

**Comparative Environmental History of Large Scale Technologies  
in the 20<sup>th</sup> Century:  
Research and Writing Course**

**PhD course (3<sup>rd</sup> cycle)  
led by Professor Paul Josephson, Colby College, Maine, USA**

Spring Term 2015  
7,5 credits

Division of History of Science, Technology and Environment  
KTH Royal Institute of Technology Stockholm, Sweden

**Course Description:**

In this course based on an examination of large scale technological systems in the US, former Soviet Union, Brazil, China, Germany and Sweden (based on the work of seminar participants), we will consider how economy, polity, ideology, engineering culture, and attitudes toward nature have shaped such technologies as hydroelectric power stations, roads and railroads, nuclear reactors, and agricultural technologies. We will also examine their social and environmental impacts. We will pay attention to theoretical issues in the history of technology and environmental history, discuss research approaches and the kinds of primary sources available, and consider strategies for good – and efficient – writing.

**Intended Learning Outcomes:**

This course intends to train excellent researchers and writers and teaches critical reading skills. Students will see the larger connections between their own work and that of the work of others.

**Course Schedule:**

Five 5-hour sessions, Tuesdays 10:00-12:00 and 13:00-16:00

January 27

February 10

March 10

April 14

May 5

**Course Requirements:**

Preparation of course material; preparation of research tasks; regular attendance; active participation; four writing assignments with the last a final ca. 25 pages research paper. Written instructions will be handed out for each assignment. On each assignment, participants will receive extensive bibliographic, editorial, and substantive comments.

a) Paper Proposal, due week 2 (February 10, 2015, 5-7 pages and bibliography)

b) 1<sup>st</sup> draft, due week 4 (April 14, 15 pages).

c) Penultimate draft due week 5 (May 5, 20 pages).

d) Final paper due June 15, 2015, by email to [paulrunsmarathons@gmail.com](mailto:paulrunsmarathons@gmail.com).

### **Weekly Structure: History, Research and Writing**

Subject matter: from transport and hydroelectricity to agriculture, and from mining and metallurgy to nuclear issues, building each week on historical events and ideas, and leading to understanding of continuity and change in engineering approaches, world view, scientific concepts, public awareness and engagement.

Research and writing: from identification of a topic and sources to be consulted, to critical writing in an iterative and cumulative fashion.

Synthesis of the two: students will add to discussion from their own reading in primary sources from their own subject areas.

Each week will enable a focus on specific technologies, but also move chronologically. A brief outline of issues and ideas to be covered will be provided. Participants should be prepared to discuss major actors, institutions, and their concerns.

### **Location:**

Seminar Room, Division of History of Science, Technology and Environment, Teknikringen 74 D, top floor.

### **Course Registration:**

please contact:

Sabine Höhler

Associate Professor and Director of Graduate Studies

Division of History of Science, Technology and Environment

KTH Royal Institute of Technology Stockholm

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### **Calendar of Meetings (Readings Follow)**

Week 1 (January 27). Introduction. Expectations. Syllabus Discussion.

- Hydrological Engineering. Canals, railroads, roads, automobility
- Writing. Primary sources. Archival research

Week 2 (February 10). Agriculture and Forestry (from horses to tractors, collectivization, rise of monocultures.

- Research paper proposal due (5-7 pp.) with bibliography.

Week 3 (March 10). State, Public, Environment.

- How to Write Quickly and Well. How grammar and style shape successful writing.

Week 4 (April 14). Mining and smelting. Nature Engineering.

- Writing. 1<sup>st</sup> draft due. 15 pages

Week 5 (May 5). Energy (nuclear, fossil fuel, alternative).

- Presentations. Writing. Penultimate draft due. 20 pages.
- Followed by catered dinner (dinner out at my account).

Final Assignment

- 25-page paper due (e-copy to me) by June 15. Think of a short, publishable article.
- I shall be available for one-on-one discussions.

## Readings

### Week 1 (January 27). Hydrological and Roadway Engineering

In the twentieth century large-scale approaches to a series of pressing problems became emblematic. Engineers joined with financiers, government officials, and construction firms to build massive electrical power systems, irrigation networks, hydropower stations, roadways, and so on that seemingly stretched to the horizon. In most cases, they believed that the unquestioned benefits of these projects outweighed any such costs as temporary relocation of residents from the areas of projects including indigenous peoples, worker safety, environmental impacts (if they considered them at all). These projects included major highway systems in Germany, the United States, and elsewhere and water works from Europe to the USSR to China to North America and to Brazil. A great deal of research remains to be completed on the history and politics of these technologies. Who supported them and why? Where did they secure funding? What was the role of the government and the public? On a more theoretical level, what is the relationship between technology, nature, and the public?

Ted Steinberg, "Down to Earth: Nature, Agency, and Power in History," American Historical Review, Vol. 107, No. 3 (June 2002), pp. 798-820.

J. R. McNeill, "Observations on the Nature and Culture of Environmental History," History and Theory, Vol. 42, No. 4 (Dec., 2003), pp. 5-43.

Barbara J. Cummings, "Dam the Rivers; Damn the People: Hydroelectric Development and Resistance in Amazonian Brazil," GeoJournal, Vol. 35, No. 2 (February 1995), pp. 151-160.



A 1938 political cartoon celebrating the achievement of Tennessee Valley Authority electricity production in the United States during President Roosevelt's "New Deal." (Note the use of political cartoons as a potential source.)

C. C. Patel, "Surging Ahead: The Sardar Sarovar Project, Hope of Millions," Harvard International Review, Vol. 15, No. 1 (Fall 1992), pp. 24-27.

Sara B. Pritchard, "Reconstructing the Rhone: The Cultural Politics of Nature and Nation in Contemporary France, 1945–1997," French Historical Studies, Vol. 27, No. 4 (Fall 2004), 765-799.

Rudi Volti, "A Century of Automobility," Technology and Culture, Vol. 37, No. 4 (Oct., 1996), pp. 663-685.

Katy Siegel and June Y. Mei, "Yun-Fei Ji's Three Gorges Dam Migration," Art Journal, Vol. 69, No. 3 (Fall 2010), pp. 73-78.

Changming Liu and Laurence J. C. Ma, "Interbasin Water Transfer in China," Geographical Review, Vol. 73, No. 3 (Jul., 1983), pp. 253-270.

Cheng Xuemin, "China's Hydropower Potential and its Utilization," GeoJournal, Vol. 10, No. 2 (February 1985), pp. 141-149.

#### **Other Readings if Time and Interest Permit:**

William Cronon, "The Uses of Environmental History," Environmental History Review, vol. 17, no. 3 (Autumn 1993), 1-22.

Paul Josephson, Industrialized Nature (Washington: Island Press, 2002).

Marc Reisner, Cadillac Desert (New York: Viking, 1986).

Thomas Zeller, Driving Germany: The Landscape of the German Autobahn, 1930-1970, translated by Thomas Dunlap (New York, Oxford: Berghahn Books, 2007).

David Lilienthal, TVA--Democracy on the March (New York: Harper Brothers, 1944).

William Van Til, "Environment versus Technology," The Phi Delta Kappan, Vol. 54, No. 4 (Dec., 1972), pp. 274-275.

Jon Sigurdson, "Water Policies in India and China," Ambio, Vol. 6, No. 1, Water: A Special Issue (1977), pp. 70-76.

Edward Shapiro, "The Southern Agrarians and the Tennessee Valley Authority," American Quarterly, Vol. 22, No. 4 (Winter, 1970), pp. 791-806.

Mei Chengrui and Harold E. Dregne, "Review Article: Silt and the Future Development of China's Yellow River," The Geographical Journal, Vol. 167, No. 1 (Mar., 2001), pp. 7-22.

William H. Rollins, "Whose Landscape? Technology, Fascism, and Environmentalism on the National Socialist Autobahn," Annals of the Association of American Geographers, Vol. 85, No. 3 (Sep., 1995), pp. 494-520.

Robert W. Harbeson, "The Power Program of the Tennessee Valley Authority," The Journal of Land & Public Utility Economics, Vol. 12, No. 1 (Feb., 1936), pp. 19-32

Erik Swyngedouw, "Technonatural Revolutions: The Scalar Politics of Franco's Hydro-Social Dream for Spain, 1939- 1975," Transactions of the Institute of British Geographers, New Series, Vol. 32, No. 1 (Jan., 2007), pp. 9-28.

### **Week 2 (February 10). Agriculture and Forestry**

One of the major trends in the twentieth century in the history of technology has been the extension of industrial processes – and attitudes – toward the natural world. This, of course, raises the question, What is the natural world? Think of the rise of the industrial forest with *Forstwissenschaft* in the nineteenth century, and the efforts of self-confident specialists to "improve" upon the productivity of natural resource harvesting. By the early to mid-twentieth century industrial metaphors and terms penetrated forestry, fishery, and agricultural journals. Not only tractors, combines, and harvesters turned the small-scale family farm into agribusinesses, but also the water works that provided irrigation to previously arid regions. State-funded research institutes conducted research on experimental fields to increase productivity. Notions of conservation and preservation of natural resources, and later "sustainability" were debated. By the postwar years and

the rise genetic engineering of GMOs, all remaining lines between nature, science, and industry had become obscured – and required our diligent study.



Donald Worster, “Hydraulic Society in California: An Ecological Interpretation,” Agricultural History, Vol. 56, No. 3 (Jul., 1982), pp. 503-515.

Michael Bess, “Ecology and the Crisis of Agriculture in Postwar France,” French Politics and Society, Vol. 13, No. 4 (Fall 1995), pp. 33-50.

Judy Whitehead, “Repopulating the Landscape: Space against Place in Narmada Valley,” Economic and Political Weekly, Vol. 37, No. 14 (Apr. 6-12, 2002), pp. 1363-1369.

Deborah Fitzgerald, “Beyond Tractors: The History of Technology in American Agriculture,” Technology and Culture, Vol. 32, No. 1 (Jan., 1991), pp. 114-126.

Emily Brock, “Tree Farms on Display: Presenting Industrial Forests to the Public in the Pacific Northwest, 1941–1960,” Oregon Historical Quarterly, Vol. 113, No. 4 (Winter 2012), pp. 526-559.

EFSA Panel on Animal Health and Welfare, “Scientific Opinion on the use of animal-based measures to assess welfare of broilers,” EFSA Journal, vo. 10, no. 7 (2012): 2774.

Ronald Kline, “Resisting Development, Reinventing Modernity: Rural Electrification in the United States before World War II,” Environmental Values, Vol. 11, No. 3, Science, Development and Democracy (August 2002), pp. 327-344.

Deborah Fitzgerald, “Farmers Deskilled: Hybrid Corn and Farmers' Work,” Technology and Culture, Vol. 34, No. 2 (Apr., 1993), pp. 324-343.

Monsanto, Developing Countries Biotechnology Bibliography (.pdf)

Sheila Jasanoff, "Biotechnology and Empire: The Global Power of Seeds and Science," Osiris, Vol. 21, No. 1 (2006), pp. 273-292.

Union of Concerned Scientists, CAFOs Uncovered (Cambridge, MA, 2008).



Tractors in the 1920s were brute force machines with metal, not pneumatic wheels, that were difficult to operate. (Can we identify archival photographic collections for research projects?)

### **Other Readings if Time and Interest Permit:**

Paul Josephson, Industrialized Nature (Washington: Island Press, 2002).

Donald Worster, Dust Bowl (New York: Oxford University Press, 2004).

Donald J. Pisani, "Irrigation, Water Rights, and the Betrayal of Indian Allotment," Environmental Review, Vol. 10, No. 3 (Autumn, 1986), pp. 157-176.

Audra Wolfe, "'How Not to Electrocute the Farmer': Assessing Attitudes Towards Electrification on American Farms, 1920-1940," Agricultural History, Vol. 74, No. 2 (Spring, 2000), pp. 515-529.

Morris Llewellyn Cooke, "The Early Days of the Rural Electrification Idea: 1914-1936," The American Political Science Review, Vol. 42, No. 3 (Jun., 1948), pp. 431-447.

H. S. Person, "The Rural Electrification Administration in Perspective," Agricultural History, Vol. 24, No. 2 (Apr., 1950), pp. 70-89.

### **Week 3 (March 10). The State, Public, Technology, and the Environment.**

The relationship between science, technology, and the citizen has evolved in the twentieth century along with the growth in the scale of technological systems. In more democratic regimes, the public seemingly has access to the policy process and can influence the choice and direction of innovation. In more authoritarian regimes, it seems that role is circumscribed if not prohibited. On top of this, some specialists argue that certain technologies are more democratic – those that are small scale for example, while those that are large scale tend to be more authoritarian and rise the prospects of significant, if not irreversible social and environmental impacts. What has been the experience of the public and environment under communism, fascism and democracy?



The Sardar Sarovar dam in India has provoked significant controversy, including opposition from farmers who have been displaced from the massive project. (Economic Times, June 14, 2014).

Charles Ascher, “Review of TVA--Democracy on the March by David E. Lilienthal,” The American Political Science Review, Vol. 38, No. 3 (Jun., 1944), pp. 561-563.

Tim Wright, “The Political Economy of Coal Mine Disasters in China: "Your Rice Bowl or Your Life," The China Quarterly, No. 179 (Sep., 2004), pp. 629-646.

Robert Bullard, “Environmental Justice in the 21st Century: Race Still Matters,” Phylon, Vol. 49, No. 3/4 (Autumn-Winter, 2001), pp. 151-171.

Frank Uekötter, “Green Nazis? Reassessing the Environmental History of Nazi Germany,” German Studies Review, Vol. 30, No. 2 (May, 2007), pp. 267-287.

Haipei Xu, “Lament of History, Call of New Civilization: Revelations from the Three Gorges,” Race, Poverty & the Environment, Vol. 3, No. 2, Special Issue on WATER (Summer 1992), pp. 7, 29.



Sheila Jasanoff, "Technologies of Humility: Citizen Participation in Governing Science," Minerva, Vol. 41, No. 3, Special Issue: Reflections on the New Production of Knowledge (2003), pp. 223-244.

Dai Qing, "The Three Gorges Dam Project and Free Speech in China," Chicago Review, Vol. 39, No. 3/4, A North Pacific Rim Reader (1993), pp. 275-278.

Evan Bennett, "Highways to Heaven or Roads to Ruin? The Interstate Highway System and the Fate of Starke, Florida," The Florida Historical Quarterly, Vol. 78, No. 4 (Spring, 2000), pp. 451-467.

Sara Pritchard, "From Hydroimperialism to Hydrocapitalism: 'French' Hydraulics in France, North Africa, and Beyond," Social Studies of Science vol. 42, no. 4 (2012), pp. 591-615.

#### **Other Readings if Time and Interest Permit:**

Franz-Josef Brüggemeier, Mark Cioc, and Thomas Zeller, eds., How Green Were the Nazis? Nature, Environment and Nation in the Third Reich, chaps. 2 (forest), 5 (pigs and people), 6 (landscape) and 9 (eastern regions), pp. 43-72, 129-170, 243-256.

Paul Josephson, Totalitarian Science and Technology (New York: 1996).

Laura Henry, Red to Green: Environmental Activism in Post-Soviet Russia (Ithaca, NY: Cornell University Press, 2010).

Dorothy Nelkin, editor, Controversy: Politics of Technical Decision (Newbury Park: Sage, 1992).

Sheila Jasanoff, "Bhopal's Trials of Knowledge and Ignorance," Isis, Vol. 98, No. 2 (June 2007), pp. 344-350.

Jason David Rivera and DeMond Shondell Miller, "Continually Neglected: Situating Natural Disasters in the African American Experience," Journal of Black Studies, Vol. 37, No. 4, Katrina: Race, Class, and Poverty (Mar., 2007), pp. 502-522.

William N. Holden and R. Daniel Jacobson, "Civil Society Opposition to Nonferrous Metals Mining in Guatemala," Voluntas: International Journal of Voluntary and Nonprofit Organizations, Vol. 19, No. 4 (December 2008), pp. 325-350.

**Week 4 (April 14). Mining and smelting. Nature Engineering.**

Michael Specter, "Far North in Russia, the Mines' Fatal Blight," The New York Times, March 28, 1994, pp. 1.

T. W. Kienlen, "The Future of Coal," The Analysts Journal, Vol. 10, No. 4 (Aug., 1954), pp. 77-80.

Chris Barrow, "The Impact of Hydroelectric Development on the Amazonian Environment: With Particular Reference to the Tucuruí Project," Journal of Biogeography, Vol. 15, No. 1, Biogeography and Development in the Humid Tropics (Jan., 1988), pp. 67-78.

Marsha Weisiger, "Happy Clay and the Unhappy History of Uranium Mining on the Navajo Reservation," Environmental History, Vol. 17, No. 1 (January 2012), pp. 146-159.



So-called mountaintop removal has obvious aesthetic and physical impacts on the quality of life. Large scale machinery and equipment has been employed in the widely-spread practice.

Tim LeCain, "America the Bountiful: Butte's Berkeley Pit and the American Culture of Consumption," Montana: The Magazine of Western History, Vol. 56, No. 4 (Winter, 2006), pp. 5-17+97.

E. Willard Miller, "Strip Mining and Land Utilization in Western Pennsylvania," The Scientific Monthly, Vol. 69, No. 2 (Aug., 1949), pp. 94-103.

Paul H. Rakes, "Technology in Transition: The Dilemmas of Early Twentieth-Century Coal Mining," Journal of Appalachian Studies, Vol. 5, No. 1 (Spring 1999), pp. 27-60.

Eagle Glassheim, "Most, the Town that Moved: Coal, Communists and the 'Gypsy Question' in Post-War Czechoslovakia," Environment and History, Vol. 13, No. 4 (November 2007), pp. 447-476.

Patricia Adams and Gráinne Ryder, "China's Great Leap Backward: Uneconomic and Outdated, the Three Gorges Dam Will Stunt China's Economic Growth," International Journal, Vol. 53, No. 4 (Autumn, 1998), pp. 687-704.

### **Other Readings if Time and Interest Permit:**

Elizabeth Dore, "Environment and Society: Long-Term Trends in Latin American Mining," Environment and History, Vol. 6, No. 1 (February 2000), pp. 1-29.

Marcello M. Veiga and John A. Meech, "Gold Mining Activities in the Amazon: Clean-Up Techniques and Remedial Procedures for Mercury Pollution," Ambio, Vol. 24, No. 6 (Sep., 1995), pp. 371-375.

Andrea Graziosi, "The Great Strikes of 1953 in Soviet Labor Camps in the Accounts of Their Participants," Cahiers du Monde russe et soviétique, Vol. 33, No. 4 (Oct. - Dec., 1992), pp. 419-445.

Michael Amundson, "Home on the Range No More: The Boom and Bust of a Wyoming Uranium Mining Town, 1957-1988," The Western Historical Quarterly, Vol. 26, No. 4 (Winter, 1995), pp. 483-505

Ralph A. Luebben, "Prejudice and Discrimination against Navahos in a Mining Community," Kiva, Vol. 30, No. 1 (Oct., 1964), pp. 1-17.

A.R. Gini, "A 'Butte' of a Hole in Montana," Journal of Business Ethics, Vol. 5, No. 1 (Feb., 1986), pp. 79-83.

Judith Shapiro, Mao's War against Nature: Politics and the Environment in Revolutionary China. (New York: Cambridge University Press, 2001).

Tim LeCain, Mass Destruction (New Brunswick: Rutgers University Press, 2009).

Joseph Love, "Technology and Society: The Impact of Gold Mining on the Institution of Slavery in Portuguese America: Comment," The Journal of Economic History, Vol. 37, No. 1, The Tasks of Economic History (Mar., 1977), pp. 84-86.

Alan Barenberg, "Prisoners Without Borders: Zazonniki and the Transformation of Vorkuta after Stalin," Jahrbücher für Geschichte Osteuropas, Neue Folge, Bd. 57, H. 4, Themenschwerpunkt: Aufbruch aus dem GULag (2009), pp. 513-534.

Joyce Barry, "Mountaineers Are Always Free?: An Examination of the Effects of Mountaintop Removal in West Virginia," Women's Studies Quarterly, Vol. 29, No. 1/2, Earthwork: Women and Environments (Spring - Summer, 2001), pp. 116-130.

**Week 5 (May 5). Energy (mostly nuclear, but also fossil fuel and some alternative).**

The nations of the world have spent trillions of dollars, rubles, francs, marks, yen, pounds, rupees and other currencies on nuclear technologies since the mid-1940s. These nations' leaders and scientists have justified the expenses in the name of national security, imminent threat, the promise of electricity "too cheap to meter," elixirs and other medical uses, and applications in agriculture and industry that would revolutionize production processes. Many of them see nuclear power as the best alternative to a carbon economy since nuclear power does not contribute to global warming. How have political, economic, and ideological desiderata contributed to the development of large scale energy technologies in the twentieth century?

Matthias Heymann, "Signs of Hubris: The Shaping of Wind Technology Styles in Germany, Denmark, and the United States, 1940-1990," Technology and Culture, Vol. 39, No. 4 (Oct., 1998), pp. 641-670

John Wood, "India's Narmada River Dams: Sardar Sarovar under Siege," Asian Survey, Vol. 33, No. 10 (Oct., 1993), pp. 968-984.

T. M. Thomas, "Subterranean Nuclear Explosions: Future Tools in Mineral Exploitation?" Area, Vol. 1, No. 1 (1969), pp. 25-26.



In 1957 Walt Disney produced a film replete with utopian visions for the future of atomic energy, "Our Friend the Atom."

Paul Josephson, 'Atomic-Powered Communism: Nuclear Culture in the Postwar USSR,' Slavic Review, Vol. 55, No. 2 (Summer, 1996), pp. 297-324.

Gabrielle Hecht, "Africa and the Nuclear World: Labor, Occupational Health, and the Transnational Production of Uranium," Comparative Studies in Society and History, vol. 51, no. 4 (2009): pp. 896–926.

Steve Owen and Jeff Boyer, "Energy, Environment, and Sustainable Industry in the Appalachian Mountains, United States," Mountain Research and Development, Vol. 26, No. 2 (May, 2006), pp. 115-118.

Bengt Karlsson, "Nuclear Lives: Uranium Mining, Indigenous Peoples, and Development in India," Economic and Political Weekly, Vol. 44, No. 34 (August 22-28, 2009), pp. 43-49

Dwight David Eisenhower, "Atoms for Peace," Speech at the UN, 1953, at <http://www.eisenhower.utexas.edu/atoms.htm> or some other site.

Human Radiation Exposure Experiments:

<http://www.hss.energy.gov/HealthSafety/ohre/roadmap/experiments/index.html>

Scott Kirsch, Don Mitchell, "Earth-Moving as the 'Measure of Man': Edward Teller, Geographical Engineering and the Matter of Progress," Social Text, no. 54 (Spring 1998), pp. 100-134.

Silas House, "A Conscious Heart," Journal of Appalachian Studies, Vol. 14, No. 1/2 (Spring/Fall 2008), pp. 7-19.

Michael Wallace, "Dying for Coal: The Struggle for Health," Social Forces, Vol. 66, No. 2 (Dec., 1987), pp. 336-364.

#### **Other Readings if Time and Interest Permit:**

Robert Jungk, Brighter Than a Thousand Suns.

Gabrielle Hecht, The Radiance of France.

Paul Josephson, Red Atom.

William R. Freudenberg and Robert Gramling, Blowout in the Gulf: The BP Oil Spill Disaster and the Future of Energy in America (Cambridge: MIT Press, 2011).

Jean-Marc Regnault, "France's Search for Nuclear Test Sites, 1957-1963," The Journal of Military History, Vol. 67, No. 4 (Oct., 2003), pp. 1223-1248.

Michael Bess, "Ecology and Artifice: Shifting Perceptions of Nature and High Technology in Postwar France," Technology and Culture, Vol. 36, No. 4 (Oct., 1995), pp. 830-862.

Dorothy Nelkin, "Native Americans and Nuclear Power," Science, Technology, & Human Values, Vol. 6, No. 35 (Spring, 1981), pp. 2-13.

James N. Maples and Elizabeth A. East, "Destroying Mountains, Destroying Cemeteries: Historic Mountain Cemeteries in the Coalfields of Boone, Kanawha, and Raleigh Counties, West Virginia," Journal of Appalachian Studies, Vol. 19, No. 1/2 (Spring/Fall 2013), pp. 7-26.

Travis D. Stimeling, "Music, Place, and Identity in the Central Appalachian Mountaintop Removal Mining Debate," American Music, Vol. 30, No. 1 (Spring 2012), pp. 1-29

Allison MacFarlane, "Underlying Yucca Mountain: The Interplay of Geology and Policy in Nuclear Waste Disposal," Social Studies of Science, Vol. 33, No. 5, Earth Sciences in the Cold War (Oct., 2003), pp. 783-807.

Lin Nelson, "Promise Her Everything: The Nuclear Power Industry's Agenda for Women," Feminist Studies, Vol. 10, No. 2 (Summer 1984), pp. 291-314

### **Other Secondary Sources on Asia, India, China**

Michael Adas, Dominance By Design: Technological Imperatives and America's Civilizing Mission (New York: Belknap Publishing, 2006).

Michael Adas, "Improving on the Civilizing Mission?: Assumptions of United States Exceptionalism in the Colonization of the Philippines," Itinerario, vol. 22 (1998), pp. 44-66.

Ramachandra Guha, "Appendix: Indian Environmental History (1989-1999)," in The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya, 2nd ed. (Berkeley: University of California Press, 2000), pp. 211-222.

Ramachandra Guha, The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya, 2nd ed. (Berkeley: University of California Press, 2000).

Guha and Madhav Gadgil, This Fissured Land: An Ecological History of India (Delhi: Oxford University Press, 1992).

Guha and Gadgil, "State Forestry and Social Conflict in British India," Past & Present, vol. 123 (1989), pp. 141-77.

Guha and David Arnold, Nature, Culture, and Imperialism: Essays on the Environmental History of South Asia (Delhi: Oxford University Press, 1998)

J. R. McNeill, "China's Environmental History in World Perspective," in Mark Elvin and Liu Ts'ui-jung, Sediments of Time: Environment and Society in Chinese History (New York: Cambridge University Press, 1998).

J. R. McNeill, "Of Rats and Men: A Synoptic Environmental History of the Island Pacific," Journal of World History, vol. 5 (1994), pp. 299–349.

Robert Marks, Tigers, Rice, Silk, and Silt: Environment and Economy in Late Imperial South China (New York: Cambridge University Press, 1998).

Robert Marks, "Commercialization without Capitalization: Processes of Environmental Change in South China, 1550-1850," Environmental History, vol. 1 (January 1996), pp. 56-82.

Peter Perdue, Exhausting the Earth: State and Peasant in Hunan, 1550-1850 (Cambridge: Harvard University Press, 1987).

Mahesh Rangarajan, "Environmental Histories of South Asia: A Review Essay," Environment and History vol. 2 (1996), pp. 129–43.

Conrad Totman, Green Archipelago: Forestry in Preindustrial Japan (Berkeley: University of California Press, 1988).

Brett Walker, The Conquest of the Ainu Lands: Ecology and Culture in Japanese Expansion, 1590-1800 (Berkeley: University of California Press, 2001)