

Dealing with Disaster: The San Francisco Earthquake of 1906

Christoph Strupp

German Historical Institute, Washington, D.C.

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(c) Dr. Christoph Strupp, Research Fellow, German Historical Institute, 1607 New Hampshire Ave., NW, Washington, D.C. 20009 - strupp@ghi-dc.org

I

The San Francisco earthquake of 1906 has been in the news lately not only because of its onehundredth anniversary, but also because of Hurricane “Katrina” and the destruction of large parts of New Orleans. Within days of “Katrina” the Washington Post - and many other papers alike - referred to the Great Fire of Chicago in 1871, the Galveston hurricane of 1900, and most prominently the San Francisco earthquake to prove the point that “ravaged cities stand their ground” in America. Cities are like the mythical Phoenix, which is featured in San Francisco’s city seal. They have been resurrected in the past and, therefore, the argument goes, the outlook for New Orleans is anything but gloomy.¹

Historians in Europe and the United States who have looked at cities and their response to disasters more closely in recent years, certainly would agree with this conclusion. Cities “are among humankind’s most durable artifacts.”² But where does this remarkable ability of cities to survive come from; an ability, by the way, which applies to cities in the United States and around the world, as comparative research projects have

¹ Washington Post, September 6, 2005, C 1, C 9. See also J. Madeleine Nash, Is San Francisco Ready? in: Time Magazine, September 19, 2005, 57, about the lessons of “Katrina” for San Francisco. For a broader perspective on natural disasters and social activity in the twentieth century in the United States, see Ted Steinberg, *Acts of God: The Unnatural History of Natural Disaster in America*, New York: Oxford University Press, 2000. In 1906, optimism about the future of San Francisco was based on historic precedent in a similar way, when the New York Times wrote that “the great earthquake of San Francisco of 1906 may be as much a blessing in disguise as the great fire of Chicago in 1871. We may be quite confident that the new San Francisco will bear as improved a relation to the old as that which is no longer the new Chicago bears to the temporary settlement on the swampy river which was the site of Chicago before the fire” (*Half San Francisco Gone*, in: New York Times, April 19, 1906, 12).

² Lawrence J. Vale, Thomas J. Campanella, Introduction: The Cities Rise Again, in: Lawrence J. Vale, Thomas J. Campanella, eds., *The Resilient City: How Modern Cities Recover From Disaster*, Oxford: Oxford University Press, 2005, 5. See also their conclusion: Axioms of Resilience, *ibid.*, 335-55 (abridged version: *The City Shall Rise Again: Urban Resilience in the Wake of Disaster*, in: *Chronicle of Higher Education*, January 14, 2005, B 6-9), which identifies twelve common themes of urban recovery.

demonstrated?³ What motivates people to stay - or come back - and rebuild? Can disasters serve as a starting-point for reinvention, a new beginning, or is it mostly about reconstruction, a recreation of the past? In modern history, in the United States the destruction of big cities has been caused almost exclusively by natural disasters and accidents, in Europe the reason for destruction has often been war, whereas Asian countries experienced both. Does this make a difference? Finally, is it really possible to predict the future of New Orleans and other disaster-stricken cities or would we be neglecting unique aspects that fostered the rebuilding of cities in the past but may not do so today? The San Francisco earthquake and fire of 1906, richly documented and researched as it is, offers abundant material to deal with these questions.⁴

³ Susan Elizabeth Hough, Roger G. Bilham, *After the Earth Quakes: Elastic Rebound on an Urban Planet*, New York: Oxford University Press, 2006; Peter Charles Hoffer, *Seven Fires: The Urban Infernos that Reshaped America*, New York: Public Affairs, 2006; Vale, Campanella, eds., *The Resilient City*; Andreas Ranft, Stephan Selzer, eds., *Städte aus Trümmern: Katastrophenbewältigung zwischen Antike und Moderne*, Göttingen: Vandenhoeck & Ruprecht, 2004; Mark Pelling, *The Vulnerability of Cities: Natural Disasters and Social Resilience*, London: Earthscan, 2003; Dieter Groh, Michael Kempe, Franz Mauelshagen, eds., *Naturkatastrophen: Beiträge zu ihrer Deutung, Wahrnehmung und Darstellung in Text und Bild von der Antike bis ins 20. Jahrhundert*, Tübingen: Narr, 2003; Geneviève Massard-Guilbaud, Harold L. Platt, Dieter Schott, eds., *Cities and Catastrophes: Coping with Emergency in European History*, Frankfurt/M.: Lang, 2002; James K. Mitchell, ed., *Crucibles of Hazard: Mega-Cities and Disasters in Transition*, Tokio: United Nations University Press, 1999; Martin Körner, ed., *Stadtzerstörung und Wiederaufbau: Zerstörungen durch Erdbeben, Feuer und Wasser*, vol. 1, Bern: Haupt, 1999.

⁴ Simon Winchester, *A Crack in the Edge of the World: The Great American Earthquake of 1906*, London: Penguin, 2005; Dennis Smith, *San Francisco is Burning: The Untold Story of the 1906 Earthquake and Fires*, New York: Viking, 2005; Philip L. Fradkin, *The Great Earthquake and Firestorms of 1906: How San Francisco Nearly Destroyed Itself*, Berkeley, CA: University of California Press, 2005; Harry Paul Jeffers, *Disaster by the Bay: The Great San Francisco Earthquake and Fire of 1906*, Guilford, CT: Lyons Press, 2003; Dan Kurzman, *Disaster! The Great San Francisco Earthquake and Fire of 1906*, New York: Perennial 2002; Gladys Hansen, Emmet Condon, *Denial of Disaster: The Untold Story and Photographs of the San Francisco Earthquake and Fire of 1906*, San Francisco: Cameron & Co., 1989; Gordon Thomas, Max Morgan Witts, *The San Francisco Earthquake*, New York: Stein and Day 1980 [1971]; John Castillo Kennedy, *The Great Earthquake and Fire, San Francisco, 1906*, New York: Morrow & Co., 1963; William Bronson, *The Earth Shook, The Sky Burned*, New York: Pocket Books, 1971 [1959].

See on the social and economic aspects of the reconstruction also the following dissertations: Andrea Davies Henderson, *Reconstructing Home: Gender, Disaster Relief, and Social Life after the San Francisco Earthquake and Fire, 1906-1915*, Diss. Stanford University, 2005; Marie Bolton, *Recovery for Whom? Social Conflict after the San Francisco Earthquake and Fire, 1906-1915*, Diss. University of California, Davis, 1997; Christopher Morris Douthy, *The Economics of Localized Disasters: The 1906 San Francisco Catastrophe*, New York 1977.

Earthquakes offer many points of departure for historical inquiry, but not often have they attracted the attention of historians.⁵ Over the course of history, earthquakes have repeatedly laid waste to cities and entire regions. Their destructive capacity, especially in densely populated areas, matches that of any form of disaster. A single severe earthquake in 1976, for example, was responsible for the death of 700,000 people in China. It is estimated that earthquakes caused some two million deaths in the twentieth century alone. Earthquakes differ from natural catastrophes such as hurricanes and floods as well as from manmade disasters like war because they occur entirely without warning. The sudden movement of the earth, of the very foundation of human existence, calls the security of this existence into question in unique fashion. Earthquakes leave people with no time for preparation. They are of short duration: often, just a few moments are sufficient to do as much destruction as warfare might in days or even weeks. They put societies in an extraordinary situation in which established political, social, economic, and cultural structures are put to a severe test. Such was the situation on April 18, 1906,

For a broader perspective on earthquake research in California and its political, economic, and social contexts, see Carl-Henry Geschwind, *California Earthquakes: Science, Risk and the Politics of Hazard Mitigation*, Baltimore, MD: Johns Hopkins University Press, 2001 (on 1906: 19-42). Contemporary sources are collected in: Malcolm E. Barker, ed., *Three Fearful Days: San Francisco Memoirs of the 1906 Earthquake and Fire*, San Francisco: Londonborn, 1998. A large collection of pictures and documents is available online on the website of the Museum of the City of San Francisco at <http://www.sfmuseum.org/1906/>.

⁵ See recently Christiane Eifert, *Das Erdbeben von Lissabon 1755: Zur Historizität einer Naturkatastrophe*, in: *Historische Zeitschrift* 274 (2002), 633-64; Peter Schau, *Lissabon nach 1755: Die Entstehung einer aufgeklärten Stadt*, in: *Die Alte Stadt* 29 (2002), 208-24; Andrea von Hülsen, *Verona, 3. Januar 1117: Möglichkeiten und Unsicherheiten der interdisziplinären Erdbebenforschung*, in: *Historische Anthropologie* 1 (1993), 218-34, and the classic article by Arno Borst, *Das Erdbeben von 1348: Ein historischer Beitrag zur Katastrophenforschung*, in: *Historische Zeitschrift* 233 (1981), 529-69. See also Körner, ed., *Stadtzerstörung und Wiederaufbau*, with contributions on earthquakes in Italy, Spain and Switzerland, and, finally, Josef Nussbaumer, Helmut Winkler, *Wird die Natur gewalttätiger? Die Bilanz der letzten hundert Jahre: Empirische Implikationen zur Naturkatastrophenforschung*, in: *Vierteljahrsschrift für Sozial- und Wirtschaftsgeschichte* 84 (1997), 544-62.

in San Francisco - the day of one of the greatest natural catastrophes in the history of the North American continent.⁶

On that Wednesday morning, the earth moved an average of ten feet horizontally and three feet vertically along a 300-mile stretch of the San Andreas fault. Although it is now estimated that the quake measured 8.3 on the Richter scale, damage in the city was initially limited.⁷ There were many collapsed chimneys and broken windows, and numerous buildings lost their facades or roofs, but the majority of buildings survived the tremor. Light wooden houses appear to have held up just as well as the new downtown skyscrapers built of reinforced concrete, but still, about 5,000 houses were immediately destroyed. For the most part, they were either located on “made ground” – filled-in swamp land along the bay – or poorly constructed.⁸

⁶ Based on the level of destruction, the San Francisco earthquake remained the worst natural disaster in U.S. history for almost a century. It was surpassed by the devastation of parts of Florida by hurricane Andrew in 1992 and the ruin of the Gulf Coast by hurricane Katrina in 2005. The worst natural disaster in terms of the death toll was the Galveston hurricane and flooding of 1900, which cost about 8,000 people their lives (Steinberg, *Acts of God*, 70).

⁷ J. Eugene Haas, Robert W. Kates, Martyn J. Bowden, eds., *Reconstruction Following Disaster*, Cambridge, MA: MIT Press, 1977, 4; David J. Wald et al., *Source Study of the 1906 San Francisco Earthquake*, in: *Bulletin of the Seismological Society of America* 83 (1993): 981-1019. Immediately after the quake seismologists of the University of California rated it 9 on a scale of 1 to 10 (Oscar Lewis, *San Francisco: Mission to Metropolis*, Berkeley, CA: Howell-North Books, 1966, 185). Seismological data are available in detail from the National Geophysical Data Center in Boulder, CO (<http://www.ngdc.noaa.gov/seg/hazard/eqint.html>). See further contemporary scientific analyses in David Starr Jordan, ed., *The California Earthquake of 1906*, San Francisco: A. M. Robertson, 1907, and Andrew C. Lawson et al., *The California Earthquake of April 18, 1906: Report of the State Earthquake Investigation Commission*, vol. 1-2, Washington, D.C.: Carnegie Institution, 1908-1910; Winchester, *A Crack in the Edge of the World*, 137-73, on the discovery and exploration of the San Andreas Fault, and *ibid.*, 232-45, on the seismographic readings around the world in 1906; Kenneth Chang, *The Ground Shook, a City Fell, And the Lessons Still Resound*, in: *New York Times*, April 11, 2006, Science 1-2. Destruction along the coast in Santa Rosa, San José, and on the campus of Stanford University in Palo Alto is described in: Fradkin, *The Great Earthquake*, 145-61; Bronson, *The Earth Shook*, 242-69; Trumbull White, *Complete Story of the San Francisco Horror*, n. p., 1906, 189-207.

⁸ Fradkin, *The Great Earthquake*, 239-44; Thomas, Witts, *The San Francisco Earthquake*, 221; Bronson, *The Earth Shook*, 41-2, and the contemporary reports on different types of buildings by engineers S. Albert Reed, *The San Francisco Conflagration of April, 1906: Special Report to the National Board of Fire Underwriters Committee of Twenty*, New York: Secretary of the Committee, 1906; Charles Derleth Jr., *The Destructive Extent of the California Earthquake: Its Effect Upon Structures and Structural Materials*

San Francisco could, moreover, draw on long experience with earthquakes in 1906, and it was more accustomed to tremors than any other city in the United States. The city had withstood half a dozen serious quakes since the 1830s. The most recent major quake to cause fatalities had occurred in 1868.⁹ But each of them was merely an episode: in each instance, the damage was repaired within a few months and did not have a negative impact on San Francisco's rapid economic and demographic growth. But it was already clear to attentive observers on that Wednesday morning in 1906 that this time San Francisco faced much greater challenges. Countless small fires, caused by toppled stoves and open gas flames, had broken out in the center of the city. Dealing with these fires would have overwhelmed the Fire Department's resources, both in manpower and logistical capabilities, under normal circumstances, but now there were additional problems: the department was without experienced leadership because fire chief Dennis Sullivan had been badly hurt in his house and would die four days later in a hospital, and

Within the Earthquake Belt, in: Jordan, ed., *The California Earthquake*, 81-212, 119-80; Joseph H. Harper, *Observations of the San Francisco Earthquake: Delivered before the Montana Society of Engineers*, 11.1.1908 (online: <http://www.sfmuseum.org/1906/harper.html>); and John R. Freeman, *Earthquake Damage and Earthquake Insurance: Studies of a Rational Basis for Earthquake Insurance*, also *Studies of Engineering Data for Earthquake-Resisting Construction*, New York: McGraw-Hill, 1932, 279-358.

On the problems of the building trade before the earthquake, see Michael Kazin, *Barons of Labor: The San Francisco Building Trades and Union Power in the Progressive Era*, Urbana, IL: University of Illinois Press, 1989, 85-93. On problems of structural improvements in American cities in general, see Christine Meisner Rosen, *The Limits of Power: Great Fires and the Process of City Growth in America*, Cambridge: Cambridge University Press, 1986, ch. 2.

⁹ T. R. Toppozada, C. R. Real, D. L. Parke, *Earthquake History of California*, in: *California Geology* 39 (1986), 27-33; Harry O. Wood, N. H. Heck, *Earthquake History of the United States: Part II – Stronger Earthquakes of California and Western Nevada*, Washington, D.C.: U.S. Government Printing Office, 1951. Additional data online at: <http://www.ngdc.noaa.gov/seg/hazard/eqint.html>. According to these measurements the quakes of 1838 (rated 10), 1868 (rated 9), and 1858, 1865 (both rated 8) can be compared to 1906 (rated 11). See Charles Wollenberg, *Life on the Seismic Frontier: The Great San Francisco Earthquake (of 1868)*, in: *California History* 71 (1992-93), 495-509.

the earthquake had destroyed San Francisco's obsolete underground water mains – hydrants throughout the city were useless.¹⁰

Within a few hours, the fires, spreading to the north and southwest from the city center, had become an immense conflagration. One block after another was reduced to ash and rubble. Attempts to halt the flames at major streets failed repeatedly. Before the day was over, much of the city center had to be given up as lost. Larger buildings – including the Palace Hotel where the famous singer Enrico Caruso had spent the night until the earthquake woke him at five in the morning¹¹ – had their own supplies of water, but once those supplies were exhausted the buildings could not be saved. Nor could smaller brick and cement buildings, which had been considered fireproof but now fell victim to the wooden structures that stood adjacent to them.

Between Wednesday and Saturday morning, the fire destroyed 28,000 buildings and caused up to 500 million dollars in damages. Among the losses were the new city hall – the largest building in the country west of Chicago¹² – the entire business district,

¹⁰ Smith, *San Francisco is Burning*, 44-7, 60-5: "It was the single biggest tragedy of April 18 that Dennis Sullivan was kept by providence from trusting in his own confidence to make legally constituted decisions, decisions that would have, in all probability, saved the City of San Francisco" (64-5). See also Charles Gilman Hyde, *The Water Supply of Cities: With Especial Reference to Fire Protection*, n. p. 1907 (on the San Francisco earthquake: *ibid.*, 40-4).

¹¹ On the fate of the Palace Hotel, which could not be saved despite keeping reserves of more than 130,000 gallons of water in seven separate tanks, see: Thomas, Witts, *The San Francisco Earthquake*, 21, 122-124; Smith, *San Francisco is Burning*, 190-1.

¹² Lewis, *San Francisco*, 160-1; Hansen, Condon, *Denial of Disaster*, 11. On the symbolic meaning of the San Francisco City Hall as an object of civic pride, see Mary P. Ryan, "A Laudable Pride in the Whole of Us": City Halls and Civic Materialism, in: *American Historical Review* 105 (2000), 1131-70, 1159-66. A comprehensive overview of the material losses of the city - including police and fire stations with valuable equipment, schools and libraries - in: *Excerpts from San Francisco Municipal Records for the Fiscal Year 1905-6, Ending June 30, 1906 and Fiscal Year 1906-7, Ending June 30, 1907*, published by Order of the Board of Supervisors, San Francisco: Neal, 1908, 704-17.

major cultural institutions,¹³ and all of the city's theaters and hotels. More than half of its private residences were destroyed, cheap downtown boarding houses and mansions in outlying neighborhoods alike. Chinatown, home to tens of thousands and the largest Chinese settlement outside of China itself, vanished.¹⁴ Only a handful of federal facilities could be saved even though they were located within neighborhoods leveled by the fire, and luckily, the port and rail facilities also escaped damage.

It is still not possible to determine exactly how many people died in the earthquake and its aftermath. Most estimates put the figure well above 3,000.¹⁵ That it was not considerably greater was due to the fact that no section of the city had been entirely cut off by the fire and residents could flee. By the end of the three-day inferno, 250,000 people were homeless. It was only on Saturday morning that firefighters were able to bring the fire to a standstill at Van Ness Avenue. Helped by favorable winds, they had finally succeeded in creating a firebreak by blowing up still untouched houses. The Fire Department and Army, confronted with a shortage of water, had been experimenting

¹³ Kennedy, *The Great Earthquake*, 101-4; Helen Throop Purdy, *San Francisco, as it was, as it is, and how to see it*, San Francisco: P. Elder, 1912, 166-75. On recent efforts to protect art in a future earthquake, see Paul Chutkow, *Preparations for a Showdown on the Fault Line*, in: *New York Times*, December 2, 1990, H41, 43.

¹⁴ Erica Y. Z. Pan, *The Impact of the 1906 Earthquake on San Francisco's Chinatown*, New York: Lang, 1995, especially ch. II; Kurzman, *Disaster!*, 152-9; Charles Morris, *The San Francisco Calamity by Earthquake and Fire*, Philadelphia, Chicago: J. C. Winston, 1906, 70-1.

¹⁵ The official report of the city gives 478 deaths, but it already acknowledges that this figure might be too low: Excerpts from *San Francisco Municipal Records*, 703. Hansen, *Condon, Denial of Disaster*, 14, estimate a death toll of several thousand people, as do Steinberg, *Acts of God*, 27, 43-4, and Morris, *The San Francisco Calamity*, 117. See also Fradkin, *The Great Earthquake*, 188-91. A list "Who perished" was compiled by Gladys Hansen of the San Francisco Public Library. It contains more than 3,000 names and is available online at: <http://www.sfmuseum.org/perished/index.html>.

with using dynamite to bring the fire under control; as a result of inexperience, though, they initially did more harm than good.¹⁶

After a comparatively brief spell of chaos, order was restored. Relief aid provided by the Army and donations from the rest of the country made it possible just a few days after the quake to assure basic necessities for survival to the displaced people camping in the city's parks.¹⁷ By the weekend, hundreds of thousands of people had been able to leave the city by ferry or on free trains provided by the Southern Pacific Railroad. Their departure was encouraged by the authorities, because fewer people meant fewer security problems and reduced the chances of an outbreak of infectious diseases. This migration from San Francisco, however, did not result in a lasting reduction of the city's population. Although tens of thousands of those who fled never returned, the city was back to 375,000 registered residents by July 1906.¹⁸

In May and June, attention shifted from grappling with the immediate consequences of the catastrophe to restoring the foundation of urban life: water and electrical service was restored in outer districts, the transit system was repaired, rubble was carted away – indeed, San Francisco temporarily became the scrap dealers' Mecca –, and

¹⁶ On the problems of the use of dynamite, see Fradkin, *The Great Earthquake*, 74-9; Thomas, Witts, *The San Francisco Earthquake*, 129-30, 135, 137, 150-3, 183, 210-1, 249-50; Kurzman, *Disaster!*, 193-207. Even more critical are Smith, *San Francisco is Burning*, 91-3, 128-9, 168-9, and Bronson, *The Earth Shook*, 162.

¹⁷ A comprehensive overview of the relief operation in: *San Francisco Relief Survey*, ed. by Russell Sage Foundation, New York: Survey Associates, 1913. See also in detail Henderson, *Reconstructing Home*, passim, Bronson, *The Earth Shook*, 174-6, 192-3 and the positive assessment by Fradkin, *The Great Earthquake*, 197.

¹⁸ Thomas, Witts, *The San Francisco Earthquake*, 200-1; Kennedy, *The Great Earthquake*, 256; Douty, *The Economics*, 120-4.

economic activity resumed. Banks opened their doors once more,¹⁹ and businessmen returned to wheeling and dealing. The rebuilding of the city was underway by the early summer of 1906.²⁰ Predictions that it would take at least a decade to erase all trace of the earthquake and fire and that “the earthquake will excite a certain prejudice against San Francisco, and indeed against the northern part of California, as a place for either residence or investment”²¹ were quickly proven to be too pessimistic. Just three years later, illustrated books were declaring the construction of the “new” San Francisco essentially complete,²² and the city celebrated its rebirth with a festive commemoration of its founding. In 1915, San Francisco hosted a world fair to mark the opening of the Panama Canal. Apparently former mayor James D. Phelan had been right when he commented on the day of the earthquake that there had been “nothing destroyed that cannot speedily be rebuilt.”²³

¹⁹ On the colorful story of the banker Amadeo Peter Giannini and his Bank of Italy – at that time a small business, which would later become Bank of America, one of the largest in the world – see Marquis James, Bessie Rowland James, *Biography of a Bank: The Story of the Bank of America*, New York: Harper & Brothers, 1954, 21-32.

²⁰ Haas, Kates, Bowden, eds., *Reconstruction*, 4-6, who develop a general model of four overlapping “periods of reconstruction” after a disaster: Emergency – Restoration – Reconstruction I – Reconstruction II. According to this model, in San Francisco the period of emergency lasted four weeks and was followed by ten months of restoration and nine years of reconstruction. The end of the final phase of “symbolic reconstruction” was not reached until the new Civic Center was completed in 1929. See also parts III and IV of this paper.

²¹ *The Week*, in: *The Nation*, April 26, 1906, 333.

²² Rufus Steele, *The City that is: The Story of the Rebuilding of San Francisco in Three Years*, San Francisco: A. M. Robertson, 1909. See also *New San Francisco to Eclipse the Old*, in: *New York Times*, July 27, 1906, 7, a report based on an interview with the businessman William A. Dundas. Dundas claimed that the damage would be repaired within a few months and gave examples of the rapid progress of rebuilding.

²³ Quoted in: Thomas, Witts, *The San Francisco Earthquake*, 134. On the 1915 festival, see Fradkin, *The Great Earthquake*, 341-4; Henderson, *Reconstructing Home*, 230-7; on its consequences for the labor market, see Bolton, *Recovery for Whom*, 189-200.

II

This optimism was first of all a sign of the Progressive Era with its general belief in improvement and renewal.²⁴ But it also rested in no small part on a factor that distinguished San Francisco from many other cities that suffered large-scale destruction: the comparatively young age of the city. Europeans had first set foot on the shore of the San Francisco Bay only a few years before the founding of the United States.²⁵ While the region was still under Mexican rule, San Francisco – or Yerba Buena, as it was also known – was nothing more than a military outpost on the frontier, home to a few hundred soldiers, traders, and Franciscan missionaries. The discovery of gold in the Sierra Nevada shortly after the United States gained possession of California in 1848 was the basis for San Francisco's rapid development into the most important commercial center on the Pacific. Seemingly overnight, more than 10,000 people had taken up residence in the city. Real estate prices exploded and construction boomed. A new harbor was built. As banks, hotels, theaters, and commercial buildings filled the city center, residences proliferated on the outskirts. Already in this early phase of its history, San Francisco became acquainted with serious fires: between 1849 and 1851, it was struck six times by major conflagrations, each of which did extensive damage.

²⁴ Kevin Rozario, *Making Progress: Disaster Narratives and the Art of Optimism in Modern America*, in: Vale, Campanella, eds., *The Resilient City*, 27-54, 42-5. See in detail also Kevin L. Rozario, *Nature's Evil Dreams: Disaster and America, 1871-1906*, Diss. Yale University, 1997, 197-276. See also Henderson, *Reconstructing Home*, 5-8, and the contemporary examples quoted in Kurzman, *Disaster!*, 241-7.

²⁵ On San Francisco in the nineteenth and early twentieth centuries, see William Issel, *Robert W. Cherny, San Francisco, 1865-1932: Politics, Power, and Urban Development*, Berkeley, CA: University of California Press, 1986; Philip J. Ethington, *The Public City: The Political Construction of Urban Life in San Francisco, 1850-1900*, Berkeley, CA: University of California Press, 2001; Lewis, *San Francisco*, 1-172. For a comparative perspective on the development of the city, see also Blake McKelvey, *The Urbanization of America 1860-1915*, New Brunswick, NJ: Rutgers University Press, 1963.

Even though the gold rush came to an end by the mid-1850s, America's door to the Orient continued to draw people and goods alike in prodigious quantities over the decades that followed. The one-time village's population passed the 400,000 mark shortly after the turn of the century, making it the eighth largest city in the United States. A third of San Francisco's residents had been born outside the city. Most immigrants came from Ireland, Germany, and Italy, with China not far behind. Industry, trade, transportation, and the service sector contributed to its flourishing economy.²⁶ Locals and visitors alike praised the magical atmosphere in "America's gayest city." In these decades, San Francisco knew nothing of centralized urban planning. The cityscape was, rather, the product of astonishing growth driven by economic interests: "San Francisco developed like the growth of a tree, and at the zenith of its prosperity threw out its shelter branches in every direction."²⁷

The fact that San Francisco was a city with little by way of history was a decisive factor in the way the city and its residents responded to the earthquake. James Phelan made this point very clear: "San Francisco is no ancient city. It is the recent creation of the pioneers and possessed the accumulated stores of only a couple of generations. Its temples, monuments, and public buildings are not of conspicuous merit or great value."²⁸ Already before the earthquake, there was scarcely a single building surviving from the pioneer era – indeed, barely a sign that the city had existed more than a decade or two.

²⁶ Basic information on the growth of the population and the economic power of the city in Issel, Cherny, *San Francisco*, 23-6, and on the labor market and the ethnic composition of the population *ibid.*, 54-7. See also Bolton, *Recovery for Whom*, 8-18, and Douty, *The Economics*, 53-62.

²⁷ James D. Phelan, *Rise of the New San Francisco*, in: *Cosmopolitan Magazine* 41 (1906), 575-82, 575.

²⁸ Quoted in: Thomas, Witts, *The San Francisco Earthquake*, 133-4; slightly different version in Bronson, *The Earth Shook*, 300.

Many of the houses destroyed in the quake still belonged to those who had built them. The pioneer spirit of the early days was still vibrant enough to be mobilized again in 1906.

In the days and weeks after the catastrophe, San Francisco took on the characteristic traits of what social geographers call a “therapeutic community”: the residents displayed a strong sense of communal belonging and an unconditional desire to start rebuilding.²⁹ This was true of both average citizens and the politically influential business elites, and the two groups tried to set aside their traditional disagreements for the sake of cooperation.³⁰ For most people, there was never a doubt that the city would be rebuilt, even if, as many contemporary writings suggested, the charming San Francisco of old had been lost forever and would be replaced by a modern city with little distinctive character of its own.³¹ Only a handful of observers in the first couple of days after the quake voiced fear that the city would never fully recover from this blow. On the whole, the earthquake had a less serious impact on the history of San Francisco than anyone could have expected in April 1906. Within a short time, many aspects of life had returned

²⁹ On the concept of the “therapeutic community”, see H. Paul Friesema et al., *Aftermath: Communities after Natural Disasters*, Beverly Hills, London: Sage, 1979, 88-9. Observations for San Francisco mirror their research on four American communities of the 1950s and 60s, in which no long-term economic or social changes were noticable. See also Gideon Sjoberg, *Disasters and Social Change*, in: George W. Baker, Dwight W. Chapman, eds., *Man and Society in Disaster*, New York: Basic Books, 1962, 356-84, 369-71; Charles E. Fritz, Harry B. Williams, *The Human Being in Disasters: A Research Perspective*, in: De Witt Smith, ed., *Disasters and Disaster Relief*, Philadelphia: American Academy of Political and Social Science, 1957, 42-51. Haas, Kates, Bowden, eds., *Reconstruction*, 20, point out that rebuilding is a given if modern cities are involved in a disaster. An exception was St. Pierre on the island of Martinique after its destruction by an eruption of the volcano Mount Pelée.

³⁰ Issel, Cherny, *San Francisco*, 39.

³¹ That is the conclusion of one of the most famous articles on the old San Francisco: Will Irwin, *The City that was* (1906), reprinted in: Joseph Henry Jackson, ed., *The Western Gate: A San Francisco Reader*, New York: Farrar, Straus & Young, 1952, 442-54; similar White, *Complete Story*, 82, 256-7, and William Marion Reedy, ‘Frisco the Fallen, *San Francisco*: L. Robinson, 1916. However, cf. Julian Willard Helburn, *The Quickening Spirit: The San Francisco that Survived*, in: *American Magazine* 62 (1906), 294-301, 301: “But the new San Francisco will be only a matter of steel and stone. The people, the spirit, will be those of the old San Francisco – the bravest city on earth.”

to normal; things picked up again where they had left off before the quake; continuity with the past was reestablished.³²

I am now going to look more deeply into how this was accomplished by focusing on three aspects: the impact of the earthquake on San Francisco's political and social structures, the rebuilding of the city's economy and urban fabric, and, finally, the way the media and the scientific community responded to the disaster.

III

After a series of corruption scandals during the 1890s, the election of James Phelan as mayor in 1897 brought a "clean" city government to power that was dedicated to the ideas of the Progressive movement.³³ Phelan pushed through the adoption of a reform-oriented city charter and overhauled the structures of public administration. He also did away with the system whereby franchises for basic services – gas, water, electricity, telephone, and transit – were sold to the highest bidder and replaced it by creating new utilities companies. This move was intended to bolster the position of the city's elected representatives and reduce the opportunities for bribery. But Phelan failed to end the city's perennial labor troubles, which time and again hindered economic life. Unions were exceptionally powerful in the city, and after another series of strikes the election in

³² See also Sjoberg, *Disasters*, 373-7. Based on a macrosociological perspective, he puts more emphasis on the potential of catastrophes for social change and reforms.

³³ Issel, Cherny, *San Francisco*, 139-54; Ethington, *The Public City*, ch. 8; Fradkin, *The Great Earthquake*, 25-32; Lewis, *San Francisco*, 181-4; Kevin Starr, *Inventing the Dream: California Through the Progressive Era*, New York, Oxford: Oxford University Press, 1985, 199-234. On Phelan's later political career, see Robert E. Hennings, *James D. Phelan and the Wilson Progressives of California*, New York: Garland, 1985, on his years as a mayor, *ibid.*, 8-18.

the fall of 1901 brought about a change in city hall. The allegedly business-friendly Phelan was replaced in the mayor's office by Eugene Schmitz, the popular president of the musicians' union. Schmitz was, however, merely the puppet of San Francisco's real boss: the lawyer Abraham Ruef. Ruef ran the Union Labor Party, which had established itself since the turn of the century as a powerful political force in the city.³⁴ Ruef bore little resemblance in either background or education to the legendary political bosses in New York, Chicago, and St. Louis. He came from a Jewish family of French origin, and he had graduated first in his class at the University of California in 1883. Although he could not draw on a broad body of supporters among poor and working class voters, Ruef nonetheless fulfilled, at least for a few years, the most important function of the political boss: he was the point of contact between the worlds of business and politics who could assure that the decision-making process would work smoothly in the interest of his clients. Schmitz and Ruef were able to bolster their position and that of the Union Labor Party within the City Council even though they were mistrusted within the labor movement. Corruption spread: no public contract, no business license, no building permit was issued if Ruef had not been engaged to handle the paperwork. He, in turn, shared his fees with Schmitz and the City Council. This system reached its highpoint shortly before the earthquake when the United Railroads Company, by paying him the record sum of 200,000 dollars, received permission to continue moving the wiring for the street car system from below to above ground despite public concerns about safety. In May 1906 –

³⁴ Walton Bean, *Boss Ruef's San Francisco: The Story of the Union Labor Party, Big Business, and the Graft Prosecution*, Berkeley, CA: University of California Press, 1972; James P. Walsh, *Abe Ruef Was No Boss: Machine Politics, Reform, and San Francisco*, in: *California Historical Quarterly* 51 (1972), 3-16; Kazin, *Barons of Labor*, chap. V. On the phenomenon of the political boss in American metropolises in general, see the overview by Bruce M. Stave, Sondra Astor Stave, eds., *Urban Bosses, Machines, and Progressive Reformers*, Malabar, FL: R. E. Krieger, 1984.

only weeks after the earthquake – Ruef took advantage of the unsettled situation to secure permission for United Railroads to move all of its power lines above ground. In April, after receiving the requisite compensation, he secured a license for the Home Telephone Company to establish a second telephone network.

By this point, however, resistance from the business elite had begun to gain ground. On the initiative of *San Francisco Bulletin* editor Fremont Older, millionaire Rudolph Spreckels, and ex-mayor Phelan, an investigation into accusations of corruption against Ruef and Schmitz had been launched. It also had the backing of President Theodore Roosevelt. The conflict culminated in the fall of 1906 in a series of widely followed “graft trials” that resulted in Schmitz’s removal from office in June 1907 and Ruef’s imprisonment for just under five years.³⁵

This struggle between the city’s rival power-brokers was only temporarily pushed into the background by the earthquake. Defying expectations, Schmitz actually rose to the occasion and suddenly proved himself a fairly capable and inspiring leader. “He became the Mayor of San Francisco for the first time in his career,” the journalist Ray Stannard Baker reported.³⁶ On the morning of April 18, Schmitz called together a “Committee of 50” that in effect took the place of the discredited City Council. Composed of the city’s business leaders, the committee assumed both the executive and legislative functions of

³⁵ See Bean, *Boss Ruef’s San Francisco*, 153-231; Thomas, Witts, *The San Francisco Earthquake*, 275-81, and the memoirs of Fremont Older, *My Own Story*, New York: Macmillan, 1926, *passim*. It is not without irony that Schmitz - as head of a California delegation - was officially received by Roosevelt at the White House on February 9, 1907 to discuss the legal status of Japanese immigrants on the West Coast (Henry F. Pringle, *Theodore Roosevelt: A Biography*, San Diego, CA: Harcourt, Brace & Co., 1984 [1931], 286).

³⁶ Ray Stannard Baker, *A Test of Men. The San Francisco Disaster as a Barometer of Human Nature*, in: *American Magazine* 63 (1906), 81-96, 83-4 (quote: 84); Winchester, *A Crack in the Edge of the World*, 277-81; Kurzman, *Disaster*, 81-93; Thomas, Witts, *The San Francisco Earthquake*, 123, 154 (with a more critical perspective), 206-7; Bean, *Boss Ruef’s San Francisco*, 120-2. Cf. *Did Mayor Schmitz Lose His Head?* in: *American Builders’ Review*, July 1906 (<http://www.sfmuseum.org/1906.2/architects.html>).

government. Initially, it moved from one meeting place to another, one step ahead of the advancing fire. Schmitz had not asked his ally Ruef to join, but he included his two most powerful opponents, Phelan and Spreckels, and even asked Phelan to chair the subcommittee on finance. This subcommittee was one of nineteen charged with a particular area of responsibility. Others dealt with food aid, shelter, first aid, the Chinese community, transport for evacuees, the volunteer police force, water supply, and the like.³⁷ Schmitz skillfully adapted the institutional apparatus of the modern metropolis to the situation. In response to the earthquake an alternative municipal administration was created that was geared entirely to grappling with the disaster and that was reminiscent of the citizens' assemblies of the early modern era.³⁸ The "Committee of 50" remained active until early May, when it was replaced by a "Committee of 40 for the Rebuilding of San Francisco", in which Schmitz finally promised Ruef a key position.³⁹

The city was never without leadership during the disaster, and Schmitz and the members of the "Committee of 50" were able to make the public aware of their presence – literally, through their appearances on the scene, as well as figuratively via press accounts of their activities. That contributed greatly toward restoring calm.⁴⁰ Schmitz's

³⁷ On the composition of the Committee, see Fradkin, *The Great Earthquake*, 80-2, 176-8, 207-11; Thomas, Witts, *The San Francisco Earthquake*, 133-4; Kennedy, *The Great Earthquake*, 62-7, and in detail on the meetings and decisions of the Committee: Excerpts from San Francisco Municipal Records, 755-67. Phelan's Committee on Finance had subcommittees on "History" and "Statistics".

³⁸ Phelan, *Rise*, 576, characterized it as "town-meeting government." Highly critical of Phelan's influence is Fradkin, *The Great Earthquake*, who speaks of the "rise of the oligarchy" (82) at the cost of the democratically elected administration. See further *ibid.*, 197-204.

³⁹ Bean, *Boss Ruef's San Francisco*, 123-4; Thomas, Witts, *The San Francisco Earthquake*, 208-9; Kennedy, *The Great Earthquake*, 233-5. On the activities of the new committee, see Excerpts from San Francisco Municipal Records, 767-97.

⁴⁰ Douty, *The Economics*, 157-60. On a more abstract level, see James D. Thompson, Robert W. Hawkes, *Disaster, Community Organization, and Administrative Process*, in: Baker, Chapman, eds., *Man and Society*, 268-300. They describe the reaction of a community to a catastrophe as a process of fragmentari-

first emergency regulations included a ban on the sale of alcohol, the prohibition of the private use of fire for light and cooking, and a “shoot-to-kill” order against looters. The last one was announced in a declaration that read “The Federal Troops, the members of the regular Police Force, and all Special Police Officer have been authorized by me to KILL any and all persons found engaging in looting or in commission of any other crime.”⁴¹ The drastic measure to protect private property was highly controversial, as was the conscription of citizens for duty as police auxiliaries, which brought back memories of the “vigilantes” of the 1850s and their arbitrary enforcement of the law.⁴² Nonetheless, these measures did in the end serve their purpose: to maintain order and to demonstrate the city’s capacity to take action. They could thus be justified in the same way as Schmitz’s efforts to secure the assistance of the Army units stationed nearby in the Presidio, the most important garrison on the West coast.

The acting commander of the Presidio, General Frederick Funston, had gone into the city immediately after the earthquake and recognized the seriousness of the situation at once. It was also clear to him that only the military possessed the resources necessary for dealing with the disaster. Assuming responsibility on his own initiative – without checking with his superiors and initially without having contacted municipal officials – he ordered his troops into the city and requisitioned supplies from local military depots:

zation, defragmentarization, and synthesis in the form of a reestablishment of social networks. Without a doubt, Schmitz and his committee members contributed to keeping the initial phase of desorientation as short as possible.

⁴¹ Text of the first proclamation of the mayor online at: <http://www.sfmuseum.org/1906.2/killproc.html>. On the discussion about the extent and the legal basis of the killing of looters, see Thomas, Witts, *The San Francisco Earthquake*, 131-3, 147; Bronson, *The Earth Shook*, 74. Fradkin, *The Great Earthquake*, 67, characterizes it as “one of the most infamous and illegal orders ever issued by a civil authority” in the United States.

⁴² Fradkin, *The Great Earthquake*, 136-43; Thomas, Witts, *The San Francisco Earthquake*, 129, 260.

food, blankets, tents – and dynamite.⁴³ It was only later in the morning that he contacted Schmitz. Both men had never been on particularly good terms, but they now made an effort to avoid conflict. They met regularly up until the weekend, but the mayor repeatedly ended up with the short straw. He was not, for example, fully informed about the evacuation and demolition of entire blocks.⁴⁴

Newspapers reported on April 19 that martial law had been imposed on San Francisco. That was not true, but Funston did indeed act outside the framework of the American Constitution, which, of course, does not allow for regular forces to be used domestically on the initiative of a local commander. On April 18 Secretary of War William H. Taft had tried all day to get in contact with Funston. Taft had wanted to know about Funston's measures but also "under what authority you are acting."⁴⁵ Finally, on the afternoon of April 19, Funston telegraphed that 100,000 homeless people needed food and shelter. Taft put all the supplies available in West coast military depots at Funston's disposal and authorized him to provide all aid possible. Emergency relief had priority, and on account of poor communications Taft had to give Funston a more or less free hand

⁴³ On the biography of Funston, see William John Bridges, *Dauntless: The Life and Times of General Frederick Funston*, Diss. University of Nebraska, 2002. On Funston and his response to the earthquake, see Bridges, *Dauntless*, 253-78; Kennedy, *The Great Earthquake*, 30-6; Bronson, *The Earth Shook*, 74-5; Thomas, Witts, *The San Francisco Earthquake*, 77-8, 89, 102-3; on mistakes of the Army *ibid.*, 250, 272; Bronson, *The Earth Shook*, 133-6. Very positive assessment of the role of the military: White, *Complete Story*, 171-7. See also Funston's own report: *How the Army Worked to Save San Francisco*, in: *Cosmopolitan Magazine* 41 (1906), 239-48 (<http://www.sfmuseum.org/1906/cosmo.html>), and the hagiographical article by George Dudley Bogert, *The Man Who Saved San Francisco*, in: *Sunset Magazine* 60/61 (May 1928), 38-9, 62-4.

⁴⁴ Fradkin, *The Great Earthquake*, 62-9; Thomas, Witts, *The San Francisco Earthquake*, 154-5, 207, 250-1; Kennedy, *The Great Earthquake*, 169-70, 194; Kurzman, *Disaster!*, 236-7. Fradkin, Thomas, Witts and Kennedy all emphasize the dictatorial character of the rule of the Army in San Francisco.

⁴⁵ On the communication problems on April 18, see: Taft Wires Funston, in: *Washington Post*, April 19, 1906, 3 (quote); *Washington Without News*, in: *New York Times*, April 19, 1906, 2.

in decision-making. Nonetheless, the conflict that arose with Funston's mobilization of his troops remained a source of concern to the Government in Washington.⁴⁶

It was not Funston but his superior, Adolphus W. Greely, commander of the Pacific Division of the Army, who first acknowledged the prerogatives of the civilian authorities. Greely had been en route to Washington and returned to San Francisco on the Sunday following the earthquake. He thereupon did everything possible to withdraw the Army from the relief effort as quickly as possible. Not least of all, he feared becoming wrapped up in the corruption scandal surrounding Schmitz, and thus he only reluctantly agreed that the Army would be responsible for distributing aid. On July 1, the troops returned to their barracks once and for all.⁴⁷

The tense relationship between civil and military leadership in the city, personified by Schmitz's dealings with Funston and then Greely, points to the complex, multilayered structures of authority that are characteristic of a modern metropolis like San Francisco. To those who experienced it, the destruction caused by the earthquake appeared total, and in the first hours after the quake they were entirely on their own. But the next levels of government and American society as a whole had remained intact and wholly functional.⁴⁸ Both the state of California and the federal government were

⁴⁶ Thomas, Witts, *The San Francisco Earthquake*, 89-94; Kennedy, *The Great Earthquake*, 33-4, 46-7, 91-4, 224. It took the War Department until April 27 to officially delegate troops to San Francisco (Thomas, Witts, *The San Francisco Earthquake*, 273).

⁴⁷ Thomas, Witts, *The San Francisco Earthquake*, 273-4; Kennedy, *The Great Earthquake*, 168-9, 208, 229-30, and Adolphus W. Greely, *Special Report: Earthquake in California*, April 18, 1906, Washington 1906 (online: <http://www.militarymuseum.org/Greely.html>). Schmitz, Funston, and Devine decided on April 25 to transfer authority over the relief stations and camps to the Army, but the decision was not immediately implemented: cf. Excerpts from San Francisco Municipal Records, 765. Greely insisted on a complete withdrawal of the Army by July 1, whereas Schmitz wanted to keep the troops in town for longer.

⁴⁸ Sjoberg, *Disasters*, 367, distinguishes between the reaction to local disasters and catastrophes that affect entire societies.

immediately represented in the city by their security forces – the National Guard, the Army, and, as of April 19, the Navy. At a meeting on April 21, Schmitz, Governor George C. Pardee, and Funston agreed to divide the city officially into three districts – one patrolled by the city’s police forces, one by the National Guard, and one by the Army. In the eyes of many, the California National Guard did not acquit itself well: the newspapers were filled with critical reports. Schmitz called for the Guard’s withdrawal from the city on April 23 but, as a result of Pardee’s insistence, the last of the Guardsmen did not leave the city until the end of May.⁴⁹

As soon as the first reports of the earthquake arrived, Governor Pardee had relocated from Sacramento to Oakland, where he tried to organize relief for the city across the bay. One important measure he imposed was to declare every day between April 18 and June 3 legal holidays. That made it possible to postpone payment dates until the banks reopened. Later on, the municipal and state governments had to cooperate in dealing with legal and property questions arising from the destruction of records and documents and in arranging for loans to finance the city’s rebuilding. The city also needed the state’s support in the rebuilding of public buildings and facilities.⁵⁰

For the first time, the federal government and Congress also took action to address the consequences of the natural disaster. In contrast to the laissez-faire attitude

⁴⁹ See in detail James J. Hudson, *The California National Guard in the San Francisco Earthquake and Fire of 1906*, in: *California Historical Quarterly* 55 (1976), 137-49, and the criticism of the Guard in Kennedy, *The Great Earthquake*, 136-7, 194-5, 209-10, 216, 222-3; Kurzman, *Disaster!*, 124-35; Morris, *The San Francisco Calamity*, 81. Reports on the looting of Chinatown by guardsmen quoted in Pan, *The Impact*, 52. The three original districts were replaced by six on May 8, five of which came under the supervision of the Army and one remained with the Guard. The Navy left the city.

⁵⁰ A wish list of the Committee of Forty in a memorandum for the Governor from May 1906 in: Excerpts from San Francisco Municipal Records, 772-7, and Douty, *The Economics*, 98; Ronnie J. Phillips, *Coping with Financial Catastrophe: The San Francisco Clearinghouse during the Earthquake of 1906*, in: *Research in Economic History* 21 (2003), 79-104.

that had earlier prevailed, the view that the Government had a responsibility to respond to natural disasters had been gaining ground since the turn of the century, even though it was still a long way to the ubiquitous presence of the Federal Emergency Management Agency (FEMA) and the elaborate legal and organizational framework of relief operations today.⁵¹ President Roosevelt telegraphed Pardee and Schmitz on April 18 to voice his concern and to offer the government's assistance.⁵² On Friday morning, he devoted a meeting of the Cabinet to the earthquake even though little news from San Francisco had reached the East coast. Secretary of Commerce Victor H. Metcalf was later dispatched to San Francisco to represent the federal government and report directly to Roosevelt.⁵³

Meanwhile, Congress unanimously approved 2.5 million dollars in disaster aid for San Francisco. That news was welcomed in the city until it became clear that the money would not go to Schmitz's finance committee but would instead be used to cover the

⁵¹ On the beginnings of federal disaster relief in America, see in detail: Rutherford H. Platt, *Disasters and Democracy: The Politics of Extreme Natural Events*, Washington, D.C.: Island Press, 1999, 1-8; Steinberg, *Acts of God*, 175-6. Still useful is also the comprehensive collection of essays by De Witt Smith, ed., *Disasters and Disaster Relief*. Congress passed a bill in 1950 that authorized the President to declare disaster areas in cities and states and thereby clear the way for financial support to rebuild public institutions. Federal aid for individual citizens was not available until the Disaster Relief Act of 1969.

⁵² Roosevelt Offers Aid, in: *New York Times*, April 19, 1906, 8. His first telegram to Pardee read: "Hear rumors of great disaster through an earthquake at San Francisco, but know nothing of the real facts. Call upon me for any assistance I can render"; *The Letters of Theodore Roosevelt*, ed. by Elting E. Morison, vol. 5: *The Big Stick, 1905-1907*, Cambridge, MA: Harvard University Press, 1952, 213.

⁵³ Metcalf had been a Congressman for the Oakland district until 1904. His report to the President from April 26, 1906 (online: <http://www.sfmuseum.org/1906/metcalf.html>) praised the harmonious cooperation between city, state, and the military in the relief effort and concluded: "It is almost impossible to describe the ruin wrought by the earthquake and especially the conflagration. ... The people however, are confident and hopeful for the future and have not in any sense lost their courage. They feel under deep obligations to you and the national Government for the prompt and efficient assistance rendered them."

costs of the relief provided by the military.⁵⁴ At the same time, Roosevelt declined offers of assistance and donations from abroad on the grounds that the United States had adequate relief resources – an “ethical Monroe Doctrine,” as one Berlin newspaper aptly put it.⁵⁵ As for offers from domestic sources – including substantial pledges from the city governments of Chicago, Boston, and New York and individuals such as John D. Rockefeller and Andrew Carnegie⁵⁶ – Roosevelt wanted aid to go not to the municipal government but instead to the Red Cross. Schmitz’s bad reputation was widely known, and Roosevelt was determined to make sure that the mayor and his helpers had no chance to enrich themselves from disaster relief funds.

By contrast, Edward Devine, the head of the Red Cross, brought the best possible qualifications to the job. Devine was a professor of economics and the author of a standard work on philanthropy and disaster relief.⁵⁷ He and the city government eventually came to terms on the creation of a common “San Francisco Relief and Red Cross Funds Committee” headed by Phelan. Roosevelt had given in to Schmitz in late April and accepted Phelan and his finance committee as aid recipients along with the Red

⁵⁴ Thomas, Witts, *The San Francisco Earthquake*, 220; Kennedy, *The Great Earthquake*, 159-60, 173-4. Text of the resolution of Congress in: James Russel Wilson, *San Francisco’s Horror of Earthquake and Fire: Terrible Devastation and Heart-Rending Scenes*, Philadelphia: National Publ., 1906, 131.

⁵⁵ Quoted in: *Die Katastrophe von San Francisco: Mit einer kurzen illustrierten Vorgeschichte der Stadt*, St. Louis, MO: Louis Lange, 1906, 54. See also Kennedy, *The Great Earthquake*, 173-4; Morris, *The San Francisco Calamity*, 147. Overview of the messages Roosevelt received from foreign heads of state and government leaders: White, *Complete Story*, 215-217.

⁵⁶ Overview in: White, *Complete Story*, 158-61; Wilson, *San Francisco’s Horror*, 135-41; *San Francisco Relief Survey*, 33-4; *San Francisco’s Earthquake Relief*, in: *The Nation*, August 3, 1911, 93-4. In Boston, Mayor John F. Fitzgerald called a meeting with businessmen as early as April 18 to found a relief committee and raise 25,000 dollars, which were made available as credit to Schmitz and Pardee immediately (*New York Times*, April 19, 1906, 4). Rockefeller’s Standard Oil Company and Carnegie each gave 100,000 dollars, as did W. W. Astor. The railway king E. H. Harriman gave 200,000 dollars, President Roosevelt contributed 1,000 dollars. On the relief campaign of the newspaper publisher William R. Hearst, see Thomas, Witts, *The San Francisco Earthquake*, 161.

⁵⁷ Edward T. Devine, *The Principles of Relief*, New York, London: Macmillan, 1904.

Cross.⁵⁸ Incidentally, the Red Cross was not spared criticism, for one, because very soon it started to sell food and supplies rather than give them away free. That was to encourage thrift and to facilitate the city's swift return to normal capitalistic practices.⁵⁹

It is an interesting question whether Schmitz's decisive response to the disaster improved the standing and public image of local government in the United States. San Francisco had, in any event, demonstrated an impressive capacity for political action. Still, as noted above, Eugene Schmitz and Abraham Ruef were not able to derive long-term advantage from the earthquake – Schmitz's short-lived gubernatorial ambitions and Ruef's dreams of a Senate seat notwithstanding.⁶⁰ Their opponents were not impressed by the achievements in responding to the earthquake and fire.⁶¹ The political ceasefire that Schmitz's sharpest critics in the committee helped bring about in April had collapsed by the summer of 1906.

In general, the ideal of community and unity that prevailed in the early weeks following the disaster proved transitory. The exceptional social situation caused by the

⁵⁸ Kennedy, *The Great Earthquake*, 211-4; Thomas, Wits, *The San Francisco Earthquake*, 163-4; Bronson, *The Earth Shook*, 195-7, and on Roosevelt's motives his letter of April 22, 1906 to Mabel T. Boardman of the National Relief Board of the Red Cross, in: *Letters of Theodore Roosevelt*, 216, Telegram to Schmitz, April 25, 1906, *ibid.*, 219-20. On the organization of the relief in San Francisco, see in detail: *San Francisco Relief Survey*. The newly founded Bureau of Special Relief existed until June 1907, after which its responsibilities were transferred to local charity organizations (*ibid.*, 133).

⁵⁹ Henderson, *Reconstructing Home*, 72-92; Douty, *The Economics*, 106-16; Kurzman, *Disaster!*, 231-3. Details on the conflict between poor applicants for aid with a strong sense of entitlement and social workers with a middle class ideological background in: Bolton, *Recovery for Whom*, 85-111. See also J. Byron Deacon, *Disasters and the American Red Cross in Disaster Relief*, New York: Russell Sage Foundation, 1918, on the principles of contemporary disaster relief. Deacon pointed out that "there is always danger that the emergency status may be continued longer than necessary and consequently that the starting of rehabilitation may be unduly delayed. ... The object of rehabilitation relief is to assist families to recover from the dislocation induced by disaster and to regain their accustomed social and economic status" (136-7).

⁶⁰ Fradkin, *The Great Earthquake*, 305-38; Bean, *Boss Ruef's San Francisco*, 145; Baker, *A Test of Men*, 90-1.

⁶¹ Older, *My Own Story*, 81: "Even in the midst of fire and smoke and heaps of ruins, I thought continually of our plans to get Ruef and Schmitz, and lamented the delay I feared the fire would bring about."

disaster was quickly brought to an end. For at least a few days, the social hierarchies of the city ceased to exist in the camps and relief stations: rich and poor, white- and blue-collar workers, masters and servants together stood side by side in the bread lines. “For an instant there were neither millionaires nor paupers – just American people.” Other contemporary observers saw a return to early Christian ideals or the realization of genuine democracy.⁶² On the Sunday following April 18, residents of San Francisco joined together in remembering the dead at a massive open-air church service. Many aspects of daily existence in this period brought to mind San Francisco’s early days as a rough-and-ready mining town and revitalized ideals of the frontier.⁶³ Charles Fields’s poem “Barriers Burned” describes the atmosphere: “It ain’t such a terrible long time ago / That Mrs. Van Bergen and me / Though livin’ near to each other, y’ know, / Was strangers, for all ye could see, / For she had a grand house an’ horses to drive, / An’ a wee rented a cottage was mine, / But now we need rations to keep us alive / An’ we’re standin’ together in line. ... An’ Mr. Van Bergen and Michael, my man, / (They’ve always been friendly, the men) / They’re gettin’ together and layin’ a plan / For buildin’ the city again.”⁶⁴

⁶² Baker, *A Test of Men*, 81-90 (quote: 81), 82: “For a splendid moment this ruined city, San Francisco, was a Christian city.” Kennedy, *The Great Earthquake*, 153, describes “a display of democracy that seemed extraordinarily impressive.” Similar expressions in: Helburn, *The Quickening Spirit*, 300. See also White, *Complete Story*, 178; Morris, *The San Francisco Calamity*, 131; Bean, *Boss Ruef’s San Francisco*, 123; Kennedy, *The Great Earthquake*, 197-8. More critical point of view: Henderson, *Reconstructing Home*, 57-9.

⁶³ Kennedy, *The Great Earthquake*, 239; Kurzman, *Disaster!*, 228-9; Phelan, *Rise*, 580: “Under favoring skies, tents and shacks – the familiar abode of the pioneer when he laid the foundations of the city – are now the habitation of the many”

⁶⁴ Charles K. Field, *Barriers Burned* (A Rhyme of the San Francisco Breadline), quoted in: Jackson, ed., *The Western Gate*, 455.

This situation did not last for long. Within a few weeks, there was a return “from utopia to modern business conditions.”⁶⁵ With the resumption of economic activity – as banks and shops began to reopen and insurers started to pay claims – the old social structures reestablished themselves. The city was not rebuilt in the spirit of community but rather, as Ray Stannard Baker put it, “by an intense struggle of each man for immediate profit; little mercy for the weak, less thought of the ultimate public good.”⁶⁶

IV

The continuity of political and social structures was reflected in the economic response to the disaster and the rebuilding of the city. There was never any serious doubt that it would be rebuilt, but two important questions had to be addressed: how the rebuilding would be financed and how the new San Francisco would be laid out. The donations that poured into San Francisco served mainly to meet the emergency needs in the days immediately following the earthquake. Reconstruction was financed from the city’s financial reserves, through loans, and by insurance payouts. Thanks to the exceptionally high premiums customers paid, the United States had for many years been an attractive market for insurers; in 1906, more than 100 American and foreign insurance companies were doing business directly in San Francisco. Including the reinsurance business, some 250 insurers around the world were affected by the disaster. They were confronted with claims totaling about 250 million dollars, which covered approximately seventy percent

⁶⁵ Baker, *A Test of Men*, 82 (quote), 92-4.

⁶⁶ Baker, *A Test of Men*, 95-6. See also Henderson, *Reconstructing Home*, 92-106; Fradkin, *The Great Earthquake*, 211-4 (“Separate and Unequal”), on the life of the refugees, *ibid.*, 216-21.

of all the damage. At that time, insurers provided coverage only for losses due to fire. In each and every case, it had to be determined whether the damage in question was the result of the fire or of the earthquake. Initial promises not to enforce the “earthquake clause” were broken, and countless disputes ended up in court. Only six firms paid claims in full and promptly – and none of them were German. In the end, about eighty percent of all claims were paid, even though several insurers went bankrupt and others closed their American subsidiary companies. Nevertheless, the insurance industry, with its international network of firms, stood the test posed by the extraordinary demands of this disaster.⁶⁷ Only Chinatown found itself in economic hardship. Merchants there initially could not get loans for rebuilding because without their stock they had no collateral. Until early 1907, they had to depend on an internal credit system and support from other Chinese communities.⁶⁸

⁶⁷ Douty, *The Economics*, 193-207; Steinberg, *Acts of God*, 34f.; Winchester, *A Crack in the Edge of the World*, 295-9; Thomas, Witts, *The San Francisco Earthquake*, 188, 271; Bronson, *The Earth Shook*, 203-11; Kennedy, *The Great Earthquake*, 248-53. Early overview of the losses of American and foreign companies in: *California Insurance Loss is \$132,823,067*, in: *New York Times*, July 30, 1906, 10. Insurers “worried to a degree bordering on a panic” about their liabilities in San Francisco even before the fires were out (*Underwriters Hard Pressed*, in: *New York Times*, April 20, 1906, 4). On the changing view of the “earthquake clause,” see: *Insurance Loss Many Millions*, in: *New York Times*, April 19, 1906, 3; *San Francisco Insurance Situation*, in: *Wall Street Journal*, July 6, 1906, 2. On the earthquake and the insurance market, see most recently Tilmann J. Röder, *Rechtsbildung im wirtschaftlichen “Weltverkehr”: Das Erdbeben von San Francisco und die internationale Standardisierung von Vertragsbedingungen*, Frankfurt/M.: V. Klostermann, 2006 (*Studien zur europäischen Rechtsgeschichte*, 206). Three German insurers and one Austrian company refused to make any payments and withdrew from the American market. On Germany specifically, see Ludwig Arps, *Auf sicheren Pfaden: Deutsche Versicherungswirtschaft vor 1914*, Göttingen: Vandenhoeck & Ruprecht, 1965, 428-9, 650-6; *German Honesty*, in: *New York Times*, August 1, 1906, 8; *Appeal for ‘Quake Losses*, in: *Washington Post*, November 9, 1906, 9, a report on attempts to enlist the help of the State Department in dealing with the German insurers.

Earthquake insurance was available in America for the first time in 1916 (Steinberg, *Acts of God*, 37). See also Freeman, *Earthquake Damage and Earthquake Insurance*. On earthquake insurance in California today, see Risa Palm, *Earthquake Insurance: A Longitudinal Study of California Homeowners*, Boulder, CO: Westview Press, 1995; Risa Palm et al., *Earthquake Insurance in California: Environmental Policy and Individual Decision-Making*, Boulder, CO: Westview Press, 1990.

⁶⁸ On the behavior of the insurance companies in Chinatown (including the “Hamburg-Bremen” which held policies amounting to 800,000 dollars): Pan, *The Impact*, 101-5.

Chinatown nonetheless participated in the construction boom that began in the summer of 1906 and drove up the cost of materials and labor. In May, management and labor had pledged unity in response to the catastrophe, but before long reciprocal accusations of cheating were poisoning the atmosphere. A shortage of skilled labor and wage battles overshadowed the entire period of reconstruction. Increases in wages during the two or three years following the earthquake were offset by rising rents and were not sufficient to bring about long-term improvement in workers' living standards.⁶⁹

The plans for rebuilding San Francisco were shaped by the interests of the city's economic elite and were implemented without input from beyond the city. The business and political communities had always had a very close relationship, and outside investors had only a limited stake in the city, which meant the local business elites did not need to take outsiders' interests into consideration. Finally, San Francisco's economic elite had traditionally determined the city's spatial development, and Schmitz's election had not changed that tradition.⁷⁰

As a result of these factors, San Francisco missed a unique opportunity. Shortly after the turn of the century, the star architect Daniel Burnham had been commissioned by a city beautification committee headed by Phelan to draft a plan for overhauling the

⁶⁹ Bolton, *Recovery for Whom*, 115-51; Douty, *The Economics*, 225-307; Kazin, *Barons of Labor*, 124-7; Lewis, *San Francisco*, 201-2; similar notion in: Baker, *A Test of Men*, 92-3. On gender aspects of the post-disaster labor market, see Henderson, *Reconstructing Home*, 216-21.

⁷⁰ Issel, Cherny, *San Francisco*, 203-4; Fradkin, *The Great Earthquake*, 226-31; Give Ideas for New City: Many Suggestions Volunteered for Rebuilding of San Francisco, in: *San Francisco Chronicle*, May 6, 1906 (online: <http://www.sfmuseum.org/1906.2/ideas.html>); Planning Already For the New San Francisco: It Will Be Finer and Stronger Than the Old, in: *New York Times*, April 21, 1906, 10. For a broader perspective on the influence of business leaders in local politics in California, see William Issel, "Citizens Outside the Government": Business and Urban Policy in San Francisco and Los Angeles, 1890-1932, in: *Pacific Historical Review* 57 (1988), 117-45, for indirect international economic consequences of the financing of the rebuilding, see Kerry A. Odell, Marc D. Weidenmier, *Real Shock, Monetary Aftershock: The 1906 San Francisco Earthquake and the Panic of 1907*, in: *Journal of Economic History* 64 (2004), 1002-27.

layout of the city. The plan Burnham presented in 1905, taking its cue from the structure of Paris, envisioned new open spaces, new street approaches to the city's hills, new thoroughfares, and a city center dominated by majestic governmental buildings.⁷¹ The destruction unexpectedly created an opportunity to implement it. In late May, a subcommittee of Schmitz's "Committee of Forty" led by Phelan expressly recommended that key elements of Burnham's plan be carried out: "We desire to impress upon the Committee of Forty the importance of taking a broad view not only of the present, but the future needs of the city of San Francisco, which is destined to grow in population and serve the great purposes of the metropolis of the Pacific Coast."⁷² An additional argument for the plan was that the layout Burnham favored would improve safety.

Nevertheless, the city's rebuilding largely followed established planning principles and practices. The opponents of Burnham's plan quickly carried the day. The new San Francisco would of course be bigger and more beautiful than the old, but its basic appearance would not be much different. The discussion of the city's future was summed up in the headline of the May 1 *San Francisco Bulletin*: "Dreams will not rebuild San Francisco."⁷³ Acquiring the land necessary for Burnham's plan and resettling those who would be displaced would have been more costly for the city and would have delayed rebuilding. Delay might have jeopardized the city's standing as a business center.

⁷¹ Daniel H. Burnham, Report on a Plan for San Francisco, presented to the Mayor and Board of Supervisors by the Association for the Improvement and Adornment of San Francisco, San Francisco: n. p., 1905. See on the city beautification movement in general: Starr, *Inventing the Dream*, 176-98; Judd Kahn, *Imperial San Francisco: Politics and Planning in an American City, 1897-1906*, Lincoln, NE: University of Nebraska Press, 1979; Lewis, *San Francisco*, 172-9.

⁷² Report in: Excerpts from San Francisco Municipal Records, 793-7 (quote: 796). See also the plea for implementation of the Burnham plan in: Phelan, *Rise*, 577-9, and Bean, *Boss Ruef's San Francisco*, 124-6; Kennedy, *The Great Earthquake*, 254-5.

⁷³ Quoted in: Bean, *Boss Ruef's San Francisco*, 125.

There was initially discussion of giving the mayor and the city government quasi-dictatorial powers for two years in order to accelerate the process of rebuilding, but the proposal eventually died for lack of support.⁷⁴

The fear that a long period of post-disaster reconstruction might prove economically disadvantageous was by no means special to San Francisco. In Europe it was common even in the early modern era. In the United States, this attitude had influenced responses to the earthquake of 1868 and the destruction of Charleston in 1886. Earthquakes were not seen as a reason to call existing patterns of urban development into question: they were, rather, unavoidable natural occurrences after which a quick return to normality was possible.⁷⁵ Journalists and scientists alike pointed out that no city had been hit twice by a major earthquake and that another one could not be expected for at least a century.⁷⁶ Thus, structural precautions seemed extraneous. The only infrastructure improvements that came with San Francisco's rebuilding were in the area of water supply. New underground storage facilities, a new system of water mains, and new pumps for drawing water from the bay were installed. A decisive step toward increasing the city's

⁷⁴ See Phelan, *Rise*, 579.

⁷⁵ Steinberg, *Acts of God*, 18-21, 28; Wollenberg, *Life on the Seismic Frontier*, 495, 500-2; Winchester, *A Crack in the Edge of the World*, 68-70; Hough, Bilham, *After the Earth Quakes*, 101-34 (on Charleston); Haas, Kates, Bowden, eds., *Reconstruction following Disaster*, 66-7. See for Europe Martin Körner, *Stadtzerstörung und Wiederaufbau: Thema, Forschungsstand, Fragestellung und Zwischenbilanz*, in: Körner, ed., *Stadtzerstörung*, 7-42, 32-3. In pre-industrial societies, however, earthquakes could be seen as a signal for a new beginning: Angelos Chaniotis, *Willkommene Erdbeben*, in: Eckart Olshausen, Holger Sonnabend, eds., *Naturkatastrophen in der antiken Welt: Stuttgarter Kolloquium zur historischen Geographie des Altertums 6-1996*, Stuttgart: F. Steiner, 1998, 404-16.

⁷⁶ Geschwind, *California Earthquakes*, 22, 36-9; Derleth Jr., *The Destructive Extent*, 100-1: "It is probable therefore that a heavy earthquake in the region of the main coast range fault will not occur in the immediate future, and that the crust in the region of San Francisco has been put into equilibrium for a considerable period of time." More pessimistic David Starr Jordan, *The Earthquake Rift of April, 1906*, in: Jordan, ed., *The California Earthquake*, 1-62, 55, who assumed a new earthquake possible within the next forty years.

water supply was taken in 1913 when, after much debate, the construction of the Hetch Hetchy River Valley Dam began.⁷⁷

The technical lessons learned from the disaster had little impact on the rebuilding of houses and streets. Soon after the earthquake, experts like the engineer Charles Derleth Jr. of the University of California pointed to the different levels of damage done to public and private buildings. They attributed this disparity to differences in the quality of architecture, of the plots, of the building materials used, and of construction. In their publications, they made concrete recommendations on how damage could be minimized in the future: “The time is ripe for people to realize that they must enforce proper building laws and a proper attitude toward healthy construction both in municipal and in private works.”⁷⁸ James Phelan emphasized that “[t]he San Francisco of the future will be ... a more carefully constructed city, because the people have been taught the best methods of construction, and there is a general disposition to support rigidly the requirements of the new building laws.”⁷⁹ This held true, however, for only a couple of months, while memories of the earthquake and fire were still fresh. The city’s building code was revised in May 1906, and the experts’ recommendations for protecting against future damage were not without influence. The numbers of the more stable so-called Class A-, B-, and C-houses increased rapidly. Still, of the 20,000 buildings erected in the three years following the earthquake, less than 1,700 met those standards in the end. And

⁷⁷ Platt, *Disasters and Democracy*, 247; Robert W. Righter, *The Battle over Hetch Hetchy: America’s Most Controversial Dam and the Birth of Modern Environmentalism*, New York: Oxford University Press, 2005.

⁷⁸ Derleth Jr., *The Destructive Extent*, passim (quote: 178). On Derleth’s campaign for earthquake-safe buildings: Geschwind, *California Earthquakes*, 29-30.

⁷⁹ Phelan, *Rise*, 576.

within a few years the strict new regulations were eased step by step.⁸⁰ The majority of buildings in San Francisco remained susceptible to earthquakes, and since nothing was done to change the heavy concentration of buildings in the city center, the possibility of another major conflagration could not be ruled out either.

Immediately after the disaster, commercial activity shifted from San Francisco's destroyed center to temporary quarters on the outskirts. The mansions along Van Ness Avenue were transformed into warehouses, lawyers' offices, and insurance agencies. Rents shot through the roof. Meanwhile, the city center was cleared of wreckage. Most of it landed in the bay, thus increasing the instable area of "made ground" there. Only gradually, business returned to the center: first the banks, then the shops and warehouses, and finally the hotels. Larger enterprises generally led the way. The result was a significant "demixing" of businesses in the center and an expansion of the financial district at the expense of wholesalers and manufacturers. Manufacturing never fully recovered from the consequences of the earthquake.⁸¹

Similar patterns could be observed in the rebuilding of residential areas: different social groups moved to rebuild housing at different times, which in turn contributed to a process of social and ethnic "demixing." Within the first two months after the earthquake,

⁸⁰ On the new buildings code, see Douty, *The Economics*, 207-12, data on the process of rebuilding *ibid.*, 217-24; Steinberg, *Acts of God*, 36-9; Geschwind, *California Earthquakes*, 26-31. The number of Class-A-buildings with steel frames and walls made of brick, stone or cement, rose within three years from 27 (before the earthquake) to 104. 115 new buildings with reinforced walls of brick or cement met Class-B-standards, and another 1,500 had outer walls of brick or stone (Class-C) (Lewis, *San Francisco*, 202). See also the new book by Stephen Tobriner, *Bracing for Disaster: Earthquake-Resistant Architecture and Engineering in San Francisco, 1838-1933*, Berkeley, CA: Heyday Books, 2006, ch. 10-13.

⁸¹ Haas, Kates, Bowden, eds., *Reconstruction following Disaster*, 73-9, 86-7. Unavailable for this paper was Martyn Bowden, *The Dynamics of City Growth: A Historical Geography of the San Francisco Central District, 1850-1931*, Diss. University of California, Berkeley, 1967. See also Douty, *The Economics*, 176-82, 338-45; Lewis, *San Francisco*, 199-200, and from a general point of view Rosen, *The Limits of Power*, ch. 4: *The Barriers to Spatial Change*.

more than 8,000 “refugee houses” were built on open lots and in city parks. These stable wooden barracks, each accommodating several families, gradually replaced the temporary tent camps and were to remain in use for a few years. These emergency quarters mainly served the working class, the poor, and the socially disadvantaged. Already in the summer of 1906, middle class and wealthy families were being encouraged – with offers of subsidies and loans from municipal programs – to rebuild their homes or to rely upon the real estate market to find new accommodations in sections of the city that had not been destroyed. Living conditions for the affluent had largely returned to pre-earthquake standards by 1908, whereas things remained difficult for the families of unskilled or poorly paid workers for another three years. “The sequence of return following disaster placed greatest stress on the social class and economic activities lowest in the ranking of activities.” The rapid rise of rents resulted in socially “pure” residential areas. San Francisco’s low-income residents were by and large driven out of the city center. Much the same pattern held for ethnicity: more established residents of western and central European ancestry moved back into residential areas sooner than recent immigrants from southern Europe or Latin America.⁸²

Even if the basic layout of San Francisco did not undergo fundamental change during the post-earthquake rebuilding, there were processes of both centralization and decentralization that, taken together, led to a sharper delineation of the city’s commercial and residential districts. Five years after the earthquake, there were 100,000 fewer people living in the three square miles of the city center than there had been in early 1906, even

⁸² Haas, Kates, Bowden, eds., *Reconstruction following Disaster*, 72-3, 79-91 (quote: 82); Henderson, *Reconstructing Home*, 109-21, 159-69, 187-201, 208-9; Bolton, *Recovery for Whom*, 58-79; Douty, *The Economics*, 126-33, 309-38; Bronson, *The Earth Shook*, 226, 234-6; San Francisco Relief Survey, 69-89.

though the city's population had returned to the pre-earthquake level.⁸³ Changes of this sort were an important consequence of the earthquake, but they were not qualitatively different from what was happening in other large American cities in the early twentieth century. The earthquake, in other words, was catalyst for these processes in San Francisco, not the cause.

Economic considerations also set the terms of the discussion of Chinatown's future.⁸⁴ Immediately after the fire, there seemed to be consensus that this "oriental hell," as one contemporary observer described it,⁸⁵ would be relocated on the periphery of the city. Although valuable goods were buried under the ruins of the burned-out neighborhood, Chinatown was not protected against looters, and Chinese refugees were repeatedly moved from one temporary encampment to another to prevent them from becoming settled. But within a matter of days after the fire, advocates of Chinese relocation found themselves under pressure from several quarters. The Chinese government had complained to President Roosevelt about the alleged discrimination against its citizens in San Francisco; in response, Roosevelt imposed a strict anti-discrimination policy in the distribution of relief.⁸⁶ In San Francisco itself, some people voiced concern that

⁸³ Haas, Kates, Bowden, eds., *Reconstruction following Disaster*, 93-6.

⁸⁴ See in detail Pan, *The Impact*, in particular 43-5, 81-83; Fradkin, *The Great Earthquake*, 289-96; Henderson, *Reconstructing Home*, 121-34, 169-75, 226-30, and Kennedy, *The Great Earthquake*, 235-9. The debate was prominently remembered recently by Mae M. Ngai, *San Francisco's Survivors: How the Chinese Fought to Stay in Chinatown*, in: *New York Times*, April 18, 2006, A23.

⁸⁵ White, *Complete Story*, 246. His chapter on Chinatown (246-54), with the headline "Chinatown, a Plague Spot Blotted Out," uses every cliché imaginable and presents the neighborhood as a center of drug abuse, illegal gambling, blackmailing, murder, and prostitution. Previous plans for relocation discussed in: Pan, *The Impact*, 25-7, on the plans of 1906, see *ibid.*, ch. 3, and Thomas, Witts, *The San Francisco Earthquake*, 259.

⁸⁶ Roosevelt's position was directly linked to the Chinese-American relations in general. See Howard K. Beale, *Theodore Roosevelt and the Rise of America to World Power*, Baltimore, MD: Johns Hopkins University Press, 1987 [1956], 172-252. On the earthquake and American-Japanese relations, see Ronald Lee

discriminatory treatment of the Chinese might have negative consequences for the city's lucrative trade with Asia. And the city's Chinese residents themselves were quick to point out that many Chinatown residents, like their counterparts in other neighborhoods, owned the land on which their houses had stood and that a large-scale relocation ordered by the city would not be legal. Chinese renters won the support of white landlords by offering to sign long-term leases on terms favorable to owners. Once Los Angeles and other cities began to make overtures to San Francisco's Chinese residents, the debate on relocation came to an end: Chinatown would be rebuilt where it had stood before the earthquake and fire. The Committee of Forty's "Sub-Committee for Permanent Relocation of Chinatown" headed by Ruef and responsible for negotiating with the Chinese community was dissolved on July 8.

In the end, Chinatown profited from the earthquake. The district's street plan was improved, and the new buildings, many in a more "oriental" style than previously, were of higher quality construction. The disaster also added impetus to the drive for reforms within the Chinese community aimed at ending illegal activities and forging closer ties to "white" San Francisco.⁸⁷

Turner, *The San Francisco Earthquake: A Study of the Effects of a Natural Disaster on a Foreign Policy Relationship*, Thesis University of Texas, El Paso, 1986.

⁸⁷ Pan, *The Impact*, 98, 107-9, 113 (the new Chinatown characterized as a "brighter, cleaner, wider and more prosperous community"), 113-22.

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Fears of delay in rebuilding and of the possible consequences of anti-Chinese discrimination were not the only reasons to think the earthquake might harm San Francisco's economy in the long run. Business interests were equally concerned about the impact of media coverage of the disaster and did what they could to influence the ways it was portrayed.

There was certainly no lack of information about the earthquake and the fire. Like no other natural catastrophe before, they were a media event. Major means of communication that relay news of disasters round the world today already existed in 1906: newspapers, photography, and even film – not to mention a flourishing souvenir industry. Among the most popular souvenirs were hand-colored postcards, most of which were produced in Germany, and so-called stereopticon cards, which provided three-dimensional images.⁸⁸

San Francisco's three daily papers kept publishing despite the destruction of their offices and presses. Operating from Oakland, they joined forces to produce a combined edition that appeared on the morning of April 19. The headline read simply: "Earthquake and Fire: San Francisco in Ruins." The next day, they went back to publishing separately, thereby increasing the pool of information for the national and international press.⁸⁹

⁸⁸ See the images in: Hansen, Condon, Denial, 98-9, 102. On August 18, 1906, a comic book with the popular hero Nick Carter and an earthquake storyline was published (ibid., 100). On earthquake photography in San Francisco in general, see Nicholas Yablon, *Cities in Ruin: Urban Apocalypse in American Culture, 1790-1920*, vol. 1, Diss. University of Chicago, 2002, 175-236; Winchester, *A Crack in the Edge of the World*, 265-70; Fradkin, *The Great Earthquake*, 280-8.

⁸⁹ Fradkin, *The Great Earthquake*, 86-9, 264-9. On the fate of the buildings of *Examiner*, *Call*, and *Chronicle*, see also Thomas, Witts, *The San Francisco Earthquake*, 106-7.

Journalists were among the first people allowed to enter the city after General Funston declared it off limits.⁹⁰ Reports in the daily papers were supplemented in the following weeks by longer magazine articles. *Collier's*, for example, offered the writer Jack London the enormous sum of 25 cents per word for an exclusive account of his observations in San Francisco.⁹¹ Book publishers brought out no fewer than 82 books, many long and richly illustrated, about the disaster before the end of 1906.⁹² General accounts, eye-witness reports, memoirs by both the famous and the obscure alike, and editions of letters and diaries describing the disaster and its aftermath continue to flow from the printing press to this day.⁹³ In 1936, the earthquake gained Hollywood fame when MGM released the film "San Francisco" starring Clark Gable. *Time*'s reviewer paid it a dubious compliment, noting that the quake lasted "20 minutes on the screen and in all respects ... betters its original of 30 years ago."⁹⁴ Unfortunately, most of the source materials that Henry Morse Stephens of the University of California assembled on behalf of the Committee of Fifty's "History and Statistics Subcommittee" have been lost. He

⁹⁰ On April 19, William R. Hearst sent a telegram to Secretary Taft protesting against alleged military censorship. Taft replied immediately that news from San Francisco were not held back (both telegrams online at: <http://www.sfmuseum.org/1906/censor.html>).

⁹¹ The report was published on May 5, 1906, with the plain headline: "The Story of an Eyewitness" (online at: <http://www.sfmuseum.org/hist5/jlondon.html>). See also Fradkin, *The Great Earthquake*, 270-2.

⁹² Steinberg, *Acts of God*, 26. One of the earliest publications was probably the illustrated book "The City Beautiful: San Francisco Past, Present and Future." Its title page gives June 21, 1906, as date of publication, and its introduction is particularly optimistic about the future of the city.

⁹³ See, for example, James B. Stetson, *San Francisco During the Eventful Days of April, 1906*, San Francisco: Murdock Press, 1906, printed as early as June 1906. More recent examples: Mary McD. Gordon, *Earthquake and Fire in San Francisco*, in: *Huntington Library Quarterly* 48 (1985), 69-79, the edition of an eye-witness report by Cameron King Jr.; Harry J. Johnson Jr., ed., *My Experience in the Earthquake and Fire of San Francisco*, by Chester Charles Lincoln, in: *California History* 65 (1986), 34-41, 74; Barrett Kennedy, "Yes, 'We Got It safe':" A 1906 Earthquake Letter, in: *California History* 71 (1992-93), 510-15 (Letter by Margaret Wright, April 28, 1906).

⁹⁴ Cinema, in: *Time*, July 6, 1936, 48, quoted in: Steinberg, *Acts of God*, 40. On the movie, see also Winchester, *A Crack in the Edge of the World*, 262-3.

gathered some 30,000 eye-witness reports, hundreds of newspaper articles, and every manner of available data and documentation for a comprehensive history of the disaster; in the end, however, nothing came of this ambitious project.⁹⁵

Nevertheless, the wealth of materials available to historians stands in clear contrast to the sources that have come down to us about natural disasters in pre-modern times. Yet it is difficult to write a “true” history of the earthquake and to comment on the fate of the city as a whole. Many of the printed sources – the newspaper accounts, brochures, and books produced at the time – downplay the impact of the earthquake. Influential businesses such as the Southern Pacific Company mounted veritable campaigns to persuade the world that fire – which would be controllable in the future – had been responsible for actual damage done, not the earthquake.⁹⁶ The “New San Francisco Emergency Edition” of *Sunset*, a magazine controlled by the Southern Pacific, is typical of this sort of propaganda. The title page shows the silhouette of a beautiful young woman overshadowing the burning city and symbolizing its glorious future.⁹⁷

Even the press lord William Randolph Hearst, never one to pass up a sensational story,

⁹⁵ Henry Morse Stephens, How the History of the Disaster is Being Made, in: San Francisco Examiner, April 18, 1908 (online at <http://www.sfmuseum.org/1906/morse.html>). On the fate of the Stephens papers, see Fradkin, *The Great Earthquake*, 248-54.

⁹⁶ On the suppression of news about the earthquake, see Steinberg, *Acts of God*, 27-33; Hansen, Condon, Denial, 108-11; Fradkin, *The Great Earthquake*, 272-6. On the one-sided focus on the fire, see Geschwind, *California Earthquakes*, 23-6; Winchester, *A Crack in the Edge of the World*, 290-3; Henderson, *Reconstructing Home*, 54-7.

Contemporary examples of this type of coverage: San Francisco Imperishable, in: Buffalo NY Gazetteer and Guide, August 1906 (online: <http://www.sfmuseum.org/conflag/imperish.html>), Charles Peter Weeks, Who is to Blame for San Francisco's Plight (online: <http://www.sfmuseum.org/hist1/plight.html>), and the report on a meeting of the San Francisco Real Estate Board: Big Structures now planned: Preparations to rebuild San Francisco on Lines recommended by Burnham, in: San Francisco Chronicle, April 25, 1906 (online: <http://www.sfmuseum.org/1906.2/burnham.html>): “It was agreed that the calamity should be spoken of as ‘the great fire’, and not as ‘the great earthquake’.” Another extreme example is the memoirs of Fremont Older, who does not once use the word „earthquake“ in his book: “Three weeks later came the great fire. San Francisco was destroyed.” (Older, *My Own Story*, 81).

⁹⁷ This edition is available online as a facsimile at: <http://www.sfmuseum.org/sunset/index.html>.

told reporters at his New York *American* after the first reports from San Francisco arrived: “Don’t overplay it. They have earthquakes often in California.”⁹⁸ This skewed perspective encouraged by business and political interests was to shape the portrayal of the San Franciscsco earthquake for decades to come.

Another problem confronting historians are the accounts of questionable reliability that began to accumulate soon after earthquake, including stories of individuals’ experiences that by chance happened to gain wide circulation, subjective observations, and distorted or exaggerated reports. Contemporary publications contain gruesome descriptions of people burning alive and of children suffocating to death. We read of unscrupulous individuals stripping valuables off corpses and of vigilantes brutally enforcing their own ideas of justice.⁹⁹ Before the earthquake, there were rumors of a “city under the city” in Chinatown, a network of secret passageways, opium dens, and bordellos. After Chinatown was leveled by the fire, there was an opportunity to determine whether there was any substance to such rumors, but the accounts of what was found are utterly contradictory. Some publications reported of subterranean passageways thirty feet below street level that exceeded the wildest speculations, whereas, according to others, all that was found in Chinatown were ordinary basements and passageways that had been created for the benefit of tourists.¹⁰⁰ Another well-known story is that the Italian residents

⁹⁸ Quoted in: Thomas, Witts, *The San Francisco Earthquake*, 83.

⁹⁹ Thomas, Witts, *The San Francisco Earthquake*, 136; *Die Katastrophe von San Francisco*, 60. Examples of reports later proven wrong in Fradkin, *The Great Earthquake*, 79-80, 277; Thomas, Witts, *The San Francisco Earthquake*, 87; Bronson, *The Earth Shook*, 368. Immediately after the earthquake rumors circulated that New York, Chicago, Seattle, Portland, and Los Angeles had also been destroyed: Thomas, Witts, *The San Francisco Earthquake*, 117; Bronson, *The Earth Shook*, 87.

¹⁰⁰ Pan, *The Impact*, 37; Purdy, *San Francisco*, 137-8; White, *Complete Story*, 111-2; Wilson, *San Francisco’s Horror*, 173-5.

of Telegraph Hill, confronted by a shortage of water, saved their houses by dousing them with red wine.¹⁰¹ To verify the truth of such reports and distinguish between facts and urban legends remains a challenge.

The refusal to recognize the earthquake as the actual cause of San Francisco's destruction even impeded scientific research into the disaster and the dissemination of scientific findings about it. Aside from a handful of zealots, no one in 1906 tried to explain the earthquake and its consequences in religious or mythological terms: as an act of divine vengeance or as punishment for misdeeds in the past.¹⁰² An exception was Chinatown, where many residents ascribed the earthquake to the dreadful movements of the terrestrial dragon Day Loong.¹⁰³ Otherwise, there was no trace of the sort of responses to disaster typical of pre-industrial societies: apathetic resignation to an apparently unavoidable fate, recourse to religion and magic, collective rituals of purification, and the

¹⁰¹ Mentioned in White, *Complete Story*, 106; Purdy, *San Francisco*, 45; Bronson, *The Earth Shook*, 68.

¹⁰² On religious interpretation of earthquakes in antiquity, see Holger Sonnabend, *Naturkatastrophen in der Antike: Wahrnehmung, Deutung, Management*, Stuttgart: J. B. Metzler, 1999, 119-48; Jannis Mylonopoulos, Poseidon, der Erdschütterer: Religiöse Interpretationen von Erd- und Seebeben, in: Olshausen, Sonnabend, eds., *Naturkatastrophen in der antiken Welt*, 1998, 82-9, and on religious interpretations in North America in the eighteenth and nineteenth centuries Steinberg, *Acts of God*, xxi-xxii; Geschwind, *California Earthquakes*, 8-9. On the connection between the 1906-earthquake and the rise of Pentecostalism in America, see Winchester, *A Crack in the Edge of the World*, 304-11. Examples of religious interpretations of the San Francisco earthquake in Thomas, Witts, *The San Francisco Earthquake*, 217-8. See also the German-American publication *Die Katastrophe von San Francisco*, 11-2: "So vergeht die Welt mit ihrer Herrlichkeit! Kann es eine ergreifendere Mahnung an die Vergänglichkeit alles Irdischen geben als dieses Massengrab vernichteter Hoffnungen?". The description of San Francisco as America's "vergnügteste Stadt," with "gesellschaftliche Ergötzungen und Festlichkeiten" during the time of fasting before Easter and the "leicht-erworbene Gold" of the rich hotel guests (*ibid.*, 12) also implies a relationship between sinfulness and punishment. On the predominantly secular and morally "neutral" interpretation of earthquakes in the U.S. around the turn of the century, see Steinberg, *Acts of God*, 20-22.

¹⁰³ Pan, *The Impact*, 34-6. See also S. A. Barrett, Indian Opinions of the Earthquake of April, 1906, in: *Journal of American Folklore* 19 (1906), 324-5, on two conflicting faith-based Native American interpretations of the tremor: They viewed it either as the beginning of the "great levelling" of the earth or another episode of periodic "stretching." Native American interpretations of earthquakes in general mentioned in: A. L. Kroeber, *Earthquakes*, *ibid.*, 322-3.

search for scapegoats.¹⁰⁴ People knew that earthquakes are a natural phenomenon resulting from geological processes. That said, there was nonetheless considerable disagreement on what precisely triggered the earthquake and whether it could be connected to a recent eruption of Mount Vesuvius in Italy.¹⁰⁵ For the comparatively new scientific discipline of geology, the earthquake represented a unique research opportunity, and geologists were accordingly excited: “When I was awakened in Berkeley on the eighteenth of April last by a tumult of motions and noises, it was with unalloyed pleasure that I became aware that a vigorous earthquake was in progress,” reported Grove K. Gilbert from the U.S. Geological Survey, for example.¹⁰⁶ But the scientists effectively received no support whatsoever for their work from either the state or the business community on account of fears that California would be stigmatized. After the earthquake of 1868, scientists had carried out an investigation, but their findings were not widely reported.¹⁰⁷ In 1906, only three days after the event, Governor Pardee appointed a scientific commission to study the earthquake. It was to be headed by Andrew C. Lawson of the University of California, one of the leading geologists of the day. Pardee neglected, however, to provide the commission with funding. Ultimately, the Carnegie Institution subsidized the publication of its findings. The two-volume report was the most comprehensive scientific

¹⁰⁴ Sjoberg, *Disasters*, 363-5.

¹⁰⁵ No Vesuvius Connection, in: *New York Times*, April 19, 1906, 8; Prof. Pickering’s View, *ibid.*, 5; overview of contemporary interpretations in Dennis R. Dean, *The San Francisco Earthquake of 1906*, in: *Annals of Science* 50 (1993), 501-21, 511-17; White, *Complete Story*, 230-45. Additional theories mentioned in Thomas, Witts, *The San Francisco Earthquake*, 167-8, 219; Bronson, *The Earth Shook*, 272-5.

¹⁰⁶ Grove Karl Gilbert, *The Investigation of the California Earthquake*, in: Jordan, ed., *The California Earthquake*, 215-56, 215; see also Winchester, *A Crack in the Edge of the World*, XXIX-XXXIV, *passim*.

¹⁰⁷ Arnold J. Meltsner, *The Communication of Scientific Information to the Wider Public: The Case of Seismology in California*, in: *Minerva* 17 (1979), 331-54, 333.

study of earthquakes that had appeared up to that time.¹⁰⁸ The San Francisco earthquake also prompted the founding of the “Seismological Society of America,” which was dedicated to the collection and publication of data on earthquakes. In their writings, commission members like Gilbert and John C. Branner, the president of the “Seismological Society,” insisted that a public discussion of the threat of earthquake would not harm San Francisco, that the public had a right to information, and that humans could deal with a natural phenomenon only if they were accustomed to it and knew as much about it as possible. Their protests were, though, in vain. The Progressive notion that behavior could be changed by educating the public did not prevail.¹⁰⁹

VI

In San Franciscans’ public awareness, pride in the city’s rebuilding and overcoming the consequences of the earthquake overshadow the memory of the earthquake itself to this day. It is notable that there is still no central memorial to the victims of 1906.¹¹⁰ Initially,

¹⁰⁸ Lawson et al., *The California Earthquake of April 18, 1906*. On the commission, see Dean, *The San Francisco Earthquake*, 517-20; Geschwind, *California Earthquakes*, 33-40; Steinberg, *Acts of God*, 34; Fradkin, *The Great Earthquake*, 254-62; Hough, Bilham, *After the Earth Quakes*, 153-69. Among its members were Grove K. Gilbert (U.S. Geological Survey), John C. Branner (Stanford University), and Harry F. Reid (Johns Hopkins University). In 1904, Lawson, by the way, had strongly denied the possibility of a major earthquake in the Bay area (Geschwind, *California Earthquakes*, 18).

¹⁰⁹ Gilbert, *The Investigation of the California Earthquake*, 254-6; John C. Branner, *Earthquakes and Structural Engineering*, in: *Bulletin of the Seismological Society of America* 3 (1913), 1-5; Bailey Willis, *A Fault Map of California*, in: *Bulletin of the Seismological Society of America* 13 (1923), 1-12, who closes with the hint that the “purpose of this publication is to inform the public and to promote public safety through enlightened public opinion” (12), the comprehensive overview by Bailey Willis, *Earthquake Risk in California*, in: *Bulletin of the Seismological Society of America* 13 (1923), 89-99, 147-54; *ibid.*, 14 (1924), 9-25, 150-64, 256-64, which was supposed to provide basic geological information for insurers; and, finally, Freeman, *Earthquake Damage and Earthquake Insurance*. Additional examples in Meltsner, *The Communication*, 334-8. See also Geschwind, *California Earthquakes*, 5-6, 40-2; Winchester, *A Crack in the Edge of the World*, 288-90.

¹¹⁰ Bronson, *The Earth Shook*, 360-1, 367-8.

the figure of the “Forty-Niner” lost its symbolic value in the wake of the earthquake: it was not appropriate to identify with the gold-hunter bent on individual enrichment during the collective process of rebuilding. This displacement was, however, only temporary.¹¹¹ There were regular memorial events in the years and decades after 1906, including a multi-day “Festival of Progress” in connection with the fiftieth anniversary of the disaster in 1956.¹¹² Yet the evidence suggests that no one in San Francisco wants the earthquake to be a permanent presence in the public consciousness – and that such a presence might not be possible psychologically. Recent publications, pointing also to the severe Loma Prieta earthquake of October 1989, complain that Californians continue to suppress the threat of earthquakes and remain unprepared for a major disaster. The glass-clad skyscrapers that stand one next to the other downtown are not a reassuring sight.¹¹³

It is against this background that the continuity in the city’s political, social, and economic structures and the reflection of this continuity in its physical rebuilding should be seen. The destruction of San Francisco was not caused by political or military events

¹¹¹ Ron Robin, *Signs of Change: Urban Iconographies in San Francisco, 1880-1915*, New York: Garland, 1990, 19-21.

¹¹² Harlan Trott, *When the City Fell Down: An Intimate Message From the Pacific Coast*, in: *Christian Science Monitor*, May 1, 1956, 18; *San Francisco’s Date to Remember*, in: *New York Times*, April 15, 1956, 256.

¹¹³ See Hansen, Condon, Denial; Thomas, Witts, *The San Francisco Earthquake*, 11, who begin their book with the sentence: “It will happen again.” For speculation on the consequences of another earthquake, see the brilliant essay by Marc Reisner, *A Dangerous Place: California’s Unsettling Fate*, New York: Penguin, 2004; Winchester, *A Crack in the Edge of the World*, 328-35; Rutherford H. Platt, *Natural Hazards of the San Francisco Bay Mega-City: Trial by Earthquake, Wind, and Fire*, in: Mitchell, ed., *Crucibles of Hazard*, 335-74; Haas, Kates, Bowden, eds., *Reconstruction following Disaster*, 245-60; Kurzman, *Disaster!*, 253-5; William Booth, *Repeat of Quake of 1906 Could Be Even More Deadly*, in: *Washington Post*, April 17, 2006, A 3. See also Karl V. Steinbrugge, *Earthquake Hazard in the San Francisco Bay Area: A Continuing Problem in Public Policy*, Berkeley, CA: Institute of Governmental Studies, 1968; Karl V. Steinbrugge et al., *Earthquake Planning Scenario for a Magnitude 7.5 Earthquake on the Hayward Fault, San Francisco Bay Area*, in: *California Geology* 39 (1986), 153-7. Images and documents of the Loma Prieta earthquake online at: <http://www.sfmuseum.org/1906/89.html>.

that might not occur again in the future if people changed their ways. It was caused by a natural event that might be repeated at any time and whose consequences could not be controlled for certain even by substantial changes in behavior. This fact encouraged – and continues to encourage – a certain fatalism.¹¹⁴ The only truly safe alternative – namely, abandoning San Francisco as a center of human activity and residence – was not an option in the view of the great majority of the city's citizens. And, as the press repeatedly reminded them, the Midwest and the Southeast, with their tornados, hurricanes, and floods, were by no means any safer.¹¹⁵ The city and its leaders stood the test of the disaster of 1906 – not only in their own view but also in the opinion of posterity. The rapid reconstruction demonstrated that people were willing to accept the challenge of San Francisco's geographic location. But I hope I have been able to shed some light on the peculiarities of the San Francisco case - especially the political and social backgrounds and tensions of the time. In my opinion they should caution us against all too broad generalizations about cities and disasters. Given the very different nature of some of the most recent catastrophic events in America, it remains to be seen whether the thesis of city resilience will continue to hold up.

¹¹⁴ Robert A. Stallings, *Promoting Risk: Constructing the Earthquake Threat*, New York: A. de Gruyter, 1995; Raymond Sullivan et al., *Living in Earthquake Country: A Survey of Residents Living Along the San Andreas Fault*, in: *California Geology* 30 (1977), 3-8.

¹¹⁵ See, for example, Will Rogers, *California has 'Quakes, But Has'nt (sic) Florida Got Bryan?*, in: *Washington Post*, July 12, 1925, SM 2.