

BOOK REVIEW

One Hundred Years of Intermittent Controversy, Plus Occasional Scandal: Part II

Dennis Smith, *San Francisco is Burning: The Untold Story of the 1906 Earthquake and Fires*. New York: Viking, 2005. 294 pp. \$25.95 (“Smith Book” or “Smith”).

Philip L. Fradkin, *The Great Earthquake and Firestorms of 1906: How San Francisco Nearly Destroyed Itself*.

Berkeley: University of California Press, 2005. 418 pp. \$27.50 (“Fradkin Book” or “Fradkin”).

Simon Winchester, *A Crack in the Edge of the World: America and the Great California Earthquake of 1906*. New York: Harper Collins Publishers, 2005. 462 pp. \$27.95 (“Winchester Book” or “Winchester”).

Sandor Demlinger, *1906 Earthquake: San Francisco's Great Disaster*. Atglen (Pa.): Schiffer Publishing Ltd., 2006. 143 pp. \$24.95 (“Demlinger Book” or “Demlinger”).

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INTRODUCTION

This is the second part of a two-part review of four books about the San Francisco Earthquake of 1906 (SF-Quake). This year, 2006, has been a kind of “celebration” year. There have been many “festivals” in San Francisco, and a variety of newspapers, magazines, TV shows, and so forth, have retold the story. The four books under discussion here fall in that genre. Two of them have already been discussed: the Smith Book and the Fradkin Book.

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This was done in the last issue of this journal. The Smith Book is something of a journalistic history. Fradkin is a somewhat more scholarly history and part of a larger series. In this part of the review, the Winchester Book will be discussed; it is somewhat more scientific, here and there, than the others, although it also tells something of a personal story and deploys something akin to a descendant metaphor of Jungian psychology. The Demlinger Book will also be reviewed; it is mostly photographs. I will compare and contrast it very briefly with some photographs taken of parts of New Orleans after Katrina, which have been exhibited at the Metropolitan Museum of Art in New York and published recently in a magnificent—though very expensive—book. Photographs of disasters have changed over time, as we shall see, or rather suggest and discuss.

SF-Quake Response. One of the striking features of the SF-Quake was its destructive force, especially when paired with the fires it caused. “The total burned area was about 3,000 acres, containing some 25,000 buildings, of which about one half were residences. Property in this section was covered by an estimated \$235,000,000 of insurance; all of it was written by companies authorized to do business in California, excepting only some \$6,000,000 placed outside the state.”¹ Another is how fast and how extensive the public and governmental responses were, whether they were well-done or not and whether they were pursued, in part, for reasons of self-interest, or quite the opposite. Of course, as just hinted and as it always does, the relevant governments moved too slowly, too clumsily, with lots of errors, and—to some degree—incompetently.² The response of insurers was also a mixed bag. The industry was and is proud of itself for how it performed in response to the SF-Quake and the fires it caused. Not everyone agreed then. “For months, during 1906 and after, there were times when public feeling toward many companies was exceedingly bitter and fire insurance in general was held in low esteem.”³

Governmental Responses: Evolving History. The poor-quality response of government seems to happen in all catastrophic disasters: Katrina is still riveting, it is stumblebum story with respect to government⁴ and a mixed story

¹ Archbold McPhail, *Of Men and Fire: A Story of Fire Insurance in the Far West*, 101-102 (San Francisco: Fire Underwriters Association of the Pacific, 1948) The relevant chapter is entitled “Insurance and the 1906 Fire.”

² An interesting topic that will not be discussed is how different public and governmental response is to different kinds of disasters. Big, sudden catastrophes are much better attended-to than are even murderous but slow-moving, obscure, ill-understood, or subtle disasters. This point is easily provable by contrasting the responses to life-taking earthquakes on the one hand, and other kinds of disasters on the other. Consider the history of the use of lead water pipes. Werner Troesken, *The Great Lead Water Pipe Disaster* (MIT Press, 2006). Now *there* is a long-lasting, ill-understood, genuine disaster! The topics and historical length, of course, are suggested by the title.

³ McPhail, *supra* n. 1 at 102. Interestingly, McPhail discusses reinsurance squabbles as one of the sources of problems in adjusting the SF-Quake and fire claims fairly and quickly.

⁴ A substantial number of books have already been published on Hurricane Katrina. Here are a few of them. Jed Horne, *Breach of Faith: Hurricane Katrina and the Near Death Of A Great American City*

with respect to property insurance (although—obviously—fire insurance has little if anything to do with the story. With respect to governmental and business responses, the Indonesian Tsunami of 2004 involves some of the same type of foul-ups and possible corruptions.⁵ Some changes in purely public attitudes are harder to understand. Consider, for example, the earthquake that occurred at Yogyakarta, Indonesia, on May 27, 2006. It was a 6.3 magnitude earthquake, using the Richter scale, which killed at least 6,000 people and injured tens of thousands on Java island. It was not highly publicized, although it was carried in the insurance press because of the commercial insured damages of over \$100 million, at least according to AIR Worldwide Corporation, “a catastrophe modeling company based in Boston.”⁶ Publicity regarding the earthquake that struck Hawaii was that it was financially smaller, although it had 6.6 magnitude.⁷ Or consider the earthquake that occurred just off the coast of Taiwan on December 26, 2004. It caused immediate damage to buildings on the southern end of Taiwan; there were some human casualties; and video stories were immediately on the evening TV national news. Major U.S. papers, however, did not carry the story for several days.⁸ When it was carried, it was primarily a business article. It seems the quake smashed up some telephone cables deep in the sea, so Hong Kong businesses (and others) could

(2006), Ivor Van Heerden and Mike Bryan, *The Storm: What Went Wrong During Hurricane Katrina – The Inside Story From One Louisiana Scientist* (2006), Christopher Cooper and Robert Block, *Disaster: Hurricane Katrina and the Failure of Homeland Security* (2006), Chester Hartman and Gregory Squires, *There Is No Such Thing As A Natural Disaster: Grace, Class and Hurricane Katrina* (2006), and Douglas Brinkley, *The Great Deluge: Hurricane Katrina, New Orleans, and the Mississippi Gulf Coast* (Marrow, 2006). The best early history is the last one listed. The author is a distinguished historian who teaches at Tulane, and a very good writer with a keen sense of irony, satire, sarcasm, and even wit. He has little use for FEMA’s response: “The one quality, in fact, not evident in Chertoff’s handling of Katrina was caring about what the storm inflicted. While fellow citizens were dying, screaming for help, clutching chunks of floating wood and palm fronds trying to stay alive, Chertoff, the one American who could have helped the most, turned a casual, cold, indifferent eye to their plight.” There are also some more obscure books published by what might be called storm participants. These include Robert Smallwood, *The Five People You Meet In Hell: Surviving Katrina* (2005), and Walter M. Brasch, “Unacceptable”: The Federal Response to Hurricane Katrina (2006).

⁵ John Aglionby, “Thousands of Dwellings Built for Tsunami Victims ‘Need to Be Rebuilt[.]’” *Financial Times*, December 27, 2006. “A quarter of the 50,000 homes built for victims of the 2004 Tsunami in Indonesia’s Aceh Province are of questionable quality and may have to be rebuilt, according to the leader of a team monitoring house construction A network of 40 organizations monitoring the timber used in reconstruction estimates that 70% of it is illegal and much of it not prepared well enough to last 12 months, let alone the 10-year minimum under guidelines set by the government’s Agency for the Rehabilitation and Reconstruction of Aceh and Nias (BRR).”

⁶ Michael Bradford, “Java Quake Kills Thousands; Insured Damage Under \$100M,” *Business Insurance*, 40: 17 (June 5, 2006).

⁷ Insured damages here probably did not exceed \$25 million, according to one of the only newspaper reports easily findable. Janice L. Magin and Maria Newman, “Powerful Earthquake Rattles Hawaii,” *New York Times*, sec. A, October 16, 2006.

⁸ The *Wall Street Journal* had a little something, but the *New York Times* had nothing. Here is what the *WSJ* said, at the very bottom of its “What’s News” on the side that is entitled, “World-Wide”: “Tsunami fears proved unfounded as two big quakes hit off South Taiwan.” *Wall Street Journal*, December 27, 2006.

not reach the United States and Japan.⁹ It's hard to know what to make of this fact, but it suggests something interesting. Now to something else interesting: the genuine topic of this article. Let us now, at last, turn to the two books here under review.

THE WINCHESTER BOOK

Generalities. This book, *A Crack in the Edge of the World*, briefly discusses most of the same characters and at least some of the same events that the other two discuss. However, it is not exactly a history book. It is partly an account of the author's travels around the United States trying to understand earthquake mechanisms and impacts; it is partly earthquake history; it is partly an autobiographical reflection on the author's feelings and attitudes; and it is a very superficial—but at the same time helpful—introduction to changes in the science of earthquakes since 1906. As with Smith, there are no footnotes. The bibliography is extremely helpful. For example, he cites six books of California history by Kevin Starr, while Fradkin includes only one. The book is not organized as either science book or history book.¹⁰ Nor does it resemble any book of a political study of a major event. There is an ever-so-brief

⁹ Jason Dean, "Asian Quake's Telecom Disruption Exposes Global Network's Fragility," *Wall Street Journal*, sec. A, December 28, 2006. ("International phone service was cut off or restricted in some regions, and Internet service slowed to a crawl in much of China after the magnitude 6.7 trembler struck late Tuesday, followed by several aftershocks, damaging as many as eight undersea cables. Service to BlackBerry mobile email devices and Bloomberg financial-information terminals were interrupted, and some transactions in currency and other financial markets were disrupted.") On the same day, the *New York Times* carried a similar story in the Business section, and the *Financial Times* carried a much shorter story on its p. 3, under the title "Taiwan Earthquake Hits Phone Links." The last of these stories estimated the cost of repairs at \$1.5 million. (Naturally, the *Financial Times* of the previous day carried nothing.) There is no indication as to whether this loss is likely to be covered by insurance. Significantly, virtually all of these papers noted, on December 28, that the Interior Department of the Bush Administration had recommended that polar bears be listed as a threatened species. The *New York Times* also on this day indicated that the son-in-law of Taiwan's leader had been convicted of insider trading. "International Section," sec. A, December 28, 2008; the *Financial Times* did the same thing on the next day when it carried a slightly larger story on the phone lines. It should be conceded that the *Times* of the 28th carried a second, more personal "Business" section story regarding the impact of the quake on phone lines. It begins this way: "It was a natural disaster for the digital age that radiated through much of Asia and beyond after an undersea earthquake late Tuesday off the coast of Taiwan." Seth Mydans, "The Day the Pixels Froze: When a Digital World Was Stopped by a Natural Disaster," *New York Times*, sec. B, December 28, 2007. By the way, convicted son-in-law got a six-year sentence and a fine of 30 million Taiwan dollars, which equals \$920,000. (He also got eight years for embezzlement.) Taiwan's Supreme Court heard appellate arguments on April 17, 2007. <http://english.peopledaily.com.CN/200704/Archive/html>

¹⁰ Winchester has written a lot of books. Many of them have a heavy-duty narrative structuring. Not all of them do, however. His best-known book, perhaps, is *The Professor and the Madman* (1998), which concerns how a murderer who was in an insane asylum helped an Oxford professor prepare the many volumed *Oxford Dictionary of the English Language*. His more recent study of the South Pacific volcano near Java is also well-known. The book is entitled *Krakatoa*; it influenced the making of the recent PBS special on the explosions of this volcano.

discussion of insurance. One already reasonably well-known point is made, which the other two authors do not make.

There is a better discussion in Winchester of racial or ethnic discrimination against the Chinese in San Francisco at the time than in the others, although Fradkin mentions it little more than in passing. At the same time, in this book there is no reference to Giannini, none to Freeman, none to Harriman, and less than a paragraph to Gladys Hansen.

Gaia. One of the least interesting features of this book is one of its organizing principles: what the author calls “the Gaia hypothesis.”¹¹ This is what I earlier characterized as a relative of Jungianism. Winchester describes this as a “plausible-sounding” theory that is to be understood as follows:

The earth and its totality is very much like a living entity. It is alive, it is fragile, and everything that is in it preserves a complex balance with everything else in a state of mutually beneficial equilibrium. It so happens, to the dismay of many present-day scientific philosophers, that humankind’s current disharmonious behavior is affecting this careful balance; there is a growing feeling that it must be changed, radically and soon, if life on earth is to continue and to flourish.

What is curious about Winchester’s formulation of the Gaia Hypothesis/Theory is that “the earth in its totality” includes human beings. His formulation of the hypothesis opposes human beings to *the earth and its totality*.

Winchester denies that *Crack* is an environmental book. Instead, it is

The story of one remarkable and tragic event that befell California a century ago, when a 300-mile long swatch of the earth briefly shifted, wrecking the cities that lay atop it. But, though it is not intended to be a Gaia book, it seems right to tell the story of the events that so ruined the city of San Francisco in 1906 within the *context* of the Gaia idea.

In order to understand these events, it is necessary to understand changes in geological science, and “the geological revolution” that is “central to” the story.

Geology. Winchester distinguishes between “Old Geology” and “New Geology,” the latter of which is “a creature fashioned wholly from the science of the space age, from the attitude that was born when Neil Armstrong first looked back and gazed down at earth.” Thus, the New Geology is a “science that now presents us with an entire canon of new ways in which we might look at this planet and our stellar and solar neighbors. At the same time, according to Winchester, the New Geology—recent though it was formulated and discovered—“should underpin everything” that one says about the 1906 California earthquake.

¹¹ The Winchester Book contains a section at the end entitled “A Glossary of Possibly Unfamiliar Terms and Concepts.” The idea of *Gaia* and the Gaia Hypothesis receives more explanation there, where it is associated with the name of James Lovelock, a British space scientist.

The inventor of the New Geology is J. Tuzo Wilson, a “previously little-known professor in Toronto.” He dreamed up what is now called “Plate Tectonics.” This branch of science was fully developed by 1967, and it is now, according to Winchester, universally accepted. “Plate tectonics allowed us—compelled us, even—to view the world as a complete entity, for the first time to view and see *the earth entire*.” Most significantly, the Old Geology looked solely at the earth at or near the surface of the earth. According to the New Geology, it’s necessary to look down deep and out wide, and to do this at the same time with integrated vision. Scratching the surface, even as deep as a coal mine, is insufficient. Notice that there is the beginning of an integrated similarity between “Plate Tectonics” and the Gaia Theory.

Under the New Geology, an earthquake would come out quite differently in visionary conception than it would on the Old Geology. Under the New Geology, an earthquake is much more like a *shrug* or a *shudder* from a whole body. It is not a *clap* or a *snap*, say, of two fingers on a left hand. The idea of plate tectonics is explained a bit in the Glossary. Here is some of the language there:

The theory holds that the earth’s lithosphere consists of large, rigid plates that move horizontally in response to the flow of the asthenosphere beneath them, and that interactions among the plates at their borders cause most major geologic activity, including the creation of oceans, continents, mountains, volcanoes, and earthquakes.

Curiously, although the entry in the Glossary refers again to Wilson, especially to an article of his in the scientific journal, *Nature*, in 1965, none of Wilson’s writings or writings about Wilson are contained in Winchester’s bibliography.

Given the Gaia Theory and the around-the-world, integrated nature of plate tectonics, Winchester hypothesizes, or—at least—speculates, that a large number of geological-seismological catastrophes of the early twentieth century were interconnected. He begins with a quake and tsunami along the Central American (Ecuadorian) coast and spreading to Colombia, all in 1906. A little over two weeks later Gaia’s cousin E.Q. turned to the Caribbean, a series of smaller earthquakes, several volcanic eruptions, a huge earthquake in the Caucasus Mountains, an earthquake at Formosa—“known variously as the Chiayi or the Meishan earthquake”—which tore a nine mile fault, an eruption at Vesuvius, and finally the eruption at San Francisco. The thesis at least implied in Winchester is that if this happens once, it will happen again. Something like it happened in 2004. It’s time for us to understand how plate tectonics really work. This is especially true since the entire “geology of the northern half of California . . . is all interconnected, subtly, confusingly, and, for the geological map maker, often maddeningly.”

Reaction. Winchester sees the coming of science in the early twentieth century, as a huge cultural characteristic. The events included the publication

in 1905 of Einstein's special theory of relativity, the coming of mass production, the invention of psychoanalysis, radio transmission, skyscrapers in New York, and a drive across the country. At the same time, many communities were Edwardian in their manners. Upon this basis, Winchester suggests that given "the new-forming appreciation of science[,] there were "a good number of the city's inhabitants [who] understood, at least basically, what had just happened. Many of them speculated sensibly and rationally as to why." If this strikes readers of Smith and Fradkin as implausible, contemplate this sentence, which is the very next one:

The official reaction to the disaster was generally swift and measured, ordered and rational—and the consequences of that reaction were far-reaching and remain with us to this day.

Having studied Smith and Fradkin, these assertions strike me as not only false but at least borderline nonsense. The reaction of officials to the earthquake was swift, but it was not measured; moreover, it was not orderly, and it was not rational.

Winchester also seems to exaggerate the causal connection between the earthquake and the development of modern geological science and history. According to Winchester,

San Francisco will not be forgotten because, thanks to the growing understanding of science, it became the first seismic event to awaken mankind to the realization that nature's whims could perhaps be measured, perhaps one day anticipated, then met and even overcome. The tragedy led scientists who began studying the earth with far greater vigor than ever before. It offered the first opportunity for humans to imagine what it might be like if they, and not God or nature, were ever to be *in control*. To that extent, the fact that the earthquake occurred in this specific changeling year of 1906 was more than a little fortuitous.

In addition, the study of earthquakes did not rise to new levels, especially in the San Francisco area. Indeed, it was avoided for reasons of publicity, as opposed to public interest. The earthquake in San Francisco will not be forgotten because it happened in a big, fashionable, wealthy U.S. city; there are a lot of photographs; there were a huge number of smashed-up or burned-down buildings; and there were significant casualties. Events at the World Trade Center will not be forgotten either. It is now one hundred years after this earthquake, and—as far as I know—most of the ideas about disaster prevention with respect to the future to be found in Winchester, like the other two books, have to do with not using explosives to set fires. There was hardly anything sophisticated about the public response to the 1906 earthquake. Winchester should pay attention to his own historical narrative. The plate tectonics theory was not discovered or invented until the mid-1960s, and the main force contributing to it was observation from rockets in space, not from contemplating earthquakes.

Plate Tectonics Again. When the theory of plate tectonics emerged, it had already been realized that the brittle surface of the earth could be conceived as a number of enormous slab-like fragments. I, in particular, took geology as a freshman in college, and was taught this proposition in the summer of 1962. As I remember, I was taught it in geography classes in junior high school five or six years before. According to Winchester, however, these plates had begun to be viewed as “in constant motion because of the upwelling and downthrusting of convection currents in the material immediately below that crust—rather like the motions of the creamy scum that forms on the surface of a soup that is boiling merrily away beneath it.” I don’t remember being taught quite this as a youngster, but I was taught that the core of the world was, for the most part, a very hot liquid.

I also don’t remember being taught anything about how many plates there might be. Plate tectonic theorists have “estimated” that there are between six and thirty-six major plates “recognized as wrapping themselves around the entirety of our planet.” It is at the edges of these plates that strikingly interesting geological events happen. Plates will not be uniformly connected all the way around the world. Hence, plates of the same kind will collide with each other head on, from time to time. When this happens, mountain ranges will rise up. They will sometimes pull away from each other. When they do this—and it will usually be in mid-ocean—volcanic islands will ooze and lava will flow. Plates of different kinds will smash into each other, and as a consequence one plate may ride over another in somewhat the same way cars crash into each other and sail over one another. When this happens, “violently explosive volcanoes and other frightening manifestations of the earth’s power are thrown up.” Plates will also slide along each other, “like ships passing too closely in the night[.]” When this happens, there will be various kinds of mayhem and havoc, “not the least of which being violent earthquakes, of the kind most frequently experienced in California.”¹² Some of these earthquakes happen between two plates. Other times they happen within one plate. In the latter case, manifestation might be called an “intraplate earthquake.” The best theory available now for intraplate earthquakes is that “they represent the relief of stresses built up eons ago, when the mountains or valleys or areas of

¹² Curiously, Winchester does not discuss the idea of *elastic rebound* at any length, even though he mentioned that it was originally hypothesized just following the 1906 California quake by those who studied it. Contrary to the story told by the three authors, science was not completely ignored in the days following the April 18th earthquake. The governor of California appointed a scientific committee, and a professor from Johns Hopkins served on the committee. He devised the theory of “elastic rebound.” The idea was that plates of the earth stretched out like a rubber band, eventually broke, and the earth behaved somewhat like a rubber band. You couldn’t tell this from the language used by Winchester, but apparently, this theory is still prevalent among earth scientists. See Kevin Chang, “The Ground Shook, A City Fell, and the Lessons Still Resound,” *New York Times: Science Times*, sec. D, April 11, 2006. See also Jayanta Guin, “All Shook Up,” *Best’s Review: The Business Of Insurance*, 106:33, 34 (April 2006).

basin and range were themselves being created." Winchester's analogy is this one:

A piecrust, as it is heated in the oven, will bow upward in the middle, where the fruit bulges and expands in the heat; it will also buckle up at the edges, where the heat conducted through the pan becomes most intense. In the area between the bow and the buckle, the crust, the second it emerges from the oven, lacks the nearly smooth and unblemished appearance that it had when first placed inside: It now has myriad cracks and crevices, bulges and breaks. All of this may add to the pie's charm, but it also suggests something of the stresses that build up in the crust as it is being cooked. Once the pie leaves the oven, and the temperature and pressure begin to ease, the cracks change and the aspect of the surface alters: The cracks start to widen or narrow, the surface perhaps tries to revert to its original unblemished and undistorted self, and the stresses that mounted during the cooking process are generally relieved—until a kind of stasis is achieved and the pie becomes what it will be, until it is eaten.

According to Winchester, this is more or less what happens in the "stable-sounding central parts of all tectonic plates[,] and this is how intraplate earthquakes are caused.

More Plate Tectonics. Although Winchester starts by claiming that Wilson invented plate tectonics in the middle 1960s, by a quarter or so of his way through the book he reverses this dramatic statement, and states that the New Geology was actually first initiated in "one classic academic paper that was written and published in 1970." The publication of this paper "produced a tipping point in the comprehension of the western American geology and triggered the arrival of the New Geology, at least in the west." The author of this paper was Eldridge Moores.

One key idea here is *ophiolite*—a word that "is now "known to all practitioners of the New Geology." Curiously, it is a word that does not appear in Winchester's Glossary. The word "is tricky to explain, but that, once understood, answers all the basic questions relating to the makeup of the American West and, most particularly, to the structural peculiarities there that led to all the San Francisco earthquakes, culminating in the disastrous event of 1906." Here is "this devastatingly simple notion": "plates floated around on top of the plastic mantle and collided with one another, scraped alongside one another, broke into pieces, or welled up under the influence of the immense heat from below. The 'marvelous dance of the plates' . . . is the key to understanding the New Geology."

One additional key idea is that many of the plate motions that created the American West began at the bottom of the then sea. Plates moved "slowly but with immense and unstoppable power from east toward the west." Thereby mountains were formed, and faults were formed. "Nowhere is this more visibly true . . . than along the 750 miles of the San Andreas Fault, at the very western edge of the North American Plate, where it meets up with its neighbor plate that underlies the Pacific." That fault—in geological terms—is quite young.

This proposition is true even though the fault in question is a great deal older than America and California, and much older than San Francisco. Indeed, "it has been making its own kind of mischief for many millions of years past, and will continue to do so for many millions of more to come." There will be scraping and clashing along the fault.¹³ At this point, we can infer how the 1906 earthquake took place. There were two sets of rocks *sliding past each other*.

In 1906, it was understood that faults and earthquakes were connected, but it was not realized that faults could occur anything but vertically. As a consequence, earthquakes were thought to come from "huge forces throwing rocks either sharply upward or downward." In fact, it is now understood that the opposite is true. The fault that caused all the trouble in 1906 provides evidence that it was a different kind of fault, "a strike-slip fault" as it came to be known, and one that was all too obviously an extension of the San Andreas Fault that created the problem. At one point, the observation was extremely obvious as the result of the fact that a "roadway was shifted some twenty-one feet by the right-lateral motion of the San Andreas Fault."

Here is how Winchester describes it:

Not up or down but from side to side To the right. The effect of the movement on a *right-lateral fault*: This is how the fault is officially known, as a *right-lateral strike-slip fault*. Stand anywhere and look across the fault—and the land on its far side will have been moved to the right. Hills, streams, roads, lines of trees—all of them, if they are on the distant side of the fault, will be to the right of those that lie on the side near the observer.

Oddly enough, Champion insurance adjusters who have actually studied the Winchester Book still don't understand this.¹⁴

Movement like this along a fault naturally causes waves, which causes the earth elsewhere to shake, rattle, roll, quake, shutter, and shrug. As a consequence, the quaking is felt, buildings collapse, and so forth. (Winchester has truly instructive diagrams of this sort of thing throughout the book.) The quake in San Francisco was huge. In 1906, there were 96 seismographs around the world. Most of them detected the quake, including those in places like Europe, India, England, Japan, Australia, China, New Zealand, and elsewhere.

San Francisco Itself. The waves in the ground would have arrived at San Francisco "roaring along at 7,000 miles an hour[.]" Winchester describes this as a "ripping, tearing movement that was unimaginably fast, as though a glacier had suddenly super heated and been turned in an instant from solid ice to a raging fume of water." After this remark, approximately 270 pages into

¹³ Winchester tells us that sodomy was apparently thought by Justinian in ancient Roman times to be the principal cause of earthquakes. Obviously, we now know this to be false, although—as Gore Vidal points out humorously—some in San Francisco (of all places) are still inclined to believe this proposition. See Gore Vidal, *Matters of Fact and Fiction* (1977).

¹⁴ See Ken Brownlee, "America's Greatest Disaster?—A Tale of Two Cities," *Claims*, 54:22 (April 2006).

the book, Winchester (at long last) *begins* to describe the destruction of San Francisco. It was “a devil’s playground.” Apparently, “fully 95 percent of all San Francisco chimneys collapsed. . . . Falling chimneys killed innumerable sleeping men and women that morning, most infamously . . . the city’s fire chief Dennis Sullivan.” According to Winchester, a problem came from “the enormous mass of towering chimneys that dominated the turreted roof of the California Hotel next door[.]”¹⁵

Funston Leadership. Winchester writes about several leaders after the quake and during the fires. He attends most specifically to Funston, who was discussed in Part I of this review, which appeared in the last issue. The author describes Funston as a “leader who first emerged” and as “a braggart and bully with a controversial record of recklessness and impetuosity[.]” As with the other authors, Winchester sees that Funston was principally responsible for the use of explosives and primarily responsible for executions pursuant to martial law. Funston and the current mayor were neither of them responsible for the weak and hastily constructed buildings that suffered from the quake. Curiously, Winchester seems to interpret postcatastrophe publicity as a way of emphasizing the ability of humankind to deal with problems. “Thus was the earthquake officially demoted, and further implications were made crystal clear: *since what had caused the crisis was the mistake of humankind, then all could be improved by humankind.* Things could be better by a simple act of the common will. The city could be handsomely rebuilt, and anyone going to live there, or wanting to place his money there, could be assured that such human-made disaster . . . would never happen again.”

As with the other authors, Winchester submits that the Southern Pacific was the principal purveyor of this spin-doctor view. His account is more elaborate about why this would happen. It was not just a matter of surveying the local public interest. The Southern Pacific

owned or leased all of the main railroad lines into San Francisco, [so it] had a lot to lose if the city was regarded by potential investors as having gone off the boil. The company was heavily indebted after building costly new rail lines and dams and bridges all across California. The sharp decline in its stock price in New York, where it had its headquarters, would seriously inhibit the company’s ability to service these debts.

Insurance. According to Winchester, at the time property damage was estimated at \$500 million worth of property.¹⁶ Winchester indicates that “the \$500 million in 1906 dollars is said in terms of the Consumer Price Index to be worth \$10 billion today; in terms of the nominal Gross Domestic Product,

¹⁵ It is worth remembering that according to Smith, the cause was a cupola, not a chimney; and the wife’s name was Mollie, not Margaret.

¹⁶ Obviously this number is not anything like the number to be found in other sources. See McPail, n. 1 above.

\$8 billion; when measured by comparing the price of unskilled labor now and then, \$45 billion; when rated by GDP per capita \$57 billion; and when measured by comparing the total values of GDP, \$195 billion.”

San Francisco had experienced earthquakes and fires before. Still, by the turn from the nineteenth to twentieth centuries, it was the truly great western American city. Nevertheless, in the year before the earthquake, the National Board of Fire Underwriters had conducted an extensive survey of the city and described the city as a tinderbox, observing that the city had already burned six times. One wonders why insurers would issue insurance anywhere near this city. Today, it probably would not happen. Then again, there was lots of insurance in New Orleans in 2005.

Winchester does not describe the actions of insurers at great length. However, he does retell the story of Cuthbert Eden Heath, “the famed British insurer” who was also “the tall, deaf son of an admiral,” who had “joined Lloyd’s at eighteen and, [who] in a matter of five years, began to turn the Victorian insurance industry on its head, taking on risks that no one, up to that time, had ever thought worth insuring against.” According to Winchester, it was Heath who first dreamed up the idea of business interruption coverage; it was he who brought Lloyd’s into America for something other than shipping coverage; it was he who constructed smallpox-if-vaccinated insurance and it was he who created jeweler’s loss coverage.

According to Winchester, the immediate years before 1906 had been disastrous for property insurers. Losses included the Illinois Theater fire in 1903, the blaze aboard the steamship *General Slocum* in the East River off Manhattan in 1904 and the Baltimore fire, also in 1904, which had “losses of up to \$90 million.”¹⁷ Therefore, the San Francisco earthquake, fires, and the ruin they caused “were “the last thing the insurance industry needed in 1906. . . . Of the total risk, British underwriters had written about a fifth, and German insurance companies stood to be out of pocket by a similar amount.” It should be remembered that German companies walked away and didn’t pay. One can imagine the rationale they gave themselves. They said that earthquakes were not covered. This meant that property damage caused by earthquakes was not covered. The earthquake caused fires, but they were traceable to the earthquake and were not, therefore, covered. This would especially be true—so the German reasoning would go—since the fires were deliberately caused in order to stop already existing damages, or, damage-causing events, resulting from the earthquake. Many of those fires were caused by deliberate dynamiting. Insurance was for fortuities, and deliberate dynamiting was not

¹⁷ Significantly Peter Charles Hoffer’s *Seven Fires: The Urban Infernos That Reshaped America*, 185 (New York: Public Affairs, 2006) discusses insurance in connection with the Baltimore fire. Insurers apparently took out ads in the local paper giving people an indication where they could be found. Total losses in Baltimore were at least \$2.16bn in 2005 dollar values. *Id.* at 186.

accidental and not therefore a fortuity. The truth is that some property insurance policies contained a clause that excluded fires if they came shortly after earthquakes and were in any way connected to them. Obviously, issues of causation were relevant to some of the 1906 insurance disputes. Most American insurers pivoted in the opposite direction.

The way Winchester tells the story, ninety thousand people and companies made claims within a day or two after the last fire was out. Unfortunately, many people had lost their policies. Insurance companies situated in San Francisco would have also lost their copies of the policies, together with any records they would have had about the policies. Winchester describes “a great deal of undignified haggling[.]” Moreover, there was a good deal of debate about “the so-called falling business clause” that was to be found in many policies. It was worded this way: “If a building, or any part thereof, fall[s] except as a result of fire, all insurance by this policy on such building or its contents shall immediately cease.” Obviously, for buildings with that kind of coverage—and it was far from clear how many policies contained any clause like that—then even if they later burned down or were blown up, there would be no coverage.

In this context, Heath ruled unequivocally in a telegram that Lloyd’s companies were to “Pay all your policyholders in full, irrespective of the terms of their policies.” This act is not only short and simple, it “has passed into insurance legend and lore.” It was one of the events of history that has made Lloyd’s famous and loved worldwide.¹⁸

Post 1906 History. Winchester sketches some San Francisco history after the quake. Three topics are most significant. First, there is the history of the evolution of how San Francisco feels about its Chinese inhabitants. Second, there is the movement of “Star City” from San Francisco to Los Angeles. Third, there is a discussion of the earthquake of October 17, 1989. It was not as bad, but there were casualties, all of which occurred “because builders had not fully learned the lessons of 1906.”

Critique. The Gaia Hypothesis is nonsense and distracting. It will teach adjusters and lawyers nothing but what to avoid and sneer at. The wandering style of this book is a “minus sign,” even though even it is engaging here and there. I couldn’t care less what the topics and investigations of the book meant to Winchester and his psyche. Lack of footnotes is particularly disturbing, with respect to some of the topics discussed herein, for example, insurance. Still, the discussion of tectonic plates is fascinating.

¹⁸ It might be worth knowing that Heath had pioneered earthquake insurance, and at least some of Lloyds San Francisco insurance was of that nature, rather than property insurance in which the named peril was fire. This would entail that the Lloyds problems were, at least some of the time, the reverse of the other insurers. Geoffrey Hodgson, *Lloyds of London*, 64–65 (Viking Press 1984). A number of now contemporary sources say that earthquake insurance was not available at that time. Some say that it was not consistent with then contemporary risk theorizing.

One of the most interesting features of this book is quite unusual. It is the multidimensional paper cover that is to be found on the hardback edition. The cover is a complex of folded thick paper. When it is unfolded, it is the size of a poster. When it is folded and working as a book cover, it resembles and symbolizes a stack of very thin tectonic plates. When folded it remains a book cover, sort of, since there are praises for the author here and there, but mostly it is the facsimile of a newspaper and the huge photographs of disasters that often appear on the first page. Clever! Different printing and different pictures suggest diversity. The existence of the foldings suggests mystery: "Take it off. Unfold it. See what there is. Inspect it. Wonder why it was put together this way." If you twist the cover a little bit at both ends, when it is separated from the book, but folded up, every "part" of it moves and the Gaia Hypothesis that *everything is really integrated and connected and somehow living together* is suggested, if not actually supported, I guess.

THE DEMLINGER BOOK

Now we turn to a volume of mostly photographs. It contains over 170. The book is divided into three sections of pictures, captions, and short written chapters. They are entitled, in part: "Prelude to Disaster: San Francisco Before the Quake," "Giant Waves & Falling Buildings: The Earthquake and the Fire," and "Rebuilding Hope: The Aftermath." It is obvious from the titles what sorts of pictures will be seen in each section. The sections and some of the pictures, as well as a little bit of the short written tests will be discussed shortly. First, however, a little should be said about photographs in the other books here under review.

Smith's Photo Section. The Smith Book contains lots of photographs of various people active at the time. It also has close-up pictures of buildings burning; something Demlinger does not include much of, except on his cover. There are no photographs of ethnicity in Smith, something that Demlinger includes very nicely. Smith's captions for the pictures are informative, especially with respect to the people. Here is one of them: "Abraham Ruef, the cultured reformer who went on to form one of the most corrupt mayoralties in American history." Next to Ruef's photo is a picture of the actual mayor of that administration, "Eugene Schmitz, an orchestra leader who was elected mayor of San Francisco on the first successful labor union ticket in America." I shall return to these captions presently.

Fradkin's Photographs. The Fradkin Book contains three sections of photos. The first section is about earlier times and various people; the second part mostly concerns earthquake pictures, including smashed-up buildings, plus a few people; the third part pertains to the look of the city in the immediate aftermath, the early stages of reconstruction, and some pictures of a few relevant people. Its last picture is a 1915 picture of the Tower of Jewels that

figured in the Panama-Pacific International Exposition, which is emphasized in Demlinger. One of the most interesting pictures in Fradkin is a picture of the earthquake fissure, left over in an empty rural field north of the Bay.

Winchester's Pics. The Winchester Book contains many fewer photographs than do the others. It, however, contains more drawings, more maps, more reproductions of readings from scientific instruments, and so forth. The best photograph in Winchester is a photograph of a smashed-up statue taken at Stanford University. It is captioned as follows: "The shock tumbled Stanford's marble statue of the famous zoologist Louis Agassiz from its position on a parapet down to the cement of the plaza." The head and neck of the statue have smashed through the concrete, but his chest, waist, legs, and feet stick out.

Back to Demlinger. One of the most helpful photographs in Demlinger is the after-quake photograph of the United States Mint. It is discussed in the other books. It was not damaged in the earthquake or the fire, but it played a large role in the activities of troops and police after the earthquake and during the fire. Of course, this is not an interesting photograph taken by itself, except for history-of-architecture studies. In contrast with stories told in the other books casting contrast with the destruction of many downtown buildings, it is striking.

City Halls. One of the most interesting photographic themes in Demlinger concerns the San Francisco City Hall. The first such building was destroyed by fire in 1876. It was a pleasant enough looking building beforehand, but it would have been even more interesting to see a photograph of the building after it burned down. The second San Francisco City Hall was a gigantic building with two separate domes. (Indeed, depending on how you count, it may have been more than one building.) The Demlinger Book contains a photograph of this magnificent building, albeit a rather fuzzy one. This second city hall was smashed up pretty badly in the earthquake and perhaps the fire, so it had to be torn down. Significantly, one of the domes survived in part, and it was the steeper and more narrow one. Interestingly, that dome was surrounded by palm trees. All of the city hall photos constitute an interesting thematic grouping. One wonders why Demlinger did not include the new version in the third section. It would have completed the theme.

Destruction Pictures.

seeing how badly buildings were destroyed. Only a few ruins of St. Catherine's Cathedral were left after the fire. The rest was completely gone. In contrast, the Hall of Justice outer walls stood up, but not much of the interior did. In contrast, some buildings took only a small amount of damage. There are good photographs of the Ferry Building, which sustained slight damage.

Coming Back. Demlinger also presents marvelous photographs of people recovering. There were tent cities: some in parks (a few with palm trees there),

some around the Ferry Building, some elsewhere. And there were Red Cross eating places. And so forth. One particularly mysterious photograph is a large one of a man taking a small box out of a safe in the middle of debris. Here is the caption: "This stereo photo shows a man who prayed that some things were left in his locked safe after the fires. He holds a box but what are the contents?" Like many other photos, this one is very worn, though not torn, but it is striking. (Nevertheless, how does Demlinger know that the man had actually *prayed* or even had truly overpowering wishes? This is not the stuff historical writing is made of and neither is testimony. It reads too much like historical fiction amid photographs—to be sure, an interesting idea. Should Demlinger classify himself as "a historian of the American West," even if he has "written" "two other photo-histories of the Old West, *Stagecoach*, and *Mining in the Old West*"? Is the SF-Quake really part of the history of the *old* West?)

Text. Demlinger's few short introductory pages suffer from similar problems. Consider the following sentence: "Mayor Eugene Schmitz and his public accountant, Abe Ruef, kept tabs on all the city's spending." The truth of the matter is that "[u]ltimately, it is Abe Ruef who was at the bottom of all things corrupt in the Bay City, [Smith observes]." Thus, Ruef was not the pawn of Schmitz. In fact, quite the reverse was true. In addition, Ruef was not a public accountant. He was a licensed attorney. He was born in 1864; he was a child prodigy; he spoke eight languages, including American Sign Language and Cantonese. He was interested in philosophy, art, and classical languages. (Of course, it is not clear to what extent he actually spoke either Greek or Latin.) He graduated from the University of California-Berkeley at the age of 18. He practiced law and opened his own San Francisco law office in the same year that he came of age to vote, at 21.

Given these kinds of mistakes, it is quite unclear how reliable Demlinger prose could possibly be. The book is also badly proofread. He describes how the "Fair sisters, Tessie and Virginia, built a grand hotel starting in 1902. They sold it shortly before the earthquake," according to Demlinger "to the brother [*sic*] Herbert and Hartland Law." Obviously, this kind of mistake is not unreliable history. However, it does entail unreliable attention.¹⁹ Curiously, Demlinger includes several photographs taken *from* the Fairmont Hotel—and

¹⁹ Can we be sure that Demlinger has it right when he asserts that "On Pacific Street alone, there were 48 cabarets, saloons, and resorts in 1905." Can we be sure he is right when he says that "They bore such names as ZaZa Café, Oregon Dancehall, House of All Nations, So Different Club (for African Americans), Wine Joint, and The Dixie, to name a few." In fairness, this might be a reasonable place to remark that one of Demlinger's most interesting prequake photos is a full page photograph of "the interior of a black club with dancers and a band at the Barbary Coast. Nellie Lewis[,] who signed this photo[,] appeared in black minstrel shows across the country. Notice the strong oriental designs on the walls. There were only three Black Clubs listed in the city directory of the period." One of the most interesting ethnic-racial photographs I have seen pertaining to San Francisco around the time of the earthquake is to be found in the photo-journalism "celebrating" the passage of a century after the

why not? it sits on top of a hill—but he included not one photograph of the hotel itself, which survived not earthquake but fire injury, as the history of the hotel available on the Internet makes clear. (What is quite interesting that the little story of renovation does not make clear, however, is whether there was insurance to cover the fire loss.) In any case, as stated, it is very odd of Demlinger to fail to include at least one photo of the hotel when damaged, and perhaps one when redone. (This is especially true since Demlinger makes an extremely interesting claim about the hotel, which one wonders about: namely, that “it has hosted every U.S. president since William Howard Taft.”)

Captions. As accurate history, Demlinger’s captions are as troubling as his longer writings. Even harmless ones are misleading. In one of them, there is a photograph of a smashed-up street, and a few destroyed buildings, plus one large multistoried building up a hill. The two men photographed may well be black, and certainly one of the men walking in front of them is. The caption reads: “Two men observed the shattered homes in the aftermath of the quake.” It is not at all clear from the picture that what they are viewing are shattered homes. It is clear that what is far more interesting about the photograph is the debris in the street. It is difficult to tell where the debris came from, but if it came from the street, the quake happened right there. There is another photograph that suggests that it may not be destroyed houses that are being viewed. This is a photograph of a store building behind where the two seated males are in the other picture. The caption of this large photograph reads, “The Boericke & Runyon Companies sign stands tall among the ruins.” Thus, this was a commercial district and not—for certain—a residential district.

Demlinger certainly does present some photographs of houses damages. One of the clearest, best, and most striking is a picture of two typically-San Francisco two-story houses—one narrow across the front, one not—neither of which was in any sense already destroyed, but one of which is—as a whole—leaning 10° to the viewer’s right, while the other one (the house on the photo’s left) is not, though it is split, torn, or smashed open a little bit on one side. Insofar as the houses are concerned, Demlinger’s caption says that the house that is leaning “is about to collapse.”²⁰ This dramatic type of picture is famous, and it, or pictures of middle-class pairs of residence like

SF-Quake. The essay is in the “science” section of a *Time* magazine. Written by J.W. Madeleine Nash, it is entitled “April 18, 2006: Lessons from the Earthquake That Shook the World,” *Time* 167:57 (April 10, 2006). (One of the photographs on p. 59 was a photograph entitled “NOB HILL- Houses on Jackson Street are spared, while those closer to San Francisco B catch fire and burn.” In the picture, there are several black couples, two of which are in the foreground and who are elegantly dressed, and at least four of whom are further away and are wearing striking hats.)

²⁰ Of course, this is not good pure-photocommentary, good history, or good writing. For option reasons, neither adjusters working or losses nor attorneys dealing with cases should make these kinds of mistakes.

it, appear in a lot of places.²¹ (Of course, many residence were completely destroyed.)

I have been complaining about Demlinger's historical essays. There is one discussion in the third of these that one hopes is true, and that is not discussed in any of the other three books. Here it is:

The earthquake and fire left more than two thirds of San Francisco's population with no homes. Combining relief monies and donations, a fund was established to build 5,600 small cottages for the homeless. They were called 'earthquake shacks,' and were placed row after row in parks around the city. The city charged a token rent ranging from \$1.00 to \$2.00 a month, and at the end of the year[,] the city agreed to pay back all the rent they [actually, this is 'it'] had received[,] if the people would remove the shacks by a certain date.

It would be nice to know which year is referred to in this paragraph. Nevertheless, the point is a noble one, as well as interesting. This matter is so interesting; in fact, it is difficult to see why there are no photographs of the "earthquake shacks." There should have been a few of these of these in the third section. Instead there are only photographs of tents, fascinating though they are, and there is one photograph of some streetcars that were converted into homes for the homeless. All of these photographs are to be found toward the end of the second section.

Unquestionably, photographs are a key to understanding any catastrophe which involves any city, and buildings as well as human lives. It's even crucial for understanding fires that destroy only forests. Anyone who has ever been involved in the adjustment of a fire claim knows full well that in order to understand how a fire started, where it started, and how it burned, photographs are necessary in order to gauge in the thinking part of investigation, discuss what really happened, prove what really happened, and so forth. The world is therefore blessed by the improvements that are to be found in photography. Most all of the pictures taken of the San Francisco earthquake are, as disaster photos go, relatively uninteresting. Times have changed. It is now possible to take and preserve very clear photographs of complex disasters. Indeed, the world has changed so much it is possible to take beautiful photographs of the ugliness that results from physical catastrophe.

The photographs to which I refer are a set taken by Robert Polidori of what Katrina did to New Orleans. I saw a few of them in early December 2006 at the Metropolitan Museum of Art in New York City. There were 20+ of them,

²¹ See, for example, Nigel Cawthorne, *100 Catastrophic Disasters*, 36 (Barnes & Noble 2006). The pair of residences in the Cawthorne book are both at least somewhat narrow (in the same way as those in the Demlinger photo), both are leaning to the viewer's right, while one is leaning about 10° and the other is tipped around 17°. The caption in the Cawthorne photo says that both houses had to be pulled down later for reasons of safety. The Cawthorne book also contains one vivid photograph of a brick street cracked and split along a line, suggesting exactly where at least some of the quake moved through.

each several feet by several more feet, in a small section of one of the upper floors. At a nearby desk, you could buy a book of 300+ of these pictures, each a page big, except for a group of several dozen that were all grouped together in the middle.²² These were photographs of flood waters, houses smashed up, cars on top of houses, autos under houses, vehicles smashed into houses, and the interiors of buildings in total disarray. These pictures are informative, impressive, moving, upsetting and beautiful. Any lawyer trying to make trial points about architectural destruction should consider retaining Polidori and sending out on the day after the catastrophe. This man is a photographic genius.²³

INSURANCE AGAIN

It has been stated that the 1906 catastrophe was “the pinnacle event that shaped insurance history[.]” Above all, it caused insurers to think about themselves, the industry, how they did business, how risk needed to be conceptualized, how disaster planning needed to be conducted, and so forth.²⁴ Interestingly, it also led to an explosion of the role of reinsurance as a serious component of the insurance industry.²⁵

Interestingly, the 1906 quake and fire have not caused the largest losses in U.S. history, although it was the worst disaster. Larger losses were caused by subsequent California earthquakes, namely the 1994 quake at Northridge and the 1989 earthquake at Loma Prieta.²⁶ Still, the 1906 earthquake wiped out “the entire U.S. insurance market’s profit for the preceding 47 years.”²⁷ Some carriers, such as Munich Re, have never sustained a larger loss. “The 1906 event still represents the biggest single loss from a natural disaster in the 125-year history of Munich Re[.]”²⁸

²² Robert Polidori, *After The Flood* (Göttingen, Germany: Steidl, 2006). The book contains almost no prose except a short nondescript introduction. There aren't even any substantive captions—just addresses and the like.

²³ Both the Katrina-based exhibition and the book are reviewed by John Updike, the famous novelist, “After Katrina,” *New York Review of Books*, 53:8, November 30, 2006. Polidori is in his mid-50s and he has done a series of earlier books of photographs. One is entitled *Metropolis*, and another is entitled *Havana*, published in 2001 by the same house that published *After the Flood*. Their topics are obvious. There is one other disaster book: *Zones of Exclusion Pripvat and Chernobyl*. They suffered nuclear catastrophe in 1986, and Polidori photographed it in May 2001. The book was again published by Steidl.

²⁴ Bonnie Brewer Cavanaugh, “A Century of Aftershocks,” *Best’s Review: The Business of Insurance*, 106:25 (April 2006).

²⁵ John Gapper, “Earthquake Insurance Should Cost a Lot,” *Financial Times* 13 (April 3, 2006). (“1906 was the first year of the reinsurance market, which had emerged in the late 19th Century to diversify losses from city fires.”)

²⁶ Matt Brady, “Could Insurers Survive Another ‘Big One,’” *National Underwriter: Property & Casualty*, 110:14 (April 17, 2006).

²⁷ Roberto Cenicerros, “100 Years On Quake Risk Still Shakes San Francisco,” *Business Insurance*, 40:1 (April 17, 2006).

²⁸ Roberto Cenicerros, “Decisions to Pay Claims from Quake Were Momentous,” *Business Insurance*, 40:32 (April 17, 2006).

None of the books being reviewed here cover the adjustment process after the 1906 disaster in any real depth.²⁹ None, for example, mention that there were 90,000+ almost immediate claims. None of them discuss the fact that property insurance policies tended to be quite small, so that expensive buildings tended to have to have a whole stack of policies, if they were substantially insured.³⁰ None of them discuss the key role that a meeting of a great many insurance carriers in New York played in industry decision making, or that the industry decided to pretty well ignore individual policies, which—at the time—were quite diverse, and to rely instead upon the then standard New York property policy.³¹

One of the most amazing features of the 100th anniversary of the San Francisco earthquake is how much a similar disaster would cost today. There is a one-page ad in the *Wall Street Journal*, for November 15, 2005, which is really a response to recent hurricanes, which says:

If San Francisco had the same size quake as in 2006, it could cost \$400 billion to rebuild. California's entire state budget last year was \$164 billion. The fact that it could cost every man, woman and child in California \$11,144 to rebuild San Francisco tells us this country needs to be better prepared.³²

There is such a thing as earthquake insurance these days—troubled though it is. In fact, California law has put together a mandatory syndicate.³³ Still, as already indicated in this review, many insurance companies are staying away from earthquake coverage. Fewer than one in seven people in San Francisco currently have earthquake coverage.³⁴

²⁹ Nor do they discuss California lawsuits from that period about the earthquake or related insurance problems. This would have been helpful. See *California Wine Ass'n v. Commercial Union Fire Ins. Co. of N.Y.*, 159 Cal. 49 (1910). It also might have been interesting to explore the history or historical records of some law firms, such as what was then Pillsbury, Madison, and Sutro—a firm that still exists, more or less. In addition there was a study written in 1921 by George W. Brooks, the founder of the California Insurance Company, entitled *The Spirit of 1906*, which is findable on the Web. Brooks discusses at some length industry responses to the SF-Quake and public reactions thereto. He also discusses his own adjustment experiences, some of which were straightforward and honest and some of which were quite fraudulent. As the “head knocker” at a local insurer, he has an expectable tendency to emphasize the dishonesty of many claimants. The relevant chapter of his short book is entitled “Adjustments.” (I owe finding these points to Vincent E. Morgan, a former law student of mine, who is now at the Houston office of the Pillsbury firm, which is now called, Pillsbury Winthrop Shaw Pittman LLP.)

³⁰ Nat Brady, “1906 Quake Shoot Up Insurance Industry World Wide,” *National Underwriter: Property & Casualty*, 110:12, 13 (April 17, 2006).

³¹ See Ceniceros, *Decisions*, supra n. 40.

³² A7.

³³ Liam Bleven, “GeoVera Studies the Past To Survive in the Risky Game of California Quake Insurance,” *Wall Street Journal*, sec. B, April 18, 2006.

³⁴ “San Francisco's Quake,” *Financial Times*, 6, April 15/16, 2006.

CONCLUSION

The insurance industry's reputation over the twentieth century has been, at best, not very good. Part of this is natural—like that of the legal profession—as the result of the facts that insurance coverage “feels” expensive, claimants often don't get all they ask for (and sometimes not anything), conflicts are inevitable given the “product,” insurers (whether underwriters or adjusters) make mistakes, which sometimes result from “hurry,” sloppiness, or miscommunication, and occasionally insurers act so as to “screw” their customers (i.e., they act in bad faith). Another part almost certainly comes out of the 1906 San Francisco disaster. Insurer dishonesty became an American archetype. Is the “epic” true, or is it an American myth? Curiously, this is not a widely discussed topic and the authors here do not really examine it.³⁵

There is one exception to this general observation about the lack of discussions and portrayals of insurance. It is cited by Fradkin, but not really discussed, and neither Smith nor Winchester even cite the book. The book is by John Ripley Freeman, and it is entitled *Earthquake Damage and Earthquake Insurance*; it was published in 1932 by McGraw-Hill. It is probably of little significance that Demlinger includes no pictures of adjusters working. That omission would certainly be significant today. Post-Katrina, TV news coverage contained a good deal of it.

Freeman's quite lengthy book, the text of which consists of 883 pages, is of course out of print, and has been for many years. The author was an engineer; he was the president of the Manufacturers Mutual Fire Insurance Company; he was the past president of the American Society of Mechanical Engineers; and he was the past president of the American Society of Civil Engineers. In other words, he was a first-class “achiever.” The insurance company of which he was president, of course, was one of the famous Factory Mutual companies. Freeman argued that earthquake insurance is economically possible, if it is thought about, sold widely, and safer construction of buildings is undertaken systematically yet inexpensively. Here is a typical insurance-related remark: “When one appreciates the fact that in the greatest losses known to history from a combination of earthquake followed by conflagration loss which immediately followed it, it is seen that very little addition to the financial resources needed for fire insurance is required in order to cover the additional hazard of earthquake insurance, except from the fact that the territory covered by a severe earthquake may possibly be

³⁵ Fradkin cites, but does not really discuss, and neither Smith nor Winchester even cite John Ripley Freeman, *Earthquake Damage and Earthquake Insurance* (McGraw-Hill, 1932). Fradkin is the one I would have expected to discuss this general issue, given the length and sociopolitical topics of his book.

far larger in area than would possibly be covered by one great conflagration. Nevertheless, in the territory not burned over[,] the average earthquake loss on each building will be nearer 5 percent than the average 80 or 90 percent of combined fire and quake loss within the burned district. It can be shown that by combining earthquake insurance and fire insurance through the same agency and preferably in the same policy, that the cost of doing business will be but slightly increased over that for writing fire insurance alone, after a survey for special earthquake hazard has once been made for that particular locality and for the particular building in question. For a large and extremely valuable building the earthquake survey may add 50 percent or 100 percent to the cost of a proper fire insurance survey, but the necessity of learning more about the geological conditions at the building in question, and because of the closer survey required of its quality of steel framework, of the walls and its partitions, and the need for accurate information about the strength and rigidity of its cross-bracing against horizontal stresses." *Id.* at 689–90; bold in the original text.) In addition, Freeman observes that earthquake-oriented inspections will bring improvements in buildings and therefore lower losses and damages.

The four books reviewed here are not particularly good sources for answering the key insurance questions. (To this day, insurers are nervous about the economics and finance of earthquakes.³⁶ Namely, perhaps a better study, and certainly helpful source is a semi-“unpublished” report entitled *A Shake in Insurance History: The 1906 San Francisco Earthquake*, which Swiss Re sort of “published” as a pamphlet-report in 2006. It can be found on the Internet. It is short: less than 50 pages. It contains helpful maps and diagrams. Its marginalia contains historical and engineering information about the Palace Hotel, the largest single loss in the quake. And it contains a helpful, though short, discussion of the adjustment of San Francisco. It discusses the New York meeting, and it makes a point I have not seen elsewhere. According to *Shake*, the General Adjustment Bureau was created immediately following the San Francisco disaster. Of course, it exists today.³⁷

Moreover, according to *Shake*, reinsurers generally—mostly European—“attached greater value to following the fortunes of their cedants than to clauses which would have released them from liability. This decision saved some insurance companies from bankruptcy, contributed capital and spread the loss worldwide.”

³⁶ See Daniel Hays, “Allstate Dropping Most Earthquake Risks,” *National Underwriter, Property & Casualty*, 110:10 (June 12, 2006). The article says that there would be 352,000 affected policyholders.

³⁷ Interestingly, a similar claim is made about the A.M. Best Company. See Bonnie Brewer Cavanaugh, “A Century of Aftershocks,” *Best’s Review: The Business of Insurance*, 106:30 (April 2006). See also “100 Years Ago in *Best’s Review*[:] San Francisco Claims Paid,” *Best’s Review: The Business of Insurance*, 107:13 (September 2006).

Perhaps the most interesting part of the Swiss Re "Report" is its brief discussion of an early report written by a professor of mathematics at Cal-Berkeley for the local chamber of commerce. The man was Albert W. Whitney. He was also a casualty actuary. He indicated that the insurer had done "reasonably well." I leave it to the reader to find out more from Swiss Re. If anyone actually has a copy of the "Whitney Report," please send it to me.