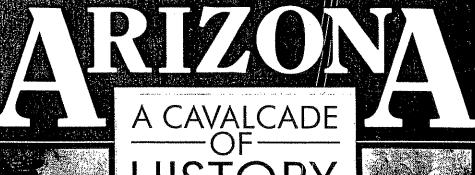
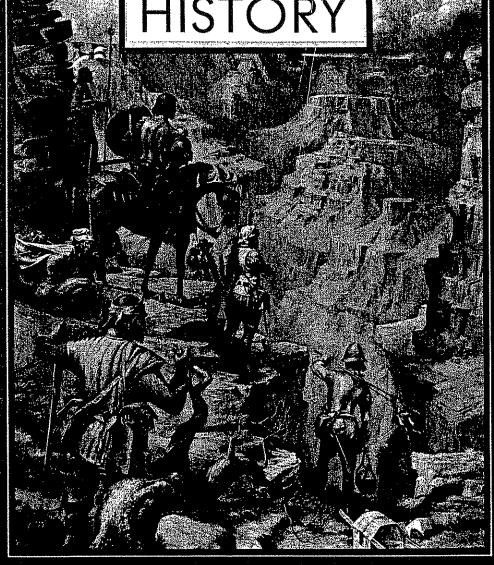
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MARSHALL TRIMBLE

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ARIZONA

A CAVALCADE OF HISTORY

MARSHALL TRIMBLE

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HARNESSING THE GREAT RIVERS

During the latter part of the Nineteenth Century, James Addison Reavis, the self-styled "Baron of Arizona," almost pulled off one of the grandest real estate scams in Arizona history. Reavis learned to forge documents as a young soldier during the Civil War. He wrote his own furlough papers and, when he tired of soldiering, wrote himself a discharge. Later he improved his forgery skills while selling real estate in Missouri.

During this time he became aware of Spanish land grants in the Southwest and saw a chance to make millions of dollars. This fertile-minded, ex-streetcar conductor from St. Louis created a phony land grant that stretched from today's Sun City on the west, all the way to Silver City, New Mexico on the east — nearly 12 million acres. The vast expanse included the fertile Salt River Valley. The fraud was eventually exposed and Reavis was sent off to prison for a couple of years.

After his internment, the "Baron" returned to the Phoenix area. A few years earlier he'd been one of the most hated and feared men in the territory, despised by those who stood to lose their hard-earned land. Now he was just a pitiful, broken, and penniless old man. He walked the streets of downtown Phoenix telling anyone who'd listen of the wondrous potential for irrigating and farming the Salt River Valley.

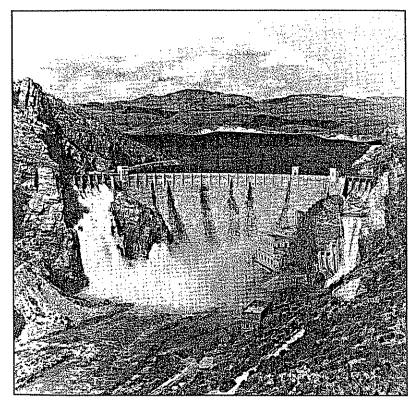
His tired eyes sparkled as he described a new and grander scheme: the expansion of canals and ditches to water the thirsty land. But no one cared to listen and Reavis soon went away. In retrospect, had Reavis turned his visionary schemes and talent to honest endeavors, he might be an honored figure today.

The old "Baron" was right. The Salt River Valley was an agricultural paradise. It was nestled at the heart of some 13,000 square miles of watershed. However, the Salt River, which meandered through the valley, was as fickle as a stud at a snortin' post. One year it'd run over its banks and flood all the way into the center of Phoenix; the next year would be so dry the cows were giving powdered milk.

In 1891, a flood spread the banks of the Salt River eight miles wide, washing out the railroad bridge at Tempe. Later in the decade, water was so scarce that folks were loading up their belongings and moving on to California. It was said a cactus wren wouldn't attempt to fly across the Salt River Valley without packin' a sack lunch. Those who stayed to await better days patroled their irrigation ditches on horseback, armed with Winchesters. During the drought, brief but furious flash floods washed out dirt diversion dams, and farmers watched the precious water escape into the Gulf of California.

As early as 1889 a dam site at the junction of Tonto Creek and the Salt River had been chosen, but nothing came of the venture. Two years earlier, the Arizona Canal began carrying water, opening up new lands for farming and leading to the founding of new communities such as Scottsdale. Still, citizens were at the mercy of the temperamental Salt River. Events in the 1890s dramatized the need for a dam to store water and control flooding, but nothing much was done until 1902 when Congress passed the Newlands, or National Reclamation, Act. The act provided the federal monies to build irrigation projects in the West. The Salt River Valley was a natural choice because a community with canals and ditches was already in existence and was fed by a vast watershed.

Before the dam could be built, the federal government wanted a guaranteed repayment plan. Valley movers and shakers—among them Benjamin Fowler, Dwight Heard, John Orme, and William J. Murphy—persuaded some 4,000 landowners to put up their lands as security. Since the federal government refused to deal with individual landowners, it was necessary for local citizens to unite and form an association. Thus was born the Salt River Valley Water Users Association, later shortened to Salt River Project, whose duties would include management of the massive operation.



Theodore Roosevelt Dam, completed in 1911 at a cost of \$10 million. Salt River Project paid the debt in full to the federal government by 1955. Two hundred eighty feet high, it is the world's highest masonry dam. Photo: Salt River Project.

Italian stonemasons were imported to construct what was to become the world's highest masonry dam. A 500-foot tunnel was dug to divert water, and a town named Roosevelt was established which allowed no gambling halls or saloons—a rarity in the West. Other businesses located there with the understanding that their tenure would be brief, since the town would eventually be buried beneath the waters of a huge lake. Apache road builders, under the supervision of famed scout Al Sieber, hacked out a road up to the dam site. Sieber was killed in a construction accident. He'd fought in the Civil War and survived many a shooting scrape during the Apache Wars, only to die when a loose rock came tumbling down and

crushed him. Roosevelt Road was later renamed the Apache Trail. In 1987 it was formally dedicated as the first State Historic Road.

Tonto Dam became Theodore Roosevelt Dam, completed in 1911 at a cost of \$10 million. The old Rough Rider, who'd led the Arizonans on the famous charge up San Juan Hill more than a decade earlier, traveled out to make the dedication address. With the completion of Roosevelt Dam, the future of the Salt River Valley was assured. Incidentally, the federal debt was repaid in full in 1955.

Over the next few years Horse Mesa, Mormon Flat, Stewart Mountain, and Granite Reef dams would be built on the Salt River, and Bartlett and Horseshoe dams on the Verde River to provide water storage and electricity. They combined to turn this arid land into a desert oasis.

Although the harnessing of the Salt River relieved much of the water problem in central Arizona, most folks looked to the mighty Colorado River, "The West's last great waterhole," as the future source of water. Ninety-five percent of the state's area drained into the river, and it was felt that the river should return at least a part of it. The state made up about 45 percent of the river's drainage basin and contributed about a third of the river's water. Arizona wasn't the only state interested in taking a share of the mighty Colorado. Our gluttonous neighbor to the west, California, wanted a lion's share, although it contributed not a drop. Also, Colorado, New Mexico, Nevada, Utah, Wyoming, and the Republic of Mexico all made claims to the river's annual 17.5 million acre feet of water.

In 1921 a commission was established to draw up a plan for harnessing the river. It met in Santa Fe and, by the end of 1922, completed its work, which became known as the Santa Fe Compact. All the states' legislatures, except Arizona's, ratified the agreement. Governor George W.P. Hunt opposed the bill because it didn't specify how California, Nevada, and Arizona would divide the 7.5 million acre feet allotment. Hunt had other reasons, purely partisan, for opposing the Santa Fe Compact. It had been conceived during the previous Republican administration under Governor Tom Campbell and Hunt didn't want to be upstaged. Also, his friend Fred Colter had a far-fetched plan called the Highline Canal, which proposed building a series of dams along the Colorado River in northern

Arizona and pumping the water through huge tunnels across the Colorado Plateau, over the Mogollon Rim and into the upper Verde River. Colter spent a personal fortune on the project that, although visionary, didn't come to pass. Colter's Highline Canal had a sound concept and did serve as a model for the modern Central Arizona Project.

During political campaigns, Hunt used the emotional issue of the Colorado River controversy so often as a method of rallying the voters to his cause that critics claimed, "although Jesus walked on water, Hunt *ran* on the Colorado."

In 1928 Congress passed the Boulder Dam Reclamation Act over the protests of Arizonans. The act called for the building of Hoover Dam on the Colorado River. What rankled Arizonans was that the plan also called for the building of the All-American Canal to deliver water into California's Imperial and Coachella valleys, but made no provision to deliver water into Arizona. Arizona appealed the case to the U.S. Supreme Court and lost. President Herbert Hoover put the plan in motion in 1930.

Hoover Dam was located in 800-foot-deep Black Canyon, between Arizona and Nevada, prompting critics to claim that although California profited from the project, "she didn't give a dam site for it."

Chief engineer on the job was Frank Crowe, whose goal in life was to build the largest dam in the world. In 1931 he put 3,000 men on the job. The temperature in that canyon exceeded 120 degrees and the rocks were hot enough to fry eggs. Daring workers hung by cables hundreds of feet above the canyon floor drilling holes with jackhammers and clearing debris before concrete could be poured.

For the next two years, workers dumped 16-ton buckets filled with concrete into forms every 60 seconds. Crowe, nicknamed "Hurry Up" by his hired hands, designed a complex lighting system so they could work around the clock. At its peak, 5,000 men were employed. A total of 96 died on the hazardous job. Crowe, living up to his nickname, completed the job in 1935, two years ahead of schedule, and for a time his dam was the largest in the world. Today it ranks 52nd. Lake Mead, which formed behind the dam, is still the largest manmade reservoir in the Western Hemisphere.

The construction of Parker Dam on the Colorado River in the early 1930s gave birth to one of Arizona's most embarrassing episodes in its long rivalry with California. Governor Ben Moeur became infuriated with California's power-play politics. Because Parker Dam was specifically designed to deliver water to California, Governor Moeur sent the Arizona National Guard to the east bank of the river and prohibited the construction workers from "touching the sacred soil of old Arizona." The guardsmen eagerly set up machine gun emplacements aimed at California. The gesture got the attention of the wary workers and Secretary of Interior Harold Ickes called a temporary halt to the project.

One night a party of guardsmen borrowed a couple of relic steamboats from a colorful river pilot named Nellie Bush and, under cover of darkness, headed towards the "enemy" shores of California. Unfortunately, the "Arizona Navy" got tangled in some cables and had to be rescued by the "enemy." The incident made the nation's newspapers and caused a few red faces among some sabre-rattling Arizonans. Shortly thereafter, the U.S. Supreme Court got into the act and ordered Governor Moeur to bring his troops home.

The thirsty farmers along the Gila River thought their water problems were over in 1930 with the completion of Coolidge Dam. But it seems the surveyors had explored the site during an unusually wet year. The dam was built, but a lake failed to materialize behind it. A verdant field of weeds, however, did manage to subsist rather comfortably. At the dedication ceremonies, cowboy humorist Will Rogers looked it over and quipped, "If that was my lake, I'd mow it." Incidentally, San Carlos Lake did not fill to capacity until the late 1970s.

The scarcity of water in the Southwest was cause for occasional violence and much litigation during territorial years. Men protected their precious water and flimsy brush dams with shotguns and rifles. Eastern sections of the United States never had to contend with such an unreliable water supply. American settlers to this region were accustomed to the riparian doctrine of water law, which held that a landowner was entitled to do as he pleased with water running through his property. He could allow others to divert water from his land or he could deny them. Obviously, such practices were

unrealistic in these arid lands. When Gen. Stephen Watts Kearny occupied New Mexico in 1846, he proclaimed a code of water law based on Spanish law. The code allowed for the irrigation of lands not adjacent to the streams and recognized public use of lakes, ponds, streams, and rivers. This principle proclaimed: "first in time, first in right" and protected early settlers from some upstream newcomer diverting their water. It also decreed that the exclusive private use of water was forbidden, and that the water must be used in a beneficial way. This principle evolved into the Doctrine of Prior Appropriation and Beneficial Use and is the basis for Arizona water law today.

When the Territory of Arizona was established one of the first orders of business was the creation of a code of laws. The Howell Code of 1864, named for Justice William T. Howell, used Spanish water laws for a model. During the next few years the code was refined, because many interpretations were vague and it allowed water users to use the law as they saw fit.

During the 1890s the foremost authority on irrigation law was Judge Joseph H. Kibbey, who would later become governor of the territory. In 1892 he ruled that water rights were permanently attached to the land. This meant that the sale of water rights was forbidden except in regard to a specific piece of ground. Up to then, canal companies had considered water rights separate from the land. Kibbey's decision stopped rich farmers from buying up land in order to obtain the water rights. The landmark decision was a major victory for farmers.

In 1903, in another landmark decision, Kibbey ruled that domestic water had dominance over agriculture. During times of water shortage the needs of the public must prevail over farming.

In 1910, another significant decision, the Kent Decree, named for Judge Edward Kent, clarified water rights on every parcel of land in the Salt River Valley. Generally, the decree states that the land where the water was first used has the first right to water flowing in the river or stream. When water was low, only the lands with the earliest water rights could make use of the normal flow. Even if it necessitates drying up of a stream, the water can be consumed as long as it is not wasted. "Arizona streams are public, but the right to use of water is valid only when the rights of prior claimants are not violated.

Latecomers must defer to earlier appropriators," it declared. Even today those who hold the older lands are entitled to the normal flow water ahead of the latecomers.

The grand plan to bring water into central Arizona began back in the 1920s. The Santa Fe Compact allotted the state 2.8 million acre feet. (An acre foot would cover one acre a foot deep.) However, canals such as the 390-mile All-American channeled water, including Arizona's share, to California. During the years following construction of the canal, Californians found many devious ways to obstruct the Central Arizona Project (C.A.P.). It was hinted that the project would create a huge financial and industrial complex that would compete with eastern interests. Also, it was said that large utility companies resented the cheaper hydroelectric power that would be generated. Despite these tactics, severe droughts during the 1940s and the great increase in population after World War II dramatized the need to bring the plan to fruition.

In 1963, the U.S. Supreme Court divided the water allotments among California, Nevada, and Arizona. California lawyers and politicians were defeated in their attempts to have the million-acre-foot flow from the Gila River count as part of Arizona's allotment. At last, the Supreme Court had approved the state's right to the water and the U.S. Senate approved the C.A.P. bill. Construction of the massive project began in 1968 above Parker Dam. Through a series of pumping stations, water was to be lifted and passed through a tunnel in the Buckskin Mountains, then carried through an aqueduct 190 miles to the Phoenix area, then another 143 miles to Tucson. The expected date of arrival at the Old Pueblo is 1991. The stretch to Phoenix was dedicated on November 15, 1986. During an average year, 1.5 million acre feet of water will be channeled into the interior of the state. The C.A.P., estimated to cost \$3.6 billion, is the most expensive water project ever built. About three-fourths of the money must be repaid by Arizonans by such means as higher property taxes and increased water fees.

Today, Arizonans are consuming water at about twice the replenishment rate. This is being done by overdrafting or mining the underground water reserves. For example, Tucson citizens are drinking water that fell to the earth 10,000 years ago. How extensive these reserves are is anybody's guess.

Currently Arizona relies on groundwater for 60 percent of its consumption. The state's renewable water supply (rainfall, snow etc.) is 2.8 million acre feet. The C.A.P. should provide another 1.5 million acre feet per year. That totals 4.3 million acre feet. Presently, residents are consuming more than 5 million acre feet annually for a net loss of nearly a million acre feet a year. A family of four uses about one acre foot annually. (Incidentally, the Columbia River in the Pacific Northwest dumps 280 million acre feet of water into the Pacific Ocean annually.)

To offset Arizona's gap, agricultural land is being gradually retired. Some critics would like to see it gone completely. They tend to forget that agriculture developed and paid for the water in the first place. And agriculture employs, directly or indirectly, more than 80,000 people in Arizona. Currently, on a statewide basis, agriculture uses 85 percent of the water supply. Municipalities and industry use 8 percent. Mining uses 4 percent, and the other 3 percent is for so-called "other" uses. Effluent (treated waste water) will be used more in the future for irrigation. As agricultural lands are retired and urban lands are developed, the amount of agricultural water will decrease.

It'll take about 50 years at \$57 a year for a typical Phoenix area homeowner to pay for the Central Arizona Project. Along with the increased amount of water, the project carries with it provisions that require strict water conservation measures, encouraging citizens and businesses to use less water rather than more.

Because of eastern opposition, this could be the last major water project in the West. Regarding the artificial watering of this land, the old argument remains: "No price is too high." Or should we live within the limits of our environment?

It is an article of faith that Arizonans have long regarded water as their most precious commodity. A few years ago President Jimmy Carter was cutting back on funds for water development projects in Arizona. He was confronted by straighttalking Senator Barry Goldwater who said, "Mr. President, there are three things a westerner will fight over: Water, gold, and women — in that order."