

## 11/17 Germ Theory and the Therapeutic Revolution

### Miasmatism, Epidemics, and Public Health

Miasmas: malaria = bad air

Swamps: stagnant water, stagnant air

Cities: garbage and sewage: the Great Stench, London, 1856

Interventions: remove garbage, purify water, etc.

Efficacy of interventions reinforced faith in underlying science

### Differential Susceptibility: Why Did Epidemics Spare Some?

Constitution: good heredity, good upbringing

Contagion and contingency: exposure

Morality and behavior

### Early Theories of Contagionism

Hooke and Leewenhoek

Cotton Mather: animalculae

Fermentation and putrefaction

### The Rise of Germ Theory

Louis Pasteur: from fermentation to spontaneous generation

Germ theory: disease caused by microbes, which only arise from microbes

Robert Koch, wound infections, and anthrax: Koch's Postulates

New technologies of microbiology

Mycobacteria tuberculosis, Vibrio cholerae

Transformation of diagnostic theory: from symptoms to cause

Universalism and specificity

### Germ Theory and Therapeutics

Pasteur's successes with anthrax and rabies

Antitoxins

Magic bullets: a delayed therapeutic revolution?

### Germ Theory and Culture: The Gospel of Germs

Needed reforms, or marketing fear?