arizona State one weekend in

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179 George Monroe Bateman, From Horse and Buggy Days to the Atomic Age: 1897-1971, Memoirs, 1971, 34.

180 Ibid., 40.

181 Ibid., 45, 50-51.
January 1946 to register for spring classes, instantly tripling the college’s student body. Another five hundred arrived the following fall, and by 1949 the student body had nearly doubled again to 4,094—a seven hundred percent increase in just four years. In 1953, the college received another boost from returning Korean War veterans, and by 1958 the student body population approached ten thousand.182 Suddenly Arizona State encountered a problem of too much growth, causing overcrowding.

Bateman later characterized the postwar years on campus as a “continuous struggle with poverty—poverty of space and equipment,” and that in the back of his mind he “always kept a dream” of a new science building to meet increasing demands for science instruction among incoming students.183 In 1947 the dream came true. That year, the state legislature appropriated over $500,000 toward the construction of the Science Education Building, the first new permanent classroom space built on campus in nearly thirty years. The building helped to relieve overcrowding; it also represented a new commitment to science education at Arizona State: “It is particularly significant,” wrote Grady Gammage to Senator Carl Hayden in 1948, “that the new science building is completed at this stage in the Atomic Age. It is our hope that, from this building and from the many students who will work with these new and improved facilities, substantial contributions to research can be made.”184 By “contributions to research” Gammage implied the work of a university, and in 1958 Arizona State became just that—the

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183 Bateman, *From Horse and Buggy Days to the Atomic Age*, 65.

culmination of a decade of growth during which the college ranked as one of the fastest-growing higher educational institutions in the United States.

Campus growth, however, required an enlarged campus grounds, and that meant expansion into adjacent neighborhoods, including Goldman’s Addition, where George Bateman and his family had maintained their home since 1937. Bateman later remarked that the campus “jumped across University Drive and Van Ness Avenue like a forest fire and threatened to raze every home in East Tempe.”185 It reached Bateman’s house in 1957. That summer George and Florence left for Provo, Utah, where George taught summer school. “On our return to Tempe,” he recalled, “we found that our old home along with all of the landscaping had disappeared and nothing remained except the bare ground and our pleasant memories.”186

The expansion of the campus finally reached out and gulped our place on 1106 Van Ness Avenue where we had lived for more than twenty two years, and had developed into one of the most attractive homes in Tempe. . . Many tears were shed when we left the ‘old place’ for the last time and moved to our new home on 515 Broadmor Drive in April 1957.187

The demolition left a lasting impression on the family. “The old expression, ‘You can never go home,’ really applies in my case,” noted Georgia Bateman, the couple’s youngest daughter. “Although I have been in about the same place most of my life, there is nothing left of the old landmarks that were so much a part of my early life.”188 To

185 Bateman, From Horse and Buggy Days to the Atomic Age, 70.

186 Ibid., 76.

187 Ibid., 70.

many observers, that wrenching experience, an ordeal shared by hundreds in Tempe, showed that the town had turned its back on its agricultural past and staked its future to the university. “Three factors have governed the development of Tempe,” noted a columnist in 1957. “First is the fertility of the environing desert soil when properly irrigated. Second is its location as the best place to cross the lower Salt River. Third is its position as the seat of the institution of higher learning now known as Arizona State.”

*A City of Knowledge*

By staking its future to the university, Tempe also staked its future to the Phoenix metropolis. George Bateman later described the postwar period on campus as a time when “efforts were increased to expand ‘Old Normal’ so that it would be capable of meeting the needs of the growing Phoenix area . . .” Principally those needs involved engineering instruction. Improbable as it would have seemed to those familiar with life in the farm service-town in the early 1940s, Tempe soon emerged as a southwestern example of what Margaret Pugh O’Mara calls “cities of knowledge,” cities and towns on the edges of metropolises that leveraged relationships with colleges and universities during the postwar period to become wellsprings of suburban high-tech innovation. “Suburbanization,” writes O’Mara, “created ideal environments for science to grow and prosper, creating space where university, industry, and scientist could create new networks of innovation and production, away from the distractions and disorder of the

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190 Bateman, *From Horse and Buggy Days to the Atomic Age*, 80.
industrial city.”¹⁹¹ In Tempe, that meant the rise of a metropolitan university but also the beginning of the end for the farm-service town amidst an emerging suburban landscape.

No one deserves more credit for making Tempe a city of knowledge than Grady Gammage, president of Arizona State University. Raised on an Arkansas farm, Gammage had studied education at the University of Arizona and begun his administrative career in northern Arizona, where he served as principal of a high school in Winslow. In 1925 he joined the staff at Northern Arizona Teachers College, and in 1926 became the college’s president; seven years later he took the helm at Arizona State Teachers College at Tempe.¹⁹² His biographer, Dean Smith, refers to Grady Gammage as “ASU’s Man of Vision,” but the work of transforming the teachers college into a university only accounts for the latter part of Gammage’s tenure at Arizona State.¹⁹³ Between 1933 and 1945, he steered the teachers college through economic depression, which gutted its budget, and then through world war, which eroded its student body. But though those challenges Gammage developed a skill for locating unconventional funding. In 1935 he obtained a Public Works Administration loan for nearly half a million dollars, then followed it up with another $1.3 million in loans from various New Deal agencies.¹⁹⁴ Upon U.S. entry into World War II, Gammage turned to the military. In 1942 he secured a contract with defense officials to turn the teachers college into a headquarters for the 315th Army Air

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¹⁹³ Dean Smith, Grady Gammage: ASU’s Man of Vision (Tempe: Arizona State University, 1989).

¹⁹⁴ Hopkins and Thomas, The Arizona State University Story, 236-239.
Force College Training Detachment: for eighteen months more than six hundred cadets reported to the campus for basic training, and with them came federal funds that kept the teachers college solvent through the war.\footnote{Bateman, \textit{From Horse and Buggy Days to the Atomic Age}, 62. Jimmy Gazzaway, a cadet who reported to the teachers college, offers the following description of the Tempe-area landscape in 1943: “The drive to the airport took us across the Salt River, passed Al Capone’s house [Tovrea Castle], and to the southeast side of the City of Phoenix, nine miles from Tempe. There were no houses except Al Capone’s between the two cities then, only desert, saguaro cactus, and rattle snakes. In 1982, when Lois and I visited Tempe and Phoenix, you could not tell when you left one and entered the other.” Jimmy Gazzaway, “An Army Air Corps Cadet,” http://www.geocities.ws/jimgazzaway/jack6.html (accessed 5 January 2016).}

For Gammage, the Army contract may have opened his mind to postwar opportunities, especially considering the volume of wartime spending lavished upon Central Arizona. In that sense, Gammage joined a generation of Phoenix-area civic and business leaders who began to imagine a new economic basis for the region after World War II, one based not on agriculture, but on the byproducts of defense spending: aerospace, electronics, and other high-tech industries. “Their wartime experiences,” observes Philip VanderMeer, taught Phoenix civic and business leaders “about connections between the military, government, and politics,” and through those lessons they began to formulate a new “high-tech suburban vision” for the region.\footnote{VanderMeer, \textit{Desert Visions and the Making of Phoenix}, 153; Elizabeth Tandy Shermer, \textit{Sunbelt Capitalism: Phoenix and the Transformation of American Politics} (Philadelphia: University of Pennsylvania Press, 2013).} Tempe would play an important role in that vision, a fact not lost upon Grady Gammage, who sensed a new unconventional funding source. In the fall of 1953, he invited a delegation of regional business leaders to Tempe for a meet-and-greet breakfast. “Grady made no attempt to be coy about the purpose of the affair,” remembered Rex Staley, vice president of First National Bank of Arizona. “He wanted to impress on us the fact that both
Phoenix and Arizona State College were growing fast and needed each other.” “He said, ‘You people have been missing a wonderful opportunity. You need a great educational institution to make Phoenix great, and you have the makings of it right here at your doorstep.’”

Gammage’s message resonated; gradually a productive relationship developed between Arizona State College and Phoenix civic and business leaders, culminating in the creation of the Arizona State College Foundation in 1955. Until then, the college had lacked a means to cultivate strong public-private partnerships: its Alumni Association had struggled to manage even the modest amounts of endowment money that trickled in. A foundation staffed by business professionals, however, could better solicit and then handle external sources of funding. By recruiting board members from the ranks of Phoenix business leaders, Gammage could also rely on the foundation to help the college develop political clout within the halls of state government, where parochial infighting with University of Arizona supporters stymied efforts to designate Arizona State a university in name. “Now is the time to decide whether we shall build here a university greater than tax funds alone can build,” Gammage told the foundation’s inaugural

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197 Dead Smith, Grady Gammage, 125.

198 Jim Creasman, secretary of the Alumni Association, recalls once losing a $25,000 check sent to the college by Walter Bimson, head of Valley National Bank. His office assistant had thrown it in the wastebasket. “Harriet pawed through her basket and found the Bimson envelope, which she had thought was empty. Inside was the precious check, which soon would have been picked up with the trash and burned.” Within months the Arizona State College Foundation took over fundraising duties for the college. Dean Smith and Marshall Terrill, From Normal School to New American University: A History of the Arizona State University Foundation, 1885-2012 (Tempe: ASU Foundation for A New American University, Arizona State University, 2013), 27.
members. “Now is the time to begin building a university to match our dreams for the community.”

Already by 1955, Gammage had cultivated a relationship with Daniel Noble, director of research at Motorola, which maintained an electronics laboratory in Phoenix. Noble, himself a former engineering professor, had already begun to envision Arizona State as a training grounds for the region’s electronics industry, a function similar to the role played by Stanford University in the San Francisco Bay Area and by Massachusetts Institute of Technology near Boston. “Phoenix,” Noble told fellow electronics industry leaders, “cannot hope to compete with other areas in attracting the technical products industries, and holding them, without the development of engineering and science education and research at Arizona State University to a high level of scholarship and maturity.” In 1955, he and a team of Phoenix bankers, including the formidable Walter Bimson, persuaded the Arizona Board of Regents to authorize Gammage’s plan to reorganize Arizona State College into four separate colleges, making the institution a university for all intents and purposes. For the position of dean of the new College of Applied Arts and Sciences, Gammage installed Lee Thompson, an engineering professor—a move cheered by the region’s electronics industry leaders. A year later, at Noble’s urging, Gammage established an entirely separate College of Engineering and again installed Thompson as dean. Two years later, the Arizona State University Foundation then set up a special fund for the recruitment of new science and engineering professors. Gifts of money and equipment began flowing in, beginning with a $150,000

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199 Ibid., 39.

commitment from Motorola.\textsuperscript{201} Quickly the College of Engineering reshaped Arizona State. By 1962 the college accounted for ten percent of the university’s total enrollment, with more than three hundred students drawn from the ranks of Motorola employees, many of whom undertook graduate-level research projects.\textsuperscript{202} In less than seven years, Arizona State had emerged as a training grounds for the Phoenix electronics industry.

\textit{Campus Expansion and \text_quotes_left;George\text_quotes_right;}

Becoming an electronics training grounds, however, required new facilities to house high-tech equipment. A decade earlier, in the summer of 1951, college administrators had issued a “Building Needs” report that looked ahead to future campus growth. “The requirement of additional land,” noted the report’s authors, “has been too long delayed and will become more difficult and more expensive with each passing year.”\textsuperscript{203} Arizona State had to expand—but in which direction? The report targeted four areas, starting with the soon-to-be abandoned Tempe High School campus, a twenty-acre parcels wedged between Mill Avenue and Myrtle Avenue, a block west of Arizona State. The report also identified Goldman’s Addition as a potential focus. Located immediately east of campus (see fig. 4.1) and separated only by Normal Avenue, a lightly trafficked street made picturesque by palm trees, Goldman’s Addition looked like an attractive option. But unlike the high school site, it would require buying out hundreds of individual building lots from

\begin{itemize}
\item \textsuperscript{201} Smith and Terrill, \emph{From Normal School to New American University}, 42-43.
\item \textsuperscript{202} VanderMeer, \emph{Desert Visions and the Making of Phoenix}, 163.
\end{itemize}
homeowners such as George and Florence Bateman. “This land is all occupied by residences,” warned the authors of the 1951 report. “Most of them are old and not expensive but the total amount required per city block would be high.”

But not too high for a college increasingly flush with electronics industry endowment money. Plans to acquire and demolish Goldman’s Addition got underway in September 1954 at a meeting of the college’s Campus Development Building Committee. In that meeting, committee members “wholeheartedly endorsed” a plan offered by Gilbert Cady, the college’s comptroller, to begin buying up Goldman’s Addition lots. Two weeks later, they identified “the area bound by Normal and Van Ness, east of campus” as a starting point. The college would not acquire all 235 lots at once—that would require

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204 Ibid.

205 Minutes, Campus Development and Buildings Committee, 16 September 1954, University Records Collection, 1885-1980, MSS-098, Series II: President’s Office, Box 15, Folder 7, Arizona State University Libraries, University Archives, Tempe, Arizona.

206 Ibid.
tremendous upfront costs. Instead it would acquire properties lot-by-lot and block-by-block, focusing efforts on one section of the neighborhood at a time. Cady began by targeting Block 7. Within weeks he had obtained five lots at the southern end of the block in the vicinity of Normal Avenue and Orange Street, and by June 1956 he had systematically worked its way up to Tyler Street, having acquired each of the block’s twenty-four lots at a total price of $180,000, paying about a dollar per square foot of land.

By spring 1955 Grady Gammage already knew what to do with Block 7. He had only recently received authorization from the Board of Regents to divide Arizona State into four separate colleges, and now the most exciting of the new units, the College of Applied Arts and Sciences, with its engineering faculty and its support from Daniel Noble and Motorola, needed a new campus building. “In thinking over our building program, I believe we should push [the engineering building] as fast as possible,” Gammage told Cady in an April 1955 memo. “It is my suggestion,” Cady replied, “since we will acquire the total block between Orange and Tyler, on Normal, that you authorize us to proceed with the clearing of that property just as soon as it is acquired by


208 Figures calculated from data obtained at https://repository.asu.edu/attachments/112499/content/DOCUMENTARY_HISTORY_VOL_4_PART_11.pdf (accessed 13 March 2016). Each lot in Block 7 of Goldman’s Addition encompassed 6,875 square feet.

us.”

Gammage agreed. “I’m for closing Normal (Avenue) as soon as we can.”

The following month, Lee Thompson, the newly hired dean of the College of Applied Arts and Sciences, submitted his design preferences for the International-style building that would soon occupy Block 7 and became known as Building A of the Engineering Center: “modular construction;” “simple but effective functional design.”

Through the late 1950s, probably few of the College of Engineering’s faculty dwelt on the fact that their offices sat in the footprint of a recently demolished neighborhood. But if they could have seen Block 7 of Goldman’s Addition prior to demolition, the contrast between their engineering building and the leafy neighborhood it displaced might have given them pause. By virtue of its location at the southern and eastern margins of town, Goldman’s Addition had always taken on characteristics of both town and countryside: With its street grid layout, the neighborhood possessed classic nineteenth-century urban form, but with its flood-irrigated lawns, gardens, and orchards, it also reflected the rural countryside that stretched for miles beyond Thirteenth Street and McAllister Road. For example, George and Florence Bateman’s property at 1106 Van Ness Avenue, with its rows of fruit and nut trees, had become, in Bateman’s estimation, “one of the garden spots of Tempe.”

By contrast, campus development

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213 Bateman, From Horse and Buggy Days to the Atomic Age, 51.
such as the Building A of the Engineering Center, with its International-style architecture and paved parking lot, possessed none of the irrigated qualities of Goldman’s Addition. But that made sense considering the Engineering Center’s role as a training grounds for the Phoenix electronics industry, an industry that symbolized the region’s departure from its agricultural past.

Probably nothing came to embody the relationship between Arizona State College and the Phoenix electronics industry more than “George,” an IMB 704 supercomputer installed in Building A of the Engineering Center in 1957. Likewise, its operators, a team of General Electric employees stationed on campus, provided perhaps the most tangible evidence of Arizona State’s intentions to join the ranks of high-tech universities. In 1956, General Electric won a $31 million contract with Bank of America to develop a computer
system to handle, sort, and process consumer checks. To manage the project, company officials in New York established the General Electric Computer Department, and located the department in Phoenix, with a manufacturing facility planned for Deer Valley.214 But with the project’s tight timeframe, Homer Oldfield, the Computer Department’s supervisor, had to launch while the Deer Valley facility remained under construction. Oldfield had previously directed General Electric’s Advanced Electronics Center at Cornell University and managed the company’s Microwave Laboratory at Stanford University. Like Daniel Noble, he recognized advantages in partnering with higher education. As the company’s vice president C. C. Walker later explained, “General Electric wanted that ‘intangible thing’ called university atmosphere near a facility such as the computer department.”215 They found it at Arizona State, where company officials leased the second and third floors of Building A of the Engineering Center. In return, Gilbert Cady negotiated an annual rental fee of $3.75 per square foot, or approximately $100,000 per year—revenue that would help the college finish building out remaining portions of its Engineering Center complex.216


The IBM 704 represented the largest and most powerful computer in the world at the time, and Arizona State graciously hosted it: never before had a college or university in the United States possessed a computer of this caliber. It certainly ranked among the most sophisticated pieces of high-tech equipment anywhere in the Phoenix area. Quickly it became a “must see” for Phoenix civic leaders, as groups of onlookers huddled in the computer room’s viewing gallery to watch “George” spit out punched data cards, magnetic tape, and 35 millimeter film. The machine also went a long ways toward legitimizing Arizona State’s engineering program; single handedly it attracted new academic talent. “My father, a civil engineer, had gone into teaching, at Arizona State, because they had one of only seven IBM 704 computers in the country at that time,” recalls the son of Louis Hill, who joined the Arizona State engineering faculty in 1958.

“I’ll Never Forget That Damn University”

The growth of Arizona State during the 1950s, however, involved more than just electronics engineering. The 1951 “Building Needs” report that identified Goldman’s Addition as a focus for campus expansion also looked to the north, across Eighth Street, at San Pablo, the Hispanic barrio founded in the early 1870s by William Kirkland as a gesture to the laborers who helped him develop the Kirkland-McKinney Ditch. Like other Tempe neighborhoods, San Pablo had grown in terms of density during the early

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218 “Gilbert Cady to Mr. H. R. J. Grosch, 29 October 1957” and “The Computer Center Layout,” General Electric Company Correspondence, 1956-1969, University Records Collection, MSS-98, Box 51, Folder 7, Arizona State University Libraries, University Archives, Tempe, Arizona.

twentieth century, but by 1950 it still retained the qualities of a Sonoran village. Social life still revolved around the Catholic church (though a much larger church dedicated in 1903 replaced the original 1881 chapel), and adobe remained the primary building material, with a few wood frame and concrete block buildings added in the 1930s and 1940s. “The adobe [buildings] were more prominent, though,” recalls Irene Gomez Hormell, who grew up in the barrio during the 1940s. “They would plaster them, some of them were plastered . . . The streets were not paved. . . . There was nothing, no streetlights, no sidewalks.” The barrio did have city water service, but garbage service still bypassed San Pablo, and residents still burned their trash. “And they would separate the food and stuff,” recalls Hormell, “like lettuce and all that—the leftovers of the vegetables, and we would feed them to our chickens, because we had chickens. And that’s how we did it in our household.”

Though patterns of life in the barrio had not changed dramatically during the early twentieth century, the position of Hispanics within the social order of Tempe certainly had. The arrival of the railroad in 1887 began transforming Hayden’s Ferry into a modern American town, but with modernization came Jim Crow-style segregation. San Pablo’s residents, many of them descendants of men and women who had helped to establish the irrigation settlement in the 1870s, endured increasing marginalization during the early twentieth century. In 1912, local school officials had segregated Tempe’s grammar schools, making the town’s Eighth Street School a school for Hispanic children and the newer Tenth Street Grammar School a school for whites only, with discrepancies in the

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quality of education. Likewise, when town officials opened a public swimming pool at Tempe Beach Park in 1923, they segregated its usage, allowing Hispanics to swim at the end of the week, hours prior to draining and refilling. Groups such as La Liga Protectora Latina emerged to protect Hispanic rights, and in 1923 its members convinced a superior court judge to desegregate local elementary schools.\footnote{221} But no court decision could overcome the engrained culture of segregation in Tempe. “Even in those days, even in the church,” recalled Josie Ortega Sanchez, “you could see segregation, because when you walked into the church, the Mexican people would sit to the right, and the Anglos would sit to the left—all the wealthy ones. And so, even in church, there was segregation.”\footnote{222}

Racial segregation reinforced a sense of spatial inferiority in San Pablo, as Arizona State administrators in the 1950s assumed properties in the barrio would appraise for less than those in Goldman’s Addition. “This land is covered with cheap adobe houses,” noted the authors of the “Building Needs” report, and though San Pablo lay across Eighth Street, divided from the campus by a major east-west traffic corridor, its perceived affordability made it an appealing target for college administrators.\footnote{223} At the same meeting of the Campus Development and Building Committee in which he had laid out plans for acquiring Goldman’s Addition, Gilbert Cady also spelled out his intentions


to acquire “the property on Eighth Street as far north as possible”—an area he euphemistically called “Old Town Tempe.”\textsuperscript{224} To oversee the work of obtaining lots in San Pablo, Cady promoted one of his staff accountants, Alvah Oakley, to the position of “Land Coordinator,” which involved going door-to-door and notifying residents of the college’s intentions to obtain and then demolish their houses.\textsuperscript{225}

Oakley’s methods consisted of an initial appraisal, followed by an immediate cash offer. Some residents accepted the money without hesitation. “The man come down there and he showed him the greenbacks and immediately they sold,” recalls Marvel Bennett. Others refused to sell so hastily. But when they balked, Oakley became obstinate. “[He] just came to the door,” Ray Chavarria remembers, “and said that the college was going to buy that land. Sooner or later you had to sell, but the college was making you this offer: take it or leave it. You had no choice.”\textsuperscript{226} Irene Gomez Hormell recalls a similar exchange: “you either moved or you were condemned, so it wasn't a choice . . . they just came in and said, ‘If you're not selling, we'll condemn it, and we'll get it.’”\textsuperscript{227} More often than not, Oakley’s tactics prevailed. After decades of segregation,
few Hispanics in San Pablo believed they had the means to resist the college, particularly when Oakley bluff by threatening litigation. “And he said, ‘Well, I guess we's jus' gonna have to go to court,’” recalled Bennett, who held out longer than most. “He scared everybody with the name court.” “The university, I would venture to say, they stole all that property . . . I'll never forget that damn university . . . ”228

The college pieced together properties in San Pablo more quickly than in Goldman’s Addition. By the end of 1956, Cady had acquired almost the entirety of the barrio and bulldozed it. When Joe Soto was discharged from the military in the late 1950s, he arrived in Tempe expecting to visit his old neighborhood, but instead found a vacant brownfield. “I keep telling everybody,” he told interviewers years later, “it looked like future shock, because when I came back, I thought I'd see the barrio, and everything was vanished. Looked like a bomb had fallen and just wiped everything out.”229 “You heard people crying,” remembers Ray Chavarria. “A lot of Hispanics didn't know what to do. They thought that the world was coming to an end because they would lose their identity with each other.” Many did. Residents of San Pablo resettled widely. Many opted to leave Tempe for other parts of the Phoenix metropolis; some even went to Southern California.230 Many who remained in Tempe resettled in a postwar subdivision called Victory Acres, two miles east of town, which emerged as a postwar barrio. Others who


could afford it bought houses in new subdivisions south of the creamery; a few bought homes in the vicinity of campus opposite Mill Avenue.\(^{231}\) The overall result, as Clara Urbano points out, was that many former residents of San Pablo enjoyed a higher quality of life in their new homes outside of San Pablo—but that higher quality of life came at the expense of community life in the barrio. “It was just sad because we had that closeness,” she told interviewers years later. “And it wasn't like friends, it was like family.”\(^{232}\) Rooted in the early history of the settlement, San Pablo had played a key role in the development of Tempe’s agricultural landscape—but after 1950, higher education eclipsed agriculture as the basis of local growth, and neighborhoods in the vicinity of the old teachers college became collateral damage as the town embraced its role as the center of higher education in the Phoenix metropolis.

*Palo Verde Hall*

By the end of the 1950s a new type of community emerged on the site of San Pablo, and architecturally it looked nothing like the old barrio. Again, by the spring of 1955 Grady Gammage already had in mind what to do with land the college sought to obtain when he told Gilbert Cady to “push the two women’s dormitories as fast as possible.”\(^{233}\) The problem of student housing had vexed Gammage for a decade. When it


\(^{232}\) Clara Urbano, interview by Scott Solliday, 28 March 1992, OH-125, Tempe Barrios Oral History Project, Tempe History Museum, Tempe, Arizona. Many Hispanics enjoyed a higher quality of life in their new houses, but Irene Hormell describes a common problem whereby those who owned property in San Pablo did not receive enough compensation from the college to buy their new houses outright, and had to settle for mortgages: “And some of them could handle it, and some of them were never taught how to handle it, so they lost their homes.”
came to providing beds for its rapidly growing student population, the college had remained behind the curve since 1946. In the immediate aftermath of the war, administrators had taken desperate measures by accepting low-cost trailers from the Poston War Relocation Center, a Japanese-American internment camp in Yuma County, which formed the basis of a ramshackle student community called “Victory Village” built in the southwest corner of campus.234 Through the early 1950s, Gammage oversaw the development of several permanent men’s and women’s dormitories, but alone they could not accommodate the hordes of new students arriving every year. Gammage needed to think bigger. “In planning future dormitories,” he told Cady, “I think, if possible, we should plan for larger units, 200-400 students in one management unit.”235 Members of the Campus Development and Building Committee agreed. Within a year, discussions of the “Old Town Area” began involving “women’s housing” and “parking” as future uses.236 In March 1956, the committee settled on a set of dormitory plans drawn by Weaver and Drover Architects, a Phoenix firm, and in November they carried a motion to name the new facility for Arizona’s state tree.237 “Palo Verde Hall,” Gammage wrote in a

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236 “Building Committee Minutes, 14 March 1956” in MSS-359, Box 13, Folder 4.

237 Building Committee Minutes, 2 May 1956, in MSS-098 15 7; Campus Development & Building Committee, 16 November 1956, in MSS-098 15 7.
fall 1956 bulletin, “will be the name for a 450-student women’s dormitory to be constructed in the ‘Old Town’ area north of the present Eight St. campus boundary.”

Palo Verde Hall resembled the Engineering Complex in its subdued International Style architecture, offering a striking contrast to buildings within the Hispanic barrio it displaced (see fig. 4.3). Whereas as the adobe buildings of San Pablo represented a vernacular architecture—buildings made from local materials and uniquely adapted to the Sonoran Desert environment—San Pablo Hall transcended location and conveyed nothing unique about Tempe or the Sonoran Desert. But the contrast went beyond architectural appearances. For decades, working-class Hispanics in San Pablo performed a variety of jobs integral to the day-to-day functionality of the farm-service town. According to Joe Soto, approximately one-third of the barrio’s laborers had worked at a municipal pumping station that pumped city water up to a tank on Tempe Butte. Roughly another one-third worked at Hayden Flour Mill, which manufactured flour and other consumer food products. The others held various jobs, including farm labor. “I can remember the truck coming to pick [up] people to go pick cotton,” Soto told interviewers. “Come in and, you know, just take them out to the fields and work.” All of this work reinforced Tempe’s role as a farm-service town amidst an agricultural landscape of farms and ranches.

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By contrast, the women who moved into Palo Verde Hall in 1957 performed work that had nothing to do with agricultural production; their work involved learning, an intangible activity that could have been accomplished anywhere. In that sense, the women in Palo Verde Hall, like the School of Engineering faculty and the General Electric employees who developed a computerized banking system in Building A of the Engineering Center, represented the vanguard of Tempe’s transition away from a farm-service town. As Daniel Bell notes, “the changeover to a post-industrial society is signified not only by the change in sector distribution—the places where people work—but in the pattern of occupations—the kind of work they do,” and during the 1950s
Tempe began to embrace a new kind of work that involved little in the way of agricultural production but much in the way of informational goods—knowledge and research—that caused great excitement among civic and business leaders in Phoenix.

*Sun Devil Stadium*

The College of Engineering, with its IBM supercomputer, generated great excitement in Phoenix during the 1950s. But it was no match for the level of exhilaration caused by Arizona State’s football team—the popularity of which soared throughout Central Arizona during the 1950s. Though the school had fielded teams since 1896, the “Bulldogs” had enjoyed very limited success. The team won its first “Territorial Cup” game against the University of Arizona in 1899, but lost twenty of the next twenty-one matchups. A low point came in November 1946, when the team lost ignominiously to their Tucson counterparts by a score of 67-0. But from that embarrassment came a new beginning, one founded on stronger connections between the football team and the metropolis. At a Rotary Club luncheon in Phoenix the day before the 1946 game, members of the Phoenix Chamber of Commerce introduced the Sun Angel Foundation, a football fundraising group modeled after the Towncats in Tucson. The group’s mission, according to chairman Milton Sanders, was to highlight “the importance of creating valley-wide backing and appreciation for the Tempe Bulldogs football team.”

The group’s first move was to persuade Arizona State students to change their team’s mascot from the “Bulldogs” to the “Sun Devils” to bring the team more in line with the foundation. “Sun Devils is the name adopted recently by a group of Salt river valley

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businessmen who are boosting the school’s athletic and scholastic program,” noted the 
*Tucson Daily Citizen.*²⁴¹ And boost they did: in coming decades the Sun Angel 
Foundation became, by one measure, the third-largest university athletic booster group in 
the country.²⁴²

Support for Arizona State football after 1946 drew heightened attention to the 
college’s inadequate athletics facilities—most particularly Goodwin Stadium, where the 
Sun Devils played home football games. Built in 1936 and expanded in 1941, Goodwin 
Stadium accommodated 15,000 spectators on game day. While adequate for a small 
teachers college in 1941, the stadium fell far short of meeting regional demand for tickets 
to games during the 1950s.²⁴³ The size of the stadium stunned those accustomed to larger 
football stadiums back east. “When I first came to Arizona State as an assistant football 
coach in 1955,” recalls Frank Kush, who coached the Sun Devils from 1958 to 1979, “I 
drove and drove and drove from Georgia . . .

I ended up driving right past the college and into Phoenix. A policeman gave me 
directions, telling me to look for the football stadium by the big [highway] turn in 
Tempe. I proceeded to drive past the school again going in the other direction. I 
stopped and asked somebody else, and they said, ‘The stadium is right over there.’ 
Sure enough, there was old Goodwin Stadium. I thought to myself, ‘God 
Almighty—this is it?’²⁴⁴

That was it. And it drew the ire of almost all sports fans in Phoenix. With no professional 
teams to support, Phoenix fans wanted a better chance to attend games at Arizona State;


²⁴⁴ Ibid., viii.
many fans also recognized that the stadium’s paltry seating capacity also hurt the school’s ability to generate revenue from ticket sales. “College football is expected to pay its way, and it can’t do so without having tickets to sell,” noted one frustrated supporter.245

Pressure began to mount for a new stadium, particularly after 1955, when the team began playing under first-year head coach Dan Devine. Gammage, who did not have the greatest affinity for sports but understood their importance to college life, told Devine that if he could beat the University of Arizona once every three years while running a clean program, he could keep the job for life.246 But Devine did better than that. To the surprise of many, the team won seven of its first eight games in 1955, boosting fan support around the region. The game against University of Arizona that year drew unprecedented interest: one report estimated that 17,500 “filled Goodwin Stadium to its bursting point.”247 Gammage used the occasion to lobby the Arizona Board of Regents for a new stadium, arguing that the Board had an obligation to satisfy the demands of Arizona taxpayers, “thousands of whom are now deprived of the chance to attend our games.”248 But by playing good football, Dan Devine’s team practically lobbied for itself. In 1957, the Sun Devils reeled off ten straight wins toward an undefeated season, topped

245 “Need For A Stadium,” Arizona Republic, 29 November 1955.


by a 47-7 win over University of Arizona and a ranking of twelfth in national polls. That
team made a fan out of Arizona Governor Ernest McFarland, who during an end-of-the-
season banquet walked up to Devine’s table and promised the young coach a new
taxpayer-funded stadium.”249

Metropolitan considerations would inform all stadium planning efforts in Tempe.
Del Fisher of the Fisher Contracting Company, a consultant to Gammage and to the
Board of Regents, recommended that the facility reflect the needs of the growing
metropolis more than the college itself. “It is my belief,” Fisher told Gammage in January
1956, “that the size of the stadium depends on the size of the community in which the
college is located rather than on the number in the student body.” Citing “several good
surveys on population growth in the Salt River Valley,” Fisher endorsed the largest
stadium possible. “It is my belief that the committee working on this stadium project
should consider a site large enough to accommodate a stadium that would seat 100,000
spectators, say, thirty years from now.”250 Two locations emerged as possibilities: land
owned by the City of Tempe between Washington and Van Buren streets in Papago Park,
and an on-campus site in the “saddle” of Tempe Butte. Probably a majority favored the
Papago Park site, but the Arizona Board of Regents sided with Fisher, who argued for the
buttes site (see fig. 4.4), which had better access roads, and room for an ample parking lot
in the dry riverbed of the Salt River to the north; it would also allow students to walk to

249 Devine, Simply Devine, 51.

250 Fisher to Gammage, 04 January 1956, Office of the President Records 1863-1981, MSS-001, vol. 675,
Arizona State University Libraries, University Archives, Tempe, Arizona.
games from dormitories, alleviating some of the parking needs. For a suburban metropolis oriented around the automobile, parking requirements determined the location of the new stadium.

Here again, campus expansion impinged on space used for decades by Tempe’s Hispanic community. Local legend has it that early residents of San Pablo used the saddle of Tempe Butte as a cemetery: Jack O’Connor remembers hiking in the saddle as a boy with his friends and observing “a collection of mounds that looked as if they might be graves.” Digging around, the boys discovered “that they actually were graves and that they were full of human bones and skulls of all sizes.” In one of the gravesites, O’Connor found a metal crucifix, suggesting the bones belonged to members the early Hispanic community. Years later, trenches dug in the ground near the stadium confirmed that suggestion by revealing layers of settlement ranging from a lower strata, containing

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252 O’Connor, Horse and Buggy West, 87-88.
ancient artifacts, to an upper strata containing early-twentieth-century Hispanic artifacts. Whereas dormitories displaced the contemporary community of San Pablo; Sun Devil Stadium obliterated gravesites associated with the its earliest ancestors. But to the enjoyment of football fans throughout the region, the new stadium comfortably seated more than 30,000 spectators; it later became expanded to seat over 70,000 in order to keep pace with the growing metropolis.

During the early twentieth century, Tempe’s agricultural landscape had shaped Arizona State Teachers College; but after 1950 the college began shaping Tempe. By partnering with Phoenix civic and business leaders, Grady Gammage transformed the institution into a training grounds for the Phoenix electronics industry, which in turn positioned Arizona State as a regional university for the growing Phoenix metropolis. By 1960, Goldman’s Addition, with its front and back yards planted in orchards, and San Pablo, with its Sonoran vernacular architecture, both succumbed to campus expansions. In their place emerged International-style dormitories and an engineering center—buildings that accommodated knowledge-based activities, which eclipsed agricultural production as the new basis for growth in Tempe. Simultaneously, the town became the home of the region’s favorite spectator sport, further signaling Tempe’s absorption into the Phoenix metropolis—an absorption that would continue shaping the town through the 1960s and beyond.

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254 Eger, Maroon & Gold, 114, 195.
Chapter 5  
From Farm Service Town to Metropolitan College Town

Campus expansions into nearby neighborhoods represented one manner in which Arizona State reshaped Tempe; but the university also reshaped the town in less conspicuous ways. No part of Tempe remained immune from its influence. The following chapter describes how Tempe became more fully absorbed into the Phoenix metropolis by means of the university and a four-lane highway that streamlined traffic between Phoenix, Tempe, and Mesa. It begins with a story about Grady Gammage, Frank Lloyd Wright, and the planning of an auditorium near the highway curve at the southwest corner of the campus—an embodiment of the ways in which the university and the highway combined to shape Tempe during the postwar period. Both helped erode the parochial outlook that characterized life in the farm-service town; both also served as catalysts for new kinds of growth and commercial possibilities. By the early 1960s, local politics, too, reflected Tempe’s metropolitan outlook, as the city council became more responsive to the needs of suburban residents. Gradually local leaders came to acknowledge the new dimensions of the town. “Planning for Tempe’s future development,” emphasized the City’s planning consultants in 1967, “must commence with recognition that the metropolitan influence is pervasive and dominant.”

Gammage Auditorium and the Curve

Amidst the frenzy of building activity at Arizona State College during the 1950s, Grady Gammage had in his mind a truly spectacular building, one more architecturally

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distinctive than the International-style buildings such as Palo Verde Hall and Building A of the Engineering Center. He also wanted something designed by Frank Lloyd Wright, who maintained a studio in the hills northeast of Scottsdale called Taliesin West. Gammage and Wright had become acquainted in 1952 when Wright delivered a lecture on campus. Gammage, who well understood that a great university required more than scholarship alone, viewed his relationship with Wright as an opportunity to add something truly monumental to his campus—an architectural symbol for the institution. He also needed a new auditorium. The school’s 1906 venue, condemned since 1919, had sustained a roof collapse in 1954, prompting its demolition. By 1955, Gammage began telling colleagues about his vision for Wright to design its replacement. “In general, he (Gammage) agrees with our hope of a Memorial to Frank Lloyd Wright, designed by Wright, to be located on the campus,” noted Arnold Tilden, Dean of the College of Liberal Arts, in a letter to a colleague. “Dr. Gammage hopes that the structure could be an auditorium and Fine Arts Center, including a Little Theater and facilities for art, music, dance, and drama.”

Gammage approached Frank Lloyd Wright with his idea for auditorium in the spring of 1957. Recently, the architect’s passion project, a new state capitol building for Arizona, had failed to win over state legislators. Through that effort, however, Wright had strengthened relationships with Phoenix business and civic leaders, particularly Walter Bimson, president of Valley National Bank, and Lewis Ruskin, a wealthy Chicago

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arts patron and former client of Wright’s. Both also served in advisory roles for Arizona State College: Bimson held a leadership position in the Arizona State College Foundation, and Ruskin chaired the college’s Committee on Cultural Development. Both would play important roles in shepherding the auditorium to completion. In the spring of 1957, Frank Lloyd Wright hosted Grady Gammage at Taliesin West to discuss the project; in return Wright met with Gammage on campus to walk the grounds and locate a building site.258 Gammage had an idea of where the auditorium should go: campus master plans drawn up in 1954 placed a performing arts center the southwest corner of campus, near the highway curve, where ten years earlier the college had installed temporary student housing for returning veterans.259 But Gammage, careful to remain deferential to Wright, left the decision up to the architect. Upon reaching the curve, Wright looked back at the campus, stretched out his arms, and made a dramatic pronouncement: “I believe this is the site. The structure should be circular in design—yes, and with outstretched arms, saying ‘Welcome to Arizona.’”260

In terms of bidding visitors “welcome to Arizona,” Wright could not have chosen a more effective location. When engineers made a study of Tempe traffic patterns in 1964, the same year that Grady Gammage Memorial Auditorium opened to the public, they found that the highway curve handled the heaviest duty of any road in town—about twenty-five thousand cars per day—indicative of its role as the main traffic conduit linking Phoenix, Tempe, and Mesa; the curve also facilitated U.S. 60-70-80-89, meaning


259 Scheatzle, ASU from the Air, 23-23.

that motorists driving west might see the auditorium as a symbol of the approaching Phoenix metropolis. And rightfully so, because Grady Gammage Memorial Auditorium offered the clearest evidence yet that Tempe had become fully absorbed into the Phoenix metropolis. Gammage and Wright, both of whom had recently passed away, received most of the plaudits at the auditorium’s dedication in September 1964. But Bimson and Ruskin, along with G. Homer Durham, who succeeded Grady Gammage as president of Arizona State University, had taken it upon themselves to maneuver the project through the Arizona Board of Regents. All three saw it as an important regional institution: Durham assured members of the Arizona State University Foundation that the auditorium would “be used generously as a general facility for the cultural enrichment of the area” — that would eventually involve housing regional performing arts institutions such as the Phoenix Symphony.”261

Philosophically, Frank Lloyd Wright espoused what he called “organic” architecture, the idea that buildings should take their cues from physical surroundings. Though he may have salvaged Grady Gammage Memorial Auditorium’s design from a failed Baghdad project, the auditorium fit beautifully within the highway curve. To look at the auditorium one might think that the curve adhered to Wright’s vision, not the other way around. Yet the curve predated the auditorium by thirty years. State highway engineers installed it in 1934 as part of a larger effort to streamline automobile traffic

between Phoenix, Tempe, and Mesa and provide a more direct facility for US routes 60, 70, 80, and 89.262 Previously, motorists on the two-lane Tempe-Mesa Highway made a series of awkward right and left turns as they made their way through the countryside east of Tempe. The curve eliminated those sharp ninety-degree turns. Within a four-block area bounded by Mill Avenue, Eleventh Street, Forest Avenue, and Thirteenth Street, the highway made a sweeping turn, allowing for a seamless transition from Mill Avenue to Thirteenth Street (renamed “Apache Boulevard” in 1950), which continued east in a

262 “Tempe Road Bids To Open,” Arizona Republic, 28 December 1933; “Designated Highway,” Arizona Republic, 10 June 1934.
straight line, bisecting sections 22 and 23 before reconnecting with the older Tempe-Mesa Highway alignment, which transitioned into Main Street in Mesa east of the Tempe Canal.263

Through its first twelve years, the highway alignment caused no great changes in the Tempe landscape. By 1945 the town remained comfortably fixed within its 1929 boundaries. As Marvel Bennett describes it, “the town ended if you went (south) down College Avenue, there was nothin’ after you crossed Apache. And if you came back to the west, and after you crossed Farmers, the railroad tracks and Farmers . . . there’s nothin’ back that way. And if you went, of course, if you went (north) across the bridge, was nothin’ over there, either. And, uh, back to the east, I guess, (it was) all over . . . at the . . . creamery, as they call it.”264 A 1937 aerial photograph confirms that description: motorists along US routes 60-70-80-89 encountered nearly five miles of open farmland and ranchland between the western edge of Mesa and the eastern margins of Tempe. Although they had similar functions as farm-service towns, Tempe and Mesa maintained distinct identities through the early twentieth century, buffered as they were by a wide swath of farms and ranches (see fig. 5.2).265

That buffer began to shrink after 1945, however, as growth along Apache Boulevard changed the landscape east of Tempe. There the highway transformed a rural


ditch alignment into an automobile corridor fronted by a properties wholly suited to the needs of motorists: drive-ins, motels, service stations, and trailer parks. A drive down Apache Boulevard in 1952 revealed a host of auto-dependent properties within a mile east of the curve: Breezy Palms Motor Hotel (420 Apache), Wigwam Lodge (634 Apache), Motor Manor Trailer Park (735 Apache), Collins Chevron (739 Apache), Bonnie Villa Motel (803 Apache), Palm Breeze Trailer Court (816 Apache), College Drive-In (903 Apache), Troy’s Garage (922 Apache), Tom’s Radiator Services (924 Apache), and Bee Hive Trailer Park (939 Apache).266 Large signs, many of them neon, lined the roadway. Apache Boulevard had a metropolitan quality—signs vied for the attention of motorists, but they looked just like the signs installed further west up the

266 The Mullin-Kille and Baldwin ConSurvey, Mesa, Tempe, Chandler and Gilbert, Arizona ConSurvey City Directory, 1952 (Chillicothe, Ohio: Mullin-Kille, 1952), 178.
highway on Van Buren Street in Phoenix, or further to east along Main Street in Mesa. Apache Boulevard belonged to the Phoenix metropolis, not Tempe.

Beyond the first mile, motorists traveling east along Apache Boulevard in 1952 would have also encountered automobile suburbs such as Hudson Manor and Tomlinson Estates, built on opposite sides of Apache Boulevard in the east half of Section 23. Historians have long understood that federal-aid highways—like streetcars a generation earlier—functioned as the arteries of the postwar suburban metropolis; in Tempe they introduced a new type of neighborhood. Unlike earlier residential additions such as Goldman’s Addition and Gage Addition, Hudson Manor and Tomlinson Estates sat well beyond the distance a person could comfortably walk to and from Mill Avenue shops. Instead, residents of Hudson Manor and Tomlinson Estates made the two-mile trip by car. They also had to contend with life on the edge of the rural countryside: in 1952 a delegation of Hudson Manor homeowners protested when a neighboring cattle rancher installed a new feed yard right up against the back of their houses.

Postwar automobile suburbs in Tempe brought homeowners closer to the rural countryside; but in another sense they brought them closer to the metropolis. Due to their remote locations, subdivisions such as Hudson Manor and Tomlinson Estates had no urban prologue, no main street of their own. The metropolis met that need. In 1950, the A. J. Bayless Company, a Phoenix-based grocery store chain, purchased vacant property


in the 1500 block of Apache Boulevard fronting Tomlinson Estates; in 1956 it opened a 25,000 square-foot supermarket with 19,500 square-feet of additional retail space and a 10,000 square-foot parking lot.270 No longer would nearby residents drive two miles west and north to Mill Avenue for groceries. The supermarket represented the “first automobile-oriented shopping center built in Tempe,” and other Phoenix-based commercial services soon arrived on Apache Boulevard, including Walter Bimson’s Valley National Bank, which in 1962 opened a strikingly modern branch at 826 Apache Boulevard complete with a geodesic dome inspired by the futurist Buckminster Fuller. Many other Phoenix-based services would soon follow the lead set by Bayless and Bimson and open doors on Apache Boulevard in the vicinity of new automobile suburbs in Tempe.271

Automobile suburbs, supermarkets, and branch banking alone, however, did not make Tempe suburban. The difference between urbanism and suburbanism, in part, involves how people perceive a place. The highway, by virtue of streamlining traffic between Phoenix, Tempe, and Mesa, gave Tempe a new sense of itself within the larger region. In 1953, the Tempe Chamber of Commerce hired Vic Palmer, who embarked on a marketing campaign that helped redefine Tempe as a bedroom community within the Phoenix metropolis. A large sign posted on the southbound side of the highway, north of Tempe Bridge, introduced Tempe as “a swell place to live,” while promotional pamphlets during the 1950s proclaimed that “all roads lead to Tempe,” reminding readers of the


town’s centralized location within greater Phoenix. In newspaper columns and advertisements, Palmer also used language that characterized the city more explicitly as a suburb: “Many reside here,” Palmer noted in a 1957 advertisement, “who commute to their offices and other employment in Phoenix and in Industrial Plants throughout the valley.”272 Other observers agreed. William Overend, in a 1964 *Arizona Days and Ways* profile of the town, characterized Tempe’s postwar newcomers as “businessmen, engineers, and technicians attracted by the modern homes, low tax rate, and easy access to jobs in other parts of the Valley afforded by palm-lined, four-lane Apache Boulevard.”273

**Mill Avenue**

Growth along the highway, however, began to pose serious questions for Tempe’s business district. Like other small town main streets, Mill Avenue consisted of a cluster of essential services required by customers in town and in the surrounding countryside—banks, grocers, tailors, barbers, dry goods stores, and druggists. Nearby churches and schools also drew people from throughout the broader Tempe countryside. By 1940, ninety percent of the town’s commercial establishments located on blocks fronting Mill Avenue between First and Tenth streets.274 The Laird and Dines drug store at the corner of Mill Avenue and Fifth Street probably formed the nucleus of Tempe. As one historian describes it, “the drugstore provided Tempeans with prescription drugs, remedies, and

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sundries, and also served as the unofficial town hall, political campaign headquarters, and place to meet members of the opposite sex.”275 Longtime residents remember Laird and Dines as a gathering place more than a drugstore. “When Laird & Dines put in their soda fountain, it became the center of Tempe’s ‘meet your friends there’ social life,” recalls longtime resident Elizabeth Hampton. “If a person from one farm was going to meet someone from another farm to attend some social activity, it was: ‘I’ll meet you at Laird & Dines.’”276 Other retailers on Mill Avenue played similarly central roles. At the opposite end of the 500 block, the Baber-Jones Mercantile Company sold fresh groceries meat but also functioned as a buyer of local produce. “We bought most of our groceries there in the 1920s and 1930s,” recalls Hampton. “My dad for several years farmed an acre or two of sweet potatoes and one of his buyers was Mr. Baber.”277

The routing of US 60-70-80-89 through Mill Avenue, however, fundamentally undermined the convenience of the business district. Like other nineteenth-century towns laid out on a pedestrian scale, Tempe struggled to adapt to the automobile. Initially, Mill Avenue’s traffic consisted principally of motorists and pedestrians with business in town. But the highway introduced through-traffic—motorists passing through Tempe on their way to Phoenix, Mesa, or to the Arizona State campus with no intention of stopping in the business district. Suddenly, Mill Avenue customers shared space with Mill Avenue commuters. This caused congestion, making the business district tremendously


277 Ibid., 35.
inconvenient for locals with needs into town. Street parking, in particular, became scarcer and harder to manage with heavier traffic flows. The highway also instilled fear among pedestrians, who crossed the street at their own risk. In 1946, city council members authorized the installation of stop lights at Fifth, Eighth, and Tenth streets on Mill Avenue to allow for safer crossing.  

But accidents still proliferated as highway traffic increased. In 1947, a ten-wheel flatbed truck struck and killed a seventy-eight-year-old man attempting to cross Mill Avenue in front Laird and Dines.  

“As you come into Tempe from the north, please note the intersection at Mill Avenue and Fourth Street,” one frustrated resident implored Arizona Republic readers in 1956. “Hardly a week passes but one or more collisions are listed by the Tempe police at this point.”  

Congestion, limited parking, and fear among pedestrians all undermined the convenience that had made Mill Avenue a commercial focal point for the Tempe area through the early twentieth century. In the automobile age, however, “convenience” took on new meanings. Regional developers took notice. In early 1955, the Phoenix-based O’Malley Investment and Realty Company announced it had retained Los Angeles architect Victor Gruen to design a modern shopping center on the site of the old Tempe Union High School building at the southeast corner of Mill Avenue and Eighth Street. Already the school district had abandoned the site in favor of a new school grounds a mile to the south. A Flagstaff investor had purchased the abandoned site, and in January

278 Councilmembers also recommended limiting parking along Mill Avenue between Fourth and Eighth streets to two-hour increments to free up spaces. “Tempe To Install Traffic Lights,” Arizona Republic, 17 April 1946.


1955 the old building went up in flames in what local firefighters described as the most severe fire emergency in the town’s history.\textsuperscript{281} In its place, H & J Construction, a Phoenix-based contractor, began building out Tempe Center, Gruen’s L-shaped, 118,000-square foot complex anchored by a 20,000-square foot supermarket called El Rancho Market, a California-based chain.

Developed by a Phoenix realty company, designed by a Los Angeles architect, built by a Phoenix contractor, leased to national chains, advertised as a regional shopping destination, and anchored by a California grocery store, the Tempe Center consisted of almost nothing endemic to Tempe beyond its name and location. Many of its customers, too, would come from throughout the area. Vic Palmer had the broader Phoenix metropolis in mind when he reminded readers of \textit{Arizona Days and Ways} (see fig. 5.3) that “Tempe’s new modern shopping center is here to serve you.”\textsuperscript{282} Whereas Mill Avenue met the needs of a nineteenth-century walking town, Tempe Center served the twentieth-century automobile metropolis: from Mill Avenue motorists accessed the center through separate entry points and took their pick from 780 individual parking spaces. Within the parking lot, customers dined at “Bimbo’s Drive-In,” a drive-through restaurant chain, and refueled at a Standard Oil gas station—both major conveniences.\textsuperscript{283}

Together with the A. J. Bayless supermarket on Apache Boulevard, Tempe Center marked a turning point in the commercial history of Tempe. Probably few Tempe shoppers in the late 1950s opposed Mill Avenue in principle: many had pleasant


\textsuperscript{282} Advertisement in \textit{Arizona Days and Ways Magazine}, 17 March 1957.

memories of life in the old business district during the 1920s, 1930s, and 1940s. But the nineteenth-century layout of Mill Avenue, with its compact city blocks, intersections every 250 feet, and highway congestion made simple traffic maneuvers such as left-hand turns and parallel parking prohibitively difficult. Moreover, the narrow dimensions of the buildings along Mill Avenue constrained the square footage of retail spaces, forcing merchants to specialize. By contrast, supermarkets such as A. J. Bayless and El Rancho Market, with their ample size, offered a much wider range of products, making them convenient one-stop shops. Generous parking lots, moreover, meant shoppers could always find parking spaces and easily transport a week’s worth of groceries from the store to their car without navigating intersections and sidewalks choked with traffic and pedestrians. Both stores, as anchors, pulled Tempe shoppers out of the business district;
smaller stores then followed suit, hollowing out Mill Avenue. As Dean Smith observes, “merchants fled southward to where the action was. Empty store buildings, broken glass, graffiti, and an ominous aura of decay became the norm in a business district that had only recently enjoyed pink-cheeked health.”

Only in the late 1960s did Mill Avenue began to revive—but not in the sense that it reclaimed its central position within the town’s economic life. Instead it emerged as a pastiche of youthful craft merchants united by a shared interest in the arts and counterculture. Many of them came from Arizona State University; few had any prior business experience. “We didn’t know anything at all about the clothing business,” acknowledged Linda Lipson, proprietor of Clothing for Beautiful People. “So we did a lot of things wrong.” But in terms of adding vitality to Mill Avenue, they did a lot of things right. Lipson and her husband, Stuart, leased the vacant Laird and Dines Building in 1968. To draw attention to the old building, the couple painted its Mill Avenue storefront electric blue with gold lettering; on the side facing Fifth Street they added a swirling multi-colored design—all of it in stark contrast to the staid Victorian appearance of Laird and Dines. A block away, at 401 Mill Avenue, Jean and Mike Smith ran “Leather, Smith and Lace,” a clothing store that specialized in Jean’s “mod creations.” Their building, for many years the home of a furniture and appliances store, also took on a more colorful appearance: orange and red exteriors with a bright yellow interior. Across

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284 Ibid., 88.
Mill Avenue, Cindy Simon ran a store called “Earth,” which sold beads, occult books, incense and mod clothes—she painted her storefront green and yellow.286

All of them belonged to the Mill Avenue Merchants Association, or MAMA, an alliance of merchants drawn to Mill Avenue by virtue of its low rents. Posters in the business district announced their presence with the slogan, “MAMA loves you.” But they aroused the suspicions of established business owners: the owners of the Laird and Dines building, for example, took the Lipson couple to court to break its lease after it became evident what Linda and Stuart had in mind for the building. State Representative James Shelley, proprietor of the Workman Café on Mill Avenue, echoed the sentiment: “I guess I’m an old stick in the mud,” he admitted. “I’m not appreciative of the new (foot) traffic. The kids themselves are nice people. But it’s the customers they attract.”287 Most of those customers came from Arizona State University. By the late 1960s, the university had emerged as a magnet for countercultural activity, and many of the students gladly eschewed traditional clothing stores for Mill Avenue’s MAMA alternatives. Several art students from the university, in fact, took cues from MAMA by renting the old Salt River Project office building, where they established “Neoteric Contrivance,” a public house for art students. Neoteric Contrivance consisted of a design studio, painting school, and a space dedicated to “total involvement” in the arts: a “head shop” whereby artists could “search for things—experiences, colors, designs, drugs—that will enhance the mind,” as

286 Ibid., 8-10.

287 Ibid., 12.
one artist explained it. Students loved it. Arizona State had already shaped postwar Tempe in many ways: by displacing neighborhoods, by making the town a sports and performing arts destination for the metropolis, and by swelling the numbers of young people who made Tempe their home during the spring and fall. Now it had arrived in the town’s business district by way of MAMA and its student clientele.

**Neighborhoods**

Further down Mill Avenue, south of Eighth Street, the rise in traffic along US 60-70-80-89, coupled with the growth of Arizona State University, also affected the character of residential blocks along Mill, Maple, Ash, and Farmer avenues between Eighth and Thirteenth streets. Together these streets consisted of three early Tempe residential additions: Farmer’s Addition, Gage Addition, and Park Tract. Geographically they formed a residential counterpart to Goldman’s Addition, which flanked the college to the east. But unlike the residents of Goldman’s Addition, homeowners along Mill, Maple, Ash, and Farmer avenues enjoyed a buffer from the college, as Mill Avenue facilitated far too much traffic to allow for campus expansions into their neighborhood. But while the highway alignment spared residential properties west of campus, it had its own tangible effects on the neighborhood, particularly for residential properties fronting Mill Avenue. For decades these properties had stared out at what George Bateman described as a “sleepy” stretch of road. Little traffic had passed by their doorsteps, as the original highway alignment turned Mill Avenue motorists east onto Eighth Street,

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288 Ibid., 9.

289 Bateman, *From Horse and Buggy Days to the Atomic Age, 1897-1971*, 70.
north of the neighborhoods. But after 1934 the new highway alignment brought traffic right to their doorsteps. Initially, the most striking effect involved the neighborhood’s oldest property, George Gage’s 1888 Georgian Revival style house, which had stood sentinel over the southwest corner of Mill Avenue and Eighth Street for fifty years. In 1939 its new owner, Carl Blades, a local carpenter, picked it up and moved the house five hundred feet west to 115 West Eighth Street, a block away from the highway.290

A more significant change occurred in 1948, however, when City of Tempe officials began modifying municipal zoning codes that governed land use possibilities in town. Zoning had arrived in Tempe in 1938 with authorization of Zoning Ordinance 177, which divided the town into four separate land use districts: “residence,” “business,” “industrial,” and “auto courts.” Under that initial ordinance, Tempe’s business district extended no further south than Eighth Street. But under Zoning Ordinance 193, authorized in 1948, the north half of the 800 block of Mill Avenue became reclassified as “Business B,” while the south half of the 800 block and the entire 900 block became “Business A.” Business A allowed for “neighborhood” businesses: grocery and dry goods stores, barber and beauty shops, restaurants, and professional services, while Business B allowed for any kind of business enterprise.291 Accordingly, in the Business A zone, residential properties such as 820 Mill Avenue and 950 Mill Avenue became restaurants—Pete’s Fish and Chips and Dairy Queen, respectively—while in the Business


B zone, in the vacant lot left by George Gage’s house, Charley Soderin established an auto dealership. An auto dealership seemed fitting, because by the late 1940s a tremendous volume of cars passed by the 800 and 900 blocks of Mill Avenue. Through-traffic brought new hazards to a quiet neighborhood originally intended for homes and schools. One never knew what might come barreling down the highway. In October 1947, a driver heading home toward Mesa fell asleep at the wheel and plowed through the Arizona Highway Department’s metal sign announcing the curve, wrecking a cactus garden in an adjacent park. In December 1952, a truck carrying sixty-three bales of cotton came flying around the curve with its entire load ablaze: astonished onlookers watched as the driver steered his flaming vehicle up Mill Avenue to the fire station at Fifth Street, where it caught the town’s Christmas decorations on fire. Then in April 1954, residents awoke one Sunday morning to the sound of a tremendous crash. A woman had led police on a high speed chase from Phoenix. After crossing Tempe Bridge she sped down Mill Avenue at over 100 miles per hour, but failed to negotiate the curve and wrapped her car around a telephone pole near Mill Avenue and Eleventh Street. A patrolman reported that it “looked like something blew up.”


293 “Driver Wakens—Too Late,” Arizona Republic, 14 October 1947.


Traffic events such as these made life along Mill Avenue below Tenth Street an
adventure for homeowners. But west of Mill Avenue, properties along Maple, Ash, and
Farmer avenues remained quieter through the 1950s. But here again, zoning changed the
character of the neighborhood—and not commercial zoning, but multi-family zoning,
which allowed families to occupy detached outbuildings or enclosed studio units within
main houses; it also set the state for infill construction of apartment buildings within the
neighborhood. In most American small towns, municipal zoning followed a pattern
established in Euclid, Ohio, whereby zoning functioned as a tool to exclude apartment
dwellers from established middle-class neighborhoods.296 But Tempe moved in the
opposite direction, as city officials authorized a series of zoning ordinances that allowed
multi-family development along Mill, Maple, Ash, and Farmer avenues south of Eighth
Street. Under Zoning Ordinance 193, authorized in 1948, “Residence B” properties,
which consisted of duplex properties, multiple-dwelling houses, apartment houses,
boarding houses, and clubs, became allowed along Eight Street between Maple and Ash
avenues. Zoning Ordinance 209, authorized in 1951, then extended that privilege down
Maple, Ash, and Farmer avenues south to Ninth Street. Finally, Zoning Ordinance 268,
authorized in 1957, extended the privilege to the neighborhood’s southern boundary
along Thirteenth Street, including Mill Avenue between Tenth and Thirteenth Streets.297


Archives, Tempe History Museum, Tempe, Arizona.
Suddenly a quiet neighborhood of detached single-family houses faced a much denser and more demographically diverse future.

The reason for this future was the neighborhood’s proximity to Arizona State University. City directories from 1940 and 1958 show that Maple and Ash avenues became denser during the 1940s and 1950s, mostly due to new homebuilding: in 1940 the 1000 blocks of Maple and Ash avenues contained five detached houses apiece; by 1958 they contained eleven and thirteen houses, respectively. But density gains also owed to the development of secondary dwellings made permissible under Residence B zoning. By 1958, eight properties in the 1000 block of Maple and Ash avenues possessed such dwellings, which shared mailing addresses with main houses but had a “½” to distinguish their mail boxes. These units became attractive housing options for college students unsatisfied with on-campus dormitories. Art Bunger, Tempe city manager, built a secondary dwelling behind his property at 1022 Ash Avenue: in 1958 he rented out 1022½ Ash Avenue to two college students, Don Williams and Lon Chaney.298

Renting out secondary dwellings to college students made economic sense for homeowners by turning unproductive back yard spaces into rentable spaces. It also helped to alleviate the housing shortage on campus. But for Mill, Maple, Ash, and Farmer avenues, renting out rooms to college students also underscored the neighborhood’s midcentury pivot toward Arizona State University. Through the early twentieth century, the neighborhood had functioned as a middle-class bedroom for the Mill Avenue business district, a leafy environs set back from the industrial din of the flour mill and the railroad

298 The Mullin-Kille and Baldwin ConSurvey, Mesa, Tempe, Chandler and Gilbert, Arizona ConSurvey City Directory, 1952, 346.
depot, but still closely associated with the commercial, professional, and industrial functions of the farm-service town. Within the 1000 blocks of Maple and Ash avenues, residents in 1940 included Raymond Waltz (1026 Ash), office manager of Hayden Flour Mill, and William Hancock (1026 Ash), a chemist at the creamery. Both played important roles in the production of agricultural goods in Tempe. Their neighbors included Paul Bartlett (1019 Ash), manager of the Safeway grocery store located at the corner of Mill Avenue and Eighth Street, and William Baber (1029 Maple), a wholesale buyer and seller of raw cotton. Both played important roles in the commercial life of the farm-service town. Elsewhere along Mill, Maple, Ash, and Farmer avenues lived some of Tempe’s business, professional, and civic elite: the homes of Charles Woolf (806 Maple), water rights attorney and president of Tempe National Bank; William Moeur (850 Ash), cattle rancher and Maricopa County supervisor; and Hugh Laird (821 Farmer), proprietor of the Laird and Dines drug store and longtime mayor of Tempe, anchored the north end of the neighborhood. Each focused their occupational activities on the Mill Avenue business district or on nearby farms and ranches; each also based their professional, commercial, and political livelihoods on the productive capacity of Tempe’s agricultural landscape.299

During the 1950s, however, Mill, Maple, Ash, and Farmer avenues became more oriented to the university. By 1958, four Arizona State professors, one staff member, and four students made their homes in the 1000 blocks of Maple and Ash avenues. Another, Wilbur Nay (1005 Maple), had taught woodworking, agricultural mechanics, and

machine shop at the teachers college in 1940. But his teaching post did not survive the institution’s growth and development; by 1958 Nay taught industrial arts at Tempe Union High School. By contrast, his neighbor in 1958, Dr. Lester Perrill (1010 Maple), served as the Chair of the Department of Sociology and Anthropology and lectured throughout the Phoenix metropolis on topics ranging from religious tolerance to mental health issues. By 1958, Arizona State had become more metropolitan in terms of its outlook, and so had its faculty who lived along Mill, Maple, Ash, and Farmer avenues.

Just as Arizona State pulled the metropolis into Tempe, the four-lane highway alignment of US 60-70-80-89 also pushed some of the town’s residents in the opposite direction. Through the early twentieth century, a trip to Phoenix represented, for most Tempe residents, a rare treat—one that typically involved shopping for nonessential goods or enjoying higher forms of entertainment. But by 1958, the drive between Tempe and Phoenix became far more routinized: some even made the trip on a daily basis. Within the 1000 blocks of Maple and Ash avenues, residents such as Harry Moorman (1019 Ash), a foreman at General Petroleum in Phoenix, Mitchel Tillotson (1026 Ash), a custodian at Phoenix College, and Dixie Dana (1018 ½ Ash), a teller at the First National Bank of Arizona in Mesa, each commuted to work along US-60-70-80-89. Others, such as Duane Rader (1018 Ash), a clerk at Salt River Project, both commuted on the highway and worked for a metropolitan institution; similarly Abe Glossbrenner worked for


Arizona Highway Department and operated heavy machinery wherever the department needed laborers.\textsuperscript{302}\hspace{1em} No longer did Mill, Maple, Ash, and Farmer avenues function as a bedroom for the Mill Avenue business district exclusively. By 1958 the neighborhood, like the rest of town, had become a small component of the much larger Phoenix metropolis.

That also meant that Mill, Maple, Ash, and Farmer avenues became a magnet for other types of “college town” institutions. The large masonry house built by William and Mary Moeur at 850 Ash Avenue offers case in point. The Moeur couple arrived in Arizona in 1893 and settled on a ranch west of Phoenix; William Moeur raised livestock and became fixture in Maricopa County politics. In 1905, the couple bought a Tempe-area ranch but opted for life in town; in 1911 they built their opulent Western Colonial style house in Tempe’s newly-opened Gage Addition and moved in with their seven children.\textsuperscript{303} William Moeur died on Christmas Day in 1929, but his wife, Mary, remained at the address until she passed away in 1948.\textsuperscript{304} Her youngest son, William Jr., and his wife, Idella, inherited the property, but they made 902 Ash Avenue their primary residence. After 1951, the old house began taking on a new functions. The 1952 Tempe city directory lists a student named Harry Herman and his wife, Jean, at 850 Ash Avenue, while a classified advertisement that year notes the house had “two vacancies for boarding children, from 2-16 years,” and that its proprietor preferred “children who really

\textsuperscript{302} The Mullin-Kille Mesa, Tempe, Chandler and Gilbert, Arizona, ConSurvey City Directory, 1958.


need a home.” In 1956, William Jr. and Idella sold the property to Chester and Dora Volker, who made it their primary residence through the early 1960s. From there the history of the house becomes murkier as 850 Ash became a formal and informal dwelling for college students. The 1972 Tempe city directory listed five individuals at the property, including Jim Garrison, a recent graduate of Arizona State University’s College of Architecture. Finally, in 1974, a restaurateur converted the house into a neighborhood tavern called Ninth and Ash, which received positive reviews for its “fireside by the parlor,” “old books on shelves,” and outdoor terrace “shaded by cottonwoods.” Arizona State students loved it. The masonry house built by one of Tempe’s leading ranching families had become a mainstay college bar (see fig. 5.4), cementing the university’s presence in the neighborhood.

Old Tempe/New Tempe

Increasingly, the transition of Tempe from a farm-service town to a metropolitan college town caused a rift between “old-line” residents and suburban newcomers. On one side, longtime families watched with excitement but with some misgivings as Tempe distanced itself from its agricultural past. “I kind of hate to see the small town atmosphere

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305 The Mullin-Kille and Baldwin ConSurvey, Mesa, Tempe, Chandler and Gilbert, Arizona ConSurvey City Directory, 1952, 179, 495; Classified Advertisement, Arizona Republican, 24 September 1952.


Figure 5.4. From the Moeur House to 9th and Ash. Top, the Moeur family poses in front of their new Tempe home; bottom, the same house, repurposed as a popular college bar called 9th and Ash, 1977. Courtesy Tempe History Museum.

go,“ admitted Frank Conolly, editor of Tempe Daily News, “but we’ve had orderly progress. And there’s tremendous future here.”309 His words echoed an ambivalence shared by many longtime residents: the metropolis brought new business, enhanced

309 Overend, “The Vale of Tempe,” 32.
property values, and added a variety of amenities, but it also diminished the sense of exceptionalism residents felt about their town. On the other side, newcomers arrived with expectations of modern services and little tolerance for parochialism. “I think the newer people are putting some life into Tempe,” Jim Rolle told interviewers in 1964. Rolle, a twenty-nine year old Motorola engineer, had arrived in Tempe in 1957. He and his wife had started a family, and he shared a metropolitan outlook with many newcomers in Tempe who had no intentions of farming or establishing a business on Mill Avenue. This group viewed Tempe as a suburban city, a place with a growing university, good schools, and easy access to employment opportunities throughout the greater Phoenix metropolis.310

That rift—a divergence of expectations and outlook—spilled over into local politics. Between 1950 and 1960, the town’s population surged from 7,684 to nearly 25,000 residents, introducing thousands of new voters with priorities different from those of some of the town’s longtime residents.311 The Tempe city council gradually split into two blocs: one representing the “old line” and another sympathetic to the needs of suburban newcomers. In 1961 that rift boiled over into political turmoil when three members old-line bloc—mayor Clyde Gilliland and councilmembers Hugh Laird and Arthur Livingston, with support from John Lewis, an attorney—circulated petitions to recall three members of the newcomer bloc: Ross Rice, Harold Andrews, and Bernard

310 Ibid., 33-34.

Caine. Their protest stemmed from a majority decision made by Rice, Andrews, Caine, and councilmember Robert Svob to dismiss Art Bunger, Tempe city manager, of his duties in February 1961. Bunger, in his defense, had remained steadfastly unwilling to increase the city’s budget more than ten percent that year, adhering to Arizona law. Rice, Andrews, Caine, and Svob, however, had requested a sixty-two percent increase to resolve an array of municipal problems facing Tempe. Four years earlier, councilmember Ross Rice, a professor at Arizona State University, published a profile of the town and its “growing pains” in an issue of Western City. In his article, Ross criticized the town’s prevailing outlook as “content, even lackadaisical” despite strains made on sanitation, public safety, and parks. In 1960 Ross took matters into his own hands and successfully won a seat on city council. Andrews, Caine, and Svob joined him as first-year councilmembers in 1960. Their sudden dismissal of Art Bunger a year later signaled their desire to end the “lackadaisical” status quo at city hall.

To Gilliland, Laird, and Livingston, it seemed like coup. All three owned Mill Avenue businesses; Gilliland had served on the city council since 1932, and Laird since 1926. Rice, Andrews, and Caine, on the other hand, came from backgrounds more emblematic of the suburban metropolis: Rice had a teaching position at Arizona State, while Andrews, an insurance and real estate agent, made his living on the development of new Tempe neighborhoods outside the old town. Caine, a lawyer, had previously served


313 “Tempe Manager Row Over Budget,” Arizona Republican, 18 February 1961.

as assistant State Attorney General. Robert Svob, who worked as the head gardener for Arizona State, had escaped the recall petition, but he promised to resign if his colleagues lost their seats.315 The election generated unprecedented levels of interest. Both sides agreed that the it represented “a mandate from the people of Tempe as to the type and kind of government the city electorate wishes to have.”316 Would the town remain controlled by old-line elected officials or support a new generation of councilmembers more attuned to the needs of a fast-growing suburban city?

By a healthy margin, Rice, Andrews, and Caine kept their seats. Clyde Gilliland then resigned as mayor a week after the election, telling reporters that he “should step down as mayor to give them (Rice, Andrews, Caine, and Svob) opportunity to elect one of their own group as mayor.”317 In his place, the council selected Ross Rice. The people of Tempe had made clear their preference for a local government more responsive to the needs of suburban residents such as Jim Rolle, who viewed older councilmembers like Gilliland and Laird as unresponsive to suburban needs. “There was a faction of old-time residents who more or less ran the city,” Rolle explained to interviewers in 1964. “Some of this faction still runs the town on a small community basis. Now, of course, we’ve got a lot of newcomers who are just starting to become involved in the city’s affairs.” That involvement, in part, meant lobbying for a general plan to guide the direction of the city.


through the 1960s and beyond. “What we need and what these [old-time] people object to is a very definite master plan for the community’s orderly development,” noted Rolle.  

The city’s new leadership took notice. In 1966, they brought together a seventy-five-member committee called CITY (Committee to Improve Tempe Year-Round), for the purposes of compiling a list of recommendations to help frame a general plan. The plan, prepared by Van Cleve Associates, a Scottsdale consulting firm, assumed a tripling of the town’s population within thirty years and projected Tempe to rank as the region’s fastest growing suburban city through the 1970s. More of a set of general principles than specific directives, the general plan would guide Tempe planning efforts into the next decade; but in another sense it also served as a confirmation of the city government’s awareness and acceptance that the town had outgrown its farm-service functions. “The 1950s,” Van Cleve Associates noted in the plan’s introduction, “marked the beginning of Tempe’s transition from a free-standing, independent community. Since then its character has been increasingly influenced by the mushrooming growth of the Phoenix urban area. Every aspect of Tempe’s future development is tightly interwoven into the larger fabric of the metropolitan region.”

During the early twentieth century, farmers and ranchers shaped Tempe—as a collective group they had outnumbered residents in town, and contributed mightily to the town’s social institutions: churches, schools, fraternal organizations, and women’s clubs. After 1945, however, the character of the town changed. Increasingly the Phoenix metropolis shaped Tempe. Along Apache Boulevard, Phoenix-based services such as the

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318 Overend, “The Vale of Tempe,” 33-34.

supermarket chain A.J. Bayless established a commercial presence, while regional through-traffic along Mill Avenue drew customers away from the town’s business district in favor of shopping centers with parking lots further south and east. Traffic, coupled with housing needs on campus, prompted rezoning that altered the character of residential neighborhoods west of Mill Avenue, introducing elements of a college town to some of Tempe’s earliest residential additions. A political rift between representatives of “new” Tempe and “old” Tempe then prompted the creation of a general plan that guided the character of suburbanization through the 1970s. The majority of that suburban development, however, would occur not in town but in the surrounding rural countryside.
Chapter 6
From Farms and Ranches to Subdivisions

In its general plan for Tempe, Van Cleve and Associates expressed confidence that Tempe’s farms and ranches would easily accommodate new automobile suburbs like the ones that had developed along Apache Boulevard two miles east of town. “The suitability of irrigated land for intensive urban development,” noted the planners, “will continue to exert a powerful influence on the metro growth pattern.”\textsuperscript{320} It would also exert a powerful influence on Tempe’s agricultural landscape. The following chapter describes how Tempe’s rural countryside transitioned toward a suburban landscape after 1945.\textsuperscript{321} It begins with a story about E. W. Hudson, a leader in the development of Arizona’s long-staple cotton industry, who after the Second World War began subdividing his ranches and selling homesites. Residential subdivisions such as Hudson’s did much to wipe away the agricultural landscape—but in important ways, the spatial relationships of farms and ranches shaped the layout of new neighborhoods, as the suburban landscape in Tempe inherited the underlying form of its predecessor.

\textit{E. W. Hudson}

Estmer “E. W.” Hudson arrived in Arizona in 1908. Born in Berea, Kentucky, he had studied horticulture at Berea College before taking a job at the U.S. Bureau of Plant Industry in Washington D.C. After successfully developing news strands of peaches and


other specialized crops, Hudson got assigned to the Sacaton Government Experimental Farm on the Gila River Indian Reservation in Arizona, where he worked to improve a strain of extra-long-staple cotton called “Yuma” cotton, which failed to self-pollinate in the Sonoran Desert. After struggling with various possibilities, Hudson eventually solved the problem by crossbreeding Yuma cotton with a native variety traditionally cultivated by O’odham people along the Gila River. Decades had passed since the O’odham had last cultivated Gila River cotton, however, and Hudson had difficulty locating seeds. Finally, in a cave up in the San Tan Mountains he bargained with an O’odham medicine man who possessed a few kernels, and from these Hudson developed a new strain called “Pima” cotton. Pima cotton possessed the tensile strength of extra-long-staple cotton but also flourished in the Arizona desert. After 1916, as Great Britain’s wartime embargo on Egyptian exports sent American tire and airplane wing manufactures scrambling for new sources of industrial fabric, Pima cotton emerged as a multi-million dollar industry. By the end of the decade, cotton production had spread so fast through Central Arizona that it ranked as the state’s most lucrative agricultural export—its first to meet true national demand.

As Pima cotton production took hold in the Salt River Valley after 1916, farmers looked to E. W. Hudson as a source of expertise. Hudson gave talks, delivered speeches,


323 Ibid.


and wrote newspaper articles. But much of his authority stemmed from a series of U.S. Department of Agriculture bulletins in which Hudson outlined methods of preparing farmland for Pima cotton and for planting, irrigating, and harvesting the crop.\textsuperscript{326} Salt River Valley farmers paid attention. By 1920 cotton blanketed three quarters of the region’s farmland, including most of the countryside around Tempe. In the meantime, E. W. Hudson became a wealthy man. In 1916 he left his government job, bought and leased a thousand acres south of Tempe, and established the Hudson Cotton Plantation.\textsuperscript{327}

Unlike most Salt River Valley cotton farmers, Hudson had his eye on the global market. With World War I drawing to a close and British embargoes lifting, he foresaw the local cotton bubble bursting. In late 1919, Hudson began voicing concerns to neighboring farmers, but to no avail. When the market crashed in 1920, cotton prices plummeted, and numerous farmers suffered serious economic losses.\textsuperscript{328} But not Hudson. He had already jettisoned his cotton plantation, acquired cattle, and in late 1919 made a series of important real estate purchases in Tempe.\textsuperscript{329} The first netted him 240 acres in Section 22 along a three-quarter-mile stretch of Thirteenth Street, the town’s southern boundary.\textsuperscript{330} The second gave him possession of the old Morrow property, a 480-acre


\textsuperscript{327} Solliday, “E. W. Hudson.”

\textsuperscript{328} Sheridan, \textit{Arizona}, 219.

\textsuperscript{329} Solliday, “E. W. Hudson.”

\textsuperscript{330} Maricopa County Recorder’s Office, Warranty Deed, Book 136, Page 305, 15 October 1919.
In addition to ranching, E. W. Hudson became involved in the development of real estate in town. In March 1920, he partnered with Hugh Laird, the druggist, and Fred Joyce, a local insurance agent, to develop a new residential subdivision. Pooling their resources, the trio acquired an undeveloped thirty-eight-acre tract from Tempe Land and Improvement Company. This acreage, located in the southwest corner of town, south of Gage Addition, bounded by Tenth Street, Mill Avenue, Thirteenth Street, and the railroad tracks, represented one of the few remaining undeveloped tracts in Tempe’s 1887 townsite. In 1924 Hudson and his partners filed their plat for a 100-lot subdivision called “Park Tract.” It quickly emerged as one of the town’s most desirable residential additions.

For Hudson, sales of homesites in Park Tract offered a welcome source of income during the 1930s, as the value of farmed goods in Tempe dropped precipitously. The experience probably also shaped his postwar outlook, as Tempe emerged from the Second World War facing an acute housing shortage. As the owner of lands just south of the town’s Thirteenth Street boundary, Hudson found himself in an enviable position to

333 Maricopa County Recorder’s Office, Warranty Deed, Book 149, Page 475, 14 June 1920.
capitalize on the demand for housing. In January 1945, he filed a plat for “College View,” a sixteen-lot subdivision in the northwest corner of Section 22, just south of Park Tract.335 Kenneth Clark, a local realtor and insurance agent, handled the sale of lots. Here Hudson acted as “horizontal” developer, platting subdivisions and selling vacant lots to homeowners who then brought in their own contractors—the “vertical” developers—to build custom homes that adhered to design specifications outlined in deed restrictions drawn up by Hudson. Encouraged by College View’s success, Hudson and Clark undertook a much larger project three months later, subdividing eighty acres of Hudson’s land along Thirteenth Street and across Mill Avenue, east of College View. This subdivision, called “University Park,” contained 164 homesites of various sizes and dimensions. Clark again handled all sales, and deed restrictions resembled those in College View. 336 Hudson then proceeded to subdivide the rest of his Section 22 holdings in two phases, filing plats for “University Estates,” a 123-lot subdivision, in July 1949, and “University Terrace,” a 67-lot subdivision, in September 1951.337

The Second Circuit of Capital

E. W. Hudson never abandoned farming and ranching; when he died in 1972 he still grew alfalfa and raised cattle on the old Morrow ranch in Section 26.338 But his role as a horizontal real estate developer left a greater imprint on postwar Tempe. The 240

335 Maricopa County Recorder’s Office, Plat Map, Book 30, Page 4, 18 January 1945.

336 Maricopa County Recorder’s Office, Plat Map, Book 30, Page 37, 6 April 1945; Solliday, Post World War II Subdivisions, Tempe, Arizona, 9.


acres that Hudson subdivided between 1945 and 1951 makes him a key figure in Tempe’s transition toward what Carl Abbott calls the “second circuit of capital in Sunbelt cities.” By “second circuit,” Abbott borrows a phrase from Henri Lefebvre, who introduced the concept as a successor to Marx’s “circuit of productive capital,” which characterizes the flow of capital as it transforms raw materials into finished goods in a factory setting. The second circuit, by contrast, has little to do with manufacturing but everything to do with real estate. “Capitalism,” writes Lefebvre, “has taken possession of the land and mobilized it to the point where this sector (real estate) is fast becoming central.” To Abbott, the mobilization of lands in western metropolises such as Phoenix caused the surrounding agricultural landscape to become “commoditized for nonproductive or marginally productive uses,” as investors spotted new opportunities in land acquisition and development.

The career of E. W. Hudson in Tempe offers a case in point: after 1945 the man who had almost single-handedly created the long-staple cotton industry in the Salt River Valley played a key role in the development of a postwar suburban landscape. If the first circuit of capital encompassed Hudson’s prewar cotton farms and cattle ranches, the second circuit represents Hudson’s subdivisions. Throughout American history, rural landowners have sought to capitalize on the use value of their land by meeting new demands for housing and commercial development on edges of towns and cities, and

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during the postwar period, cities in the “Sunbelt” West became a new vanguard for growth. Pulled by jobs—particularly high-tech jobs in electronics, military defense, higher education, aerospace, and other fields linked to materials science and engineering—Americans during and after World War II migrated in droves to the Southwest, Central Rockies, and Pacific Coast, where civic leaders competed aggressively for high-tech industries and institutions.341

New employers in the Sunbelt, moreover, showed a preference not for older central cities, but for the rural fringe, where the land remained affordable and where urban problems seemed remote. In Denver, for example, postwar civic leaders wooed the National Center for Atmospheric Research while simultaneously courting high-tech firms such as IBM, Hewlett-Packard, and Beech Aircraft. But rather than clustering in Denver, these new employers, as Carl Abbott writes, “accelerated the dispersal of the metropolis, shunning Denver’s old industrial core along the South Platte River for suburbs like Littleton and Golden, satellite communities like Boulder, Longmont, and Loveland, and nearby cities like Fort Collins.”342

Job growth in rural peripheral areas, in turn, attracted homebuilders, who already enjoyed surging demand for residential development stimulated by federal policies that loosened credit and greased the wheels of mortgage lending. Greg Hise shows how high-tech job growth and mass-production homebuilding went hand-in-hand in the San

341 Abbott, The Metropolitan Frontier, 156-159. Geographically Abbott places the Sunbelt West south and west of “a northwest-southeast diagonal from Puget Sound to the Sabine River of East Texas,” but also describes the “Sunbelt” as “fundamentally an economic phenomenon . . . best defined in terms of areas of consistently rapid metropolitan growth and participation in the driving forces of the postwar economy.”

342 Ibid., 65.
Fernando Valley outside Los Angeles, where builders such as Kaiser Community Homes planned large communities around General Motors, Lockheed, and Rocketdyne campuses. In Phoenix, postwar civic leaders adhered to a similarly holistic approach in their formulation of a “high-tech suburban vision,” which involved attracting “clean” industries such as electronics and aviation, passing “good” government reforms, and applying mass-production techniques to homebuilding. In Tempe, the rise of Arizona State University as a high-tech engineering school emulated Phoenix’s high-tech suburban vision on a smaller scale: no coincidence that E. W. Hudson gave his subdivisions names such as “College View,” “University Park,” “University Estates,” and “University Terrace” while simultaneously courting homebuyers from the growing ranks of college staff and faculty.

The Compton Ranch

Historians understand why the postwar suburban landscape developed in the Sunbelt West after 1945. But they know less about how agricultural landscapes shaped the suburban metropolis. The Compton Ranch, a 160-acre property in the northeast quarter of Section 27, a mile south of Tempe Butte, offers an illustration of how the Tempe agricultural landscape shaped the suburban landscape that succeeded it. The ranch was originally established by George Compton, a Texan who arrived in Tempe in 1879. Like other early Tempe settlers, Compton obtained a share in the Tempe Irrigating Canal Company, planted fields, and eventually patented his 160 acres under the Homestead Act.


But with the arrival of the railroad and the transformation of Hayden’s Ferry, Compton
came drawn to life in town, where he served as marshal and helped to establish the
Tempe Hardware Company.\(^{345}\) Rather than rent out his 160 acres, Compton subdivided
his ranch into separate family farm units. Eleanor Van Riden, who arrived in Tempe with
her family in 1902, remembers her first impressions of the forty acres her parents bought
from Compton. “I’ll always have the first picture . . . in my mind, a large pear and apricot
orchard, a beautiful field of alfalfa, two pure white cows and three bridle ones standing
knee high in field.”\(^{346}\)

Other families soon followed, and gradually the property lines that separated their
farms and ranches introduced new patterns of landownership within Compton’s 160
acres. Swiss-born Peter Aepli, for example, acquired the northeast quarter of Compton’s
property in 1912 and planted alfalfa.\(^{347}\) A probate record following Peter’s death in 1922
listed the extent of his farming operation: a six-room brick house with adobe outbuildings
and a wood-frame warehouse, two milk cows, four work horses, a 1915 Ford Model T,
four tons of surplus sorghum, eight tons of surplus hay, ten bales of cotton, and an array
of modern farm equipment and tools.\(^{348}\) His wife, Mary, took control the estate, and for

\(^{345}\) “Tempe Pioneer is Called by Death,” *Arizona Republic*, 26 April 1917.


\(^{347}\) Among Tempe farmers, Peter became known as something of student of alfalfa. In 1914 the U.S.
Department of Agriculture credited him with developing a new method for controlling alfalfa caterpillars.

\(^{348}\) Maricopa County Recorder’s Office, Probate Deed, Book 177, Page 393, 7 August 1923.
the next twenty-five years her two younger sons, Paul and Milton, ran the farm. In 1927, when the neighboring Olson family lost their eighty acres to foreclosure, Mary added acreage to the south by obtaining the west half of the Olson property. This gave her the entire west half of the old Compton farm. Then in 1945 she gifted all eighty acres to her youngest son, Milton, who managed the farm through the early 1950s.

Southeast of the Aepli farm, Gene and Irene Bishop acquired the east half of the foreclosed Olson property in 1929, giving them the southeast quarter. Irene was not a newcomer to the region, having grown up on a ranch four miles south of Tempe. Her parents, Byron and Ida Mae Redden, had homesteaded south of the baseline after 1890. Later in life, Irene joked that she had wanted to “marry a millionaire because I knew how hard my mother had worked and what hard years she had.” Instead she married Gene Bishop, a rancher, and in 1929 the couple settled on their forty-acre ranch just as prices for agricultural goods began declining. Searching for a way to supplement her family’s income, Irene turned to tourism. “I ran a guest ranch from about 1930 to 1942, during the Depression,” she told interviewers years later. “We had a cowboy, [who] did the yard and rode with the guests . . . I did all the shopping, supervised and planned all the meals,

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349 Her oldest son, David, became director of the University of Arizona Experimental Farm in Tempe. “David C. Aepli Dies,” Arizona Republic, 9 October 1975.


352 Maricopa County Recorder’s Office, Warranty Deed, Book 230, Page 543, 8 March 1929.


354 Rothschild and Hronek, Doing What the Day Brought, 57.
[took] the guests everyplace, and met planes and trains. The guest ranch was mine and everything was my responsibility. It was quite a job.”355

In the northwest quarter of the Compton ranch, Walter and Eleanor Cochran inherited Fred and Helena Van Riter’s dairy farm. Initially the farm consisted of the entire northeast forty acres, but Fred and Helena had sold the east half in the 1920s, splitting the remaining twenty acres split into three smaller units—one a ten-acre property and two five-acre properties. Like his neighbor, Peter Aepli, Fred Van Riter grew alfalfa, but Fred also raised dairy cows, and like most Tempe dairy farmers, he sold his milk to the creamery east of town, where much of it got condensed and canned under the “Lily” label. His daughter, Eleanor, recalls that the family’s means of transportation included “one buggy, a spring wagon, and one old white horse which served for carrying our milk to the creamery, (and for) getting ice and groceries.”356 In 1928, Fred and Hellena retired to San Diego and gifted the farm to their daughter, Eleanor, and her husband, Walter Cochran, who managed it through the early 1950s.357

Broadmor

By the early 1950s, Milton Aepli, Gene and Irene Bishop, and Walter and Eleanor Cochran had much in common. Each maintained farms in the northeast quarter of Section 27, each had parents or in-laws who had farmed in Tempe during the early twentieth century, and each neared retirement age. Each also must have looked across Broadway Road with great interest as E. W. Hudson’s cotton and alfalfa fields became overlaid with

355 Ibid., 107.


lucrative residential subdivisions. During the 1950s all three sold to developers, as the old Compton ranch reemerged as “Broadmor,” a patchwork of residential subdivisions. Planning literature tells us that “sprawl” like the sort that unfolded over the northeast quarter of Section 27 in Tempe ignores “historical precedent and human experience.” But in Broadmor it inherited the pattern of landownership established by the Aepli, Bishop, and Cochran families. Because individual landowners sold to individual developers, individual subdivisions got platted in the footprints of farms and ranches they supplanted (see figs. 6.1, 6.4, and 6.5). Like a palimpsest, Broadmor swept away the texture of the agricultural landscape, but preserved the spatial relationships of farms and ranches that preceded it.

Milton Aepli sold first. In 1953 he had married the widowed Lura Hanna of Tempe, and in February 1955 the couple sold a ten-acre piece of the Aepli farm to Herman Goldman, a local contractor. The transaction had a family connection. Herman Goldman’s wife, Lela, was Lura Hanna’s daughter. By marrying into the family, Milton Aepli became Lela Goldman’s stepfather. So the opportunity to develop the Aepli farm fell to her husband, Herman Goldman. Beginning at the corner of Broadway Road and College Drive, Goldman and his engineer, A. E. Ferguson, staked out “Broadmor Manor,” a thirty-one lot subdivision.

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Figure 6.1. From Aepli Farm to Broadmor Manor. *Top left*, 1929 landownership map showing spatial relationships between Aepli, Bishop, and Cochran properties; *top middle*, 1930 aerial of Aepli farm overlay; *top right*, Broadmor Manor plat maps overlay; *bottom left*, 1969 aerial of Broadmor Manor overlay; *bottom right*, a typical Broadmor Manor Ranch-style house. Courtesy Maricopa County and Arizona State Library.
another ten acres to Tempe Elementary School District No. 3, a property that became the basis of Broadmor School, which opened in September 1955. Milton and Lura then sold their remaining twenty acres to Herman Goldman through the Phoenix Title and Trust Company. Acting as a trustee for developers such as Goldman, Phoenix Title and Trust handled the filing of plat maps and deeds at the Maricopa County Recorder’s Office, prepared deed restrictions, and coordinated the sale of individual lots to buyers. By the 1950s many developers in the Phoenix area worked with title and trust companies in this manner. Goldman, acting as both “horizontal” and “vertical” developer, then went about building out the rest of Broadmor Manor, a six-subdivision neighborhood consisting of 188 homesites.

Goldman represented the first wave of horizontal/vertical developers in Tempe. Born in Texas, he had come to Tempe as a child with his family, who farmed along the Western Canal in Section 32, three miles southwest of town. During World War II, Goldman oversaw aircraft assembly at the Goodyear Aircraft plant west of Phoenix; during the war he also built an adobe block house for his family in Tempe. The latter experience shaped his postwar career: after the war Goldman founded the Goldman

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364 Maricopa County Recorder’s Office, Warranty Deed, Book 245, Page 103, 12 March 1930; Maricopa County Recorder’s Office, Warranty Deed, Book 241, Page 236, 2 December 1929.


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Construction Company and continued building houses, eight of them in E. W. Hudson’s University Park, which is where he and his wife and their two children lived. “He was a good builder,” one University Park resident later recalled, and for decades Goldman’s red brick houses remained some of the neighborhood’s most prized.366

The Aepli farm, however, presented Herman Goldman with a different kind of opportunity. By starting with land for development, he was able to draw on his wartime knowledge of mass production and successfully apply it to the business of homebuilding. His methods drew upon techniques that revolutionized residential development in the United States after 1945. Instead of constructing custom-built houses one at a time for individual buyers, Goldman and crews built houses in an assembly line fashion, several at a time, using standardized materials and designs which resulted in greater efficiencies; prefabricated components such as steel casement windows also allowed for faster and easier construction, while the introduction of cordless power tools after 1960 then made the job tremendously more efficient. All of this resulted in lower construction costs, which Goldman passed along to homebuyers.367 Goldman, like thousands of postwar homebuilders, modeled his methods after those developed by William Levitt on Long Island and, closer to home, John Long and Ralph Skaggs in the Phoenix area. But like all suburban homebuilders, Goldman’s houses also reflected his own design preferences, making subdivisions such as Broadmor Manor his own creation. Broadmor Manor


consisted of 1,500-square foot masonry ranch-style houses, each with three bedrooms, two bathrooms, and an attached carport. Exterior features included ornate wood trim, wood shingle roofs, decorative brickwork, and Arcadia doors in back. In lieu of front porches, Goldman built broad overhanging eaves that extended out over entryways and front doors. Prices ranged from $15,000-$20,000—near the upper echelon for Tempe at the time.\textsuperscript{368}

Residential subdivisions such as Broadmor Manor introduced dramatic changes to the Tempe-area countryside. Whereas agricultural properties such as the Aepli, Bishop, and Cochran farms produced tangible goods such as hay, cattle, and dairy, subdivisions such as Broadmor Manor reinforced consumerism. Suburban mass consumption, in turn, initiated multiplier effect that fueled many kinds of new consumer-oriented activities throughout greater Phoenix. Houses in Broadmor Manor, for example, featured General Electric appliances sold under the Hotpoint label, which Goldman obtained from Canon & Wendt, a wholesale dealer in Phoenix. Suburban mass consumption also reinforced automobile usage.\textsuperscript{369} Goldman, like other postwar homebuilders in Tempe, integrated covered carports and driveways into his residential design. In many ways, the entire layout of Broadmor Manor reflected the ubiquity of automobiles. Responding to Federal Housing Administration literature on successful subdivision planning, postwar developers such as Goldman abandoned rectilinear street grids in favor of curvilinear streets, T-intersections, and cul-de-sacs, which helped to enforce slower driving speeds.

\textsuperscript{368} Solliday, \textit{Post World War II Subdivisions, Tempe, Arizona}, 21.

\textsuperscript{369} Advertisement, \textit{Arizona Republic}, 25 October 1959.
Figure 6.2. Consumer Goods in Broadmor Manor. *Arizona Republic*, 25 October 1959.
and make the postwar suburban landscape safer and more family-friendly.370

As an automobile suburb, Broadmor Manor also fit squarely within the grid of arterial streets in Tempe. Here the agricultural landscape most obviously shaped its suburban successor, as section and quarter-section lines that divided homesteads in the late nineteenth century became superimposed by a grid of paved streets. Section lines had always facilitated roads: in 1871 the Maricopa County Board of Supervisors claimed for public use thirty-three-foot easements on opposite sides of every section line in the county; six years later they established road districts and began identifying the most traveled section lines for road improvements.371 But during the postwar period, residential development made roadbuilding an imperative for nearly every section line and quarter-section line in the Phoenix metropolitan area. In the vicinity of Broadmor, county officials paved Broadway Road, along the north line of Section 27, in summer 1961.372 On the south side of the neighborhood, the City of Tempe also went about paving the east-west quarter-section line that bisected Section 27. But here they encountered more than a country road: the quarter-section line also facilitated the Morrow Ditch, a lateral off the Western Branch of the Tempe Canal that irrigated the Aepli, Bishop and Cochran properties, in addition to scores of other farms and ranches a mile south of town.373 Along its banks, cottonwood trees lined the Morrow Ditch and


373 Anderson, Tempe Canal, 8-10.
made the alignment a pleasant place—particularly along the south line of the Aepli farm, where a thick strand of cottonwoods shaded the alignment. But after 1960 it became the main traffic facility through the interior of Section 27. Tiled and buried by Salt River Project crews, then paved over by City of Tempe traffic engineers, the Morrow Ditch alignment became a neighborhood collector street called Alameda Drive. 374 In Spanish the word “Alameda” refers to a public walk shaded by trees. “Alameda” would have adequately characterized the Morrow Ditch alignment before 1960. Alameda Drive, however, accommodated neither trees nor pedestrians. But it admirably facilitated the flow of traffic along the southern edge of Broadmor. It also illustrated another manner in which the agricultural landscape shaped the suburban metropolis, as section lines and irrigation facilities became the traffic corridors through which motorists accessed residential subdivisions (see fig. 6.3).

West of Broadmor Manor, another horizontal/vertical home builder, Karl Guelich, made inroads into developing the northeast quarter of Section 27. Like his contemporary, Herman Goldman, Karl Guelich began his career in Tempe by building individual houses in University Park. In 1947, the Tempe Realty Company hired Guelich to build Hayward Homes, which consisted of prefabricated wood frame sections manufactured by the Hayward Lumber and Investment Company in Los Angeles. 375 Impressed by the efficiency of Hayward Homes, Guelich, like Goldman, came to prefer prefabricated components that allowed for more efficient and lower-cost homebuilding. In

374 Anderson, Tempe Canal, 47.

Figure 6.3. From Section Lines and Ditches to Paved Surface Roads. In the south half of Section 27, tree-lined irrigation facilities shaped the layout of the suburban landscape. Top, 1930, the Western Branch of the Tempe Canal enters from the northeast and feeds Morrow Ditch, which aligns to the east-west quarter-section line; it then turns south and feeds Petersen Ditch, which aligns to the section line. Bottom, 1969, all three irrigation facilities have been tiled and buried, their trees have been felled, and their alignments now facilitate paved surface roads. But their patterns remain evident in the suburban landscape, as the suburban metropolis in Tempe inherited its shape from the landscape of agricultural production. Courtesy Maricopa County.
1951, Guelich established his own company, Tonto Homes, and set about developing “University Heights,” a 139-lot subdivision located at the corner of Rural Road and Broadway Road, on the southeast corner of Section 22.\textsuperscript{376}

Beginning in 1955, Guelich began looking south across Broadway Road for new opportunities. In November 1955 he bought Gene and Irene Bishop’s forty-acre ranch, then eight months later acquired Eleanor and Walter Cochran’s twenty acre dairy farm.\textsuperscript{377} For the Bishop ranch, Guelich and A. E. Ferguson—the same engineer who surveyed Broadmor Manor for Herman Goldman—staked out “Broadmor Estates,” a four-part subdivision. When fully built out in the early 1960s, Broadmor Estates contained of 102 homesites.\textsuperscript{378} On the Cochran farm, Guelich and Ferguson staked out “Broadmor Vista,” a two-part subdivision containing 61 homesites.\textsuperscript{379} Just as Broadmor Manor reflected Herman Goldman’s design preferences, Broadmor Estates and Broadmor Vista reflected Karl Guelich’s own vision. Compared to Broadmor Manor, Broadmor Estates offered a similar price point, $15,000 to $20,000, and similar Ranch-style designs with decorative features such as diamond-pane casement windows. Instead of carports, however, Guelich built enclosed garages; Guelich also favored straight streets and T-intersections to

\begin{itemize}
\item \textsuperscript{376} “Five New Homes for U Estates OK’d; Will Cost $37,500,” Tempe Daily News, 26 April 1951; Maricopa County Recorder’s Office, Plat Map, Book 57, Page 19, 23 September 1953.
\item \textsuperscript{377} Maricopa County Recorder’s Office, Warranty Deed, Book 1783, Page 582; Maricopa County Recorder’s Office, Warranty Deed, Book 1964, Page 204, 9 August 1956; Maricopa County Recorder’s Office, Warranty Deed, Book 1896, Page 585, 8 May 1956.
\item \textsuperscript{378} Maricopa County Recorder’s Office, Plat Map, Book 68, Map 3, 16 May 1956; Maricopa County Recorder’s Office, Plat Map, Book 70, Map 30, 05 February 1957; Maricopa County Recorder’s Office, Plat Map, Book 81, Map 21, 13 February 1959; Maricopa County Recorder’s Office, Plat Map, Book 97, Map 31, 22 October 1961.
\item \textsuperscript{379} Maricopa County Recorder’s Office, Plat Map, Book 71, Map 9, 18 March 1957; Maricopa County Recorder’s Office, Plat Map, Book 71, Map 38, 01 April 1957.
\end{itemize}
Figure 6.4. From Aepli Farm to Broadmor Estates. Top left, 1929 landownership map showing spatial relationships between Aepli, Bishop, and Cochran properties; top middle, 1930 aerial of Cochran farm overlay; top right, Broadmor Estates plat map overlay; bottom left, 1969 aerial of Broadmor Estates overlay; bottom right, a typical Broadmor Estates Ranch-style house. Courtesy Maricopa County and Arizona State Library.
Figure 6.5. From Aepli Farm to Broadmor Vista. *Top left*, 1929 landownership map showing spatial relationships between Aepli, Bishop, and Cochran properties; *top middle*, 1930 aerial of Cochran farm overlay; *top right*, Broadmor Vista plat map overlay; *bottom left*, 1969 aerial of Broadmor Vista overlay; *bottom right*, a typical Broadmor Vista International-style house. Courtesy Maricopa County and Arizona State Library.
Goldman’s curved streets and cul-de-sacs. Then with Broadmor Vista, Guelich offered something entirely different: a more affordable price point, $12,000 to $15,000, but also a scaled-down design approach that integrated modernist architectural forms to evoke International style buildings at Arizona State.380

By the early 1960s, “Broadmor” had supplanted the agricultural landscape in the northeast quarter of Section 27. It did not, however, supplant the Bishop and Cochran families. Though Peter and Lura Aepli resettled in E. W. Hudson’s University Estates, Gene and Irene remained in their farmhouse at 2510 Rural Road, while Walter and Eleanor remained in their farmhouse at 501 Broadway Road. In both cases, Karl Guelich built around the existing farmhouses.381 With no farms or ranches to maintain, Gene Bishop and Water Cochran went to work for Salt River Project as construction foremen.382 For Eleanor Cochran, however, the sale of her family’s farm occasioned a sense of loss. Though she must have enjoyed the money brought in by the sale—a figure that probably totaled around $40,000—Eleanor, who as a small child accompanied her parents when they bought the family farm from George Compton in 1902, expressed regrets and even bitterness over the subdivision that enclosed her farmhouse. “The real estate agents and builders haven’t cared how many beautiful orange groves and dairy farms they have crammed houses on,” she told Arizona Republic editors in 1956. “I have shed a few tears. I am keeping an acre and a half which I don’t want to be any part of the


subdivision, and I hope as long as I live I’ll never have anyone else’s house jammed up against mine.”

Sixty years later, her family’s house still stands on the same acre and a half at 501 Broadway Road.

*Date Palm Manor*

In some cases, postwar subdivisions in Tempe inherited more than just the underlying spatial relationships of farms and ranches. In the northwest quarter of Section

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27, a half mile west of Broadmor, one subdivision based its marketing campaign around an orchard that it displaced. In January 1926, L. L. Harmon—banker, land speculator, and one-term mayor of Phoenix—sold forty acres in the northwest corner of Section 27 to Dwight Nichols, a Tempe contractor. There Nichols and his wife, Gertrude, established a date palm orchard. Nowhere in the United States—with the exception of Southern California’s Coachella Valley—did date palms leave a larger imprint in the local agricultural landscape than in Tempe. A well-known turn-of-the-century orchard established by University of Arizona agronomist J. W. Toumey at the Tempe Agricultural Experimental Station had caused sensation among local boosters and promotional writers. In an era when “Arabian Nights” still resonated with the American public, local boosters celebrated Toumey’s exotic date palm orchard as evidence of the versatility of Tempe’s agricultural landscape.384 “The largest data orchard in the United States is near Tempe,” noted one promotional writer in 1910. “Profits from dates are also high and the industry would be taken up more extensively were there not so many other crops that bring quicker returns, almost as great. Over fifty varieties of edible dates are grown at this orchard and the demand for the fruit is greatly in excess of the supply.”385

384 During the 1890s and through the early twentieth century, southwestern boosters took every opportunity to evoke classical antiquity in their promotional materials. The date palms of Arizona and Southern California, cultivated from seedlings imported from Algeria, Egypt, Persia, and the Arabian Peninsula, offered imaginative fodder for those seeking to capitalize on the romance of “Arabian Nights.” Sarah Seekatz, “America’s Arabia: The Date Industry and the Cultivation of Middle Eastern Fantasies in the Deserts of Southern California,” PhD diss., University of California Riverside, 2014.

Before his Section 27 orchard matured, Dwight Nichols died in a hunting accident in California, and in 1929 Gertrude sold the property. But the new owners, L. G. and Theresa Weber, continued the work of cultivating date palms, and their successors, the Cole-Refsnes family, maintained the orchard through the early 1940s. Then in 1945, Art and Dorothy Beck acquired the property, and the date palm orchard became known as “Valsunda Date Gardens.” By the end of the decade Valsunda Date Gardens had grown to encompass more than six hundred trees, and the couple ran a processing plant on site with equipment for sorting, drying, refrigerating, and packing dates; they also joined the Arizona Date Institute and made Valsunda Date Garden dates a fixture at the Arizona State Fair and other agricultural exhibitions.

During the late 1940s, Art and Dorothy Beck’s fortunes took a turn for the worse. The market for dates remained strong through the 1940s, but Valsunda Date Gardens fell victim to hard freezes in Central Arizona that spoiled consecutive harvests. In May 1951, the property went into foreclosure and in September came up for auction at the county courthouse in Phoenix. First National Bank of Arizona emerging as the winner. Not surprisingly, the bank’s directors had little interest in cultivating dates. Instead they

386 “Covina Man’s Brother Killed While Hunting,” Covina Argus, 26 October 1928.

387 Maricopa County Recorder’s Office, General Warranty Deed, Book 240, Page 46, 4 October 1929; Maricopa County Recorder’s Office, Warranty Deed, Book 273, Page 210, 28 February 1933.


389 Donald R. Hodel and Dennis V. Johnson, Dates: Imported and American Varieties of Dates in the United States (Oakland: University of California Agriculture and Natural Resources Communication Services, 2007), 5.

390 Maricopa County Recorder’s Office, Lis Pendens, Book 753, Page 59, 29 May 1951; Maricopa County Recorder’s Office, Sheriff’s Certificate of Sale on Foreclosure, Book 799, Page 554, 4 September 1951.
began soliciting offers from developers. They found a buyer in thirty-five year old
Presley Agnew. Agnew and his business partner, Marvin Siervogal, had only recently
formed Agnew Construction Company. Like Herman Goldman and Karl Guelich, Agnew
had previously built custom homes in subdivisions, but Valsunda Date Garden
represented his first attempt at both vertical and horizontal development. In January 1954,
Agnew filed his plat for “Date Palm Manor.” The subdivision, with its loop of curvilinear
streets wedged between Mill Avenue and the railroad, contained thirty-eight homesites.
No longer would the northwest forty acres of Section 27 sustain date production; instead
it would become part of the suburban landscape unfolding over farms and ranches south
of Broadway Road.

But in Date Palm Manor, the orchard did not get swept aside. Just as turn-of-the-
century Tempe boosters had used the exotic trees to attract newcomers, Date Palm
Manor’s realtors, Joe Williams and Ray Ashley of the Tempe Realty Company, used the
trees to sell houses. In their newspaper advertisements, Williams and Ashley used an
illustration of trees with bunches of dates as an emblem for the neighborhood. The names
of the subdivision’s street—Dateland Drive, Palmcroft Drive, and Palmdale Drive—also
reinforced the theme. Tying it all together, however, Presley Agnew made a critical
decision to preserve individual trees that grew outside the footprints of the Date Palm
Manor’s streets, alleys, and houses. Whereas contemporary Tempe subdivisions such as
Broadmor Manor lacked mature landscaping, the trees of Valsunda Date Garden
gave Date Palm Manor an established quality unique to new construction, helping Agnew market his subdivision to affluent homebuyers. More than other Tempe postwar subdivisions, Date Palm Manor reveals how the suburban landscape in Tempe in some places inherited a sense of place from its agricultural predecessor. Valsunda Date Gardens gave Date Palm Manor its underlying form, but more significantly it gave the subdivision symbolic value that set it apart from contemporary developments—a marketing device that bore fruit, literally and figuratively, for decades. A 1974 for-sale-by-owner advertisement for a house in Date Palm Manor, for example, boasted that “9 mature palm trees and one large silver oak goes with this spacious house.”

Where it unfolded over Tempe farms and ranches, the postwar suburban metropolis did much to sweep away reminders of the agricultural past. Fields, ditches,

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Figure 6.8. From Valsunda Date Gardens to Date Palm Manor. *Top*, Valsunda Date Gardens, 1949, with its mature date palm orchard; *bottom*, Date Palm Manor, 1969. Trees from the orchard give texture to the subdivision. Courtesy Maricopa County.
outbuildings, and farmhouses gave way to paved roads, schools, parks, and housing tracts, as the landscape of agricultural production yielded to a landscape of suburban consumption. But while much of the agricultural landscape became obscured, some of it persisted. Like a palimpsest, the suburban landscape in Tempe retained the underlying form of its predecessor: residential subdivisions may have scrubbed the agricultural landscape of its texture, but subdivisions in the northeast quarter of Section 27 preserved the spatial relationships of the farms and ranches they supplanted. In Date Palm Manor, postwar homebuilders even repurposed the orchard found on site for nonagricultural uses. A similar repurposing awaited the area’s canal system.
Developing the suburban landscape in Tempe meant converting farms and ranches into residential subdivisions; just as crucially it involved repurposing water. Canals and ditches had provided the lifeblood of agriculture in the Salt River Valley, but when farming and ranching began yielding to residential development, people began to contemplate new uses for flowing surface water. The following chapter describes ways in which the canal system and water became repurposed in Tempe after 1945. It begins with a story about the Kyrene Steam Power Plant, a generating station built by Salt River Project during the early 1950s to provide electricity to suburban customers. By pulling water out of the Western Canal, the plant represented a new kind of water use, one more suited to suburbanization than irrigation. Developers, water officials, and city leaders would imagine many new water uses during the postwar decades, and in the process transform some the basic features of the agricultural landscape. “Attention to water supply and drainage,” notes the classical architectural historian Dora Crouch, “is the sine qua non for urbanization, and hence for that human condition we call civilization.”

What held true for the ancient world remained equally true for postwar Tempe.

Kyrene Steam Power Plant

On a rainy day in January 1954, thirty members of a Salt River Project advisory committee boarded a chartered bus in Phoenix and embarked on 150-mile “visual

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progress report” of the Salt River Project service area. Early morning stops included a new water treatment plant in Phoenix and a concrete-lined canal in Tolleson; the group also inspected well sites that showed evidence of a dropping water table—an issue that would soon force other municipalities to build their own water treatment plants. Later in the morning, the group visited new residential subdivisions and learned about “the problems of handling water allotments for an average of two new subdivisions per week.”393 But the real highlight of the trip came that afternoon in Kyrene, a rural farming area five miles south of Tempe. Five years earlier, Salt River Project administrators had reorganized its electrical power business under the Agricultural Improvement and Power District, a political subdivision of the State of Arizona, which allowed administrators to issue bonds and build higher capacity generators. In Kyrene, the group observed the District’s latest efforts: a $13 million steam power plant built alongside the Western Canal. The plant represented the second of two units: the first Kyrene plant had opened in 1952 and added 33,000 kilowatts of electricity to the District’s output; this new unit added another 100,000 kilowatts.394

For decades, delivering water had remained Salt River Project’s primary objective; but selling electricity formed an important secondary objective, one that helped defray the costs of developing and maintaining water storage and delivery facilities in Central Arizona. Salt River Project engineers first began generating electricity at Roosevelt Dam in 1906 to aid the dam’s massive construction effort. But power soon


emerged as an important source of revenue. Early customers included nearby mining companies, Indian communities, and electrical utilities—but much of the power generated at Roosevelt Dam went to the Project’s own water users in the Salt River Valley. A transmission line strung from the dam site reached Mesa in 1909, and within twenty years much of the region’s rural farmland received service. Farmers and ranchers used electricity for domestic purposes in their homes, but more importantly, from the standpoint of agricultural production, they used it to power electrical groundwater pumps that relieved fields from oversaturation. By the 1920s, electricity generated at Roosevelt Dam powered scores of groundwater pumps in the Valley—including those in the Tempe area, where a rising water table, not lack of irrigation water, motivated Tempe Irrigating Canal Company shareholders to join the Salt River Valley Water Users Association in 1923.

All of this distinguished the Kyrene Steam Power Plant from earlier Salt River Project generating facilities. Whereas much of the power generated and sold to customers within the Project’s service area had, to that point, gone toward sustaining agricultural production, the Kyrene plant served a new kind of consumer: the suburban user. Its 100,000 kilowatts represented enough power “to assure continued growth and development of the Salt River Valley,” Arizona Republic editors told readers in 1954. “The three-fourths of the Phoenix metropolitan area served by the district will continue to


397 Mark E. Pry, Oasis in the Valley, 24.
have power for 200 new homes each week, for new industries, new businesses, and new services in the growing population.” By 1954, the District critically needed that extra output: members of the Project’s advisory committee may have recalled one evening in June 1952 when the District found itself serving a peak load of 206,700 kilowatts, toeing the line with its 209,000-kilowatt capacity.

Besides serving new suburban customers, the Kyrene Steam Power Plant also differed from earlier Salt River Project generating facilities in terms of its source of motive power. Prior to midcentury, the Project generated electricity almost exclusively at hydroelectric facilities installed at dam spillways and alongside canal drops—places where flowing water accelerated with enough force to turn hydroelectric turbines. By contrast, the Kyrene Steam Power Plant created electricity not by harnessing the power of flowing water, but by burning natural gas supplied by the El Paso Natural Gas Company. At a place where the Western Canal turned north around the bajada of South Mountain, electrical pumps pulled water out of the canal and pushed it through a softening process before sending it to a boiler. Heat produced by burning natural gas then brought the water to a boil creating steam, which turned the plant’s generating turbines. Whereas earlier hydroelectric facilities had used the force of flowing irrigation water to generate electricity, the Kyrene Steam Power plant consumed irrigation water. More water taken from the Western Canal then went toward cooling the superheated steam in a condenser,

398 “Special Section: Kyrene Steam Power Plant,” Arizona Republic, 06 June 1954.


400 Between 1938 and 1949, Salt River Project operated a diesel generating station near its hydroelectric facility on the Crosscut Canal north of Tempe; it remained a source of standby power until 1960.
whereupon it returned to the boiler again and revaporized.\textsuperscript{401} Taking water from the Western Canal hardly diminished irrigation supplies available for farmers and ranchers in Kyrene: but by meeting requirements for suburban growth, the Kyrene Steam Power Plant represented a new kind of water use—one in which Salt River Project water met non-agricultural objectives. This repurposing of irrigation water would take on many new forms in Tempe in the coming years. But first, Salt River Project administrators set their sights on transforming canals and ditches to improve system efficiency and meet new conservation goals.

\textit{Rehabilitation and Betterment}

The year 1949 marked a milestone for Salt River Project. Besides reorganizing its power business under the Agricultural Improvement and Power District, the Project also applied for and received low interest loans under Rehabilitation and Betterment, a federal program which funded the modernization of western water projects. For the Salt River Project, Rehabilitation and Betterment meant shoring up dams on the Salt and Verde rivers, removing worn timber canal gates and installing steel replacements, and developing computerized systems to regulate the flow of irrigation water. But most significantly, Rehabilitation and Betterment meant lining canals, laterals, and ditches with concrete to prevent seepage and erosion. By midcentury, little work had gone toward improving these facilities; most appeared much as they had in 1903 when the Salt River Valley Water Uses Association incorporated. Water still flowed through open

canals susceptible to breakages caused by erosion and burrowing animals. Through evaporation and seepage, moreover, the entire system lost approximately a quarter of its volume. Much of that water got consumed by cottonwood trees and other herbaceous plant life that lined the banks of canals and ditches. During wet years, water users tolerated these inefficiencies. But a severe drought during the 1940s made conservation an imperative.402 “If I am correctly informed,” vented one frustrated water user, “we are still irrigating as the Indians did a thousand years ago; with porous, dirty, weed-grown ditches . . . isn’t it about time something was done[?]”403

Something was done. With federal loans in hand, Project administrators undertook the massive job of concrete-lining (called “tiling” where it applied to smaller ditches) and piping irrigation facilities throughout the Salt River Valley. Because of their size, main canals remained above ground, but to prevent erosion and seepage workers lined them with a form of pressurized concrete called gunite. Smaller laterals and ditches, meanwhile, underwent tiling and in most cases became piped and buried, eliminating both seepage and evaporation. Concrete-lining and piping, of course, eliminated herbaceous plant life along the waterways. Cottonwood trees, too, which consumed about three hundred gallons of water per day, got cut down. By 1958 crews had felled more than seventy percent of the region’s estimated 28,000 trees, sharply reducing water losses.404 By 1964, Henry Shipley, associate general manager of water operations for Salt

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River Project, estimated that work on canal systems on the north side of the river alone saved water users sixteen billion gallons annually.\textsuperscript{405}

Yet for all it meant in terms of water conservation, Rehabilitation and Betterment had an equally profound effect on the agricultural landscape. For as long as people had farmed and ranched in the Salt River Valley, open irrigation canals and ditches had

provided some of the region’s key landscape features: broad, tree-lined canals, which meandered along the contours of the terrain, and narrower laterals and ditches, which followed section and quarter-section lines to deliver water to individual fields. Sylvester Baxter, who visited Tempe in 1888, made special note of the “supply-ditches” which “keep along the margins of the fields” and “relieve the monotony of the level expanses, making hollow squares of the farms.”

Trees growing alongside the ditches gave the landscape a vertical dimension. “These trees,” wrote Baxter, “are mostly cottonwoods, which, under stimulus of plenty of water, attain a height of fifty feet or so in a comparatively short time.” At those heights, cottonwoods provided ample shade; but more abstractly they provided what geographer Alfred Simon calls a “canal edge” that established a “context of order and organization” within the otherwise two-dimensional plain of alfalfa, grain, and cotton fields. Jack O’Connor remembers Tempe not as a landscape of farms and ranches, but a landscape of trees: “big cottonwoods along the ditch banks, trees around most of the ranch houses, and trees throughout the town of Tempe.”

Rehabilitation and Betterment swept away most of that. In the process, it helped prime the landscape for the suburban metropolis. Ostensibly a water conservation program, Rehabilitation and Betterment meant different things to different groups. To

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409 O’Connor, *Horse and Buggy West*, 58.
Salt River Project administrators, it meant modernizing the region’s canal system. But for local planners and developers, Rehabilitation and Betterment meant removing physical obstacles to suburban growth. “Irrigation facilities have affected traffic circulation and the arrangement of streets and other urban uses,” noted City of Tempe planners in 1967. “Continued urban expansion will demand their relocation underground.” And underground they went, as laterals and ditches vanished from the Tempe countryside through the 1950s and 1960s; municipalities such as Tempe often helped shoulder the costs of Rehabilitation and Betterment work in order to expedite the process. Local planners and engineers also championed tree removal, particularly where trees grew alongside ditches that paralleled section-line roads slated for improvement. “Roads were widened,” wryly noted an observer in 1958. “Down came the cottonwoods.”

Perhaps the loudest opposition to open canals and ditches in the Salt River Valley came from parents of young children, whose suburban quality-of-life expectations involved keeping kids safe from drowning. Though generations of Phoenix-area children had grown up swimming in canals and laterals—and even occasionally water-skiing on them—recreational uses came to an abrupt end in the late 1960s as stories of drowned children made summer headlines. Part of the problem stemmed from Rehabilitation and Betterment itself, as concrete lining making currents swifter and canal channels harder to climb out of. During the 1960s, Salt River Project administrators began fencing

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off canal alignments and hiring guards to patrol their perimeters. But piping and burying laterals more effectively kept the swimmers out of the water, making conservation and safety overlapping goals. “We have been carrying on an extensive ditch covering program since 1952,” noted Salt River Project general manager Roderick McMullin in 1964. “Two purposes of this program are water conservation and safety.”

Yet while no one favored putting children at risk, many protested rules restricting access to canals. Likewise, others mourned the loss of shade trees that made canals favorite recreational spaces. For many longtime residents, Rehabilitation and Betterment invoked a sense of loss—another aspect of the agricultural landscape consigned to memory. “If the canal landscape of the previous era appeared to be a balance between nature and infrastructure,” writes Alfred Simon, “the lined canals gave the appearance of much more controlled, technologically constructed environments.” But a controlled and technologically constructed environment better suited a suburban metropolis: in Tempe, open laterals faded from view just as the suburban landscape came into focus.

The Western Branch

In Tempe, the Western Branch of the Tempe Canal offers an illustration of how Rehabilitation and Betterment primed the landscape for the suburban metropolis. Three miles east of Tempe Butte, the Western Branch split from the main Tempe Canal and meandered southwest, feeding ditches that irrigated farms and ranches in an arc southeast and south of town. In the west half of Section 25, near what is now the corner of 413 “Canals Still Claim Victims Despite Enclosures by SRP,” Arizona Republic, 16 March 1964. 414 Simon, “Mixing Water and Culture,” 91.
Broadway Road and McClintock Drive, the Western Branch bisected a 320-acre cattle ranch. Here a thick strand of cottonwoods lined its banks. B. A. “Colonel” Packard established the ranch in 1905, his second in Tempe. Though most of Packard’s cattle interests centered on Cochise County, he used his Tempe ranches to grow alfalfa, breed stock, and fatten steers during winter months. He may have planted the trees along the Western Branch himself, as an equally thick strand of cottonwoods enclosed his Section 12 ranch south of the baseline. The trees certainly contributed to the picturesque appearance of his property. Hailed as “altogether one of the most desirable places on the south side of the river,” Packard’s Section 25 ranch made a favorable impression on visitors. “Probably there is not another ranch in the valley that has on it such an expensive barn and finer set of out door buildings as a whole,” noted one observer in 1908.

Despite investing heavily in his Tempe ranches, Packard’s business interests in Cochise County remained his paramount concern; in 1909 he became president of First National Bank of Douglas and signed over ownership of his Section 25 ranch to Alfred Peters and George Taylor, local business partners who amassed hundreds of acres ranchland in Central Arizona. Peters himself never lived on a farm or ranch—he ran a

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415 Maricopa County Recorder’s Office, Warranty Deed, Book 68, Page 499, 10 November 1905. “Bought a Ranch,” *Arizona Republic*, 29 January 1904. Packard maintained 100,000 acres of ranchland near the border town of Douglas and another 100,000 acres immediately south of the border in Mexico.


Figure 7.2. The Western Branch of the Tempe Canal, 1930. A thick strand of cottonwood trees lines the Western Branch where it bisects the Packard Ranch in Section 25. Courtesy Maricopa County.
wholesale hay, grain, and seed company in town—but he supplied the capital that allowed Taylor, a seasoned cattleman, to amass a small ranching empire on the south side of the Salt River. Packard’s ranch served as George Taylor’s headquarters, and he kept up its appearances, building a new barn when the older structure went up in flames and leaving the cottonwood trees in place along the Western Branch of the Tempe Canal.

George Taylor died in 1948. In 1951 his widow, Josephine, deeded the ranch to her youngest son, Ben, and his wife, Lois. The couple lived there for two years but in 1953 divorced and divided the property. Ben Taylor kept the northwest quarter of Section 25, which included the Western Branch and the family farmhouse—and when developers arrived at his doorstep in the late 1950s, he did not hesitate to sell. Within the northwest quarter of Section 25, the Western Branch became the dividing line between residential subdivisions. North of the lateral, K&W Construction Company built “Palmcroft Manor” in nine phases between 1960 and 1964, while on the south side RPR Enterprises developed “Alameda Meadows” under the “Continental Homes” label in three phases between 1967 and 1969—the latter included a portion called “Tract A.”

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420 “Large Stock Yard Destroyed By Fire,” Arizona Republican, 04 February 1916.
421 Maricopa County Recorder’s Office, Warranty Deed, Book 703, Page 5, 28 February 1951.
422 Maricopa County Recorder’s Office, Quit Claim Deed, Book 1131, Page 519, 08 May 1953; Maricopa County Recorder’s Office, Quit Claim Deed, Book 1131, Page 87, 07 May 1953; Maricopa County Recorder’s Office, Quit Claim Deed, Book 2359, Page 351, 27 December 1957; Maricopa County Recorder’s Office, Quit-Claim Deed, Book 2372, Page 80, 13 January 1958.
aside for a City of Tempe public park.\textsuperscript{423} Taylor excluded his family’s 1923 farmhouse from the subdivisions, but in 1961 he sold the ranch’s groundwater well to the City of Tempe; also in 1961 he also sold a portion of the northwest quarter to Elmer Bradley, a civic-minded developer, who in turn sold the parcel to Tempe Elementary School District No. 3 for a school site.\textsuperscript{424} Finally, in 1969, Taylor made two gifts of land to the First Church of Christ, Scientist: one on the east side of the quarter section, north of the Western Branch, and the other on the west side of the quarter section, south of the lateral.\textsuperscript{425}

Residential subdivisions, a park, a school, and churches qualified as elements of a suburban, not an agricultural, landscape. They also represented the diffusion of social life in Tempe. Previously residents of Section 25 had journeyed into town to attend school and church: but in the suburban landscape the schools churches came to them, as the rural countryside assumed urban functions. Gradually the Western Branch, with its open channel and trees—both expressions of the agricultural landscape—seemed out of step.


\textsuperscript{424} Maricopa County Recorder’s Office, Warranty Deed, Book 3684, Page 250, 03 May 1961; Maricopa County Recorder’s Office, Warranty Deed, Book 3648, Page 511, 05 April 1961; Maricopa County Recorder’s Office, Warranty Deed, Book 3818, Page 56, 22 August 1961.

\textsuperscript{425} Maricopa County Recorder’s Office, Gift Deed, Book 7600, Page 399, 08 May 1969.
with the surrounding landscape. By 1969, crews had cut down the strand of cottonwoods that lined its banks. Water still flowed through an open channel, but masonry walls to the north and south barricaded it from the backyards of Palmcroft Manor and Alameda Meadows, divorcing the channel from its surroundings. Then, in January 1974, City of Tempe planners approached Salt River Project engineers with a request to pipe the entire stretch of the Western Branch through the west half of Section 25. The work would allow City engineers to build a bicycle path along the Project’s right-of-way to connect McClintock Drive to the public park site in Alameda Meadows. Salt River Project administrators signed on, and in January 1975 Project crews piped and buried the facility. Stripped of its trees and visible flowing water, and flanked by masonry walls (see fig. 7.3), the Western Branch took on the appearance of a neighborhood alley—and eventually it took on the same functions of an alley too, as residents of Palmcroft Manor and Alameda Meadows used it for garbage pickup. By the late 1970s, little remained on the ground to remind residents of the lateral canal or the cattle ranch it once bisected; instead visitors encountered only a bicycle path and garbage cans. By then the Western Branch existed to serve the needs of the suburban landscape.

Domestic Consumption

Canal corridors were not the only elements of Salt River Project’s water delivery system repurposed to fit the suburban landscape; irrigation water itself became a source of domestic tap water to supplement depleted municipal groundwater sources. During the

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Figure 7.3. The Western Branch and the Packard Ranch. Top, 1930, the agricultural landscape; middle, 1969, subdivisions transform the landscape; bottom, 1979, a suburban landscape, with school, park, and buried canal alignment. Courtesy Maricopa County.
late 1940s, as the City of Tempe annexed new residential subdivisions to the south, east, and west, local officials confronted the problem of water supply. Because of their senior water rights, Tempe farmers and ranchers enjoyed plenty of irrigation water. But the town’s domestic water system, supplied exclusively by groundwater wells, began running dry, forcing city officials to ask residents to reduce water consumption.

Part of the problem involved infrastructure. By the late 1940s, the City of Tempe still relied upon the basic components of its 1903 system: three wells located at the intersection of Seventh Street and College Avenue, an electric pump that pushed water up Tempe Butte, a concrete reservoir atop the butte, and a network of pipes that distributed water from the reservoir down to the town’s various neighborhoods. In 1903 that system had represented a triumph of progress and modernization: but drought during the 1940s had lowered the water table, making pumping more difficult. At first, city officials responded by expanding and modernizing the existing system. City engineers sunk new wells at lower depths, extended water mains to new subdivisions, replaced older pipes, replaced the concrete reservoir on Tempe Butte with larger steel tanks, and added new wells to the system, such as Ben Taylor’s well in Section 25. Consequently, groundwater production soared from 487 million gallons in 1950 to 1.4 billion gallons in 1960—a rate commensurate with city’s population growth.427

But sinking deeper wells did not address the underlying problem of a rapidly dropping water table. Groundwater was a finite resources.428 With unrestrained growth,

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427 Mark E. Pry, *Oasis in the Valley*, 30.

the City of Tempe would eventually exhaust its supply. And it did. On one hot summer day in June 1963, the city’s storage tanks dropped to unprecedented levels, forcing officials to suspend water service. The event laid bare the inadequacies of the groundwater system. But to make matters worse, an engineering consultant, John Carollo, soon discovered a second problem: Tempe’s drinking water failed to meet federal clean water standards, a sign that agricultural runoff and human wastewater had penetrated the water table.429 Diminishing supplies, coupled with poor water quality, forced the City of Tempe’s hand. It would have to find an alternative source. “Fortunately for Tempe,” noted Carollo, “another source of supply is available, namely the surface waters of the Salt and Verde Rivers . . . we recommend that the City start using surface water as soon as possible.”430

Using surface water for domestic consumption, however, meant tapping a source used exclusively for irrigation and agriculture. In January 1964, City of Tempe officials signed a contract with Salt River Project administrators that allowed Tempe residents to supplement their groundwater supply with surface water taken from the canal system. While new for Tempe, the arrangement replicated an existing contract between Salt River Project and the City of Phoenix. A provision in the Tempe contract guaranteed the City of Tempe as much water as it needed to keep pace with suburban growth through 1977, a provision made possible by the fact that domestic use required less than half the amount of water per square mile as did agricultural uses, resulting in a net water savings for Salt

429 Pry, Oasis in the Valley, 32.

River Project. By building residential subdivisions in its rural countryside, Tempe had actually solved its own water needs.431 “Through this contract,” Salt River Project president Victor Corbell told reporters, “the City of Tempe can now depend upon a reliable source of low-cost water to support its continued growth and development in the boom years ahead.”432

Under this arrangement, the City of Tempe would play the role of intermediary between Salt River Project and suburban water users, delivering water where residential subdivisions supplanted farms and ranches; it would also function as a collections agency, paying water user assessments back to Salt River Project in exchange for water deliveries.433 Otherwise little changed—Tempe still enjoyed its senior water rights, and residential subdivisions built within the footprint of farms and ranches remained entitled to same apportionments of Salt River Project water as the farms and ranches they supplanted. But what could suburban homeowners do with raw irrigation water? For one, they could use it to irrigate their front and back yards. In the northeast quarter of Section 27, residents of Broadmor Manor joined with residents of University Terrace in 1958 to form Improvement District No. 45, which extended the City of Tempe’s irrigation water system to the new subdivisions. Rather than establish all new facilities, residents of Improvement District No. 45 simply repurposed the ditch that had irrigated the old Aepli


farm, extending it through a new network of pipes laid beneath streets and alleys to individual homesites, where it watered lawns, shrubs, and trees.434

But suburban homeowners could not use raw irrigation water for domestic purposes. Irrigation water, or “working water,” contained bacteria from offal and excrement that found its way into canals and ditches: William Windes once recalled how his older brother nearly lost a leg to infection after wading into an irrigation ditch with an open wound.435 If city officials wanted to make “working water” safe for domestic use, they had to treat it. In October 1963, Tempe voters authorized a $3.5 million bond to pay for a water treatment plant. Built on the north side of the Salt River within in a forty-four-acre portion of Papago Park purchased by the City of Tempe in 1959, the plant received raw irrigation water from the Crosscut Canal by way of an elevated flume, which at full capacity delivered twenty million gallons per day.436 Once in the plant, the water passed through stages of pre-sedimentation, sedimentation, filtering, and chlorination before entering into a twelve-million-gallon storage reservoir equipped with pumps that pushed it back across the Salt River through thirty-inch pipes installed along the Rural Road bridge. Once on the south side of the river, the water entered into the city’s distribution

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system, which by the late 1960s also included steel reservoirs built atop Double Butte west of town, which helped pressurize the entire system.437

But the City of Tempe did not stop there, going far beyond traditional water uses with an unorthodox plan announced in July 1966. As construction crews put the finishing touches on the water treatment plant, a young Tempe architect named Michael Goodwin had his eye on forty acres just north of the construction site. There, in the gullies at the base of a sandstone butte, Goodwin envisioned a “canal park.” From a gate in the Crosscut Canal, water would tumble down the sandstone’s natural grades and pool at the base of the gullies, creating small body of water resembling a Saharan oasis. “The water will take off,” Goodwin told reporters, “running almost parallel to the canal down a rock-creek to a waterfalls area. The falls will lead, through a little woods, to a lagoon.”438

Goodwin’s design actually consisted of a network of lagoons; it also called for an amphitheater, a puppet show theater, concession buildings, and ramadas for shaded recreation. Authorized activities on the lagoons included canoeing and row boating.439 All of it seemed unintuitive for forty acres of desert sandstone lying in the shadow of a water treatment plant. But the plant and the park shared much in common. Both relied on the Crosscut Canal for their supply of surface water. Likewise both represented a radical repurposing of water in Tempe—new uses which had nothing to do with agricultural production but everything to do with suburban quality-of-life considerations in the


439 “Papago Park Project First of Kind in U.S.,” _Arizona Republic_, 26 April 1967.
Phoenix metropolis, where irrigation water became drinking water but also where it served as the basis for recreational projects. Residential developers took notice.

The Lakes

By the late 1960s, developers in the Phoenix metropolitan area grew increasingly interested in developing neighborhoods much more complex than simple residential subdivisions such as those that constituted Broadmor in Tempe. For example, Litchfield Park, twenty miles west of Phoenix, consisted of an ambitious “new town” master plan designed by Victor Gruen, while Sun City, a two-phase Del Webb development fifteen miles northwest of Phoenix, marketed to retirees exclusively; both built around gold courses. In February 1969, Diversified Properties, a Scottsdale development company, announced plans for a similarly ambitious three-phase residential subdivision on 320 acres south of the baseline in Tempe, in the north half of Section 2. The development would integrate 880 homesites with a regional shopping center, a bowling alley, a private racquet-and-swim club, and an elementary school and church. The size of the undertaking raised some eyebrows in Tempe—Diversified Properties expected the subdivision to accommodate five thousand residents. But far more attention went toward its most striking feature, a fifty-acre manmade lake which formed the backbone of the project and gave the subdivision its name, “The Lakes.” The idea met with skepticism. “You live in Arizona 40-odd years and you become rather skeptical about lakes in the desert,” observed Arizona Republic real estate columnist Henry Fuller. But it would soon


441 “$60 million development extending Valley boundaries south,” Arizona Republic, 19 April 1970.
become commonplace. The Lakes offers an important early example of the lakeside home development concept which began flourishing in Central Arizona starting in the early 1970s.\textsuperscript{442} The Lakes oriented homesites around five miles of shoreline, with a few exclusive homesites situated on an island connected to the “mainland” by two-lane bridges. Plans also called for private beaches, docks for sailboats, and an over-the-water restaurant.\textsuperscript{443}

With depths of up to ten feet deep, the entire body of water required more than 130 million gallons to reach capacity. Much of that water would then evaporate into the desert air: Diversified Properties estimated that refilling the lake would require an additional 114 million gallons annually.\textsuperscript{444} Yet that represented only a small portion of the available water supply entitled to the north half of Section 2. “We have no problem there,” Lloyd Snook, president and general manager of Diversified Properties, told reporters. “Our primary source of water will be two existing wells on the property. Moreover, we have a secondary source from the Salt River Project. This is old farm land, where the water rights were granted in 1879. From these sources we estimate we have 10 times the amount of water that will be needed to keep the lake level constant.”\textsuperscript{445} That meant residents of The Lakes could always enjoy enough water for domestic use—and enough water to keep their fifty-acre manmade lake filled ten feet deep.

\textsuperscript{442} “Lakeside home developments flourish,” \textit{Arizona Republic}, 11 July 1971.


\textsuperscript{445} “$60 million development extending Valley boundaries south,” \textit{Arizona Republic}, 19 April 1970.
The decision to build around a manmade lake involved water research but also market research. Ronald Dahlberg, chairman of Diversified Properties, knew that Section 2 farmlands possessed senior water rights; he also knew that converting farmlands to residential subdivisions caused significant water savings, more than enough to accommodate a fifty-acre lake. Dahlberg had initially intended to build The Lakes around a golf course. “We even commissioned plans for the course,” he acknowledged. But market research indicated young Arizona homebuyers, at the time, associated golf-oriented developments with retirement communities. These findings sent Dahlberg searching for an alternative. “We sought a format with a more universal appeal, one that would provide recreational opportunities for people of all ages.” \footnote{“Always check market,” \textit{Arizona Republic}, 08 March 1970.} They found their answer in San Diego at a residential development planned around a small reservoir.
Further research indicated water-based developments in western cities outperformed other types of subdivisions. “Interviews with land developers, builders, financing experts, and homeowners in a number of West Coast projects,” Dahlberg noted in his informational guide for the project, “confirmed the fact that water-oriented projects have greater overall acceptance than competing projects oriented to other forms of recreation.”

As a means to “recreation,” The Lakes involved a radically different kind of water use, one which stood in stark contrast to irrigation. For decades, water had offered Tempe farmers and ranchers the means to a livelihood. At “The Lakes” it offered the means to a lifestyle. Newspaper advertisements promised a “sculptured shoreline” . . . ”your very own lake with private fishing and quiet boating” . . . ”evenings with moonlight across the bay.”

“The Lakes project,” Dahlberg told reporters in 1969, “will enable us to develop a refreshingly new kind of community, as well as provide exciting recreation potential and enrich the esthetic beauty of the area.” From the standpoint of generating interest among homebuyers it exceeded expectations: “when we visited there two weeks ago, we discovered a continuous string of cars bearing families interested in the new development,” noted Fuller in 1971. By the late 1970s The Lakes had achieved total buildout; more than any other residential development it set the stage for Tempe’s late-

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twentieth-century growth, as the city’s suburban landscape lurched south across the baseline toward Kyrene.

*Rio Salado Project*

If *The Lakes* proved anything, it was that people in the Phoenix metropolis responded enthusiastically to a manmade body of water in the desert. Soon City of Tempe officials would begin asking Tempe voters to envision their own “sculptured shorelines,” “quiet boating,” and other recreational activities in the dry riverbed of the Salt River. The idea stemmed from a 1966 class project at Arizona State University. That year, James Elmore, Dean of the School of Architecture, offered his fifth-year students an open-ended studio assignment: “my directive was to do something with the river.” By “the river” Elmore meant the dry riverbed of the Salt River. Dammed in 1911 and subsequently dammed six times over, the river only flowed freely on the few occasions when Central Arizona received huge rainfall. Upstream at Granite Reef Dam, northeast of Mesa, the impounded river got diverted into two main canal branches, one serving settlements north of the river, the other serving settlements such as Tempe, Mesa, Chandler, and Gilbert on the south side. That left the main channel of the Salt River, as one observer describes it, “dry as a shedded snakeskin.” The dry riverbed hardly stunted local growth: a writer in 1957 characterized Tempe as “the river town which lost

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its river but managed to do all right anyhow.” Yet it loomed large in the background, parched and unsightly. To many it represented a blight on the landscape. “Today, alas, every drop of water that can be impounded has been taken from the Salt,” observed Jack O’Connor in 1969. “The clean sand of its once-snowy bed is littered with old automobile tires, rusty car bodies, tin cans, empty beer bottles.”

Despite the junk, or maybe because of it, some industries flourished in the dry riverbed. Mining companies obtained rights to excavate sand and gravel loosened by centuries of flowing water. Gravel from the riverbed went toward building the region’s midcentury network of paved surface roads. But with the development of Arizona State University and the infusion of many thousands of young people in Tempe, the dry riverbed also began attracting forms of entertainment deemed unacceptable elsewhere. In 1964 Jim Musil, a local restauranteur, opened JD’s, a two-story nightclub built on the north banks of the riverbed between Tempe and Scottsdale. At ground level, Musil opened a one-thousand-seat country music venue headlined by the Waylors, a country music group fronted by Waylon Jennings. But the lower story, with its foundation in flood plain, became known as the “Riverbottom Room,” a showcase for rock n’ roll music and questionable forms of dancing. Waylon Jennings later recalled that “everyone from the Grass Roots to Bill Haley and the Comets played there, accompanied by shimmying go-go girls.” Soon the Riverbottom Room was joined by “massage parlors

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454 O’Connor, Horse and Buggy West, 138-139.
and other such establishments,” making the dry riverbed north of Tempe something of a red light district and a blight: “a wide strip of ugly waste land which is an esthetic insult to the eye,” as one local official described it.\footnote{Pam Hait, “Tempe – Burgeoning City on the Salt,” \textit{Phoenix Magazine}, July 1976, 31; Hearings Before a Subcommittee of the Committee on Appropriations, \textit{Public Works for Water, Pollution Control, and Power Development and Atomic Energy Commission Appropriations for Fiscal Year 1973}, S., 92nd Cong., 2nd sess., 1972, 2074.}

In spring 1967, Elmore’s fifth-year students finished their assignment. “They had found a map on which the river was labeled Rio Salado,” Elmore later recalled, “[and] came up with the concept of putting water back in the river.”\footnote{James Elmore, interview by Scott Solliday, http://www.tempe.gov/Home/ShowDocument?id=30157 (accessed 23 September 2016).} The “Rio Salado Project,” as the students called it, would involve diverting Salt River Project water out of canals and putting it back into a thirty-eight mile stretch of river below Granite Reef Dam. A series of small dams would create lakes of various sizes and shapes, while levees built along the edges would stabilize the river, allowing developers to build recreational facilities—parks and picnic areas, playing fields, marinas, a golf course, and the future site of the Arizona State Fairgrounds—within the flood plain (see fig. 7.5).\footnote{“Salt River Bed Envisioned for City’s Tiara,” \textit{Arizona Republic}, 10 March 1967.} Elsewhere, flowing water would restore riparian growth and beautify the region. “No place in the world has at its heart such a vast area of land waiting to be developed,” Elmore told an audience of civic leaders in 1969. “This will give some kind of identity [to Phoenix] like Paris has its Seine, Amsterdam its canals and New York City its harbor.”\footnote{“Waterfront recreation area proposed in Valley,” \textit{Arizona Republic}, 08 November 1969.} The idea gained traction.

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Figure 7.5. Rio Salado Project Planning Illustration, 1966. Courtesy University Archives, Arizona State University Libraries.
“But who can think of string of lakes along the Salt River,” asked an Arizona Republic editorialist in 1969, “without realizing what a fantastic asset they would be to Phoenix, Tempe, Scottsdale, Mesa, and the entire metropolitan area?”

Few, in fact, could have failed to perceive that asset—and that spoke volumes about the changing ways in which people had reconsidered surface water in the Salt River Valley. Only thirty years earlier, locals had celebrated the impounding of the Verde River behind Bartlett Dam, which robbed the lower Salt River of its final source of flowing surface water. But by the late 1960s, perspectives had changed. A robust service sector had supplanted agricultural production as the basis for growth. Likewise, after Rehabilitation and Betterment, few people contemplated the network of canals and ditches that interlaced the Salt River Valley; still fewer observed agriculture at all unless they lived on the edge of the metropolis. Divorced, visually, from its contexts of irrigation and agriculture, the dry riverbed made little sense to postwar onlookers. “And it was an ugly, awful thing,” said Elmore, “but there it was, [with] cities all around it.” The Rio Salado Project offered an alternative. Its proponents sought to transform the dry riverbed into a recreational asset for the metropolis. Some aspects of their plan encountered resistance. Voters on the margins of the Phoenix metropolis, in some cases more than ten miles distant from the river, showed little interest in using taxpayer dollars to restore a river they almost never visited. Likewise, diverting Salt River Project water into the riverbed totally contradicted Rehabilitation and Betterment objectives. In 1969,

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Elmore speculated that the entire project might hinge on “a long-range solution to our water problems on the scale of the Central Arizona Project”\(^\text{462}\). That speculation proved correct. Thirty years later, in June 1999, City of Tempe officials gathered to dedicate Tempe Town Lake, a two-mile, nineteen-foot deep reservoir filled with Central Arizona Project water. Though it fell short of beautifying the entire region—only Tempe authorized bonds to pay for the project—Tempe Town Lake did incorporate many of the recreational elements imagined by James Elmore’s students three decades earlier.\(^\text{463}\) Here again, water met recreational, not agricultural, goals. Likewise, Tempe Town Lake emerged as an asset not just for Tempe, but for the greater Phoenix metropolis. “People tend to view Rio Salado as a recreational project,” Elmore later noted, “and indeed it is that, but it is also a wise way of continuing to build our city—regionally, not just Tempe.”\(^\text{464}\)

Reintroducing water to the Salt River as way to build the city, however, rested on a radical new reconsideration of the purpose of flowing surface water in Tempe. Rehabilitation and Betterment, as a water conservation movement, had obscured much of the Salt River Project’s canal system from view, visually divorcing irrigation water from the landscape, making canals and ditches and afterthought for many residents of the suburban landscape. But the suburban landscape, which required approximately half the water of the agricultural landscape, introduced water savings that made possible a range


of new uses, including manmade lakes which sold houses in new subdivisions but also beautified the dry riverbed of the Salt River. Irrigation water—formerly the lifeblood of the agricultural landscape—suddenly became expendable as the suburban landscape unfolded over the broader Tempe area.
Conclusion

When journalists visited Marlatt’s Garage in the late 1970s, they saw a landscape dramatically different than the one that Gene Marlatt had encountered in 1933. Cotton fields no longer surrounded Marlatt’s shop. Instead the journalists saw a variety of housing: to the southeast lay Carlson Park, a late 1950s single-family residential neighborhood; to the south, Mariana Park and Malaran Park, early 1960s duplex and fourplex units; and to the southeast, an assortment of 1960s apartment complexes fronting Orange Street, an area called “student city” by Arizona State University but known as “sin city” among students.465 To the northeast, across the old Tempe-Mesa Highway, the twin 178-foot stacks of the Ocotillo Power Plant towered above a stretch of dry, undeveloped land, while to the northwest rose Manzanita Hall, a fifteen-story dormitory tower built by Arizona State University in 1966.466

By then the area immediately surrounding Marlatt’s Garage had become quieter and less foul-smelling. Trucks no longer plied the highway “night and day” as they had in the early 1930s; Apache Boulevard had diverted much of the traffic.467 Trains, too, no longer made screeching noises as they applied brakes. There were no more trains—the


467 “Salad days relived at old car shop,” Arizona Republic, 28 May 1978.
Southern Pacific had abandoned its Creamery Branch spur in 1954.468 Likewise, the foul smells associated with condensed milk production no longer wafted out of the creamery. There were no more cans of condensed milk. During the postwar period, the creamery had passed from one ownership group to the next before Arden Farms shut it down in 1966.469 By the late 1970s, business at Marlatt’s Garage had slowed down considerably, and so had Gene Marlatt. “They’ve kind of forgotten about me,” he told his interviewers in 1980. “I don’t try to do any business now.”

East of Marlatt’s Garage, down East Eighth Street, the journalists might have noticed a series of vacant lots—an anomaly in Tempe. They corresponded with the Sotelo Addition; previously they had accommodated the Hispanic barrio of la Cremería built up alongside the Kirkland-McKinney Ditch. By the late 1970s, most of la Cremería had vanished. In 1966, City of Tempe officials annexed the Tempe-Mesa Highway corridor, bringing modern city services to the barrio but also modern building code enforcement. When officials inspected 1201 and 1203 East Eighth Street in May 1971, for example, they found “several old buildings that are in need of repair.” Two months later they contracted with the Smith Wrecking to handle the demolition.471 Many buildings in the Sotelo Addition suffered a similar fate. Around the same time period, Salt River Project


469 City of Tempe, Building Safety Department, Property Development Record for 1340 E 8th St, on file at Tempe City Hall, Tempe, Arizona.


471 City of Tempe, Building Safety Department, Property Development Record for 1201 E 8th St and 1203 E 8th St, on file at Tempe City Hall, Tempe, Arizona.
administrators uprooted trees along the Kirkland-McKinney Ditch and piped the facility, divorcing *la Cremería* from the open lateral that had nourished its back yard gardens.472 “As I rode my bike down old 8th Street next to McClintock,” lamented one resident, “looking forward to seeing one of the few remaining old streets where open irrigation canals and majestic trees still exist; well, well, guess what I saw? No trees, no old farm, no ‘old Tempe?’ Just an acre or so of barren ground . . .”473

By the late 1970s, one could argue that the landscape around Marlatt’s Garage had become inverted: the bustle of community life and dairy production along the Tempe-Mesa Highway had silenced, while quiet fields that flanked the highway through the 1940s became the focus of suburban homebuilding and paved road construction. In some cases, street names assigned to the paved roads were all that remained to remind the public of Tempe’s agricultural past: in the north half of Section 27, for example, newcomers bought houses on Aepli Drive and Bishop Drive, while a mile to the south families moved into houses on Hermosa Drive, named for the Hermosa Tract settled by the “Kansas People” two generations earlier. But without immediate visual reminders of the past, the significance of these street names became largely lost to memory. Robert Beauregard attributes the decline of primary- and secondary-sector landscapes, in part, to “the unrelenting restlessness of capitalism as it roamed the landscape picking up and discarding investment opportunities.”474 In Tempe, it did not have to roam far, as the


landscape of farms and ranches easily accommodated a suburban landscape after 1945. Likewise, in the center of town, old residential additions easily accommodated the expansion of Arizona State University’s main campus, as the small teachers college emerged as the center of higher education for the greater Phoenix metropolis. Farms, ranches, and the farm-service town, meanwhile, got discarded. The agricultural landscape had given rise to a suburban city, and a town and countryside oriented around agricultural production had become the basis of a suburban metropolis.

Reclaiming a Sense of Place

On the surface, the new suburban landscape obscured its agricultural predecessor. “My old home town, the quiet frontier village of 1907-17 where I grew up has vanished,” lamented Jack O’Connor in 1969. Much of it had. But if O’Connor had looked more closely he might have recognized traces of the prior landscape, as surviving elements of the agricultural past persisted through rounds of postwar development. Much of it remains evident in our own time—if one knows where to look and how to interpret what they see. Planners and landscape architects may dismiss the postwar suburban metropolis as “formless” and “without identity,” but the suburban landscape in Tempe remains dotted with visual reminders of the agricultural past: artifacts of farming and ranching that reveal an abundance of form and identity.

475 O’Connor, Horse and Buggy West, 302.

Knowing how to identify and then utilize those visual reminders may serve cities such as Tempe well in the future. To attract twenty-first century jobs, the Phoenix metropolis will need to better leverage its agricultural past. As Richard Florida and other economists suggest, the “creative class” that forms the backbone of the digital economy favors a temporally complex built environment, one that offers an immediate sense of place opposite the sterility of modern and postmodern architecture.477 “For the employers and employees [that] Arizona must attract,” notes Wellington “Duke” Reiter, senior vice president of the Arizona State University Foundation, “the desirability of a new location can often be measured in blocks, not acres or square miles. . . Companies built on innovation are seeking a place with a sense of identity, public transportation, restaurants, cultural venues and, if at all possible, a compelling blend of the old and the new.”478

Reinforcing that blend will require a better awareness of the agricultural landscapes. The creamery in Tempe offers a successful model. Nearly thirty years after its abandonment, the complex received new life in the fall of 1995 when local entrepreneurs repurposed it as a brewery called Four Peaks. “We are trying to add to the [brewery’s] character by using an older building,” acknowledged co-founder Dave Roberts.479 Local musician Robin Wilson attempted much the same when he established a recording studio in the creamery’s main office a few years later. The building’s age seemed to suit Wilson’s creative undertakings. “My studio,” he told interviewers in 2003,


478 “How sprawl has made, and now could break, Phoenix,” *Arizona Republic*, 05 June 2013.

“is housed in one of the oldest buildings in town . . . there are railroad tracks right out back, so the trains would pull up, empty their milk, and all of the milk money would go into the walk-in safe that’s in the corner of my studio now.”

A similar sense of place can be achieved within Tempe’s postwar residential subdivisions. But only if residents can reject the ahistorical concept of “sprawl” and reconnect with the deeper histories of agricultural production that shaped the spatial foundations of their neighborhoods. Particularly in an age of changing consumer habits, as people become more interested in the geography of food and as a “farm-to-table” ethic grows, shared memory of the agricultural landscape in Tempe can potentially help residents reclaim a sense of place lost in the transition toward the suburban metropolis. Coming to terms with that transition, however, will first require better familiarity with the farms and ranches, the canals and ditches, the processing plants, and, at the center of it all, the farm-service town that formed the nucleus of Tempe’s agricultural landscape.

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