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N A T U R E

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*Biology, Culture, and*

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*Environmental History*

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EDITED BY  
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& Andrew G. Kirk  
WITH A  
FOREWORD BY  
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## FOREWORD

*Carolyn Merchant*

**C**haco Canyon, San Juan watershed, Anasazi culture, present state of New Mexico, A.D. 1150. Four-story pueblos, thirteen great houses, a multitude of surrounding villages, all constructed of adobe and wood, are set at the base of a canyon. Fields of flourishing vegetables are watered by a vast system of gates and irrigation canals. A system of straight thirty-foot-wide highways stretches out of the canyon, joining adjacent and faraway communities to the central city. On nearby Fajada Butte an observatory measures the timing of the solstices and equinoxes; a shaft of sunlight striking between stone slabs sets planting, harvesting, and festival times for the city's health and security.

Albuquerque, Rio Grande watershed, North American culture, present state of New Mexico, A.D. 1996. Four-story buildings, great houses, skyscrapers, a multitude of suburbs, all constructed of adobe, wood, concrete, and steel, stretch out along the Rio Grande valley. Fields of crops are watered by a vast irrigation system, and a network of roads and highways links the city to surrounding communities. At nearby Los Alamos National Laboratory research on nuclear weapons sets the agenda for the country's defense and security.

Two cities, two watersheds, two human cultures. Striking similarities, vast differences. How to account for them? Nature and human nature both play significant roles in the transformation of a desert landscape into a thriving civilization. The constraints and opportunities imposed by limited

water, vast temperature ranges, a relatively restricted growing season, river and mesa topography, and clay and sandy soils set many of the options for human life. Human ingenuity, dexterity, curiosity, communication, and reproductive capacities open opportunities for community living. Nature and human nature interact in the production of human societies. Both are complicated, historically changing, culturally constructed terms. In April 1996 a group of environmental historians, philosophers, and scholars from related fields gathered at the University of New Mexico in Albuquerque to focus their attention on the interconnections between nature and human nature, with special attention to the underinterrogated meanings of human nature. Their reflections are reproduced in this volume.

Human nature, like nature itself, is one of the most complex concepts in western culture. Are there essential traits common to all humans merely by "nature" of being human? If so, what are they? Are human characteristics a product of culture, rather than nature, and therefore variable and relative to particular cultures? Joining the term human to the term nature raises further questions. Are humans a part of or apart from nature? Is nature one thing and humans another, or does joining the two mean that humans share something with nature, whatever that may be? On the other hand, if humans are distinct from nature, how does human nature differ from nonhuman nature?

All humans seem to share some species-specific "natural" characteristics — large brains, opposed thumbs, bipedalism, language ability, sexual receptivity, consciousness, and so on. More problematic are "human" characteristics such as capacities for love, hate, cooperation, competition, selfishness, altruism, morality, and so forth. Even more complex and problematic are so called gender-specific characteristics, such as tendencies to be aggressive, gentle, rational, emotional, giving, protective, adventurous, etc. Are there any "essential" male or female characteristics, and if so, what are they? If such characteristics are not gender-specific, are they culturally assigned and reinforced? Similar problems and concerns can be raised about characteristics of race and ethnicity.

Questions such as these are usually not addressed very specifically by writers about nature, culture, gender, or history. Yet assumptions about the answers to these questions underlie each writer's narrative. The ways writers use adjectives, adverbs, verbs, and nouns imply culturally constructed positions in relation to these unarticulated questions. The actors and plots they choose to include or omit reflect underlying assumptions about both nature and human nature. By asking questions about and attempting to articulate each author's concept of nature, human nature, theory of history, and prophetic trajectory,

readers can discern much about our unexpressed ideas, politics, hopes, and fears.

Most authors would perhaps agree that there is a biological component to every human being over which layers of a particular culture or cultures are woven. Human biological material seems extraordinarily malleable, although not infinitely so. Humans may be genetically programmed, yet culturally shaped. But is biology or culture more significant in influencing the outcome? For some writers, biological drivers such as the need to satisfy hunger and sex, through production and reproduction, are uppermost in influencing, although not necessarily determining, history. For others, people and history are driven by storytelling, or moral characteristics and imperatives. For still others, there is an inseparable mixture of biocultural factors. Brain and body evolve together. People are biosocial beings. They weave together the warp of culture with the woof of nature.

The contributors to *Human/Nature* have thought hard about these questions and interconnections. They have approached the issues from a variety of social, gender, and racial perspectives. For Paul Hirt, humans are three species in one: *Homo activists* who move, eat, sleep, and reproduce; *Homo economicus*, which represents the social aggregate necessary to satisfy basic human needs and ideals; and *Homo narratus*, or storytellers who justify and rationalize ways of being in the world. For Max Oelschlaeger, humans are culture lovers—overdetermined culturally and underdetermined biologically. They are *sapiens*, *economicus*, and rational architects who weave stories together as texts. Vera Norwood sees nature as an unmediated flux, with humans interacting with different aspects of it. Women and men are embodied differently; to be incorporated in a different body is to live in a different world.

Virginia Scharff characterizes people as metamorphic, interconnected, moving beings— incomplete puzzles who are products of tools and tool uses. Since the Enlightenment, people must struggle for the privilege of being human; culture affects access to the status of “human being.” Andrew Kirk sees people as contingent, historical beings who are masters of their own destiny. For John Herron, they invent social, narrative frameworks that are not wholly in tune with the natural world.

Dan Flores emphasizes the biological side of human nature. Reproduction, sex, and gender exemplify the selfish gene set in a Darwinian context of competition and cooperation. The human animal is a reproducing organism who cannot completely control the widespread implications of its own population explosion. Environmental historians, he believes, need to address the fact that humans have an animal nature by writing through a bioregional lens over the

*longue durée*. Tim Moy agrees that sociobiology reveals human nature, but to say that humans are biologically based is a trivial statement. People are biologically shaped, but flexibility is also hard-wired into our biology. Nature, the land, and gender, like human nature, are all problematically constructed concepts, but nevertheless all have great agency in environmental history.

William deBuys views people as the children of culture, whose genetically determined impulses are awakened and overcome by cultural stories. As *Homo narratus*, we invent and reinvent our own core stories that reflect the mix between biology and culture. The stories told by environmental historians fall into three modes—tragic, consensus building, and complex/self-reflective forms of narration.

The flexibility of human biology and ingenuity—the “contriving brain and the skillful hand”—and the narrating capacities of human communication seem to have promoted adaptation to a multitude of varying environments. Environmental historians have played a major role in understanding the implications of those adaptations and their limitations over time. Yet even the narrating abilities of historians cannot predict historical outcomes. Chaco Canyon and Albuquerque, New Mexico, linked together by nature and human nature yet separated in time and human culture, may or may not meet the same fate. By A.D. 1200 only the wind whistled through the abandoned homes of the Chaco peoples. The future of Albuquerque is as yet an open question.