

HSCI 919/MED HIST 919/IES 900
Ecology and Disease in Historical and Contemporary Perspective
Fall 2006

Instructors:

Gregg Mitman

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Course Description: Malaria. Avian Influenza. Asthma. The emergence and spread of such diseases has drawn recent attention to the ways in which human and wildlife health problems are intimately related to environmental change. While disease ecology has become a focus of interdisciplinary exchange across the fields of medicine, public health, wildlife and veterinary medicine, conservation biology, ecology, geography, sociology, environmental history, and other disciplines, ecological approaches to the understanding of health and disease have a long history. In this seminar we will explore that history and consider how such past efforts at integrating ecology and health can inform current research questions, directions, and policy affecting current and future environmental health challenges. The seminar will dovetail with the first EcoHealth ONE conference to be held in Madison in the fall of 2006 that will provide a unique forum to (1) advance emerging, highly interdisciplinary scientific work in this arena, (2) promote the interaction of a diverse audience concerned with sustainable health and environment, and (3) consider how to address challenges in an effective and unified way.

Required Readings:

The following required books are available at the University Bookstore:

Mike Davis, The Monster at Our Door: The Global Threat of Avian Flu (New York: New Press, 2005).

Susanna Hecht and Alexander Cockburn, The Fate of the Forest: Developers, Destroyers and Defenders of the Amazon (London: Verso, 1989).

Thomas F. Homer-Dixon, Environment, Scarcity, and Violence (Princeton: Princeton University Press, 1999)

Eric Klinenberg, Heat Wave: A Social Autopsy of Disaster in Chicago (Chicago: University of Chicago Press, 2002).

James McCann, Maize and Grace: Africa's Encounter with a New World Crop, 1500-2000 (Cambridge: Harvard University Press, 2005).

A. J. McMichael, Planetary Overload: Global Environmental Change and the Health of the Human Species (Cambridge: Canto, 1995).

William H. McNeill, Plagues and Peoples (New York: Anchor Books, 1998).

Mark Jerome Walters, Six Modern Plagues and How We Are Causing Them (Washington, D.C.: Island Press, 2003).

A reading packet is also available in the Department of History of Science, 7143 Social Science Building for purchase. The articles are also on reserve at Helen C. White College Library.

Course Requirements:

Discussion (25%): This seminar is primarily designed as a reading/discussion seminar. This means that you are responsible for coming to class having read and reflected on the material and prepared to discuss the books and articles at length. You will be responsible for organizing and leading discussion of the readings for one week. In most cases, this will mean pairing up with another person in the seminar. To help facilitate discussion, you should prepare a two- to three-page thought piece that raises questions and critical concerns as well as reflective comments. The format can be relatively free-form; its main purpose is to serve as a launching point for discussion. They are due the Monday before our Wednesday meeting.

EcoHealth One Conference (25%): This seminar is being taught in conjunction with the EcoHealth One, the first biennial conference of the International EcoHealth Association to be held in Madison from October 7-10, 2006. You will have a unique opportunity to meet and interact with many of the authors whose work we will be discussing in this seminar. You are required to attend at least four sessions/panels of the conference and submit a one-page summary for each session/panel you attended that highlights important themes or questions the session raised in relation to our seminar. These are due **October 18th**.

Research Paper (50%): You are required to produce a 20-25 page written piece of scholarship that addresses a topic related to the subject of ecology and health, either historical or contemporary in focus. Because this is an interdisciplinary mix of students, we are sensitive to the different kinds of scholarly products expected from your respective disciplines. We ask that you come to an agreement with us about what that written product will be. It might, for example, be a grant proposal, a scientific review article, or a historical research paper. You should submit a one-page abstract of your proposed written project to us by November 1st. Final papers are due **December 18th**.

Setting the Stage

9/6 Introductions

A. J. McMichael, "Environmental and Social Influences on Emerging Infectious Diseases: Past, Present, and Future," Phil. Trans. R. Soc. Lond. B 359 (2004): 1049-1058.

Mark Jerome Walters, Six Modern Plagues and How We Are Causing Them (Washington, D.C.: Island Press, 2003).

9/13 The Many Meanings of Ecology and Health

Paul Farmer, "Rethinking 'Emerging Infectious Diseases'" in Infections and Inequalities: The Modern Plagues (Berkeley: University of California Press, 1999), pp. 37-58. **CP: 1-12.**

Richard Levins and C. Lopez. "Toward an ecosocial view of health", International Journal of Health Services 29(1999): 261-293. **CP: 13-45.**

Could Gregg Mitman, Michelle Murphy, and Christopher Sellers, "Introduction: A
Over History," Osiris 19 (2004): 1-20. **CP: 47-63.**

Jonathan Patz et. al, "Unhealthy Landscapes: Policy Recommendations on Land Use Change and Infectious Disease Emergence," Environmental Health Perspectives 112 (2004): 1092-1098. **CP: 65-71.**

A. J. McMichael, Planetary Overload: Global Environmental Change and the Health of the Human Species (Cambridge: Canto, 1995), pp. 1-14.

9/20 Past Ecological Visions

F. M. Burnet, Natural History of Infectious Disease (Cambridge: Cambridge University Press), pp. 1-25, 338-351. **CP: 73-92.**

Rene Dubos, Mirage of Health: Utopias, Progress, and Biological Change (New York: Anchor Books, 1961), pp. 61-143. **CP: 93-134.**

----- Man Adapting (New Haven: Yale University Press, 1965), pp. 369-391. **CP: 135-147.**

Warwick Anderson, "Natural Histories of Infectious Diseases: Ecological Vision in Twentieth-Century Biomedical Science," Osiris 19 (2004): 39-61. **CP: 149-160.**

- Helen Tilley, "Ecologies of Complexity: Tropical Environments, African Trypanosomiasis, and the Science of Disease Control Strategies in British Colonial Africa," Osiris 19 (2004): 21-38. **CP: 161-170.**
- Gregg Mitman, "In Search of Health: Landscape and Disease in American Environmental History," Environmental History 10 (2005): 184-209. **CP: 171-183.**
- McMichael, Planetary Overload, pp. 56-82.

Movements

9/27 Going Mobile

- William Cronon, Changes in the Land: Indian Colonists and the Ecology of New England (New York: Hill & Wang, 1983), pp. 82-107. **CP: 186-198.**
- William H. McNeill, Plagues and Peoples (New York: Anchor Books, 1998).
- R. Mansell Prothero, "Population Movements and Tropical Health," Global Change & Human Health 3 (2002): 20-32. **CP: 199-211.**
- McMichael, Planetary Overload, pp. 17-55, 82-107.

10/4 Avian Influenza & other Zoonotic Diseases

- Mike Davis, The Monster at Our Door: The Global Threat of Avian Flu (New York: New Press, 2005).
- R.J. Webby and R.G. Webster "Emergence of influenza A viruses" The Royal Society (2001) 356: 1817-1828. **CP: 213-224.**
- Peter Daszak, Andrew A. Cunningham, Alex D. Hyatt, "Emerging Infectious Diseases of Wildlife- Threats to Biodiversity and Human Health" Science (2000) 287: 443-449. **CP: 225-231.**

Nathan D. Wolfe, Peter Daszak, A. Marm Kilpatrick, Donald S. Burke. "Bushmeat Hunting, Deforestation and Prediction of Zoonotic Disease Emergence." Emerging Infectious Diseases. (2005) 11: 1822-1827. **CP: 233-238.**

10/11 Eco-Health One Conference—Attend at least four sessions of the Eco-Health One Conference, Oct. 7-10.

The Changing Biophysical Environment

10/18 War, Resource Scarcity, and the Legacy of Malthus

Thomas F. Homer-Dixon, Environment, Scarcity, and Violence (Princeton: Princeton University Press, 1999).

McMichael, Planetary Overload, pp. 108-131.

Nancy Lee Peluso and Michael Watts, "Violent Environments," in Violent Environments, edited by Nancy Lee Peluso and Michael Watts (Ithaca: Cornell University Press, 2001), pp. 3-38. **CP: 239-256.**

Betsy Harmann, "Will the Circle Be Unbroken? A Critique of the Project on Environment, Population, and Security," in Violent Environments, pp. 39-64.

CP:

257-269.

10/25 Deforestation and Habitat Change

Susanna Hecht and Alexander Cockburn, The Fate of the Forest: Developers, Destroyers and Defenders of the Amazon (London: Verso, 1989).

Amy Y. Vittor, Gilman RH, Tielsch J, Glass GE, Shields TM, Sanchez-Lozano W, Pinedo VV, Patz JA. The effects of deforestation on the human-biting rate of *Anopheles darlingi*, the primary vector of falciparum malaria in the Peruvian Amazon. Am J Trop Med Hyg (2006);74(1): 3-11. **CP: 271-279.**

Ulisses Confalonieri. "Environmental change and human health in the Brazilian Amazon." Global Change & Human Health. (2000) 1(2): 174-183. **CP: 281-290.**

11/1 Climate Change and Disease

McMichael, Planetary Overload, pp. 132-173.

Jonathan A. Patz, "Climate Change" in Environmental Health: From Global to Local, edited by H. Frumkin (Jossey-Bass, San Francisco, 2005) 238-268. **CP: 291-321.**

Anwar Huq, R. Bradley Sack, Rita R. Colwell, "Cholera and Global Ecosystems" in Ecosystem Change and Public Health, edited by Joan L. Aron and Jonathan A. Patz (Baltimore and London: The John Hopkins University Press, 2001) 327-352. **CP: 323-348.**

Jonathan Patz, Campbell-Lendrum D, Holloway T, Foley, JA. Impact of regional climate change on human health. Nature 438 (2005): 310-317. **CP: 349-356.**

Agriculture

11/8 Irrigated Landscapes

James McCann, Maize and Grace: Africa's Encounter with a New World Crop, 1500-2000 (Cambridge: Harvard University Press, 2005), esp. 120-196.

Tamara Giles-Verwyck, "Malaria, Mosquitoes, and Irrigation: Scientific Debates over Disease Etiology in French Soudan, 1906-1938," Bulletin of the History of Medicine forthcoming. **CP: 357-408.**

Timothy Mitchell, "Can the Mosquito Speak?" in Rule of Experts: Egypt, Techno-Politics, Modernity (Berkeley: University of California Press, 2002), pp. 19-53. **CP: 409-426.**

David Waltner-Toews & Tim Lang. "A new conceptual base for food and agriculture policy: the emerging model of links between agriculture, food, health, environment, and society." Global Change & Human Health (2000) 1(2): 116-130. **CP: 427-441.**

McMichael, Planetary Overload, pp. 203-237.

11/15 Food, Chemicals, and Disease

Linda Nash, "Inescapable Ecologies: A History of Environment, Disease, and Knowledge (Berkeley: University of California Press, 2006), 1-15, 127-215. **CP: 443-578.**

John Soluri, "Accounting for Taste: Export Bananas, Mass Markets, and Panama Disease," Environmental History 7 (2002): 386-410. **CP: 579-591.**

----- Banana Cultures : Agriculture, Consumption, and Environmental Change in Honduras and the United States (Austin: University of Texas Press, 2005), pp. 193-215. **CP: 593-604.**

Leo Horrigan, Robert S. Lawrence, and Polly Walker, "How Sustainable Agriculture Can Address the Environmental and Human Health Harms of Industrial Agriculture" Environmental Health Perspectives (2002) vol.110 no. 5: 445-456. **CP: 605-616.**

Urbanization

11/22 Symptoms of Inequality in Urban Life

Paul Farmer, Infections and Inequalities: The Modern Plagues (Berkeley: University of California Press, 1999), pp. 184-210. **CP: 617-632.**

Randall Packard, "Industrialization, Rural Poverty, and Tuberculosis in South Africa, 1850-1950," in The Social Basis of Health and Healing in Africa, edited by Steven Feierman and John M. Janzen (Berkeley: University of California Press, 1992), pp. 104-130. **CP: 633-646.**

Gregg Mitman, "Choking Cities," in Breathing Space: How Allergies Shape Our Lives and Landscapes (New Haven: Yale University Press, 2007). **CP: 647-705.**

McMichael, Planetary Overload, pp. pp. 259-283.

11/29 The Built Environment –health repercussions of unhealthy urban design

McMichael, Planetary Overload, pp. 283-293.

Kevin Fitzpatrick and Mark LaGory, Unhealthy Places: The Ecology of Risk in the Urban Landscape (New York: Routledge, 2000), 1-21, 107-132, 203-231.

CP:

707-746.

Howard Frumkin "Urban Sprawl and Public Health" Public Health Reports (2002) 117: 201-217. **CP: 747-763.**

Kevin M. Leden, "Social Capital and the Built Environment: The Importance of Walkable Neighborhoods" American Journal of Public Health (2003) vol. 93, no. 9: 1546-1551. **CP: 765-770.**

12/6 The Urban Ecology of Not-So-Natural Disasters
Eric Klinenberg, Heat Wave: A Social Autopsy of Disaster in Chicago (Chicago: University of Chicago Press, 2002).

Mike Davis, "Slum Ecology," in Planet of Slums (London: Verso, 2006), pp. 121-150. **CP: 771-786.**

Looking to the Future

12/13 Global Assessments, Environmental Governance, and the Search for an Equitable Future

TBA

McMichael, Planetary Overload. pp. 326-338.