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Earthquakes: Picking Up The Pieces

This terribly destructive phenomenon leaves lives in ruin. The larger question is where it leaves property. by Michael Pallamary

Earthquake! It is a terribly destructive phenomenon, bringing anything from shattered windows and cracked walls to chasms in highways, twisted bridges, and collapsed buildings in once-quiet neighborhoods. Once the dust has settled, property may no longer be the same. Records might be lost forever. And disputes are certain to rise from the rubble.

It is obvious where the buildings and homes have settled, but what about the properties they rest upon? Where did the legal properties move to? Where are the boundary lines to be located? Despite the experience of several major earthquakes this century, the problem of deciding who owns what is not easily solved.

In the Great San Francisco Earthquake of 1906, as much as 20 feet of land was displaced along the San Andreas Fault. For a strip 200 miles long, from San Juan Bautista to Point Arena, the surface of the earth was ripped apart as the land was violently displaced. Near Fort Ross, fences were displaced from 10 to 15 feet. A railroad track near Wrights suddenly had a five-foot jog in it.

Testing along the 700-mile San Andreas Fault reveals it is gradually moving eastward at the rate of two inches a year or nearly 20 feet a century. At times, the strain builds up, suddenly moving the earth under its own power, quickly and violently. Some experts who have studied the cycle of occurrences feel that a

major earthquake will hit the area within the next 30 years.

What of the property owner who has just put up a new fence or the contractor who has just erected a high-rise building downtown? Where does his property lie and what does anyone own? Unfortunately, the answers to these questions are unclear. No consistent method has been devised to give surveyors a sure formula for re-constructing two property lines.

Things were a little different when the great quake of 1906 struck. Property values were lower and, in many cases, the problems were worked out between neighboring property owners. In the city of San Francisco, however, problems with higher valued properties were never properly resolved. The cases provided no precedent upon which to base subsequent activity.

Some problems almost solved themselves. Downtown, where the buildings were most heavily congested, most of the structures were turned into rubble in minutes or turned into ash by the fire that followed. There was thus no need to worry about property lines when there was nothing left upon the land itself.

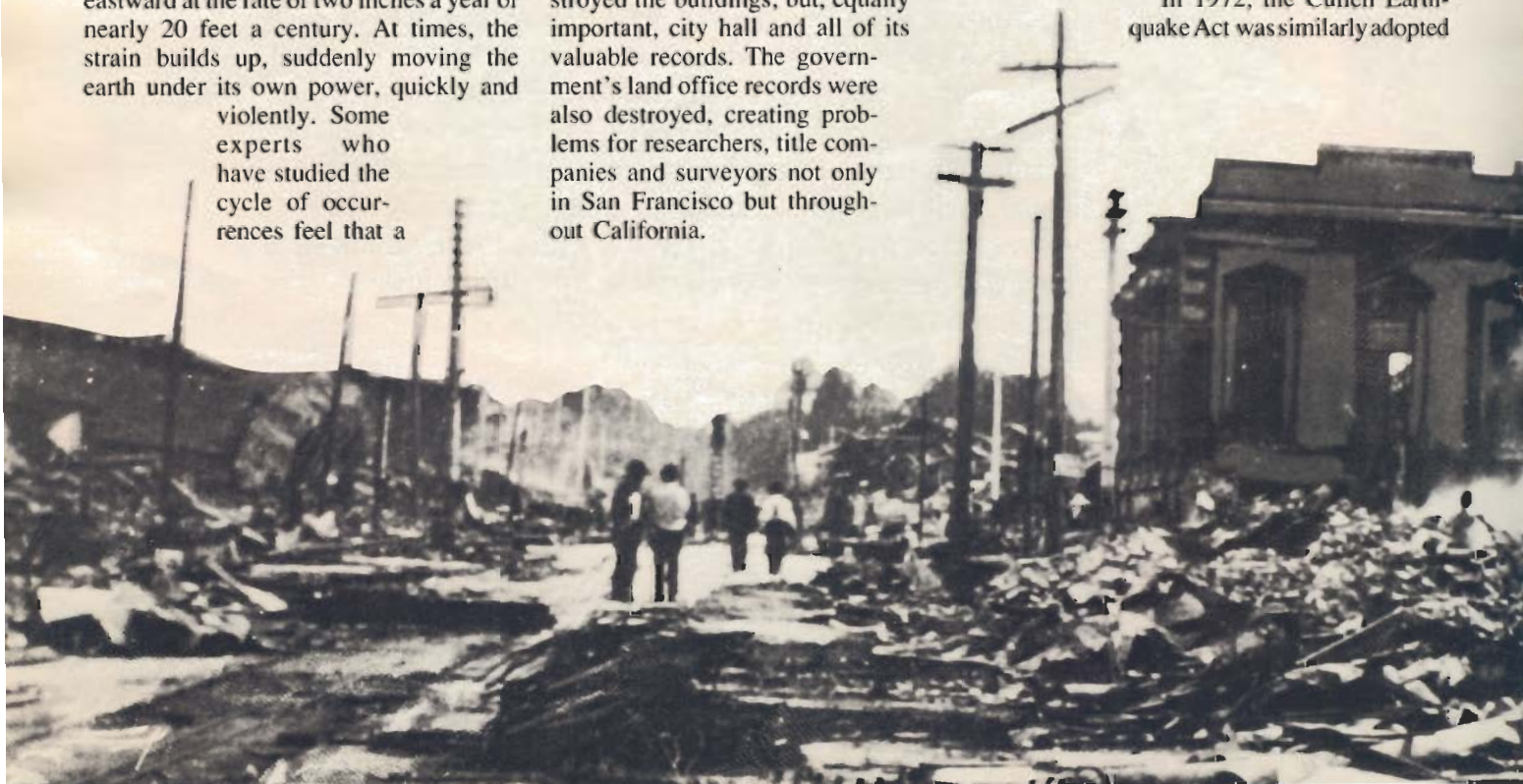
The fire that followed not only destroyed the buildings, but, equally important, city hall and all of its valuable records. The government's land office records were also destroyed, creating problems for researchers, title companies and surveyors not only in San Francisco but throughout California.

An effort was made to resolve the problems with the adoption of the McNerny Act. This act allowed property owners whose records had been destroyed in the fire to petition the courts to affirm their titles and cause a new record to be created. If the court deemed the claim to be true and there were no objections, the new records were created.

In the Alaska earthquake of 1969, there was also a great deal of displacement with property lines. Because the economy was booming at the time as a result of oil speculation, state officials and the city of Anchorage arrived at a convenient solution: they simply bought up much of the land where the problems occurred. The area was turned into what is known today as Earthquake Park. Again, no guidelines were set for dealing with the problem of shifting titles and properties.

Later, Alaska passed legislation intended to facilitate the realignment of property boundaries disturbed by earthquakes. The statute allows for filing of a substitute plat to correct existing public records. This action may be brought by a city, borough or school district, or any other entity recognized by the court or granted permission by the court.

In 1972, the Cullen Earthquake Act was similarly adopted



in California. In both the Alaska and California statutes, the process provides for a single action adjusting the boundaries of a "reasonably large land area affected by the disaster" as opposed to a series of single actions affecting a single parcel of land or a small number of parcels. Additionally, separate actions may also be permitted by the courts. Having a law is one thing, having a practical solution is another.

In Los Angeles, following the destructive Sylmar Earthquake of February 9, 1971, many problems were encountered with land boundaries. An aerial inspection, followed by ground surveys, revealed that the ground had shifted in areas by as much as a foot. Vertical differences were also noted, and over a two-block length as much as seven feet of vertical settlement was detected.

Recommendations from representatives of railroad, utility companies and title companies produced conflicting solutions. One of the problems involved determining the extent of the damages and the magnitude of the problem. The city applied for a Federal grant to resurvey all areas, both public and private. Eventually, a \$2 million grant was approved with the stipulation that only public property could be surveyed.

Although the city attempted to include private properties in the program, there simply was not enough money, as the effort eventually took two years to complete. The city crews, however, located private fence lines in the hopes of providing a minimal amount of documentation in the event disputes arose later.

The city surveyor's office had ap-

proached the problem utilizing the concepts of riparian laws, or laws relating to water boundaries. Just as a water boundary is constantly in a state of flux, earthquakes rearrange the landscape. Because there were no practices to rely on, this approach was the best one.

There are three basic types of earth movement experienced in an earthquake. These include sudden horizontal shifts on each side of the fracture, distortions due to stretching on compression, and earth slides.

An examination of court cases relative to land matters as a result of earthquakes produces limited results. Landslides, though, are a consideration in many land disputes.

Proration, or distributing the excess land between the properties affected, is a legitimate method of restoring property lines, and that method was used after the Long Beach earthquake. Unfortunately, if the procedure is extended over lengthy distances inequities can be created.

In land slides, different problems are encountered. Where a slide results from an act of nature such as an earthquake, the owners still own the land as defined by the undisturbed bedrock underlying the property. Even though the surface

of the land may become fluid, as when land



The streets of San Francisco following the great earthquake of 1906. Photos courtesy of the Library of Congress.

flowed into the Alaska Bay, the property boundaries remain where they have always been. This condition is quite different from conditions such as those created by an opening in the earth as a result of an earthquake where the underlying bedrock is disturbed.

In the recent Imperial Valley quake, the Superstitions Hills Fault Line moved by six inches. Fortunately, it was far from densely developed towns and cities of the region. What would the effects be if a quake of equal magnitude were to strike downtown San Diego or Los Angeles, where land sells at such a premium? Hopefully a simple solution other than dealing with piles of rubble can be considered. **PS**

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