A Glimpse into the Past and Present Social and Environmental Epidemiology of Tuberculosis

The Making of a Social Disease: Tuberculosis in Nineteenth-Century France
David S. Barnes (1995)

From Exposure to Disease: The Role of Environmental Factors in Susceptibility to and Development of Tuberculosis
Christian Lienhardt (2001)
Annual TB mortality rates in England and Wales from 1850-1960
Annual TB mortality in Paris and other French cities
“The lives of many tuberculosis victims were lived inside a constellation of social conditions that affected their overall well-being. . . Any attempt to extract from this constellation a single social cause of tuberculosis is doomed to failure, or at best to irrelevance, because it presupposes that one or more of these conditions could have operated independently of the others”  (Barnes, 10)
The Chain of Tuberculosis

1. Risk of Exposure

2. Risk of Infection
   a) Infectivity of Source Case
   b) Degree of Exposure
   c) Degree of Host Susceptibility

3. Risk of Development of TB
   a) Reactivation of a latent case
   b) Exogenous Reinfection
Impact of environmental factors on the risk of infection and development of TB
Factors associated with risk of infection and disease

- Contact with source case
- Crowding
  - Increases both the likelihood of contact between susceptible persons and infectious persons, and the intimacy of exposure
- Urbanization
  - Homelessness
- SES
  - Risk factors, not causes
- Access to Healthcare
  - Time period between onset of symptoms and diagnosis include: perception of disease, severity of disease, access to health services, and expertise of health personnel
- Biological Factors: Age & Sex
- HIV/AIDS
  - Estimated risk between 6 and 26 times risk on non-HIV infected person
- Migration
- Race & Ethnicity
- Genetics
  - Relative importance?
19th Century France: ‘Truth’ about TB

- **1820s**: Individual, Inscrutable; Related to Hereditary and Passion (Bourbon Restoration)
- **1830s**: Seen as Socially Discriminating (July Monarchy)
- **1840s**: Consumptive woman in high circles heightened sensibility, emotion and redemptive power of suffering
- **1860s-1880s**: Contagious (Third Republic)
- **1900**: National Scourge, highly contagious, lurking around every corner, and symptomatic of moral decay
“All scientific knowledge is—and always has been—conditioned by social factors. Industrialization, urbanization, class conflict, religious piety and charity, bourgeois sexual morality, demographic stagnation, military defeat, and international rivalry all contributed to the peculiar shape of the French understanding of tuberculosis. In turn, worry over the nineteenth century’s leading cause of death inevitably colored perceptions of these and other aspects of French politics, culture and society, lending an air of vitality, bodily urgency and scientific certainty to discussions of problems outside the immediate realm of medicine. Ultimately, to write the history of tuberculosis in nineteenth century France, one must write a history of nineteenth-century French society”