

# Book Review

July 2014

## ***The Sanitary City: Environmental Services in Urban America from Colonial Times to the Present***

Martin V. Melosi, Ph.D., [Paperback], [Abridged; full version published in 1999, 600 pages] The Pittsburgh Press, University of Pittsburgh, Pittsburgh PA, 2008.

Summary  
Implications  
YouTube  
Amazon Review

### Summary

Yellow fever and cholera, along with measles, the plague and other communicable diseases, had their way with city populations before the twentieth century and the discovery of a scientific approach to healthcare and disease prevention and control.

- The worldwide cholera pandemic of 1863-1866 [during the Civil War] began in 1863 in India.
- The table below shows the years when yellow fever and cholera death exceeded 3,000 by city.
- While annual related deaths in Memphis did not exceed 3,000 except in 1878, Memphis experienced thousands of deaths in a series of yellow fever epidemics: 1828, 150 deaths; 1855, 220 deaths; 1867, 550 deaths; 1873, 2,000 deaths; 1878, 5,000+ deaths and 1879, 600 deaths.
- New York City experienced a series of yellow fever epidemics and deaths: 1668, 1690, 1702 [500 deaths equaling 10% of total population], 1743, 1745, 1798 [1,524 deaths equaling 4% of total city population]; 1803, 606 deaths; 1805, 262 deaths.
- The World Health Organization estimates that yellow fever still causes 30,000 deaths annually worldwide.

Disease control provided the impetus for water and sewer infrastructure systems. Many thousands of deaths occurred before the reasons for the dying were understood. With understanding came the responsibility to act; and action followed as described by Dr. Melosi.

These systems were promoted by Edwin Chadwick in England in the 1830s and 1940s. No easy task to overturn centuries of wrong-thinking, but with the emergence of science as the driver for the Second Industrial Revolution, his data-driven work succeeded; and crossed the Atlantic to the American City.

### **U.S. Epidemics Cholera and Yellow Fever 1793 – 1878**

Year	City	Disease	Deaths
1793	Philadelphia	Yellow Fever	4,000
1832	New York City	Cholera	3,000
1832	New Orleans	Cholera	4,340
1848	New York City	Cholera	5,000
1849	New Orleans	Yellow Fever	3,000
1849	St. Louis	Yellow Fever	4,500
1853	New Orleans	Yellow Fever	7,790
1854	Chicago	Cholera	3,500
1867	New Orleans	Yellow Fever	3,093
1878	Mississippi Valley	Yellow Fever	13-20,000
	• Memphis		5,000
	• New Orleans		4,600

Sources: Infoplease.com; Wikipedia; The American Experience; historic-memphis.com; <http://www.newyorkroots.org/ontario/epidemics.htm>; "Epidemics in U.S. - 1657 – 1918 from the South Bend, IN Area Genealogical Society, April 1996"; Data assembled by wck planning, inc.

## Book Review

July 2014

Evidence-based medicine emerged concurrently with the Second Industrial Revolution in the second half of the nineteenth century. Science became the basis for invention and discovery.

Only with the Industrial Revolution did cities change their role in society. Factories replaced cottages, mass production replaced piece goods, wood replaced coal and steel replaced iron. Work was separated from home. Factories became the center piece of the new city. People became easily replaced factors of production. Like the products mass produced in the factories, housing was mass produced at higher densities to get more people near the factory. The industrial city of the 18<sup>th</sup> and 19<sup>th</sup> century was not a pretty site...dangerous, crowded, dirty and noisy. Good health was a precarious state; diseases and early deaths were the norm.

The industrial city transformed well-located cities from the previous era into concentrations of urban chaos shockingly documented in the works of Charles Dickens, Upton Sinclair, Jane Addams and Jacob Riis. The mid-1800s saw the dawn of the modern era. The Second Industrial Revolution emerged after the Civil War. Science emerged, meritorious achievements became more valuable than pedigree. Economies became dynamic. Living standards improved for all and the middle class had its birth. Public sanitation was pioneered by the Englishman Edwin Chadwick in the 1830s and 1940s. The work of Chadwick and the application of his principles to the industrial cities of England and then America is Dr. Melosi's story of *The Sanitary City*.

### Implications for the American City

Today we take city infrastructure for granted. We only encounter the infrastructure systems when they don't work and we get the monthly bill for the services they provide. We rarely consider the water and sewer system as an asset that needs maintenance and re-investment. "Out of sight, out of mind". And we are out of our minds to continue to postpone renewal and replacement of these basic systems.

1. The word infrastructure should demand respect. Wikipedia <sup>[1]</sup> offers a definition from the Oxford English Dictionary supplemented by the work in *Economics: Principles in Action* by Sullivan and Sheffrin:
  - a. "**Infrastructure** is basic physical and organizational structures needed for the operation of a society or enterprise , or the services and facilities necessary for an economy to function. It can be generally defined as the set of interconnected structural elements that provide framework supporting an entire structure of development. It is an important term for judging a country or region's development."
  - b. Infrastructure supports the economy, the social systems and all physical improvements, such as buildings. A functioning society cannot prosper without ever-improving, modern infrastructure.
2. The water, sewer, electric, telecommunications, drainage, highways, bridges, parks, hospitals and schools provide an easy life for most Americans. The bulk of these systems were provided by our predecessors who assumed they would be cared for.
3. The bill is now due for replacement and renewal of many highways and bridges, water and sewer systems, schools and hospitals. Flood protection systems like the levee system on major rivers needs re-investment.

## Book Review

July 2014

4. The rest of the modern world is making investments in their infrastructure without notice from Americans since few of us travel abroad and see the sparkle on their cities and their support systems.
5. Privatization is part of the answer, with two caveats: are we really prepared to have our “public” services provided by a for-profit entity that has no social agenda? Should the private entity decide to cease service, what happens?
6. American cities are evolving to a model that is based on a self-sufficiency business model with local infrastructure provided through local means. State and federal monies are becoming less reliable sources of monies for long-term civic improvements. Self-reliance is becoming a principle in city plans for a long-range comprehensive financial system.
7. As the global economy strengthens, diseases and infestations will arrive in every country more frequently until every country has experienced every disease and we have developed immunities to every malady. Until that day arrives, health-based infrastructure, food inspections and disease control activities are the method for ameliorating the pain and suffering associated with the globalization of disease.

### Youtube:

#### Martin Melosi - Urban Environmental Infrastructure History Part 1 [and Parts 2 and 3]



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In The Wake of The Half Moon

“Martin V. Melosi is Distinguished University Professor of History and Director of the Center for Public History at the University of Houston. He was born in San Jose, California, and received his PhD in History at the University of Texas in Austin. His primary fields of study are environmental history, urban history, and the history of energy. He is the author or editor of sixteen books and more than 80 articles and book chapters, including the award-winning *The Sanitary City: Urban Infrastructure in America from Colonial Times to the Present (2000, 2008)*. In April/May, 2008, he was visiting professor at the Conservatoire National des Arts et Metiers in Paris. In 2000-01 he held the Fulbright Chair in American Studies at the University of Southern Denmark, Odense, Denmark, and also has been a visiting faculty member at the University of Paris, University of Helsinki, Tampere Technological University, Peking University, and Shanghai University. In 2005 he was awarded the Ester Farfel Award at the University of Houston in recognition of career achievement in research, teaching, and scholarship. He has been president of the American Society for Environmental History, the Urban History Association, the Public Works Historical Society, and the National Council on Public History.”

<http://www.youtube.com/watch?v=oSSYCQRciZQ>

# Book Review

July 2014

## Published Review

### Amazon.com

“An invisible infrastructure defines a significant portion of the American urban experience, affecting everything from the quality of the water we drink to the frequency of our trash collection to the pressure of the flush in our toilets. In *The Sanitary City: Urban Infrastructure in America from Colonial Times to the Present*, Martin V. Melosi studies water supply, wastewater, and solid-waste-disposal systems in U.S. cities from the colonial era to the present day. Along the way, Melosi discusses not only changing technologies and the expanding population but also growing public health awareness and ecological theories. He shows how the social beliefs and scientific understandings that emerged over time influenced how Americans have viewed waste and sanitation in urban life and how they came to accept workable solutions to the problems of sanitation, water delivery, and waste removal.

“Ambitious and comprehensive, *The Sanitary City* incorporates an exhaustive supply of sources, from popular accounts and journalism to scholarly histories in the fields of technology and urban growth to congressional reports and legislative studies. It will appeal to scholars, students, and professionals in environmental history, urban studies, the history of science and technology, public health, and American government.”

<http://www.amazon.com/The-Sanitary-City-Infrastructure-Landscape/dp/0801861527>

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