

# PRIMATE VISIONS

**Gender, Race, and  
Nature in the World  
of Modern Science**

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ROUTLEDGE  

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## INTRODUCTION: THE PERSISTENCE OF VISION

The names you uncaged primates give things affect your attitude to them forever after. (Herschberger 1970 [1948])

For thus all things must begin, with an act of love. (Marais 1980)

**H**ow are love, power, and science intertwined in the constructions of nature in the late twentieth century?<sup>1</sup> What may count as nature for late industrial people? What forms does love of nature take in particular historical contexts? For whom and at what cost? In what specific places, out of which social and intellectual histories, and with what tools is nature constructed as an object of erotic and intellectual desire? How do the terrible marks of gender and race enable and constrain love and knowledge in particular cultural traditions, including the modern natural sciences? Who may contest for what the body of nature will be? These questions guide my history of the modern sciences and popular cultures emerging from accounts of the bodies and lives of monkeys and apes.

The themes of race, sexuality, gender, nation, family, and class have been written into the body of nature in western life sciences since the eighteenth century. In the wake of post-World War II decolonization, local and global feminist and anti-racist movements, nuclear and environmental threats, and broad consciousness of the fragility of earth's webs of life, nature remains a crucially important and deeply contested myth and reality. How do material and symbolic threads interweave in the fabric of late twentieth-century nature for industrial people?

Monkeys and apes have a privileged relation to nature and culture for western people: simians occupy the border zones between those potent mythic poles. In the border zones, love and knowledge are richly ambiguous and productive of meanings in which many people have a stake. The commercial and scientific traffic in monkeys and apes is a traffic in meanings, as well as in animal lives. The sciences that tie



monkeys, apes, and people together in a Primate Order are built through disciplined practices deeply enmeshed in narrative, politics, myth, economics, and technical possibilities. The women and men who have contributed to primate studies have carried with them the marks of their own histories and cultures. These marks are written into the texts of the lives of monkeys and apes, but often in subtle and unexpected ways. People who study other primates are advocates of contending scientific discourses, and they are accountable to many kinds of audiences and patrons. These people have engaged in dynamic, disciplined, and intimate relations of love and knowledge with the animals they were privileged to watch. Both the primatologists and the animals on whose lives they reported command intense popular interest—in natural history museums, television specials, zoos, hunting, photography, science fiction, conservation politics, advertising, cinema, science news, greeting cards, jokes. The animals have been claimed as privileged subjects by disparate life and human sciences—anthropology, medicine, psychiatry, psychobiology, reproductive physiology, linguistics, neural biology, paleontology, and behavioral ecology. Monkeys and apes have modeled a vast array of human problems and hopes. Most of all, in European, American, and Japanese societies, monkeys and apes have been subjected to sustained, culturally specific interrogations of what it means to be “almost human.”

Monkeys and apes—and the people who construct scientific and popular knowledge about them—are part of cultures in contention. Never innocent, the visualizing narrative “technology” of this book draws from contemporary theories of cultural production, historical and social studies of science and technology, and feminist and anti-racist movements and theories to craft a view of nature as it is constructed and reconstructed in the bodies and lives of “third world” animals serving as surrogates for “man.”

I have tried to fill *Primate Visions* with potent verbal and visual images—the corpse of a gorilla shot in 1921 in the “heart of Africa” and transfixed into a lesson in civic virtue in the American Museum of Natural History in New York City; a little white girl brought into the Belgian Congo in the 1920s to hunt gorilla with a camera, who metamorphosized in the 1970s into a writer of science fiction considered for years as a model of masculine prose; the chimpanzee HAM in his space capsule in the Mercury Project in 1961; HAM’s chimp contemporary, David Greybeard, reaching out to Jane Goodall, “alone” in the “wilds of Tanzania” in the year in which 15 African primate-habitat nations achieved national independence; a *Vanity Fair* special on the murdered Dian Fossey in a gorilla graveyard in Rwanda in 1986; the bones of an ancient fossil, reconstructed as the grandmother of humanity, laid out like jewels on red velvet in a paleontologist’s laboratory in a pattern to ground, once again, a theory of the origin of “monogamy”; infant monkeys in Harry Harlow’s laboratory in the 1960s clinging to cloth and wire “surrogate mothers” at an historical moment when the images of surrogacy began to surface in American reproductive politics; the emotionally wrenching embrace between a young, middle-class, white woman scientist and an adult American Sign Language-speaking chimpanzee on an island in the River Gambia, where white women teach captive apes to “return” to the “wild”; a Hallmark greeting card reversing the images of King Kong with a monstrous blond woman and a cringing silverback gorilla in bed in a drama called “Getting Even”; the anatomical drawings of living and fossil female apes sharing the basic lines of their bodies with a modern human female, in order to teach

medical students the functional meaning of human adaptations; ordinary women and men from Africa, the United States, Japan, Europe, India, and elsewhere, with tape recorders and data clipboards transcribing the lives of monkeys and apes into specialized texts that become contested items in political controversies in many cultures.

I am writing about primates because they are popular, important, marvelously varied, and controversial. And all members of the Primate Order—monkeys, apes, and people—are threatened. Late twentieth-century primatology may be seen as part of a complex survival literature in global, nuclear culture. Many people, including myself, have emotional, political, and professional stakes in the production and stabilization of knowledge about the order of primates. This will not be a disinterested, objective study, nor a comprehensive one—partly because such studies are impossible for anyone, partly because I have stakes I want to make visible (and probably others as well). I want this book to be interesting for many audiences, and pleasurable and disturbing for all of us. In particular, I want this book to be responsible to primatologists, to historians of science, to cultural theorists, to the broad left, anti-racist, anti-colonial, and women's movements, to animals, and to lovers of serious stories. It is perhaps not always possible to be accountable to those contending audiences, but they have all made this book possible. They are all inside this text. Primates existing at the boundaries of so many hopes and interests are wonderful subjects with whom to explore the permeability of walls, the reconstitution of boundaries, the distaste for endless socially enforced dualisms.

### **Fact and Fiction**

Both science and popular culture are intricately woven of fact and fiction. It seems natural, even morally obligatory, to oppose fact and fiction; but their similarities run deep in western culture and language. Facts can be imagined as original, irreducible nodes from which a reliable understanding of the world can be constructed. Facts ought to be discovered, not made or constructed. But the etymology of facts refers us to human action, performance, indeed, to human feats (OED). Deeds, as opposed to words, are the parents of facts. That is, human action is at the root of what we can see as a fact, linguistically and historically. A fact is the thing done, a neuter past participle in our Roman parent language. In that original sense, facts are what has actually happened. Such things are known by direct experience, by testimony, and by interrogation—extraordinarily privileged routes to knowledge in North America.

Fiction can be imagined as a derivative, fabricated version of the world and experience, as a kind of perverse double for the facts or as an escape through fantasy into a better world than "that which actually happened." But tones of meaning in fiction make us hear its origin in vision, inspiration, insight, genius. We hear the root of fiction in poetry and we believe, in our Romantic moments, that original natures are revealed in good fiction. That is, fiction can be *true*, known to be true by an appeal to nature. And as nature is prolific, the mother of life in our major myth systems, fiction seems to be an inner truth which gives birth to our cultural lives. This, too, is a very privileged route to knowledge in western cultures, including the United States. And finally, the etymology of fiction refers us once again to human action, to the act of fashioning, forming, or inventing, as well as to

feigning. Fiction is inescapably implicated in a dialectic of the true (natural) and the counterfeit (artifactual). But in all its meanings, fiction is about human action. So, too, are all the narratives of science—fiction and fact—about human action.

Fiction's kinship to facts is close, but they are not identical twins. Facts are opposed to opinion, to prejudice, but not to fiction. Both fiction and fact are rooted in an epistemology that appeals to experience. However, there is an important difference; the word *fiction* is an active form, referring to a present act of fashioning, while *fact* is a descendant of a past participle, a word form which masks the generative deed or performance. A fact seems done, unchangeable, fit only to be recorded; fiction seems always inventive, open to other possibilities, other fashionings of life. But in this opening lies the threat of merely feigning, of not telling the true form of things.

From some points of view, the natural sciences seem to be crafts for distinguishing between fact and fiction, for substituting the past participle for the invention, and thus preserving true experience from its counterfeit. For example, the history of primatology has been repeatedly told as a progressive clarification of sightings of monkeys, apes, and human beings. First came the original intimations of primate form, suggested in the pre-scientific mists in the inventive stories of hunters, travelers, and natives, beginning perhaps in ancient times, perhaps in the equally mythic Age of Discovery and of the Birth of Modern Science in the sixteenth century. Then gradually came clear-sighted vision, based on anatomical dissection and comparison. The story of correct vision of primate social form has the same plot: progress from misty sight, prone to invention, to sharp-eyed quantitative knowledge rooted in that kind of experience called, in English, experiment. It is a story of progress from immature sciences based on mere description and free qualitative interpretation to mature science based on quantitative methods and falsifiable hypotheses, leading to a synthetic scientific reconstruction of primate reality. But these histories are stories about stories, narratives with a good ending; i.e., the facts put together, reality reconstructed scientifically. These are stories with a particular aesthetic, realism, and a particular politics, commitment to progress.

From only a slightly different perspective, the history of science appears as a narrative about the history of technical and social means to produce the facts. The facts themselves are types of stories, of testimony to experience. But the provocation of experience requires an elaborate technology—including physical tools, an accessible tradition of interpretation, and specific social relations. Not just anything can emerge as a fact; not just anything can be seen or done, and so told. Scientific practice may be considered a kind of story-telling practice—a rule-governed, constrained, historically changing craft of narrating the history of nature. Scientific practice and scientific theories produce and are embedded in particular kinds of stories. Any scientific statement about the world depends intimately upon language, upon metaphor. The metaphors may be mathematical or they may be culinary; in any case, they structure scientific vision. Scientific practice is above all a story-telling practice in the sense of historically specific practices of interpretation and testimony.

Looking at primatology, a branch of the life sciences, as a story-telling craft may be particularly appropriate. First, the discourse of biology, beginning near the first decades of the nineteenth century, has been about organisms, beings with a life history; i.e., a plot with structure and function.<sup>2</sup> Biology is inherently historical, and its form of discourse is inherently narrative. Biology as a way of knowing the world is kin to Romantic literature, with its discourse about organic form and function.

Biology is the fiction appropriate to objects called organisms; biology fashions the facts "discovered" from organic beings. Organisms perform for the biologist, who transforms that performance into a truth attested by disciplined experience; i.e., into a fact, the jointly accomplished deed or feat of the scientist and the organism. Romanticism passes into realism, and realism into naturalism, genius into progress, insight into fact. *Both* the scientist and the organism are actors in a story-telling practice.

Second, monkeys, apes, and human beings emerge in primatology inside elaborate narratives about origins, natures, and possibilities. Primatology is about the life history of a taxonomic order that includes people. Especially western people produce stories about primates while simultaneously telling stories about the relations of nature and culture, animal and human, body and mind, origin and future. Indeed, from the start, in the mid-eighteenth century, the primate order has been built on tales about these dualisms and their scientific resolution.

To treat a science as narrative is not to be dismissive, quite the contrary. But neither is it to be mystified and worshipful in the face of a past participle. I am interested in the narratives of scientific fact—those potent fictions of science—within a complex field indicated by the signifier SF. In the late 1960s science fiction anthologist and critic Judith Merrill idiosyncratically began using the signifier SF to designate a complex emerging narrative field in which boundaries between science fiction (conventionally, sf) and fantasy became highly permeable in confusing ways, commercially and linguistically. Her designation, SF, came to be widely adopted as critics, readers, writers, fans, and publishers struggled to comprehend an increasingly heterodox array of writing, reading, and marketing practices indicated by a proliferation of "sf" phrases: speculative fiction, science fiction, science fantasy, speculative futures, speculative fabulation.

SF is a territory of contested cultural reproduction in high-technology worlds. Placing the narratives of scientific fact within the heterogeneous space of SF produces a transformed field. The transformed field sets up resonances among all of its regions and components. No region or component is "reduced" to any other, but reading and writing practices respond to each other across a structured space. Speculative fiction has different tensions when its field also contains the inscription practices that constitute scientific fact. The sciences have complex histories in the constitution of imaginative worlds and of actual bodies in modern and postmodern "first world" cultures. Teresa de Lauretis speculated that the sign work of SF was "potentially creative of new forms of social imagination, creative in the sense of mapping out areas where cultural change *could* take place, of envisioning a different order of relationships between people and between people and things, a different conceptualization of social existence, inclusive of physical and material existence" (1980: 161). This is also one task of the "sign work" of primatology.

So, in part, *Primate Visions* reads the primate text as science fiction, where possible worlds are constantly reinvented in the contest for very real, present worlds. The conclusion perversely reads a sf story about an alien species that intervenes in human reproductive politics as if it were a monograph from the primate field. Beginning with the myths, sciences, and historical social practices that placed apes in Eden and apes in space, at the beginnings and ends of western culture, *Primate Visions* locates aliens in the text as a way to understand love and knowledge among primates on a contemporary fragile earth.

## Four Temptations

Analyzing a scientific discourse, primatology, as story telling within several contested narrative fields is a way to enter current debates about the social construction of scientific knowledge without succumbing completely to any of four very tempting positions, which are also major resources for the approaches of this book. I use the image of temptation because I find all four positions persuasive, enabling, and also dangerous, especially if any one position finally silences all the others, creating a false harmony in the primate story.

The first resourceful temptation comes from the most active tendencies in the social studies of science and technology. For example, the French prominent analyst of science, Bruno Latour, radically rejects all forms of epistemological realism and analyzes scientific practice as thoroughly social and constructionist. He rejects the distinction between social and technical and represents scientific practice as the refinement of "inscription devices," i.e., devices for transcribing the immense complexity and chaos of competing interpretations into unambiguous traces, writings, which mark the emergence of a fact, the case about reality. Interested in science as a fresh form of power in the social-material world and scientists as investing "their political ability in the heart of doing science," Latour and his colleague Stephen Woolgar powerfully describe how processes of construction are made to invert and appear in the form of discovery (1979: 213). The accounts of the scientists about their own processes become ethnographic data, subject to cultural analysis.

Fundamentally, from the perspective of *Laboratory Life*, scientific practice is literary practice, writing, based on jockeying for the power to stabilize definitions and standards for claiming something to be the case. To win is to make the cost of destabilizing a given account too high. This approach can explain scientific contests for the power to close off debate, and it can account for both successful and unsuccessful entries in the contest. Scientific practice is negotiation, strategic moves, inscription, translation. A great deal can be said about science as effective belief and the world-changing power to enforce and embody it.<sup>3</sup> What more can one ask of a theory of scientific practice?

The second valuable temptation comes from one branch of the marxist tradition, which argues for the historical superiority of particular structured standpoints for knowing the social world, and possibly the "natural" world as well. Fundamentally, people in this tradition find the social world to be structured by the social relations of the production and reproduction of daily life, such that it is only possible to see these relations clearly from some vantage points. This is not an individual matter, and good will is not at issue. From the standpoint of those social groups in positions of systematic domination and power, the true nature of social life will be opaque; they have too much to lose from clarity.

Thus, the owners of the means of production will see equality in a system of exchange, where the standpoint of the working class will reveal the nature of domination in the system of production based on the wage contract and the exploitation and deformation of human labor. Those whose social definition of identity is rooted in the system of racism will not be able to see that the definition of human has not been neutral, and cannot be until major material-social changes occur on a world scale. Similarly, for those whose possibility of adult status rests on the power to appropriate the "other" in a socio-sexual system of gender, sexism will not look



like a fundamental barrier to correct knowledge *in general*. The tradition indebted to marxist epistemology can account for the greater adequacy of some ways of knowing and can show that race, sex, and class fundamentally determine the most intimate details of knowledge and practice, especially where the appearance is of neutrality and universality.<sup>4</sup>

These issues are hardly irrelevant to primatology, a science practiced in the United States nearly exclusively by white people, and until quite recently by white men, and still practiced overwhelmingly by the economically privileged. Much of this book examines the consequences for primatology of the social relations of race, sex, and class in the construction of scientific knowledge. For example, perhaps most primatologists in the field in the first decades after World War II failed to appreciate that the interrelationships of people, land, and animals in Africa and Asia are at least partly due to the positions of the researchers within systems of racism and imperialism. Many sought a "pure" nature, unspoiled by contact with people; and so they sought untouched species, analogous to the "natives" once sought by colonial anthropologists. But for the observer of animals, the indigenous peoples of Africa and Asia were a nuisance, a threat to conservation—indeed, encroaching "aliens"—until decolonization forced white western scientists to restructure their bio-politics of self and other, native and alien. The boundaries among animals and human beings shift in the transition from a colonial to a post- or neo-colonial standpoint. Insisting that there can be less deformed contents and methods in the natural as well as social sciences, the marxist, feminist, and anti-racist accounts reject the relativism of the social studies of science. Explicitly political accounts take sides on what is a more adequate, humanly acceptable knowledge. But these analyses have limits for guiding an exploration of primate studies. Wage labor, sexual and reproductive appropriation, and racial hegemony are structured aspects of the human social world. There is no doubt that they affect knowledge systematically, but it is not clear precisely how they relate to knowledge about the feeding patterns of patas monkeys or about the replication of DNA molecules.

Another aspect of the marxist tradition has made significant progress in answering that kind of question. In the 1970s, people associated with the British *Radical Science Journal* developed the concept of science as a labor process in order to study and change scientific mediations of class domination in the relations of production and reproduction of human life.<sup>5</sup> Like Latour, they leave no holes for a realist or positivist epistemology, the preferred versions of most practicing scientists. Every aspect of scientific practice can be described in terms of the concept of mediation: language, laboratory hierarchies, industrial ties, medical doctrines, basic theoretical preferences, and stories about nature. The concept of labor process seems cannibalistic, making the social relations of other basic processes seem derivative. For example, the complex systems of domination, complicity, resistance, equality, and nurturance in gendered practices of bearing and raising children cannot be accommodated by the concept of labor. But these reproductive practices visibly affect more than a few contents and methods in modern primate studies. But even an extended concept of mediation and systematic social process, one that does not insist on the reduction to labor in a classic marxist sense, leaves out too much.

The third temptation comes from the siren call of the scientists themselves; they are pointing out that they are, among other things, watching monkeys and apes. In some sense, more or less nuanced, they insist that scientific practice "gets at" the

world. They claim that scientific knowledge is not simply about power and control. They claim that their knowledge somehow translates the active voice of their subjects, the objects of knowledge. Without necessarily being compelled by their aesthetic of realism or their theories of representation, I believe them in the strong sense that my imaginative and intellectual life and my professional and political commitments in the world respond to these scientific accounts. Scientists are adept at providing good grounds for belief in their accounts and for action on their basis. Just how science "gets at" the world remains far from resolved. What does seem resolved, however, is that science grows from and enables concrete ways of life, including particular constructions of love, knowledge, and power. That is the core of its instrumentalism and the limit to its universalism.

Evidence is always a question of interpretation; theories are accounts *of* and *for* specific kinds of lives. I am looking for a way of telling a story of the production of a branch of the life sciences, a branch which includes human beings centrally, that listens very carefully to the stories themselves. My story must listen to the practices of interpretation of the primate order in which the primates themselves—monkeys, apes, and people—all have some kind of "authorship." I would suggest that the concept of constrained and contested story-telling allows an appreciation of the social construction of science, while still guiding the hearer to a search for the other animals who are active participants in primatology. I want to find a concept for telling a history of science that does not itself depend on the dualism between active and passive, culture and nature, human and animal, social and natural.

The fourth temptation intersects with each of the other three; this master temptation is to look always through the lenses ground on the stones of the complex histories of gender and race in the constructions of modern sciences around the globe. That means examining cultural productions, including the primate sciences, from the points of view enabled by the politics and theories of feminism and anti-racism. The challenge is to remember the particularity as well as the power of this way of reading and writing. But that is the same challenge that should be built into reading or writing a scientific text. Race and gender are not prior universal social categories—much less natural or biological givens. Race and gender are the world-changing products of specific, but very large and durable, histories. The same thing is true of science. The visual system of this book depends upon a triple filter of race, gender, and science. This is the filter which traps the marked bodies of history for closer examination.<sup>6</sup>

Stories are always a complex production with many tellers and hearers, not all of them visible or audible. Story-telling is a serious concept, but one happily without the power to claim unique or closed readings. Primatology seems to be a science composed of stories, and the purpose of this book is to enter into contestations for their construction. The lens of story-telling defines a thin line between realism and nominalism; but primates seem to be natural scholastics, given to equivocation when pressed. Also, I think there is an aesthetic and an ethic built into thinking of scientific practice as story-telling, an aesthetic and ethic different from capitulation to "progress" and belief in knowledge as passive reflection of "the way things are," and also different from the ironic skepticism and fascination with power so common in the social studies of science. The aesthetic and ethic latent in the examination of story-telling might be pleasure and responsibility in the weaving of tales. Stories are means to ways of living. Stories are technologies for primate embodiment.

## Primateology is (Judeo-) Christian Science

Western Jews and Christians or post-Judeo-Christians are not the only practitioners of primate sciences. But this book focuses primarily on the history of studies of the social behavior of monkeys and apes done in the United States or by Euro-Americans in the twentieth century. In these stories, there is a constant refrain drawn from salvation history; primateology is about primal stories, the origin and nature of "man," and about reformation stories, the reform and reconstruction of human nature. Implicitly and explicitly, the story of the Garden of Eden emerges in the sciences of monkeys and apes, along with versions of the origin of society, marriage, and language.

From the beginning, primateology has had this character in the west. If the eighteenth-century Swedish "father" of modern biological classification, Linnaeus, is cited at all by twentieth-century scientists, he is noted for placing human beings in a taxonomic order of nature with other animals, i.e., for taking a large step away from Christian assumptions. Linnaeus placed "man" in his taxonomic order of Primates as *Homo sapiens*, in the same genus with *Homo troglodytes*, a dubious and interesting creature illustrated as a hairy woman in Linnaeus's probable source. Also in the new primate order in the tenth edition of the *Systema naturae* of 1758 were a genus for monkeys and apes, one for lemurs, and one for bats. But there is quite another way to see Linnaeus's activity as the "father" of a discourse about nature. He referred to himself as a second Adam, the "eye" of God, who could give true representations, true names, thus reforming or restoring a purity of names lost by the first Adam's sin.<sup>7</sup> Nature was a theatre, a stage for the playing out of natural and salvation history. The role of the one who renamed the animals was to ensure a true and faithful order of nature, to purify the eye and the word. The "balance of nature" was maintained partly by the role of a new "man" who would see clearly and name accurately, hardly a trivial identity in the face of eighteenth-century European expansion. Indeed, this is the identity of the modern authorial subject, for whom inscribing the body of nature gives assurance of his mastery.

Linnaeus's science of natural history was intimately a Christian science. Its first task, achieved in Linnaeus's and his correspondents' life work, was to announce the kinship of "man" and beast in the modern order of an expanding Europe. Natural man was found not only among the "savages," but also among the animals, who were named primates in consequence, the first Order of nature. Those who could bestow such names had a powerful modern vocation; they became scientists. Taxonomy had a secular sacred function. The "calling" to practice science has kept this sacralized character into the late twentieth century, although we will see it at its strongest in the early part of our century. The stories produced by such practitioners have a special status in a repressed protestant biblical culture like that of the United States.

Nature for Linnaeus was not understood "biologically," but "representationally." In the course of the nineteenth century, biology became a discourse about productive, expanding nature. Biology was constructed as a discourse about nature known as a system of production and reproduction, understood in terms of the functional division of labor and the mental, labor, and sexual efficiency of organisms. In this context, by the twentieth century primates were cast into an *Ecological Theatre and Evolutionary Play* (Hutchinson 1965). The drama has been about the origin and

development of many persistent mythic themes: sex, language, authority, society, competition, domination, cooperation, family, state, subsistence, technology, and mobility. There are two major readings of the play adopted in this book: One attends to symbolic meanings, to the primate sciences as a kind of art form making repeated use of the narrative resources of Judeo-Christian myth systems. The second pays particular attention to the ways primate biology is theorized as a material system of production and reproduction, a kind of "materialist" reading. Both interpretations listen for echoes and determinants of race, sex, and class in the stories. The primate body, as part of the body of nature, may be read as a map of power. Biology, and primatology, are inherently political discourses, whose chief objects of knowledge, such as organisms and ecosystems, are icons (condensations) of the whole of the history and politics of the culture that constructed them for contemplation and manipulation. The primate body itself is an intriguing kind of political discourse.

### **Primatology is Simian Orientalism**

The argument of this book is that primatology is about an Order, a taxonomic and *therefore* political order that works by the negotiation of boundaries achieved through ordering differences. These boundaries mark off important social territories, like the norm for a proper family, and are established by social practice, like curriculum development, mental health policy, conservation politics, film making, and book publishing. The two major axes structuring the potent scientific stories of primatology that are elaborated in these practices are defined by the interacting dualisms, *sex/gender* and *nature/culture*. Sex and the west are axiomatic in biology and anthropology. Under the guiding logic of these complex dualisms, western primatology is simian orientalism. [Figure 1.1]

Edward Said (1978) argued that western (European and American) scholars have had a long history of coming to terms with countries, peoples, and cultures in the Near and Far East that is based on the Orient's special place in western history—the scene of origins of language and civilization, of rich markets and colonial possession and penetration, and of imaginative projection. The Orient has been a troubling resource for the production of the Occident, the "East's" other and periphery that became materially its dominant. The West is positioned outside the Orient, and this exteriority is part of the Occident's practice of representation. Said quotes Marx, "They cannot represent themselves; they must be represented" (xiii). These representations are complex mirrors for western selves in specific historical moments. The west has also been positioned mobile; westerners could be *there* with relatively little resistance from the other. The difference has been one of power. The structure has been limiting, of course, but more importantly, it has been *productive*. That productivity occurred within the structured practices and discourses of orientalism; the structures were a condition of having anything to say. There never is any question of having anything truly original to say about origins. Part of the authority of the practices of telling origin stories resides precisely in their intertextual relations.

Without stretching the comparison too far, the signs of orientalist discourse mark primatology. But here, the scene of origins is not the cradle of civilization, but the cradle of culture, of human being distinct from animal existence. If orientalism



Figure 1.1 Tom Palmore, *Reclining Nude*, 1976, acrylic on canvas. The Philadelphia Museum of Art: Purchased with funds given by Marion B. Stroud and the Adele Haas Turner and Beatrice Pastorius Turner Fund. Published with permission.

concerns the western imagination of the origin of the city, primatology displays the western imagination of the origin of sociality itself, especially in the densely meaning-laden icon of "the family." Origins are in principle inaccessible to direct testimony; any voice from the time of origins is structurally the voice of the other who generates the self. That is why both realist and postmodernist aesthetics in primate representations and simulations have been modes of production of complex illusions that function as fruitful generators of scientific facts and theories. "Illusion" is not to be despised when it grounds such powerful truths.

Simian orientalism means that western primatology has been about the construction of the self from the raw material of the other, the appropriation of nature in the production of culture, the ripening of the human from the soil of the animal, the clarity of white from the obscurity of color, the issue of man from the body of woman, the elaboration of gender from the resource of sex, the emergence of mind by the activation of body. To effect these transformative operations, simian "orientalist" discourse must first construct the terms: animal, nature, body, primitive, female. Traditionally associated with lewd meanings, sexual lust, and the unrestrained body, monkeys and apes mirror humans in a complex play of distortions over centuries of western commentary on these troubling doubles. Primatology is western discourse, and it is sexualized discourse. It is about potential and its

actualization. Nature/culture and sex/gender are not loosely related pairs of terms; their specific form of relation is hierarchical appropriation, connected as Aristotle taught by the logic of active/passive, form/matter, achieved form/resource, man/animal, final/material cause. Symbolically, nature and culture, as well as sex and gender, mutually (but not equally) construct each other; one pole of a dualism cannot exist without the other.

Said's critique of orientalism should alert us to another important point: neither sex nor nature is the truth underlying gender and culture, any more than the "East" is really the origin and distorting mirror of the "West." Nature and sex are as crafted as their dominant "others." But their functions and powers are different. The task of this book is to participate in showing how the whole dualism is built, what the stakes might be in the architectures, and how the building might be redesigned. It matters to know precisely how sex and nature become natural-technical objects of knowledge, as much as it matters to explain their doubles, gender and culture. It is not the case that no story could be told without these dualisms or that they are part of the structure of the mind or language. For one thing, alternative stories within primatology exist. But these binarisms have been especially *productive* and especially *problematic* for constructions of female and race-marked bodies; it is crucial to see how the binarisms may be deconstructed and maybe redeployed.

It seems nearly impossible for those who produce natural sciences and comment on them for a living really to believe that there is no *given* reality beneath the inscriptions of science, no untouchable sacred center to ground and authorize an innocent and progressive order of knowledge. Maybe in the humanities there is no recourse from representation, mediation, story-telling, and social saturation. But the sciences succeed that other faulty order of knowledge; the proof is in their power to convince and reorder the whole world, not just one local culture. The natural sciences are the "other" to the human sciences, with their tragic orientalisms. But these pleas do not survive scrutiny.

The pleas of natural scientists do not convince because they are set up as the "other." The claims are predictable and seem plausible to those who make them because they are built into the taxonomies of western knowledge and because social and psychological needs are met by the persistent voices of the divided knowledge of natural and human sciences, by this division of labor and authority in the production of discourses. But these observations about predictable claims and social needs do not reduce natural sciences to a cynical "relativism" with no standards beyond arbitrary power. Nor does my argument claim there is no world for which people struggle to give an account, no referent in the system of signs and productions of meanings, no progress in building better accounts within traditions of practice. That would be to reduce a complex field to one pole of precisely the dualisms under analysis, the one designated as ideal to some impossible material, appearance to some forbidden real.

The point of my argument is rather that natural sciences, like human sciences, are inextricably *within* the processes that give them birth. And so, like the human sciences, the natural sciences are culturally and historically specific, modified, involved. They matter to real people. It makes sense to ask what stakes, methods, and kinds of authority are involved in natural scientific accounts, how they differ, for example, from religion or ethnography. It does not make sense to ask for a form of authority that escapes the web of the highly productive cultural fields that make

the accounts possible in the first place. The detached eye of objective science is an ideological fiction, and a powerful one. But it is a fiction that hides—and is designed to hide—how the powerful discourses of the natural sciences really work. Again, the limits are *productive*, not reductive and invalidating.

One grating consequence of my argument is that the natural sciences are legitimately subject to criticism on the level of “values,” not just “facts.” They are subject to cultural and political evaluation “internally,” not just “externally.” But the evaluation is also implicated, bound, full of interests and stakes, part of the field of practices that make meanings for real people accounting for situated lives, including highly structured things called scientific observations. The evaluations and critiques cannot leap over the crafted standards for producing credible accounts in the natural sciences because neither the critiques nor the objects of their discourse have any place to stand “outside” to legitimate such an arrogant overview. To insist on value and story-ladenness at the heart of the production of scientific knowledge is not equivalent to standing nowhere talking about nothing but one’s biases—quite the opposite. Only the pose of disinterested objectivity makes “concrete objectivity” impossible.

Part of the difficulty of approaching the embedded, interested, passionate constructions of science non-reductively derives from an inherited analytical tradition, deeply indebted to Aristotle and to the transformative history of “White Capitalist Patriarchy” (how may we name this scandalous Thing?) that turns everything into a resource for appropriation. As “resource” an object of knowledge is finally only matter for the seminal power, the act, of the knower. Here, the object both guarantees and refreshes the power of the knower, but any status as *agent* in the productions of knowledge must be denied the object. It—the world—must, in short, be objectified as thing, not agent; it must be matter for the self-formation of the only social being in the productions of knowledge, the human knower. Nature is only the raw material of culture, appropriated, preserved, enslaved, exalted, or otherwise made flexible for disposal by culture in the logic of capitalist colonialism. Similarly, sex is only the matter to the act of gender; the productionist logic seems inescapable in traditions of western binarisms. This analytical and historical narrative logic accounts for my nervousness about the sex/gender distinction in the recent history of feminist theory as a way to approach reconstructions of what may count as female and as nature in primatology—and why those reconstructions matter beyond the boundaries of primate studies. It has seemed all but impossible to avoid the trap of an appropriationist logic of domination built into the nature/culture binarism and its generative lineage, including the sex/gender distinction.

### Reading in the Borderlands

There are many subjects in the history of biology and anthropology that could sustain the themes discussed in this introduction, so why has this book chosen to explore primate sciences in particular? The principal reason is that monkeys and apes, and human beings as their taxonomic kin, exist on the boundaries of so many struggles to determine what will count as knowledge. Primates are not nicely boxed into a specialized and secured discipline or field. Even in the late twentieth century, many kinds of people can claim to know primates, to the chagrin and dismay of many other contestants for official expertise. The cost of destabilizing knowledge



about primates remains within reach not only for practitioners of several fields in the life and human sciences, but for people on the fringes of any science—like science writers, philosophers, historians, and zoo goers. In addition, story telling about animals is such a deeply popular practice that the discourse produced within scientific specialties is appropriated by other people for their own ends. The boundary between technical and popular discourse is very fragile and permeable. Even in the late twentieth century, the language of primatology is accessible in contentious political debate about human nature, history, and futures. This remains true despite a transformation of specialized discourses in primatology into the language of mathematics, systems theories, ergonomic analysis, game theory, life history strategies, and molecular biology.

Some of the interesting border disputes about primates, who and what they are (and who and what they are for), are between psychiatry and zoology, biology and anthropology, genetics and comparative psychology, ecology and medical research, agriculturalists and tourist industries in the "third world," field researchers and laboratory scientists, conservationists and multinational logging companies, poachers and game wardens, scientists and administrators in zoos, feminists and anti-feminists, specialists and lay people, physical anthropologists and ecological-evolutionary biologists, established scientists and new Ph.D.'s, women's studies students and professors in animal behavior courses, linguists and biologists, foundation officials and grant applicants, science writers and researchers, historians of science and real scientists, marxists and liberals, liberals and neo-conservatives. All of these intersections appear in this book.

How might different readers travel with pleasure in the borderlands of *Primate Visions*? This is a large book that may be read from start to finish as a chronological and thematic survey of twentieth-century primatology, with a major boundary at about 1955. But each chapter also stands by itself as an essay in cultural studies. Those most intrigued by popular culture might want to read first "Teddy Bear Patriarchy," focused on museum taxidermy and collecting safaris in colonial Africa, and "Apes in Eden, Apes in Space," examining National Geographic television specials in the context of the space race and decolonization. Primatologists might be most intrigued initially by the account of Robert Yerkes's Yale Laboratories of Primate Biology, C.R. Carpenter's pre-war field work, and the case studies of women working in primatology since the 1970s. Physical anthropologists might want to begin with the debates about fossil hominids and the field studies of monkeys and apes encouraged by Sherwood Washburn from the late 1950s. For questions about the reconstructions of nature in the context of decolonization, the reader might begin with "The Bio-politics of a Multicultural Field." An interest in psychological laboratory modeling of human social problems in the 1960s and 1970s might lead a reader to "Metaphors into Hardware: Harry Harlow and the Technology of Love." People coming to *Primate Visions* from feminist studies might want to begin by reading Part Three, "The Politics of Being Female: Primatology Is a Genre of Feminist Theory."

But each chapter is simultaneously history of science, cultural studies, feminist exploration, and engaged intervention into the constitutions of love and knowledge in the disciplined crafting of the Primate Order. I hope that the readers who begin in the position of one of the intended audiences for this book find themselves invited to become members of all of the audiences. And I hope that readers will not, be



"audience" in the sense of receivers of a finished story. Conventions within the narrative field of SF seem to require readers radically to rewrite stories in the act of reading them. My placing this account of primatology within SF—the narratives of speculative fiction and scientific fact—is an invitation for the readers of *Primate Visions*—historians, culture critics, feminists, anthropologists, biologists, anti-racists, and nature lovers—to remap the borderlands between nature and culture. I want the readers to find an "elsewhere" from which to envision a different and less hostile order of relationships among people, animals, technologies, and land. Like the actors in the stories that follow, I also want to set new terms for the traffic between what we have come to know historically as nature and culture.

# NOTES

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## 1 The Persistence of Vision

- 1 John Varley's science fiction short story, "The Persistence of Vision," is part of the inspiration for *Primate Visions*. In the story, Varley constructs a utopian community designed and built by the deaf-blind. He then explores these people's technologies and other mediations of communication and their relations to sighted children and visitors (Varley 1978). The interrogation of the limits and violence of vision is part of the politics of learning to revision.
- 2 Foucault (1973); Albury (1977); Canguilhem (1978); Figlio (1976).
- 3 See also Latour (1983, 1987, 1988); Bijker et al (1987); Callon and Latour (1981); Knorr-Cetina (1983); Knorr-Cetina and Mulkay (1983); Traweek (1988).
- 4 Hartsock (1983b); Harding (1986); Rose (1983).
- 5 Young (1977, 1985a); Yoxen (1981, 1983); Figlio (1977).
- 6 Fee (1986); Gould (1981); Hammonds (1986); Hubbard, Henifin and Fried (1982); Gilman (1985); Lowe and Hubbard (1983); Keller (1985).
- 7 I owe this analysis of Linnaeus as the Eye/I of God to Camille Limoges, Université de Québec à Montréal.

## 2 Primate Colonies and the Extraction of Value

- 1 Yerkes and Yerkes (1929); Zuckerman (1978); Schultz (1971); Clarke (1985).
- 2 Calmette (1924), Honoré (1927), Delormé (1929).