

FLAMMABLE CITIES: FIRE, URBAN ENVIRONMENT, AND CULTURE IN HISTORY

Conference at the GHI, May 15–17, 2008. Conveners: Greg Bankoff (University of Hull), Uwe Lübken (GHI), Jordan Sand (Georgetown University). Participants: Shane Ewen (Leeds Metropolitan University), Cathy Frierson (University of New Hampshire), Jason Gilliland (University of Western Ontario), Amy S. Greenberg (Pennsylvania State University), Andrea Davies Henderson (Stanford University), Sabine Höhler (GHI), Daniel Kerr (James Madison University), Susan Donahue Kuretsky (Vassar College), Nancy H. Kwak (Brooklyn Polytechnic University), Maren Lorenz (GHI), Samuel J. Martland (Rose-Hulman Institute of Technology), Kristen McCleary (James Madison University), John R. McNeill (Georgetown University), Mark C. Molesky (Seton Hall University), Ayodeji Olukoju (University of Lagos), Hrvoje Petric (University of Zagreb), Dirk Schubert (HafenCity Universität Hamburg), Sofia T. Shwayri (University of Oxford), Jérôme Tadié (Institut de recherche pour le développement), Sara E. Wermiel (MIT).

Pre-industrial cities around the world burned frequently. Yet many prospered, and some grew to populations of over a million inhabitants. Although new building and extinguishing technologies and the rise of fire insurance fundamentally altered the relationship between cities and fire beginning in the seventeenth century, many cities around the world remained largely wood-built into the twentieth century. Some still are.

On May 15–17, 2008, an international group of scholars met at the GHI to examine the history of uncontrolled fire in large urban settlements. No work to date has taken a global approach to this issue. Research on fire in pre-industrial and industrial cities has tended to be limited to treatment in the context of individual urban histories (either of particular great fires or of the growth of firefighting technology) or general treatment of overall trends. The English-language historiography on urban fire history overwhelmingly has treated only Europe and the United States. The conference departed from these narrow methodological and geographical limits in order to illuminate a host of new issues related to cities and the environment by permitting comparison of differing urban morphologies, types of building material, social systems, cultural attitudes, and methods for coping with disaster. Since the study of cities is inherently a multidisciplinary enterprise, the gathering included scholars in fields ranging from art history to geography, in addition to social, cultural, and environmental historians.

Fire poses a problem of particular subtlety and interest for the field of environmental history because it occupies a zone between human and natural causation. As recent studies (such as: Greg Bankoff, Georg Frerks, and Dorothea Hilhorst, *Mapping Vulnerability* [London, 2004]) have emphasized, “natural disasters” must be understood as encounters between episodic natural events and humans who build settlements exposed to natural hazards. The study of fire allows us to carry this insight yet further into the social realm, since fire is both a natural hazard and a resource whose controlled use is indispensable to human habitation.

The social issues surrounding fire include building codes, arson and punishment, the military use of fire, organization of citizens into voluntary and professional firefighting associations, and aid, charity, and compensation after fires. More broadly, in socioeconomic terms, the history of fire in cities is inseparable from questions about the growth of capitalism and private rights in property. Johan Goudsblom (*Fire and Civilization* [London, 1992]) notes that “stonification” and “brickification” in northern European cities developed in the seventeenth century in parallel with increased prosperity and commercial competition. Yet it remains questionable whether the flourishing commercial economies of early modern East Asia and the growth of capitalism in colonial and postcolonial contexts were accompanied by analogous patterns of change in the management of fire’s threat to material property. Further, the relationship between capitalist urban growth and permanent building materials in all places is a complex one, since a permanent state of flux and rapid obsolescence are inherent to the workings of capitalism. The modern real estate concept of the building cycle is predicated on fluctuation in property markets, not on cycles of natural growth and decay. Participants were thus charged with the task of considering the effects of urban fires—including not only their costs but also their benefits—in relation to the broad history of political and economic structures.

The cultural issues relating to urban fire include not only different ways of building cities and coping with their destruction, but the symbolic systems within which fire is understood. Destruction by fire can be treated as divine retribution, as a natural rebalancing of earthly forces, or as the fault of particular individuals or groups. Each set of cultural beliefs about fire predicates its own forms of response. Even in the largely secular modern context of twentieth-century San Francisco and New York, responses to urban disaster have been heavily shaped by cultural context, as Kevin Rozario has shown recently in his analysis of American “narratives of resilience” (see Rozario’s chapter in: Lawrence Vale and Thomas J. Campanella, eds., *The Resilient City* [Oxford, 2005]).

The conference was the first step in a scholarly attempt to develop the first large-scale comparison of the historical dynamics between urban

habitation, urban form, urban governance, and fire in different parts of the world. From this global comparison, it should be possible to map broad regional patterns and determine in a nuanced way for the first time what roles climate, economy, government, and culture have played in fire regimes across Europe and Asia and beyond.

Three papers dealt with fire in the Luso-Hispanic world. Mark Molesky reminded us that the Lisbon earthquake of 1755, often heralded as the “first modern disaster,” was actually a complex emergency. It was not simply a seismic event of great magnitude followed by a tsunami, but was also a devastating fire that raged for perhaps a week and consumed a large part of the old city. Using eyewitness accounts, Molesky was able to reconstruct the course of this conflagration from the controversies over its inception to the limited abilities of the city’s firefighting services to extinguish or even control the blaze, to estimates of the extent of the damages wrought. He concluded that it was the fire more than anything else that proved to be so destructive of property, and that perhaps as many as ten thousand people may have perished in the flames, a truly staggering figure both for the period and for the type of hazard. In fact, it was the sheer scale of this destruction that provided Enlightenment officials with a unique opportunity to reconstruct and “improve” the center of Lisbon in a form that it largely retains to this day.

Moving forward in time to the following century and in place to the southern cone of South America, two papers discussed fire in Chile and Argentina during the nineteenth century. The authors, however, examined their subject from very different vantage points, illustrating the myriad ways in which fire affects our lives and the diverse insights into history and culture that it provides. To Samuel Martland, the history of fire in Valparaíso was about enterprise and innovation. The city pioneered new firefighting and fire prevention measures in Chile: establishing volunteer firefighting companies from among the social elite; readily adopting private insurance as a means of limiting loss; and elaborating building codes and safety regulations to prevent future conflagrations. In this, the municipal authorities were evidently successful, as the city experienced no major blaze between the great downtown fire of 1858 and the earthquake of 1906. Paraphrasing a newspaper article of the period, Martland shows how fire had been transformed from a catastrophe to “a matter of business.”

Kristen McCleary had a very different take on fire. She was not so much interested in documenting the physicality of fires or how they are fought as in the discourse that surrounds them. Apparently, fear of fire and concern with fire safety in public theaters became an almost obsessive focus of city administrators in late nineteenth-century Buenos Aires. There was a certain irony to this mania in that the city, whether by luck

or design, was able to avoid the terrible fires that burnt down other major theaters with such loss of life in Paris, Vienna, and Chicago. Public theaters, along with churches and department stores, were the foremost "covered spaces" of the time where large crowds regularly congregated, and so posed exceptional fire risks. According to McCleary, this fixation with fire safety had its roots in the local elite's attempts to both "outperform" their counterparts in Europe and North America and to impose a measure of "discipline" upon the disorderly migrant population who were entering the country in such large numbers at the turn of the twentieth century. For her, fire constitutes a useful and fruitful lens through which to view the modernization of the city.

Bridging the divide between the Luso-Hispanic world and that of Southeast Asia, Greg Bankoff examined fire in the nineteenth-century Philippines. He viewed the European city outside of Europe as having had a dual nature, a European core at its center about which formed a much larger indigenous periphery. Manila, therefore, was really two cities within a city, representing not only the socio-economic and ethnic realities of colonial life, but also a particular cultural adaptation to the twin hazards of earthquake and fire that, over time, had come to dominate notions of urban planning. However, as Manila's population steadily rose during the course of the century and as the boundaries between these two cities blurred, Bankoff showed how developments in fire management and firefighting not only helped control conflagrations, but also increasingly became a domain of colonial and even class contestation. Manila, as Bankoff demonstrated, was a city born out of fire, what he called a pyromorphology that represents a fascinating interplay between culture, architecture, and a combination of hazards over time.

Two other papers at the conference also studied fire in Southeast Asia, but in more contemporary times. It is the political nature of fire that came through so strongly with these authors. Nancy Haekyung Kwak showed how the government of Singapore used the Bukit Ho Swee fire of 1961, a conflagration that reduced some sixty acres of overcrowded slums to ashes in a matter of hours, to initiate a program of slum clearance, social engineering, and, ultimately, nation building. The fire provided the leaders of the People's Action Party with an unprecedented opportunity to establish themselves in the public's mind as a party that cared about people and used the full machinery of government to do something to better their lot. Re-housing those affected by the blaze paved the way for the massive HDB public/private housing programs that so characterize Singapore today. As such, Kwak presented the Bukit Ho Swee fire as the "crucible" from which the modern city-state and the continuing popularity of its ruling party emerged. When considering fires, she further

admonished us to distinguish between creative destruction and simple devastation.

The other paper on Southeast Asia continued with this political vein but across the Strait of Malacca in Indonesia. Jérôme Tadié examined the relationship between fire and governance in Jakarta since the 1970s. Fire, he argued, is a complex phenomenon that transforms the urban environment in different ways according to the political, economic, and social forces at play. It can equally be an issue of poverty and survival as one about international development and globalization. Focusing on fires in certain slums of Jakarta, Tadié revealed the web of interests and actors involved in the provision of aid and succor to those directly affected by it and in the subsequent reconstruction of an area. In particular, political parties in *reformasi* Indonesia use fire, both arson and the distribution of relief, as a means of extending patronage and expanding their power base. Fire in contemporary Jakarta is thus not just a hazard, but also a prism through which modernity, power, and the daily constraints of living are refracted, revealing how the metropolis functions over time.

In early modern Europe, prevention of large blazes engendered more municipal regulation than almost any other problem of urban habitation. Hrvoje Petrić presented detailed portraits of fire incidents in four key cities of the Croato-Slavonian Kingdom, on the frontier of the Habsburg Empire. All of these cities were characterized by high densities and construction in flammable materials. Fires occurred for a variety of reasons, most commonly human error. Records show that their social and economic impact was often devastating. Regular firefighting forces did not appear until the creation of voluntary societies in the nineteenth century. Municipal authorities sought with some success to limit fire damage by requiring citizens to equip themselves and be ready to fight fires. The most important development came, however, following the fire that destroyed the military stronghold of Varaždin in 1776. After this fire, all reconstruction within the city walls was required to be in brick. Varaždin re-emerged as a nascent bourgeois city, since the aristocrats who had made it their capital prior to 1776 decamped to Zagreb. Thus in this instance, the transition to fireproof construction accompanied a sharp break in the social composition and political role of the city.

A key development in the modernization of firefighting in Europe occurred in seventeenth-century Amsterdam: the invention of the fire engine and fire hose. Art historian Susan Kuretsky revealed the importance of the cultural context for this technological innovation by examining the ways in which fire and firefighting were represented in seventeenth- and eighteenth-century Dutch art. Kuretsky focused in particular on the work of Jan van der Heyden (1637–1712), who patented the “snakepump,” one of the first fire engines with a flexible hose that could

be drawn into buildings to focus a stream of water directly on the seat of the fire indoors. This was especially suited to early modern European cities such as Amsterdam, with a high density of multi-story flammable buildings, where a single spark could trigger a citywide disaster. Illustrations in van der Heyden's 1690 *Fire Hose Book*, a foundational document that popularized his invention throughout Europe, lavish great attention on the details of buildings, emphasizing the value of the property that could be saved by effective fire extinguishing. Although van der Heyden never painted a city on fire, the precise empiricism of his paintings of buildings in Amsterdam evokes the importance of pristine intactness in his aesthetic vision, a sensibility that related to his efforts to develop improved technology for the preservation of buildings and material property from the ravages of fire.

Like Amsterdam, pre-modern Hamburg was highly vulnerable to large-scale conflagration, as Dirk Schubert explained in his paper on the city's 1842 fire. Igniting for unknown reasons in the Deichstrasse, the fire quickly spread to other parts of the town. Fueled by mostly timber-framed houses and aided by the weather conditions, as well as an inadequate firefighting organization, the catastrophe destroyed two thousand buildings with more than four thousand housing units. About twenty thousand citizens lost their homes and had to relocate to tent villages on the town's periphery. Despite the widespread destruction, or rather because of it, many merchants and other influential citizens saw the fire as a welcome tool for transforming Hamburg from a pre-modern fortress city into a modern metropolis.

Montreal witnessed similar "creative destruction" after four large fires between 1850 and 1852 had destroyed almost one-fifth of the city's housing stock. Here, too, fire proved to be a "powerful agent of urban morphological change," as Jason Gilliland pointed out. Fires could reconcile the inertia of the built environment with the constant push to remodel the physical urban space according to the needs of a growing city in a capitalist economy. The pace of changes in Montreal's urban fabric after the catastrophe, however, was not the same in all affected areas and at all times. Analyzing three different areas of the city, Gilliland was able to show that Montreal's productive core was rebuilt much more quickly than peripheral quarters. Also, redevelopment was more intense in boom periods than during phases of economic distress and was more likely to involve morphological changes such as increased building height or improvements in infrastructure. Since fire could be such a useful tool, it is hardly surprising that many urban fires were intentionally set.

This is exactly what happened in postwar Cleveland, as Daniel Kerr elaborated in his paper. During the riots of the 1960s, African Americans

resorted to fire to protest police brutality and drive white businesses out of predominantly black neighborhoods to gain more economic control over these areas. But the strategy of abandoning and willingly destroying urban housing units, employed by (overwhelmingly white) landlords in the 1970s, proved to be much more devastating in the end than the riots. Fires turned out to be especially useful in transforming urban space for profitable future use. Kerr showed that in Cleveland, the city government itself eventually embraced fire as an instrument of urban renewal, abandoning inner-city residents and encouraging demolition contractors and property owners to burn buildings. The lasting effects of this strategy were devastating. The city lost a huge part of its housing stock, and gentrified "Renaissance Villages" supplanted former black working-class neighborhoods. In a more general sense, Kerr's paper showed that not only large conflagrations could alter the urban landscape but also the combined effect of thousands of single events over almost two decades.

Amy S. Greenberg addressed approaches to fire risk by comparing late nineteenth-century and early twentieth-century firefighting strategies in Mexico to those in the United States and Canada. Taking the fire histories of Mexico City, Mérida, and Monterey as case studies, Greenberg noted striking differences rather than similarities in the developments north and south of the Rio Grande. While urban modernization was a key element in President Porfirio Díaz's vision of progress, firefighting was not a central part of it, to say the least. Only Mexico City witnessed the creation of a professional firefighting force during the Porfiriato. All other cities still had to rely on volunteer firefighters. One reason for this neglect certainly was the fact that most houses were built of stone and adobe; thus, fires in Mexico were rather rare and less destructive than in Canada and the United States. Greenberg, however, stated that differences in building materials could not sufficiently explain the history of Mérida and Monterey, two cities devastated by fire. Rather, the absence of strong and effective municipal government, the lack of local water sources, and city dwellers' "fatalistic attitude" regarding disasters were responsible for Mexico's different trajectory. Furthermore, fire insurance companies, crucial to the promotion of the professionalization of firefighting, as well as the funding of volunteer companies in the United States and Canada, did not arrive until much later in Mexico.

In the United States, however, as Sara Wermiel pointed out in her paper, the relationship between fire insurance companies and the management of urban fire risk was not one of straightforward risk reduction. She stated that insurance companies even discouraged fireproof construction, since fires were essential to their business. This was especially true for the stock fire insurance companies. Since their agents were unable to inspect every insured property, the hazard-rating systems they devel-

oped modeled the real risk only in a very rough manner and had only a few classes. As a result, everybody paid more or less the same premium, which rewarded hazardous buildings and penalized safe structures. Toward the end of the nineteenth century, however, a combination of factors pressured stock fire insurance companies to change their policies: the public grew increasingly discontent with their indiscriminate rates; new and hostile legislation was enacted; and, most importantly, mutual fire insurance companies appeared on the scene. The Factory Mutuals, in particular, offered an alternative to the rigorous systems of its competitors. By focusing on first-class risks, inspecting properties on a regular basis, and sponsoring research on the flammability of certain building materials, they were able to offer lower rates and, thus, force the stock companies to alter their rate-setting practices.

In her paper on the social impact of the 1906 San Francisco earthquake and fire, Andrea Davies Henderson showed that catastrophes are anything but a social equalizer, even if homes of the rich and poor, the native-born and immigrant, were affected by the blaze. Crucial firefighting decisions as well as relief policies followed pre-disaster patterns of stratification by ethnicity, race, and class. Firefighters, for example, deliberately saved homes of the wealthy, while Chinatown was left to burn; servants in the Western Addition watched the houses of affluent families, allowing them to leave the city; and Chinatown was supposed to be relocated after the disaster—a plan that Chinatown residents successfully countered by immediate non-permit rebuilding. Thus, the fires, as Henderson emphasized, acted as “an accelerant to social differences” in turn-of-the-century San Francisco.

Ayodeji Olukoju’s paper on Lagos highlighted the political contexts and meanings of fire in a contemporary mega-city with a burgeoning population living in fragile and combustible shantytowns. Olukoju considered three types of fire outbreak: fires that began in shantytown dwellings; fires in markets; and fires in high-rise strategic buildings. Frequent shantytown fires result partly from infrastructural problems, such as the government’s failure to provide adequate electricity, which causes residents to use hazardous petrol-burning generators. Marketplace fires occur because combustible materials are often stored on site and because many workers also live in the markets. There are also cases of arson used as a strategy in turf battles. Arson is widely suspected in the case of fires in high-rise public buildings, where suspicious fires often occurred under the military government of the 1980s and 1990s whenever an office was being investigated for corruption. This use of fires to destroy accounts of financial transactions contrasts ironically with the shantytown fires, which often destroy stores of cash, since unlike elite officials, shantytown residents are compelled to keep their assets in tangible form at home.

One of the issues raised by framing the history of fire specifically in the urban context is how one defines the city. In her presentation on the history of urban fires in late imperial Russia, Kathy Frierson proposed the use of fireproof construction itself as a defining feature of Russian imperial urbanism. From the time of Ivan III (the late fifteenth century), a pattern emerged of building stone fortresses with administrative functions and churches within the walls and wood buildings without. When Peter the Great built St. Petersburg, masons were forbidden to work anywhere else. From this time forward, the earlier pattern of a masonry citadel with a wooden residential quarter was effectively writ large onto the landscape of the empire as a whole, with the cities of Moscow and St. Petersburg built increasingly in fireproof materials and well guarded against conflagration while the rest of Russia constituted the flammable town. Frierson's analysis of data from cities in the nineteenth and early twentieth centuries shows that even though wood construction remained common, even in Moscow, and fires were frequent, fireproofing and effective firefighting prevented their spread. This was in marked contrast to the rampant fire destruction in the villages that continued to trouble authorities through these same years, as Frierson has detailed in her book on rural fire, *All Russia Is Burning*.

In contrast to Peter the Great, the Tokugawa shoguns, who governed Japan between 1600 and 1868, ruled a capital city where large conflagrations were endemic. Jordan Sand's presentation argued that uncontrolled fire was in fact an integral part of Edo's social structure and the Tokugawa system of governance. Examining official responses to arson, Sand finds that although the letter of the law was extraordinarily harsh, in actual practice there was considerable leniency. Courts placed greater emphasis on the moral character of the defendant than on the damage caused by the crime. This is in keeping with a system in which the government invested little in either the protection of private property or in architectural grandeur and permanence. Relatedly, the economic system in Edo revolved around circulation of portable goods, since frequent fire militated against accumulation of fixed property in buildings or durables. Firefighters took a controlled burn approach, clearing a path for the conflagration to burn unimpeded downwind until it reached water or open fields.

The influential essays of E.L. Jones and Lionel Frost have focused on investment in fireproof construction as a measure of the development of a "modern fire regime." Amy Greenberg's study of fire brigades in the United States revealed the large role of institutional development overlooked in Jones and Frost's schema. Shane Ewen's examination of the growth of municipal brigades in Britain added further facets to the picture of modern fire regimes. Edinburgh played a critical role in this

development. Ewen showed that the municipalization of firefighting was tied to the rise of technocracy generally. This was related to a range of other concerns besides fire, including in particular public health, which provided the incentive for introducing pressurized water. At the same time, rather than describing this transformation as a gradual and steady social process, Ewen demonstrated the importance of the catastrophic event and the charismatic individual—in this instance the “Great Fire” of 1824 in Edinburgh and James Braidwood, the city’s “captain of engines” at the time, whose heroics and success established his disciplined and technologically sophisticated approach to firefighting as the model throughout Britain.

If firefighters were a new kind of hero in the growth of modern technocratic urbanism, in the context of late-twentieth-century urban warfare, they could represent precisely the forces of order and spatial hegemony that militias sought to undermine. This was the case in Beirut in the mid-1970s, according to the presentation of Sofia Shwayri. Firefighters were targeted by both sides in the battle to control the *suqs* (narrow, covered shopping streets) of central Beirut. The labyrinthine form of the urban fabric in these districts made firefighting difficult. It also made it difficult for the warring parties to control large continuous territories, so arson and explosives were used to homogenize the space. By the late 1980s, central Beirut was a no-man’s land. Shwayri described the resurrection of the *suqs* that followed, this time on a pattern seen in cities around the world, as a shopping mall for the global rich bearing the architectural trappings of local tradition. Ironically, it was in this context that Beirut for the first time instituted a building code with specific reference to fire safety.

The three-day event concluded with an open session to discuss common motifs, issues, and questions that might receive further consideration in the introduction to a volume of essays. One idea discussed was the possibility of looking more deeply into the global transmission of certain firefighting technologies, institutional models, and urban ideals. A number of instances of cities looking to other cities for models emerged that connected the papers to one another. Another possibility was to add nuance to the important arguments of Jones and Frost by mapping out in greater detail the patterns of fire risk management developed by authorities and populations in different urban environments and social contexts. This would help to overcome the old West-and-the-rest historical perspective that assumed a single Euro-American model of progressive mastery of nature, on one hand, and the rest of the world left to suffer the effects of unmastered nature, on the other. Many of the papers implicitly or explicitly challenged such a model by offering historical reasons for a variety of strategies for managing fire other than absolute suppression or

fatalism. Finally, although environmental and economic studies like those of Jones and Frost treat urban fires as universally measurable phenomena whose significance is unaffected by context, the contrasts between findings in different cities revealed that fires can have profoundly different meanings depending on context. Reading these papers together permits one to see not only the many ways in which urban fire has been survived and managed throughout history, but also the many ways in which it has also been positively useful.

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