BEGINNINGS

SAN FRANCISCO AND NEW YORK CITY

Northern California has never been an easy place to live, although it might seem otherwise to the casual visitor. Eventually, earthquakes, fires, floods, and droughts—not to mention less frequent threats, such as tornadoes, volcanoes, and serial killers—overtake long-term inhabitants and unlucky transients alike. Such was the case at 5:12 A.M. on Wednesday, April 18, 1906. What followed that fateful moment was this country's greatest urban catastrophe.

Writing about megacity disasters, one historian said that "the San Francisco earthquake and fire of 1906 are widely considered America's worst urban disaster and one of the world's greatest urban conflagrations." Another described the 1906 earthquake as "the very epitome of bigness," an event "canonized as the natural disaster to end all disasters" in the public consciousness. "The 1906 San Francisco earthquake is arguably the event that defines calamity in the popular imagination," he added. "It is the Big One that lurks in the back of the American mind."[1]

The story of the 1906 earthquake and fire reveals in bold outline how people react to extreme events. The same could be said for such great disasters as the London fire of 1666, the Chicago fire of 1871, the Galveston hurricane of 1900, or the destruction of the World Trade Center in 2001.

There are, in fact, striking parallels to the terrorist attack on New York. The mightier force that rose unexpectedly from the earth's interior was no less fearsome than the airplanes that descended apocalyptically from the sky. Both San Francisco and New York City were ill prepared. Both had been forewarned: one by numerous smaller earthquakes and six fires that destroyed large portions of the city, the other by the previous bombing of the

World Trade Center. Civil liberties were thought to be a luxury after both disasters. The respective populations were traumatized. Offers of help and donations poured into both cities. Their tarnished mayors rose to the occasion. The cities' elites determined the form of reconstruction. And, like gleaming phoenixes from the ashes, the structures of both cities rose—or, in the case of New York, are due to rise—more glorious and vulnerable than before.[2]

There was one major difference, however. The attack on New York's World Trade Center did not come close to obliterating an entire American city.

A UNIQUE DISASTER

Because of the chaotic nature of large-scale catastrophes, accurate quantifications are, at best, educated guesses. Numbers can be—and have been—manipulated for political, economic, and journalistic purposes. Some general comparisons, however, are possible.

In terms of other war-related tragedies, the British sack of Washington, D.C., during the War of 1812 and General William Tecumseh Sherman's burning of Atlanta during the Civil War resulted in far fewer deaths and less property damage than the 1906 earthquake and fire. In peacetime, the flames that followed the earthquake destroyed an area six times greater than London's "Great Fire" and twice as large as the Chicago fire.[3]

The only comparable civil disaster in terms of the death toll was the Galveston hurricane of 1900. Perhaps six thousand people died in Galveston and outlying areas, although the number has never been verified. But the extent of property damage, the economic loss, local political repercussions, national political ramifications, and foreign policy considerations were minimal in the small Texas city when compared to what took place in California.

In 1906, not only did San Francisco suffer but also the entire West. The largest city west of the Mississippi River, San Francisco was the commercial hub of the region beyond the Rocky Mountains. Commerce was stalled or greatly altered in Seattle, Portland, Los Angeles, Salt Lake City, Phoenix, and elsewhere. San Francisco's urban satellites and outlying suburban and rural areas were either lightly damaged, badly shaken, or rocked and then consumed by fire—as was San Jose, Santa Rosa, and Fort Bragg—along a 270-mile swath of the San Andreas Fault. It was truly a northern California disaster.

The ruins of San Francisco and Santa Rosa to the north—dramatically documented in photographs—matched similar scenes of destruction caused

by mass bombings and incendiary fires in London, Hamburg, Dresden, Tokyo, and Hiroshima nearly forty years later. The 1906 earthquake and firestorms were the closest this country has come to experiencing the widespread ravages of modern warfare.

After examining more than six thousand photographs, some taken after the earthquake but before the fire, and reading numerous first-person accounts, I came to the conclusion that the damage from the earthquake alone was considerable but not all-consuming, given the final scale of the catastrophe. But by itself the earthquake would still have been a major disaster. Most deaths were caused by the instantaneous shaking. People could walk away from the fire if they were not trapped by the debris. Most of the damage was caused during the three days of fire.

It could have been much worse. California has been extremely fortunate. No major earthquakes centered near urban areas have struck during those hours between Monday and Friday when most people are either working or in school. That was certainly the case on April 18. Had the earthquake struck three or four hours later—when the city would have been crowded with students, workers, and shoppers—the number of casualties would have been in the tens of thousands instead of the thousands.

There were national and international repercussions in addition to the regional devastation. The failure of the city's private water system when it was needed most gave impetus to the drive for a municipal water supply that would draw from Yosemite's Hetch Hetchy Valley. The first major conservation battle of the twentieth century ended with the damming of the valley in Yosemite National Park, compounding the vulnerability of San Francisco's water system, which now crosses two major faults instead of one.

The nascent Progressive movement was given impetus by the events unleashed in San Francisco. Progressive business leaders, lawyers, and politicians rode the emotionally charged events to prominence. President Theodore Roosevelt took an active interest in San Francisco's internal affairs. He encouraged the urban reformers but sought to dampen the anti-Japanese fervor of the Progressives that led to a war scare. "Nothing during my Presidency has given me more concern than these troubles," said Roosevelt, referring to "the infernal fools" in San Francisco.

The postquake city became the nexus for Roosevelt's foreign policy with Asia. Given the emergence of Japan as a major power following the Russo-Japanese War and anti-Asian racism in California, the United States, with its largest western port destroyed, suddenly seemed quite vulnerable to a Japanese attack. When rioting erupted in San Francisco following a school

board vote to segregate Asian students, the president, who was concerned about the reaction of the Japanese, stationed U.S. troops on the streets of San Francisco.

Following these racial incidents, both the United States and Japan undertook the construction of more battleships, and Roosevelt dispatched the Great White Fleet to San Francisco. "By intimating that San Francisco would be the fleet's farthest port of call," wrote biographer Edmund Morris, Roosevelt "encouraged California alarmists to think it was being dispatched for their "'protection." While under way, the fleet's cruise was extended around the globe, and in this manner the United States emerged as a military power with global aspirations.[4]

Who, or what, was to blame for the earthquake and its violent aftermath? Not nature, which merely set the events in motion. San Francisco was the city that nearly destroyed itself, and is poised to do so again for most of the same reasons.

A short history filled with natural disasters was ignored. A rabbit warren of poorly constructed, fire-prone buildings was located on the tip of a peninsula from which escape was tenuous. The water system was vulnerable to violent movements of the earth generated by the two major faults that straddle San Francisco—the Hayward to the east and the San Andreas to the west. The center of the city is equidistant from both. The fire spread because of the lack of water and the extensive and inept use of explosives.

Political power shifted from a labor-oriented movement to a wealthy elite, and it remained there for some time. An oligarchy of privileged citizens formed a provisional government. Edicts were issued—including one to "KILL" anyone suspected of committing a crime. Soldiers, police, and vigilantes were empowered to carry out the perceived needs of the moment. The results were the hasty abandonment of democracy and the legal system, and instant death for some. Innocent people were shot or dealt with summarily for minor offenses.

During most great natural disasters and wars some civil liberties—out of necessity—are curbed and civil constraints are imposed. There have been few exceptions. President James Madison avoided a state of wartime governance in 1812. But Abraham Lincoln during the Civil War, Franklin Roosevelt in World War II, and President George W. Bush in the wake of September 11 imposed restrictions on civil liberties. *Inter arma silent leges*—

in time of war, the law is silent—wrote William Rehnquist, chief justice of the U.S. Supreme Court, three years before the terrorist attacks in 2001. And so it was on the streets of San Francisco in 1906.[5]

Although martial law was created to deal with such extraordinary events, martial law was never officially declared in San Francisco, although nearly everyone was under the impression that it had been. A twilight zone existed in which all actions by those in power—later termed a "dictatorship"—were condoned.[6] The writer Mary Austin, who was in the city at the time, later tried to explain these hasty and illegal "actions: "The will of the people was toward authority, and everywhere the tread of soldiery brought a relieved sense of things orderly and secure. It was not as if the city had waited for martial law to be declared, but as if it precipitated itself into that state by instinct as its best refuge."[7]

When the turmoil was over, the deceptions began. Those in power denied that a state of martial law had existed, although the convenient ambiguity had permitted their unconstrained use of force. They also emphasized the destructiveness of the fire and exorcised the word *earthquake* from public discourse. Fire is visible, seemingly controllable, and fairly predictable; earthquakes are invisible, uncontrollable rogue events. Insurance companies and banks that might help reconstruct the city regarded fires more favorably. Besides, fire was covered by insurance; earthquakes weren't.

Although the eastern money men were not deceived, San Franciscans believed the locally generated propaganda. Lines portraying earthquake faults were struck from state maps, the number of casualties was downplayed, geologists were discouraged from probing for explanations, a history of the earthquake was never published, and the city was rebuilt as quickly as possible with scant regard for future large-scale cataclysms.

The city was purged in other ways. Civic graft prosecutions—more accurately termed persecutions—followed the natural catastrophe and became the means whereby the elite, who had illegally seized the reins of government during the disaster, held onto the bucking horse of power.

The rebuilding of San Francisco was astonishingly fast and on a heroic scale, but the price for such speed, besides another disaster-prone city, was a depletion of the West's natural resources. Time and the need to move on softened memories. A coda was supplied in the form of the gaudy 1915 Panama-Pacific International Exposition, located on the very ground that had been filled with the charred debris of the city in 1906 and that would turn to jelly in the 1989 Loma Prieta earthquake.

One hundred years later, there is good reason to believe that little, except externalities, will be different when a great catastrophe strikes again. The 1906 earthquake that sparked the conflagration and subsequent events was not a truly great seismic event. At magnitude 9.2, the Alaska earthquake of 1964 released twice the energy of the 7.7 to 7.9 San Francisco temblor. Yet the largest earthquake ever recorded on a seismograph in the Northern Hemisphere killed only slightly more than one hundred people. The differences were population density, concentration and type of structures, and fire.[8]

There will be more earthquakes—and larger and more devastating ones—because California, located on an intertwined system of active faults, is prime earthquake country where the human population and the size and concentration of structures keep on growing and growing and growing.

EARLY EARTHQUAKES

According to Native American legend, the ocean once covered the land around San Francisco. When the water retreated behind the coastal hills to become a bay, the outlets became the Santa Clara Valley and the Salinas River plain to the south and the Russian River to the north. A great earthquake split the barrier asunder, forming the Golden Gate, now the lone outlet from San Francisco Bay to the Pacific Ocean.[9]

In the mid-seventeenth century, according to scientists, a huge earthquake—termed a penultimate event—rippled across the Pacific Northwest and northern California. It could easily have destroyed what later became Seattle, Portland, and San Francisco. But structures were small and flexible, and people were scattered in small tribes along the Pacific Coast.[10]

One such tribe was the Yuroks. Anthropologist A. L. Kroeber, who recorded their tales, noted that "all the Indians of California have a name for the earthquake, and most of them personify it." The Yuroks on the northwest coast of California believed that Earthquake shook the ground when he raced against Thunder, an interesting choice for a competitor, since many earthquakes are accompanied by deep, rumbling noises. Earthquake's huge steps created coastal lagoons—perhaps a reference to the subsidence caused by the massive seventeenth-century event. The Yuroks also had an explanation for the 1906 earthquake. An informant named Dick told Kroeber in 1907: "Now Earthquake is angry because the Americans have bought up Indian treasure and formulas and taken them away to San Francisco to keep. He knew that, so he tore the ground up there."[11]

The Tolowa of northern California and southern Oregon related a story

of a tsunami generated by an earthquake. The ground shook a number of times, said the Tolowa. Everything standing fell over. A flood of biblical proportions drowned all, except a brother and a sister who fled into the mountains. They had children, and The People survived.[12]

When the Spanish and then the Mexicans began displacing the Native American populations, they, too, experienced earthquakes, first in southern California and then in the northern half of the state. Churches were not immune from these random events. In fact, the relatively tall adobe and masonry structures were particularly vulnerable to this phenomenon. Earthquakes shook the rigid missions—the oldest structures of European derivation in the state—and contributed to their physical decline.

From 1800 onward the mission at San Juan Bautista near the southern end of the 1906 fracture zone was repeatedly damaged and repaired. In 1812, half the missions were damaged in southern California. Some forty Indians were killed while attending mass at the San Juan Capistrano Mission, the first recorded earthquake deaths in California. The year became known as *el año de los temblors.*[13]

A moderately large earthquake shook the area east of Monterey in 1836, and a larger one caused damage from Yerba Buena (shortly to be renamed San Francisco) to San Juan Bautista in 1838. The shaking in 1838 was equivalent to what would be experienced in 1906. Adobe walls cracked, trees splintered, and water sloshed in creek beds. In Monterey, the capital and largest settlement in Alta California, "the inhabitants were scared out of their wits," according to an American naval officer.[14]

EARLY FIRES

Six fires plagued gold rush San Francisco.

With the nascent city booming, fire destroyed the few buildings of value on Christmas Eve of 1849. Among the fifty structures destroyed was the two-story Parker House, a hotel and gambling casino.

There were three fires in 1850. On May 4 the city's merchants, who had built up extensive inventories at great cost, suffered the most when fire broke out in another drinking and gambling establishment. Water to fight the fire was scarce, structures in the path of the flames were blown up, and an undetermined number of people perished. A larger fire began in a bakery on June 14 and spread through the gold rush settlement quickly. A third conflagration on September 17 consumed mostly shanties. The losses were rated less than in previous fires, there being little left to burn.

Each time, the settlement rebuilt quickly. The ashes of destroyed buildings simply served as fertilizer for the rapid growth of new structures. John S. Hittell, the historian of early San Francisco, wrote: "The ground burned over was in a few months covered with better buildings than before; and the growth and business of the city appeared to be rather stimulated than checked by the disaster."

In 1851, on the anniversary of the May 4 fire of the previous year, another "Great Fire" destroyed sixteen blocks and fifteen hundred structures during a three-day firestorm. "Many of the brick buildings supposed to be fireproof," wrote Hittell, "were unable to withstand the intense heat of half a mile of flame fanned by a high wind." Theaters, banks, hotels, and the customs house were incinerated, as were an undetermined number of inhabitants.

Samuel R. Weed, who would soon join the fire department and eventually become a New York City fire insurance underwriter, recalled: "The wind was calm and still in the beginning, but in a few minutes the wind was a roaring hurricane, and the fire was devouring buildings and contents in its onward march." Weed said the damage bore the same proportions in 1851 as in 1906—meaning that three-fourths of San Francisco was destroyed.

Employees remained inside supposedly fireproof brick buildings and risked their lives in the hope of saving structures and merchandise. Some succeeded; others failed. One unharmed survivor in a bank where three later died of their burn wounds and all others were scarred for life described the 1851 firestorm thus:

> The deep thunder sound of that roar seemed to my startled ears like the voice of hell, howling at our resistance. I placed my hand upon the brick wall that separated my office by only twelve inches from the dread fire that surrounded us and felt the stove-like heat.
>
> Meeting with the impediment of the solid wall, the flames were carried by the wind along it, upward and over the roof, pouring down each chimney flue and through the fireplaces into the rooms, burning cinders and inky streams of stifling smoke like the black fumes coming through a steamboat smokestack from a bituminous coal furnace.

Arson was the suspected cause. A suspect was caught and beaten to death. Vigilante committees formed, and soon their self-appointed duties expanded beyond mere fire protection to the policing of a wide range of suspected criminal activities. The city rebuilt yet again.

One month later, in June 1851, another "great" fire destroyed both the city

hall and the city hospital. Several hospital patients burned to death. Refugees fled—as they would a half-century later—on steamboats to other parts of the Bay Area. A suspected arsonist was captured and nearly lynched, but he managed to escape.

This fire, like the previous ones, was portrayed as a blessing. "The day after the fire," wrote Hittell, ever the civic booster, "another wonderful scene was presented. Instead of sorrow, idleness or despair, the city seemed to be gifted with new life." Reconstruction began immediately, but building materials and labor were quite costly. Trees from the Northwest were shipped south. Granite from China, lava from Hawaii, and bricks from Sydney, London, and New York were imported. New structures—again, more imposing than the previous ones—rose in the city whose official seal now bore the likeness of the phoenix.

Some inhabitants had rebuilt four or five times. One such landowner was William Rabe, who owned property on the south side of Clay Street, just west of Montgomery Street. When Rabe rebuilt for the last time, he had the words ""*Nil Desperandum* (never despair) carved in large letters on the façade of his house. He was flattered when people called him by that name. The structure was destroyed in the 1906 fire.[15]

1865 AND 1868

San Francisco experienced a moderate shake on October 8, 1865. Centered to the south in the Santa Cruz Mountains, the quake was experienced as a slight shock followed by "a rapid shake, powerful and convulsive" and "a frightful roaring sound." Cornices, chimneys, windows, and walls fell in San Francisco.

This event was witnessed by the author Mark Twain, who was walking on Third Street shortly after noon on that Sunday when his gait was suddenly checked "just as a strong wind will do when you turn a corner and face it suddenly." The city hall was "dismembered," in the words of Twain's published sketch titled "The Great Earthquake in San Francisco." (From 1865 to 1906 each successively stronger earthquake was given the title of "great," just as the successive fires had been labeled.) Damage was also reported in Santa Cruz, New Almaden, San Jose, and Santa Clara to the south and Petaluma and Napa to the north.[16]

Three years later, on October 19, 1868, there was yet another "great" earthquake centered on the Hayward Fault on the east side of San Francisco Bay. Thirty people were killed. It could have been worse; the earthquake

struck shortly before 8 A.M. The damage and deaths were greatest in such East Bay communities as Hayward and San Leandro. In Hayward a badly frightened man, lame since birth, walked eighteen feet without his cane for the first time in his life.

San Francisco was also hit hard, the damage occurring mostly on the bayside """made land" east of Montgomery Street that had been filled with dirt and debris to allow development. Such loosely compacted soil was especially susceptible to liquefaction. A half-dozen people were killed in the city, and some fifty were injured. There was sufficient water to put out the few fires. The city hall was again badly damaged. In a letter to his mother, a resident, William Henry Knight, cited the "visible and audible manifestations of power so vast as to make one feel the littleness and impotence of human might."[17]

Civic leaders moved quickly to minimize the "exaggerated accounts" dispatched eastward to New York City and other financial centers. Eastern money would be needed to rebuild the city. In one united chorus, San Francisco newspapers chanted that the damage was due to human error and could easily be corrected by building better. A chamber of commerce subcommittee report on the earthquake may—or may not—have been completed and then conveniently lost. The less publicity, the better, the thinking went.[18]

After 1868 a period of deceptive calm settled over the city and its inhabitants. Bret Harte wrote a farcical sketch in 1872 that began "Towards the close of the nineteenth century the city of San Francisco was totally engulfed by an earthquake." "For many years" before sinking beneath the surface of the Pacific Ocean, Harte noted, "California had been subject to slight earthquakes, more or less generally felt, but not of sufficient importance to awaken anxiety or "fear."[19]

The inhabitants of San Francisco dozed fitfully. "The average Californian becomes accustomed to the earthquakes which produce 'temblors' of sufficient intensity to rattle windows," an earthquake scientist wrote in 1907. "Prior to the great earthquake of April 18, 1906, these temblors were of frequent occurrence, but occasioned no alarm and, indeed, scarcely excited a passing interest."[20]

The action after 1868 shifted eastward, where the Chicago fire of 1871 and the Galveston hurricane of 1900 established precedents for large-scale disasters in this country, precedents that would be codified in 1906.