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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)

How are love, power, and science intertwined in the constructions of nature in the late twentieth century?¹ 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 the

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, psychology, 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 transixed 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 reconstruction 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 fears (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 actual 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 (artificial). 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.² 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 anthropologist 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 maternal 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 pervasively 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.³ 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.⁴

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 re-structure 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.⁵ 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 keep 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.⁶

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 scholars, 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.

Primatology 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; primatology 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, primatology 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. 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 an 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 mobility; 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 Beaurice 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 representation 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 unstrained 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-tadness 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 psychiatric 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.

TEDDY BEAR PATRIARCHY
TAXIDERMY IN
THE GARDEN OF EDEN,
NEW YORK CITY, 1908-1936

Nature teaches law and order and respect for property. If these people cannot go to the country, then the Museum must bring nature to the city.¹

I started my thoughts on the legend of Romulus and Remus who had been suckled by a wolf and founded Rome, but in the jungle I had my little Lord Greystoke suckled by an ape.²

Experience

In the heart of New York City stands Central Park—the urban garden designed by Frederick Law Olmsted to heal the overwrought or decadent city dweller with a prophylactic dose of nature. Across from the park the Theodore Roosevelt Memorial presides as the central building of the American Museum of Natural History, a monumental reproduction of the Garden of Eden.³ In the Garden, Western “man” may begin again the first journey, the first birth from within the sanctuary of nature. Founded just after the Civil War and dedicated to popular education and scientific research, the American Museum of Natural History is the place to undertake this genesis, this regeneration. Passing through the Museum’s Roosevelt Memorial atrium into the African Hall, opened in 1936, the ordinary citizen enters a privileged space and time: the Age of Mammals in the heart of Africa, scene origins.⁴ A hope is implicit in every architectural detail: in immediate vision of the origin, perhaps the future can be fixed. By seeing the beginnings, the end can be achieved and the present can be transcended. African Hall offers a unique communion with nature at its highest and yet most vulnerable moment, the moment of the interface of the Age of Mammals with the Age of Man. This communion is offered through the sense of vision by the craft of taxidermy. Its most ecstatic and skillful moment joins ape and man in visual embrace.

Restoration of the origin, the task of genetic hygiene, is achieved in Carl Akeley’s African Hall by an art that began for him in the 1880s with the crude stuffing of

P. T. Barnum’s elephant, Jumbo, who had been run down by a railroad train, the emblem of the Industrial Revolution. The end of his task came in the 1920s, with his exquisite mounting of the Giant of Karisimbi, the lone silverback male gorilla that dominates the diorama depicting the site of Akeley’s own grave in the mountainous rain forest of the Congo, today’s Zaire. So it could inhabit Akeley’s monument to the purity of nature, this gorilla was killed in 1921, the same year the Museum hosted the Second International Congress of Eugenics. From the dead body of the primate, Akeley crafted something finer than the living organism; he achieved its true end, a new genesis. Decadence—the threat of the city, civilization, machine—was stayed in the politics of eugenics and the art of taxidermy. The Museum fulfilled its scientific purpose of conservation, preservation, and the production of permanence. Life was transfigured in the principal civic arena of western political theory—the natural body of man.⁵

Behind every mounted animal, bronze sculpture, or photograph lies a profusion of objects and social interactions among people and other animals, which can be recomposed to tell a biography embracing major themes for twentieth-century United States. But the recomposition produces a story that is reticent, even mute, about Africa. H. F. Osborn, president of the American Museum from 1908-33, thought Akeley was Africa’s biographer. But in a stronger sense, Akeley is America’s biographer, at least for part of North America. Akeley thought in African Hall the visitor would experience nature at its moment of highest perfection. He did not dream that he crafted the means to experience a history of race, sex, and class in New York City that reached to Nairobi.

To enter the Theodore Roosevelt Memorial, the visitor must pass by a James Earle Fraser equestrian statue of Teddy majestically mounted as a father and protector between two “primitive” men, an American Indian and an African, both standing, dressed as “savages.” The facade of the memorial, funded by the State of New York and awarded to the American Museum of Natural History on the basis of its competitive application in 1923, is classical, with four Ionic columns 54 feet high topped by statues of the great explorers Boone, Audubon, Lewis, and Clark. The coin-like, bas-relief seals of the United States and of the Liberty Bell are stamped on the front panels. Inscribed across the top are the words TRUTH, KNOWLEDGE, VISION and the dedication to Roosevelt as “a great leader of the youth of America, in energy and fortitude in the faith of our fathers, in defense of the rights of the people, in the love and conservation of nature and of the best in life and in man.” Youth, paternal solicitude, virile defense of democracy, and intense emotional connection to nature are the unmistakable themes.⁶

The building presents itself in many visible faces. It is at once a Greek temple, a bank, a scientific research institution, a popular museum, a neoclassical theater. One is entering a space that sacralizes democracy, Protestant Christianity, adventure, science, and commerce. Entering this building, one knows that a drama will be enacted inside. Experience in this public monument will be intensely personal; this structure is one of North America’s spaces for joining the duality of self and community.

Just inside the portals, the visitor enters the sacred space where transformation of consciousness and moral state will begin.⁷ The walls are inscribed with Roosevelt’s words under the headings Nature, Youth, Manhood, the State. The seeker begins in Nature: “There are no words that can tell the hidden spirit of the wilderness,

that can reveal its mystery. . . . The nation behaves well if it treats its natural resources as assets which it must turn over to the next generation increased and not impaired in value." Nature is mystery and resource, a critical union in the history of civilization. The visitor—necessarily a white boy in moral state, no matter what accidents of biology or social gender and race might have pertained prior to the Museum excursion—progresses through Youth: "I want to see you game boys. . . . and gentle and tender. . . . Courage, hard work, self mastery, and intelligent effort are essential to a successful life." Youth mirrors Nature, its pair across the room. The next stage is Manhood: "Only those are fit to live who do not fear to die and none are fit to die who have shrunk from the joy of life and the duty of life." Opposite is its spiritual pair, the State: "Aggressive fighting for the right is the noblest sport the world affords. . . . If I must choose between righteousness and peace, I choose righteousness." The walls of the atrium are full of murals depicting Roosevelt's life, the perfect illustration of his words. His life is inscribed in stone in a peculiarly literal way appropriate to this museum. One sees the man hunting big game in Africa, conducting diplomacy in the Philippines and China, helping boy and girl scouts, receiving academic honors, and presiding over the Panama Canal ("The land divided, the world united").

Finally, in the atrium stand the striking life-size bronze sculptures by Carl Akeley of the Nandi spearman of East Africa on a lion hunt. These African men and the lion they kill symbolize for Akeley the essence of the hunt, of what would later be named "man the hunter." Discussing the essence of the hunt, Akeley referred to them as men. In every other circumstance he referred to adult male Africans as boys. Roosevelt, the modern sportsman, and the "primitive" Nandi share in the spiritual truth of manhood. The noble sculptures express Akeley's great love for Roosevelt, his friend and hunting companion in Africa in 1910 for the killing of one of the elephants which Akeley mounted for the Museum. Akeley said he would follow Roosevelt anywhere because of his "sincerity and integrity" (Akeley 1923: 162).

In the Museum shop in the atrium in the 1980s, one may purchase *T.R.: Champion of the Strenuous Life*, a photographic biography of the 26th president. Every aspect of the fulfillment of manhood is depicted, even death is labeled "The Great Adventure." One learns that after defeat in the presidential campaign of 1912, Roosevelt undertook the exploration of the Amazonian tributary, the River of Doubt, under the auspices of the American Museum of Natural History and the Brazilian Government. It was a perfect trip. The explorers nearly died, the river had never before been seen by white men, and the great stream, no longer doubtful, was renamed Rio Roosevelt by the Brazilian State. In the picture biography, which includes a print of the adventurers paddling their primitive dugout canoe (one assumes before starvation and jungle fever attenuated the ardor of the photographer), the former president of a great industrial power explains his return to the wilderness: "I had to go. It was my last chance to be a boy" (Johnson 1958: 138, 126-7).⁸

The joining of life and death in these icons of Roosevelt's journeys and in the architecture of his stony memorial announces the central moral truth of the Museum. This is the effective truth of manhood, the state conferred on the visitor who successfully passes through the trial of the Museum. The body can be transcended. This is the lesson Simone de Beauvoir so painfully remembered in the *Second Sex*; man is the sex which risks life and in so doing, achieves his existence. In the upside down world of Teddy Bear Patriarchy, it is in the craft of killing that life is

constructed, not in the accident of personal, material birth. Roosevelt is the perfect *locus genii* for the Museum's task of regeneration of a miscellaneous, incoherent urban public threatened with genetic and social decadence, threatened with the profane bodies of the new immigrants, threatened with the failure of manhood.⁹

The Akeley African Hall itself is simultaneously a very strange place and an ordinary experience for literally millions of North Americans over more than five decades. The types of display in this hall are spread all over the country, and even the world, partly due to the craftspeople Akeley himself trained. In the 1980s sacrilege is perhaps more evident than liminal experience of nature. What is the experience of New York streetwise kids wired to Walkman radios and passing the Friday afternoon cocktail bar by the lion diorama? These are the kids who came to the Museum to see the high tech Nature-Max films. But soon, for those not physically wired into the communication system of the late twentieth century, another time begins to take form. The African Hall was meant to be a time machine, and it is (Fabian 1983: 144). The individual enters the age of Mammals. But one enters alone, each individual soul, as part of no stable prior community and without confidence in the substance of one's body, in order to be received into a saved community. One begins in the threatening chaos of the industrial city, part of a horde, but here one will come to belong, to find substance. No matter how many people crowd the Great Hall, the experience is of individual communion with nature. The sacrament will be enacted for each worshipper. This nature is not constituted from a probability calculus. This is not a random world, populated by late twentieth-century cyborgs, for whom the threat of decadence is a nostalgic memory of a dim organic past, but the moment of origin where nature and culture, private and public, profane and sacred meet—a moment of incarnation in the encounter of man and animal.

The Hall is darkened, lit only from the display cases which line the sides of the spacious room. In the center of the Hall is a group of elephants so lifelike that a moment's fantasy suffices for awakening a premonition of their movement, perhaps an angry charge at one's personal intrusion. The elephants stand like a high altar in the nave of a great cathedral. That impression is strengthened by one's growing consciousness of the dioramas that line both sides of the main Hall and the spacious gallery above. Lit from within, the dioramas contain detailed and lifelike groups of large African mammals—game for the wealthy New York hunters who financed this experience. Called habitat groups, they are the culmination of the taxidermist's art. Called by Akeley a "peep-hole into the jungle,"¹⁰ each diorama presents itself as a side altar, a stage, an unspoiled garden in nature, a hearth for home and family. As an altar, each diorama tells a part of the story of salvation history; each has its special emblems indicating particular virtues. Above all, inviting the visitor to share in its revelation, each tells the truth. Each offers a vision. Each is a window onto knowledge.

A diorama is eminently a story, a part of natural history. The story is told in the pages of nature, read by the naked eye. The animals in the habitat groups are captured in a photographer's and sculptor's vision. They are actors in a morality play on the stage of nature, and the eye is the critical organ. Each diorama contains a small group of animals in the foreground, in the midst of exact reproductions of plants, insects, rocks, soil. Paintings reminiscent of Hollywood movie set art curve in back of the group and up to the ceiling, creating a great panoramic vision of a

scene on the African continent. Each painting is minutely appropriate to the particular animals in the foreground. Among the 28 dioramas in the Hall, all the major geographic areas of the African continent and most of the large mammals are represented.

Gradually, the viewer begins to articulate the content of the story. Most groups are made up of only a few animals, usually a large and vigilant male, a female or two, and one baby. Perhaps there are some other animals—a male adolescent maybe, never an aged or deformed beast. The animals in the group form a developmental series, such that the group can represent the essence of the species as a dynamic, living whole. The principles of organicism, that is, of the laws of organic form, rule the composition.¹¹ There is no need for the multiplication of specimens because the series is a true biography. Each animal is an organism, and the group is an organism. Each organism is a vital moment in the narrative of natural history, condensing the flow of time into the harmony of developmental form. The groups are peaceful, composed, illuminated—in “brightest Africa.”¹² Each group forms a community structured by a natural division of function; the whole animal in the whole group is nature’s truth. The physiological division of labor that has informed the history of biology is embodied in these habitat groups which tell of communities and families, peacefully and hierarchically ordered. Sexual specialization of function—unquestionable, right. The African buffalo, the white and black rhinos, the lion, the zebra, the mountain nyala, the okapi, all find their place in the differentiated developmental harmony of nature. The racial division of labor, the familial progress from youthful native to adult white man, was announced at the steps leading to the building itself: Akeley’s original plan for African Hall included bas-relief sculptures of all the “primitive” tribes of Africa complementing the other stories of natural wild life in the Hall. Organic hierarchies are embodied in every organ in the articulation of natural order in the Museum.¹³

But there is a curious note in the story; it begins to dominate as scene after scene draws the visitor into itself through the eyes of the animals in the tableaux.¹⁴ Each diorama has at least one animal that catches the viewer’s gaze and holds it in communion. The animal is vigilant, ready to sound an alarm at the intrusion of man, but ready also to hold forever the gaze of meeting; the moment of truth, the original encounter. The moment seems fragile, the animals about to disappear, the communion about to break: the Hall threatens to dissolve into the chaos of the Age of Man. But it does not. The gaze holds, and the wary animal heals those who will look. There is no impediment to this vision, no mediation. The glass front of the diorama forbids the body’s entry; but the gaze invites his visual penetration. The animal is frozen in a moment of supreme life, and man is transfixed. No merely living organism could accomplish this act. The specular commerce between man and animal at the interface of two evolutionary ages is completed. The animals in the dioramas have transcended mortal life, and hold their pose forever, with muscles tensed, noses aquiver, veins in the face and delicate ankles and folds in the supple skin all prominent. No visitor to a merely physical Africa could see these animals. This is a spiritual vision made possible only by their death and literal re-presentation. Only then could the essence of their life be present. Only then could the hygiene of nature cure the sick vision of civilized man. Taxidermy fulfills the fatal desire to represent, to be whole; it is a politics of reproduction.

There is one diorama that stands out from all the others, the gorilla group. It is not simply that this group is one of the four large corner displays. There is something special in the painting with the steaming volcano in the background and Lake Kivu below, in the pose of the enigmatic large silverback rising above the group in a chest-bearing gesture of alarm and an unforgettable gaze in spite of the handicap of glass eyes. The painter’s art was particularly successful in conveying the sense of limitless vision, of a panorama without end around the focal lush green garden. This is the scene that Akeley longed to return to. It is where he died, feeling he was at home as in no other place on earth. It is where he first killed a gorilla and felt the enchantment of a perfect garden. After his first visit in 1921, he was motivated to convince the Belgian government to make this area the first African national park to ensure a sanctuary for the gorilla. But the viewer does not know these things when he sees the five animals in a naturalistic setting. It is plain that he is looking at a natural family of close human relatives, but that is not the essence of this diorama. The viewer sees that the elephants, the lion, the rhino, and the water hole group—with its peaceful panorama of all the grassland species, including the carnivores, caught in a moment outside the Fall—all these have been a kind of preparation, not so much for the gorilla group, as for the Giant of Karisimbi. This double for man stands in a unique personal individuality, his fixed face molded forever from the death mask cast from his corpse by a taxidermist in the Kivu Mountains. Here is natural man, immediately known. His image may be purchased on a picture postcard at the desk in the Roosevelt atrium. [Figure 3.1]

It would have been inappropriate to meet the gorilla anywhere else but on the mountain. Frankenstein and his monster had Mont Blanc for their encounter; Akeley and the gorilla first saw each other on the lush volcanoes of central Africa. The glance proved deadly for them both, just as the exchange between Victor Frankenstein and his creature froze each of them into a dialectic of immolation. But Frankenstein tasted the bitter failure of his fatherhood in his own and his creature’s death; Akeley resurrected his creature and his authorship in both the sanctuary of Parc Albert and the African Hall of the American Museum of Natural History. Mary Shelley’s story may be read as a dissection of the deadly logic of birthing in patriarchy at the dawn of the age of biology; her tale is a nightmare about the crushing failure of the project of man. But the taxidermist labored to restore manhood at the interface of the Age of Mammals and the Age of Man. Akeley achieved the fulfillment of a sportsman in Teddy Bear Patriarchy—he died a father to the game, and their sepulcher is named after him, the Akeley African Hall.

The gorilla was the highest quarry of Akeley’s life as artist, scientist, and hunter, but why? He said himself (through his ghostwriter, the invisible Dorothy Greene), “To me the gorilla made a much more interesting quarry than lions, elephants, or any other African game, for the gorilla is still comparatively unknown” (Akeley 1923: 190). But so was the colobus monkey or any of a long list of animals. What qualities did it take to make an animal “game”? One answer is similarity to man, the ultimate quarry, a worthy opponent. The ideal quarry is the “other,” the natural self. That is one reason Frankenstein needed to hunt down his creature, Hunter, scientist, and artist all sought the gorilla for his revelation about the nature and future of manhood. Akeley compared and contrasted his quest for the gorilla with the French-American Paul du Chailly’s, the first white man to kill a gorilla, in 1855,



Figure 3.1 The Giant of Karisimbi. Negative no. 315077. Published with permission of the Department of Library Services, American Museum of Natural History.

eight years after it was “discovered” to science. Du Chailu’s account of the encounter stands as the classic portrayal of a depraved and vicious beast killed in the heroic, dangerous encounter. Disbelieving du Chailu, Akeley told his own readers how many times du Chailu’s publishers made him rewrite until the beast was fierce enough. Frankenstein plugged up his ears rather than listen to his awful son claim a gentle and peace loving soul. Akeley was certain he would find a noble and

peaceful beast; so he brought his guns, cameras, and white women into the garden to hunt, wondering what distance measured courage in the face of a charging alter-ego.

Like du Chailu, Akeley came upon a sign of the animal, a footprint, or in Akeley’s case a handprint, before meeting face to face. “I’ll never forget it. In that mud hole were the marks of four great knuckles where the gorilla had placed his hand on the ground. There is no other track like this in the world—there is no other hand in the world so large. . . . As I looked at that track I lost the faith on which I had brought my party to Africa. Instinctively I took my gun from the gun boy” (Akeley 1923: 203). Later, Akeley told that the handprint, not the face, gave him his greatest thrill. In the hand the trace of kinship writ large and terrible struck the craftsman.

But then, on the first day out from camp in gorilla country, Akeley did meet a gorilla face to face, the creature he had sought for decades, prevented from earlier success by mauling elephants, stingy millionaires, and world war. Within minutes of his first glimpse of the features of the face of an animal he longed more than anything to see. Akeley had killed him, not in the face of a charge, but through a dense forest screen within which the animal hid, rushed, and shook branches. Surely the taxidermist did not want to risk losing his specimen, for perhaps there would be no more. He knew the Prince of Sweden was just then leaving Africa after having shot fourteen of the great apes in the same region. The animals must be wary of new hunters; collecting might be very difficult.

Whatever the rational or fantastic logic that ruled the first shot, precisely placed into the aorta, the task that followed was arduous indeed—skinning the animal and transporting various remains back to camp. The corpse had nearly miraculously lodged itself against the trunk of a tree above a deep chasm. As a result of Herculean labors, which included casting the death mask pictured in *Lions, Gorillas, and their Neighbors* (Akeley and Akeley 1922), Akeley was ready for his next gorilla hunt on the second day after shooting the first ape. The pace he was setting himself was grueling; dangerous for a man ominously weakened by tropical fevers. “But science is a jealous mistress and takes little account of a man’s feelings.”¹⁶ The second quest resulted in two missed males, a dead female, and her frightened baby speared by the porters and guides. Akeley and his party had killed or attempted to kill every ape they had seen since arriving in the area.

On his third day out, Akeley took his cameras and ordered his guides to lead toward easier country. With a baby, female, and male, he could do a group even if he got no more specimens. Now it was time to hunt with the camera.¹⁶ “Almost before I knew it I was turning the crank of the camera on two gorillas in full view with a beautiful setting behind them. I do not think at the time I appreciated the fact that I was doing a thing that had never been done before” (Akeley 1923: 221). But the photogenic baby and mother and the accompanying small group of other gorillas had become boring after two hundred feet of film, so Akeley provoked an action shot by standing up. That was interesting for a bit. “So finally, feeling that I had about all I could expect from that band, I picked out one that I thought to be an immature male. I shot and killed it and found, much to my regret, that it was a female. As it turned out, however, she was such a splendid large specimen that the feeling of regret was considerably lessened” (Akeley 1923: 222).

Satisfied with the triumphs of his gun and camera, Akeley decided it was time to ask the rest of the party waiting in a camp below to come up to hunt gorillas. He

was getting considerably sicker and feared he would not fulfill his promise to his friends to give them gorilla. His whole purpose in taking white women into gorilla country depended on meeting this commitment: "As a naturalist interested in preserving wild life, I was glad to do anything that might make killing animals less attractive."¹⁷ The best thing to reduce the potency of game for heroic hunting is to demonstrate that inexperienced women could safely do the same thing. Science had already penetrated; women could follow.

Two days of hunting resulted in Herbert Bradley's shooting a large silverback, the one Akeley compared to Jack Dempsey and mounted as the lone male of Karisimbi in African Hall. It was now possible to admit another level of feeling: "As he lay at the base of the tree, it took all one's scientific ardour to keep from feeling like a murderer. He was a magnificent creature with the face of an amiable giant who would do no harm except perhaps in self defense or in defense of his family" (Akeley 1923: 230). If he had succeeded in his aborted hunt, Victor Frankenstein could have spoken those lines.

The photograph in the American Museum film archive of Carl Akeley, Herbert Bradley, and Mary Hastings Bradley holding up the gorilla head and corpse to be recorded by the camera is an unforgettable image.¹⁸ The face of the dead giant evokes Bosch's conception of pain, and the lower jaw hangs slack, held up by Akeley's hand. The body looks bloated and utterly heavy. Mary Bradley gazes smilingly at the faces of the male hunters, her own eyes averted from the camera. Akeley and Herbert Bradley look directly at the camera in unshuttered acceptance of their act. Two Africans, a young boy and a young man, perch in a tree above the scene, one looking at the camera, one at the hunting party. The contrast of this scene of death with the diorama framing the giant of Karisimbi mounted in New York is total; the animal came to life again, this time immortal.

There was no more need to kill, so the last capture was with the camera. "The guns were put behind and the camera pushed forward and we had the extreme satisfaction of seeing the band of gorillas disappear over the crest of the opposite ridge none the worse for having met with white men that morning. It was a wonderful finish to a wonderful gorilla hunt" (Akeley 1923: 235). Once domination is complete, conservation is urgent. But perhaps preservation comes too late.

What followed was the return to the United States and active work for an absolute gorilla sanctuary providing facilities for scientific research. Akeley feared the gorilla would be driven to extinction before it was adequately known to science (Akeley 1923: 248). Scientific knowledge canceled death; only death before knowledge was final, an abortive act in the natural history of progress. His health weakened but his spirit at its height, Akeley lived to return to Kivu to prepare paintings and other material for the gorilla group diorama. Between 1921 and 1926, he mounted his precious gorilla specimens, producing that extraordinary silverback whose gaze dominates African Hall. When he did return to Kivu in 1926, he was so exhausted from his exertions to reach his goal that he died on November 17, 1926, almost immediately after he and his party arrived on the slopes of Mt. Mikena, "in the land of his dreams" (M. J. Akeley 1929b: Chpt. XV).

Akeley's was a literal science dedicated to the prevention of decadence, of biological decay. His grave was built in the heart of the rain forest on the volcano, where "all the free wild things of the forest have perpetual sanctuary" (M. J. Akeley 1940: 341). Mary Jobe Akeley directed the digging of an eight-foot vault

in lava gravel and rock. The hole was lined with closely set wooden beams. The coffin was crafted on the site out of solid native mahogany and lined with heavy galvanized steel salvaged from the boxes used to pack specimens to protect them from insect and other damage. Then the coffin was upholstered with camp blankets. A slab of cement ten by twelve feet and five inches thick was poured on top of the grave and inscribed with the name and date of death of the father of the game. The cement had been carried on porters' backs all the way from the nearest source in Kibale, Uganda. The men ditched the first load in the face of the difficult trails; they were sent back for a second effort. An eight-foot stockade fence was built around the grave to deter buffalo and elephant from desecrating the site. "Derscheid, Raddatz, Bill and I worked five days and five nights to give him the best home we could build, and he was buried as I think he would have liked with a simple reading service and a prayer" (M. J. Akeley 1929b: 189-90). The grave was inviolate, and reincarnation of the natural self would be immortal in African Hall. In 1979, "grave robbers, Zairoise pouchers, violated the site and carried off [Akeley's] skeleton" (Fossey 1983: 3).

Biography

For this untruthful picture Akeley substitutes a real gorilla." (Osborn, in Akeley 1923: xii)

Of the two I was the savage and the aggressor. (Akeley 1923: 216)

Akeley sought to craft a true life, a unique life. The life of Africa became his life, his telos. But it is not possible to tell his life from a single point of view. There is a polyphony of stories, and they do not harmonize. Each source for telling the story of Akeley's life speaks in an authoritative mode, but I felt compelled to compare the versions, and then to cast Akeley's story in an ironic mode, the register most avoided by my subject. Akeley wanted to present an immediate vision; I would like to dissect and make visible layer after layer of mediation. I want to show the reader how the experience of the diorama grew from the safari in specific times and places, how the camera and the gun together are the conduits for the spiritual commerce of man and nature, how biography is woven into and from a social and political tissue. I want to show how the stunning animals of Akeley's achieved dream in African Hall are the product of particular technologies, i.e., the techniques of effecting meanings.

Life Stories

In harmony with the available plots in U.S. history, it is necessary that Carl Akeley (1864-1926) was born on a farm in New York of poor, but vigorous, old, (white—the only trait that didn't need to be named), American stock. The time of his birth, near the end of the Civil War, was an end and a beginning for so much in North America, including the history of biology and the structure of wealth and social class. In a boyhood full of hard farm labor, he learned self-reliance and skill with tools and machines. He passed long hours alone watching and hunting the wildlife of New York. By the age of 13, aroused by a borrowed book on the subject, Akeley

was committed to the vocation of taxidermy. His vocation's bibliogenesis seems also ordained by the plot. At that age (or age 16 in some versions), he had a business card printed up. No Yankee boy could miss the connection of life's purpose with business, although young Carl scarcely believed he could make his living at such a craft. He took lessons in painting, so that he might provide realistic backgrounds for the birds he ceaselessly mounted. From the beginning Akeley's life had a single focus: the recapturing and representation of the nature he saw. On this point all the versions of Akeley's life concur.

After the crops were in, at the age of 19, Akeley set off from his father's farm "to get a wider field for my efforts" (Akeley 1923: 1). First he tried to get a job with a local painter and interior decorator whose hobby was taxidermy, but this man directed the boy to an institution which changed his life—Ward's Natural Science Establishment in Rochester, where Akeley would spend four years and form a friendship pregnant with consequences for the nascent science of ecology as it came to be practiced in museum exhibition. Ward's provided mounted specimens and natural history collections for practically all the museums in the nation. Several important men in the history of biology and museology in the United States passed through this curious institution, including Akeley's friend, William Morton Wheeler. Wheeler completed his career in entymology at Harvard, a founder of the science of animal ecology (which he called ethology—the science of the character of nature) and a mentor to the great organicists and conservative social philosophers in Harvard's biological and medical establishment (Russett 1966; Evans and Evans 1970; Cross and Albury 1987). Wheeler was then a young Milwaukee naturalist steeped in German "Kultur" who began tutoring the rustic Akeley for entry into Yale's Sheffield Scientific School. However, eleven hours of taxidermy in the day and long hours of study proved too much; so higher education was postponed, later permanently, in order to follow the truer vocation of reading nature's book directly.

Akeley was disappointed at Ward's because business imperatives allowed no room for improvement of taxidermy. He felt animals were "upholstered." Developing his own skill and technique in spite of the lack of encouragement, and the lack of money, he got a chance for public recognition when P. T. Barnum's famous elephant was run down by a locomotive in Canada in 1885. Barnum did not want to forego the fame and profit from continuing to display the giant (who had died trying to save a baby elephant, we are told), so Akeley and a companion were dispatched to Canada from Rochester to save the situation. Six butchers from a nearby town helped with the rapidly rotting carcass. What Akeley learned about very large mammal taxidermy from this experience laid the foundation for his later revolutionary innovations in producing light, strong, life-like pachyderms. The popular press followed the monumental mounting, and the day jumbo was launched in his own railroad car into his post-mortem career; half the population of Rochester witnessed the resurrection.

In 1885, Wheeler returned to Milwaukee to teach high school and soon took up a curatorship in the Milwaukee Museum of Natural History. Wheeler urged his friend to follow, hoping to continue his tutoring and to secure Akeley commissions for specimens from the museum. Museums did not then generally have their own taxidermy departments, although around 1890 taxidermic technique flourished in Britain and the United States. Akeley opened his business shop on the Wheeler family property, and he and the naturalist spent long hours

discussing natural history, finding themselves in agreement about museum display and about the character of nature. The most important credo for them both was the need to develop scientific knowledge of the whole animal in the whole group in nature—i.e., they were committed organicists. Wheeler soon became director of the Milwaukee Museum and gave Akeley significant support. Akeley had conceived the idea for habitat groups and wished to mount a series illustrating the fur-bearing animals of Wisconsin. His completed muskrat group (1889), minus the painted backgrounds, was probably the first mammalian habitat group anywhere.

As a result of a recommendation from Wheeler, in 1894 the British Museum invited Akeley to practice his trade in that world-famous institution. On the way to London, Akeley visited the Field Museum in Chicago, met Daniel Giraud Elliot and accepted his offer of preparing the large collection of specimens the Museum had bought from Ward's. In 1896, Akeley made his first collecting expedition to Africa, to British Somaliland, a trip that opened a new world to him. This was the first of five safaris to Africa, each escalating his sense of the purity of the continent's vanishing wildlife and the conviction that the meaning of his life was its preservation through transforming taxidermy into an art. He was next in Africa for the Field Museum in 1905, with his explorer/adventurer/author wife, Delia, to collect elephants in British East Africa. On this trip Akeley escaped with his life after killing a leopard in hand-to-fang combat.

In Chicago Akeley spent four years largely at his own expense preparing the justly famous Four Seasons deer dioramas. In 1908, at the invitation of the new president, H. F. Osborn, who was anxious to mark his office with the discovery of major new scientific laws and departures in museum exhibition and public education, Akeley moved to New York and the American Museum of Natural History in hope of preparing a major collection of large African mammals. From 1909–11 Carl and Delia collected in British East Africa, a trip marked by a hunt with Theodore Roosevelt and his son Kermit, who were collecting for the Washington National Museum. The safari was brought to a limping conclusion by Carl's being mauled by an elephant, delaying fulfillment of his dream of collecting gorillas. His plan for the African Hall took shape by 1911 and ruled his behavior thereafter. In World War I he was a civilian Assistant Engineer to the Mechanical and Devices Section of the Army. He is said to have refused a commission in order to keep his freedom to speak freely to anyone in the hierarchy.

During the war, his work resulted in several patents in his name. The theme of Akeley the inventor recurs constantly in his life story. Included in his roster of inventions, several of which involved subsequent business development, were a motion picture camera, a cement gun, and new taxidermic processes.

With the close of war, Akeley focused his energy on getting backing for the African Hall. He needed more than a million dollars. Lecture tours, articles, a book, and endless promotion brought him into touch with the major wealthy sportsmen of New York, but sufficient financial commitment eluded him. In 1921, financing half the expense himself, Akeley left for Africa, this time accompanied by a married couple, their 5-year-old daughter, their governess, and Akeley's adult niece whom he had promised to take hunting in Africa. In 1923 in New York, Carl and Delia divorced—an event unrecorded in versions of his life; Delia just disappears from the narratives. In 1924 Akeley married Mary L. Jobe, the explorer/adventurer/

author who accompanied him on his last adventure, the Akeley-Eastman-Pomeroy African Hall Expedition, that collected for ten dioramas of the Great Hall. George Eastman, of Eastman Kodak fortunes, and Daniel Pomeroy, the benefactors, accompanied the taxidermist-hunter to collect specimens. Eastman, then 71 years old, went with his own physician and commanded his own railroad train for part of the excursion.

En route to Africa the Akeleys were received by the conservationist and war hero Belgian king, Albert. He was the son of the infamous Leopold II, whose personal rapacious control of the Congo for profit was wrested away and given to the Belgian government by other European powers in 1908. Leopold II had financed Henry Stanley's explorations of the Congo. Akeley is narrated as a man like the great explorers, Stanley and Livingstone, but also as the man who witnessed, and helped birth, a new "bright" Africa. The "enlightened" Albert, led to his views on national parks by a visit to Yosemite, confirmed plans for the Parc Albert and commissioned the Akeleys to prepare topographical maps and descriptions of the area in cooperation with the Belgian naturalist, Jean Derscheid. There was no room for a great park for the Belgians in Europe, so "naturally" one was established in the Congo. Mandating protection for the Pygmies within park boundaries, the park was to provide sanctuary for "natural primitives," as well as foster scientific study by establishing permanent research facilities. After ten months of collecting, Carl and Mary Jobe set off for the Kivu forest, the heart of remaining unspoiled Africa, where he died and was buried "in ground the hand of man can never alter or profane" (M. J. Akeley 1940: 340).

Taxidermy: From Upholstery to Epiphany

Transplanted Africa stands before him—a result of Akeley's dream. (Clark 1936: 73)

The vision Carl Akeley had seen was one of jungle peace. His quest to *embody* this vision justified to himself his hunting, turned it into a tool of science and art, the scalpel that revealed the harmony of an organic, articulate world. Let us follow Akeley briefly through his technical contributions to taxidermy in order to grasp more fully the stories he needed to tell about the biography of Africa, the life history of nature.

It is a simple tale: Taxidermy was made into the servant of the "real." Artifactual children, better than life, were birthed from dead matter (Sofoulis 1988). Akeley's vocation, and his achievement, was the production of an organized craft for eliciting unambiguous experience of organic perfection. Literally, Akeley "typified" nature, made nature true to type. Taxidermy was about the single story, about nature's unity, the unblemished type specimen. Taxidermy became the art most suited to the epistemological and aesthetic stance of realism. The power of this stance is in its magical effects: what is so painfully constructed appears effortlessly, spontaneously found, discovered, simply there if one will only look. Realism does not appear to be a point of view, but appears as a "peephole into the jungle" where peace may be witnessed. Epiphany comes as a gift, not as the fruit of merit and toil, soiled by the repays labor with transcendence. Small wonder that artistic realism and biological

science were twin brothers in the founding of the civic order of nature at the American Museum of Natural History. It is also natural that taxidermy and biology depend fundamentally upon vision in a hierarchy of the senses; they are tools for the construction, discovery, of form.

Akeley's eight years in Milwaukee from 1886 to 1894 were crucial for his working out techniques that served him the rest of his life. The culmination of that period was a head of a male Virginia deer that won first place in the first Sportsman's Show, in New York City in 1895. The judge in that national competition was Theodore Roosevelt, whom Akeley did not meet until they befriended each other on safari in Africa in 1906. The head, entitled "The Challenge," displayed a buck "in the full frenzy of his virility as he gave the defiant roar of the rutting season—the call to fierce combat" (M. J. Akeley 1940: 38). Jungle peace was not a passive affair, nor one unmarked by gender.

The head was done in a period of experimentation leading to the production of the Four Seasons group in Chicago, installed in 1902.¹⁹ In crafting those groups over four years, Akeley worked out his mankin method, clay modeling, plaster casting, vegetation molding techniques, and the organized production system. He hired women and men workers by the hour to turn out the thousands of individual leaves needed to clothe the trees in the scenes. Charles Abel Corwin painted background canvases from studies in the Michigan Iron Mountains where the animals were collected. Akeley patented his vegetation process, but gave rights for its use free of charge to the Field Museum in Chicago. He allowed free, worldwide use of his patented methods of producing light, strong paper-mache manikins from exact clay models and plaster casts. Cooperation in museum development was a fundamental value for Akeley, who did not make much money at his craft and whose inventions were significant for economic survival.

Akeley continued to make improvements in his taxidermic technique throughout his life, and he taught several other key workers, including James Lipsitt Clark, who was the Director of Arts, Preparation, and Installation at the American Museum after Akeley's death when African Hall was actually constructed. While Akeley worked long hours alone, taxidermy as he helped to develop it was not a solitary art. Taxidermy requires a complex system of coordination and division of labor, beginning in the field during the hunting of the animals and culminating in a finished diorama. A minimum list of workers on one of Akeley's projects includes taxidermists, collectors, artists, anatomists, and "accessory men" (M. J. Akeley 1940: 217). Pictures of work in the Museum taxidermy studios show men (males, usually white) tanning hides, working on clay models of sizable mammals (including elephants) or on plaster casts, assembling skeleton and wood frames, consulting scale models of the planned display, doing carpentry, making vegetation, sketching, etc. Clark reports that between 1926 and 1936, when African Hall opened, still unfinished, the staff of the project usually employed about 45 men. Painting the backgrounds was a major artistic specialization, and the artists based their final panoramas on numerous studies done at the site of collection. In the field, the entire operation rested on the organization of the safari, a complex social institution where race, sex, and class came together intensely. Skinning a large animal could employ 50 workers for several hours. Photographs, moving picture records, death masks, extensive anatomical measurements, initial treatment of skins, and sketches occupied the field workers. The production of a modern diorama involved the work of

hundreds of people in a social system embracing structures of skill and authority on a worldwide scale.

How can such a system produce a unified biography of nature? How is it possible to refer to Akeley's African Hall when it was constructed after he died? On an ideological level, the answer to these questions connects to the ruling conception of organicism, an organic hierarchy, conceived as nature's principle of organization. Clark stressed the importance of "artistic composition" and described the process as a "recreation" of nature based on the principles of organic form. This process required a base of "personal experience," ideally actual presence in Africa, at the site of the animal's life and death. Technical crafts are always imagined to be subordinated by the ruling artistic idea, itself rooted authoritatively in nature's own life. "Such things must be felt, must be absorbed and assimilated, and then in turn, with understanding and enthusiasm, given out by the creator. . . . Therefore, our groups are very often conceived in the very lair of the animals" (Clark 1936: 71). The creeds of realism and organicism interdigitate; both are systematizations of organization by a hierarchical division of labor, perceived as natural and so productive of unity. Unity must be *authored* in the Judeo-Christian myth system; just as nature has an Author, so does the organism or the realistic diorama. The author must be imagined with the aspects of mind, in relation to the body which executes. Akeley was intent on avoiding lying in his work; his craft was to tell the truth of nature. There was only one way to achieve such truth—the rule of mind rooted in the claim to experience. All the work must be done by men who did their collecting and studies on the spot because "[o]therwise, the exhibit is a lie and it would be nothing short of a crime to place it in one of the leading educational institutions of the country" (Akeley 1923: 265). A single mind infused collective experience: "If an exhibition hall is to approach its ideal, its plan must be that of a master mind, while in actuality it is the product of the correlation of many minds and hands" (Akeley 1923: 261). The "mind" is spermatic.

But above all, this sense of telling a true story rested on the selection of individual animals, the formation of groups of "typical" specimens. What was the meaning of "typical" for Akeley and his contemporaries in the biological departments of the American Museum of Natural History? What are the contents of these stories, and what must one do to see these contents? To respond, we must follow Carl Akeley into the field and watch him select an animal to mount. Akeley's concentration on finding the typical specimen, group, or scene cannot be overemphasized. But how could he know what was typical, or that such a state of being existed? This problem has been fundamental in the history of biology; one effort at solution is embodied in African Hall.

First, the concept includes the notion of perfection. The large bull giraffe in the water hole group in African Hall was the object of a hunt over many days in 1921. Several animals were passed over because they were too small or not colored beautifully enough. Remembering record trophies from earlier hunters undermined satisfaction with a modern, smaller specimen taken from the depleted herds of vanishing African nature. When at last the bull was taken as the result of great skill and daring, the minute details of its preservation and recreation were lovingly described.

Similarly, in 1910–11, the hunt for a large bull elephant provided the central drama of the safari for the entire two years. An animal with asymmetrical tusks was

rejected, despite his imposing size. Character, as well as mere physical appearance, was important in judging an animal to be perfect. Cowardice would disqualify the most lovely and properly proportioned beast. Ideally, the killing itself had to be accomplished as a sportsmanlike act. Perfection was heightened if the hunt were a meeting of equals. So there was a hierarchy of game according to species: lions, elephants, and giraffes far outranked wild asses or antelope. The gorilla was the supreme achievement, almost a definition of perfection in the heart of the garden at the moment of origin. Perfection inhered in the animal itself, but the fullest meanings of perfection inhered in the meeting of animal and man, the moment of perfect vision, of rebirth. Taxidermy was the craft of remembering this perfect experience. Realism was a supreme achievement of the artifactual art of memory, a rhetorical achievement crucial to the foundations of Western science (Fabian 1983: 105–41). Memory was an art of reproduction.

There is one other essential quality for the typical animal in its perfect expression: it must be an adult male. Akeley describes hunting many fine females, and he cared for their hides and other details of reconstruction with all his skill. But never was it necessary to take weeks and risk the success of the entire enterprise to find the perfect female. There existed an image of an animal which was somehow *the* gorilla or *the* elephant incarnate. That particular tone of perfection could only be heard in the male mode. It was a compound of physical and spiritual quality, judged truthfully by the artist-scientist in the fullness of direct experience. Perfection was marked by exact quantitative measurement, but even more by virile vitality known by the hunter-scientist from visual communion. Perfection was known by natural kinship; type, kind, and kin mutually and seminally defined each other.

Akeley hunted for a series or a group, not just for individuals. How did he know when to stop the hunt? Two groups give his criterion of wholeness, the gorilla group collected in 1921 and the original group of four elephants mounted by Akeley himself after the 1910–11 safari. Akeley once shot a gorilla, believing it to be a female, but found it to be a young male. He was disturbed because he wished to kill as few animals as possible and he believed the natural family of the gorilla did not contain more than one male. When he later saw a group made up of several males and females, he stopped his hunt with relief, confident that he could tell the truth from his existing specimens. Also, the photograph of Akeley's original group of four elephants unmistakably shows a perfect family. Nature's biographical unit, the reproductive group had the moral and epistemological status of truth-tellers.

Akeley wanted to be an artist and a scientist. Giving up his early plan of obtaining a degree from Yale Sheffield Scientific School and then of becoming a professional sculptor, he combined art and science in taxidermy. Since that art required that he also be a sculptor, he told some of his stories in bronzes as well as in dioramas. His criteria were similar: Akeley had many stories to tell, but they all expressed the same fundamental vision of a vanishing, threatened scene. In his determination to sculpt "typical" Nandilion spermens, Akeley used as models extensive photographs, drawings, and "selected types of American negroes which he was using to make sure of perfect figures" (Johnson 1936: 47). The variety of nature had a purpose—to lend to discovery of the highest type of each species of wildlife, including human beings outside "civilization."

Besides sculpture and taxidermy, Akeley perfected another narrative tool, photography. All of his story-telling instruments relied primarily on vision, but each

caught and held slightly different manifestations of natural history. As a visual art, taxidermy occupied for Akeley a middle ground between sculpture and photography. Both sculpture and photography were subordinate means to accomplishing the final taxidermic scene. But photography also represented the future and sculpture the past. Akeley's practice of photography was suspended between the manual touch of sculpture, which produced knowledge of life in the fraternal discourses of organicist biology and realist art, and the virtual touch of the camera, which has dominated our understanding of nature since World War II. The nineteenth century produced the masterpieces of animal bronzes inhabiting the world's museums. Akeley's early twentieth-century taxidermy, seemingly so solid and material, appears as a brief frozen temporal section in the incarnation of art and science, before the camera technically could pervert his single dream into the polymorphous, absurdly intimate filmic reality we now take for granted. Critics accuse Akeley's taxidermy and the American Museum's expensive policy of building the great display halls in the years before World War II of being armature against the future, of having literally locked in stone one historical moment's way of seeing, while calling this vision the whole (Kennedy 1968: 204). But Akeley was a leader technically and spiritually in the perfection of the camera's eye. Taxidermy was not armed against the filmic future, but froze one frame of a far more intense visual communion to be consummated in virtual images. Akeley helped produce the armature—and armament—that would advance into the future.

Photography: Hunting with the Camera

Guns have metamorphosed into cameras in this earnest comedy, the ecology safari, because nature has ceased to be what it had always been—what people needed protection from. Now nature—tamed, endangered, mortal—needs to be protected from people. When we are afraid, we shoot. But when we are nostalgic, we take pictures. (Sontag 1977: 15)

Akeley and his peers feared the disappearance of their world, of their social world in the new immigrations after 1890 and the resulting dissolution of the old imagined hygienic, pre-industrial America. Civilization appeared to be a disease in the form of technological progress and the vast accumulation of wealth in the practice of monopoly capitalism by the very wealthy sportsmen who were trustees of the Museum and the backers of Akeley's African Hall. The leaders of the American Museum were afraid for their health; that is, their manhood was endangered. Theodore Roosevelt knew the prophylaxis for this specific historical malaise: the true man is the true sportsman. Any human being, regardless of race, class, and gender, could spiritually participate in the moral status of healthy manhood in democracy, even if only a few (anglo-saxon, male, heterosexual, Protestant, physically robust, and economically comfortable) could express manhood's highest forms. From about 1890 to the 1930s, the Museum was a vast public education and research program for producing experience potent to induce the fertile state of manhood. The Museum, in turn, was the ideological and material product of the sporting life. As Mary Jobe Akeley realized, "[the true sportsman] loves the game as if he were the father of it" (M. J. Akeley 1929b: 116). Akeley believed that the highest expression of sportsmanship was hunting with the camera: "Moreover, according to any true

conception of sport—the use of skill, daring, and endurance in overcoming difficulties—camera hunting takes twice the man that gun hunting takes" (Akeley 1923: 155). The true father of the game loves nature with the camera; it takes twice the man, and the children are in his perfect image. The eye is infinitely more potent than the gun. Both put a woman to shame—reproductively.

At the time of Akeley's first collecting safari in 1896, cameras were a nearly useless encumbrance, incapable of capturing the goal of the hunt—life. According to Akeley, the first notable camera hunters in Africa appeared around 1902, beginning with Edward North Burton. The early books like Burton's were based on still photographs; moving picture wildlife photography, owing much to Akeley's own camera, did not achieve anything before the 1920s. On his 1910–11 safari to east Africa, with the best available equipment, Akeley tried to film the Nandi lion spearing. His failure due to inadequate cameras, described with great emotional intensity, led him during the next five years to design the Akeley camera, which was used extensively by the Army Signal Corps during World War I. Akeley formed the Akeley Camera Company to develop his invention, which received its civilian christening by filming Man-o-War with the Kentucky Derby in 1920, and his camera's innovative telephoto lens caught the Dempsey-Carpenter heavyweight battle. Akeley's first taste of his own camera in the field was in 1921 in the Kiwu forest. Within a few days, Akeley shot his first gorillas with both gun and camera; in these experiences he saw the culmination of his life. Awarded the John Price Wetherhill Medal at the Franklin Institute in 1926 for his invention, Akeley succeeded that year in filming to his satisfaction African lion spearing, on the same safari on which Rochester's George Eastman, of Eastman-Kodak fortunes, was both co-sponsor and hunter-collector.³⁶

The ambiguity of the gun and camera runs throughout Akeley's work. He is a transitional figure from the western image of darkest to lightest Africa, from nature worthy of mainly fear to nature in need of motherly nurture. The woman/scientist/mother of orphaned apes popularized by the National Geographic Society's magazine and films in the 1970s was still half a century away. With Akeley, manhood tested itself against fear, even as the lust for the image of jungle peace held the finger on the gun long enough to take the picture and even as the intellectual and mythic certainty grew that the savage beast in the jungle was human, in particular, industrial human. The industrialist in the field with Akeley, George Eastman, was an object lesson in the monopoly capitalist's greater fear of decadence than of death. The narrative has a sepiagenarian Eastman getting a close-up photograph at 20 feet of a charging rhino, directing his white hunter when to shoot the gun, while his personal physician looks on, "With this adventure Mr. Eastman began to enjoy Africa thoroughly . . ." (M. J. Akeley 1940: 270).

Even at the literal level of physical appearance, "[f]o one familiar with the old types of camera the Akeley resembled a machine gun quite as much as it resembled a camera" (Akeley 1923: 166). Akeley said he set out to design a camera "that you can aim . . . with about the same ease that you can point a pistol" (Akeley 1923: 166). He enjoyed retelling the apocryphal story of seven Germans mistakenly surrendering to one American when they found themselves faced by an Akeley: "The fundamental difference between the Akeley motion-picture camera and the others is a panoramic device which enables one to swing it all about, much as one would swing a swivel gun, following the natural line of vision" (Akeley 1923: 167). Akeley

semi-joked in knowing puns on the penetrating, deadly invasiveness of the camera, naming one of his image machines "The Gorilla." "The Gorilla" had taken 300 feet of film of the animal that had never heretofore been taken alive in its native wilds by any camera. . . . I was satisfied—more satisfied than a man ever should be—but I revelled in the feeling."²¹

The taxidermist, certain of the essential peacefulness of the gorilla, wondered how close he should let a charging male get before neglecting the camera for the gun. "I hope that I shall have the courage to allow an apparently charging gorilla to come within a reasonable distance before shooting. I hesitate to say just what I can get a photograph at twenty feet. I should be proud of my nerve if I were able to show a photograph of him at ten feet, but I do not expect to do this unless I am at the moment a victim of suicidal mania" (Akeley 1923: 197). Akeley wrote these words before he had ever seen a wild gorilla. What was the boundary of courage; how much did nature or man need protecting? What if the gorilla never charged, even when provoked? What if the gorilla were a coward (or a female)? Who, precisely, was threatened in the drama of natural history in the early decades of monopoly capitalism's presence in Africa and America?

Aware of a disturbing potential of the camera, Akeley set himself against faking. He stuffed Barnum's Jumbo, but he wanted no part of the great circus magnate's cultivation of the American popular art form, the hoax (Harris 1973). But hoax lurkation in early wildlife photography (and anthropological photography). In particular, Akeley saw unscrupulous men manipulate nature to tell the story of a fierce and savage Africa that would sell in the motion picture emporia across America. Taxidermy had always threatened to lapse from art into deception, from life to upholstered death as a poor sportsman's trophy. Photography too was full of philistines who could debase the entire undertaking of nature work, the Museum's term for its educational work in the early 1900s. The Museum was for public entertainment (the point that kept its Presbyterian trustees resisting Sunday opening in the 1880s despite that day's fine potential for educating the new Catholic immigrants, who worked a six-day week); but entertainment only had value if it communicated the truth. Therefore, Akeley encouraged an association between the American Museum and the wildlife photographers, Martin and Osa Johnson, who seemed willing and able to produce popular motion pictures telling the story of jungle peace. Johnson claimed in his 1923 prospectus to the American Museum, "The camera cannot be deceived. . . . [therefore, it has] enormous scientific value."²²

Entertainment was interwoven with science, art, hunting, and education. Barnum's humbug tested the cleverness, the scientific acumen, of the observer in a republic where each citizen could discover the nakedness of the emperor and the sham of his rationality. This democracy of reason was always a bit dangerous. There is a tradition of active participation in the eye of science in America which makes the stories of nature ready to erupt into popular politics. Natural history can be—and has sometimes been—a means for millennial expectation and disorderly action. Akeley himself is an excellent example of a self-made man who made use of the mythic resources of the independent man's honest vision, the appeal to experience the testimony of one's own eyes. He *saw* the Giant of Karisimbi. The camera, an eminently democratic machine, has been crucial to crafting stories in biology. Its control has eluded the professional and the moralist, the official scientist. But in

Martin Johnson, Akeley hoped he had the man who would tame spectacular entertainment for the social uplift promised by science.

In 1906 Martin Johnson shipped out with Jack London for a two-year south sea voyage. The ship, the *Snark*, was the photographer's *Beagle*. Its name could hardly have been better chosen for the ship carrying the two adventurers whose books and films complemented *Tarzan* for recording the dilemma of manhood in the early twentieth century. Lewis Carroll's *The Hunting of the Snark* paradoxically anticipates the revelation of men like Johnson, London, and Akeley:

In one moment I've seen what has hitherto been
Enveloped in absolute mystery,
And without extra charge I will give you at large
A Lesson in Natural History. (Carroll 1971: 225)

From 1908–13 Johnson ran five motion picture houses in Kansas. He and Osa traveled in the still mysterious, potent places to film "native life": Melanesia, Polynesia, Malekula, Borneo, Kenya Colony. In 1922 the Johnsons sought Akeley's opinion of their new film, *Trailing African Wild Animals*. Akeley was delighted, and the Museum set up a special corporation to fund the Johnsons on a five-year African film safari. They planned a film on "African Babies." "It will show elephant babies, lion babies, zebra babies, giraffe babies, and black babies. . . . showing the play of wild animals and the maternal care that is so strange and interesting a feature of wildlife."²³ African human life had the status of wildlife in the Age of Mammals. That was the logic for "protection"—the ultimate justification for domination. Here was a record of jungle peace.

The Johnsons also planned a big animal feature film. The museum lauded both the commercial and educational values. Osborn enthused, "The double message of such photography is, first, that it brings the aesthetic and ethical influence of nature within the reach of millions of people. . . . second, it spreads the idea that our generation has no right to destroy what future generations may enjoy."²⁴ Johnson was confident that their approach of combining truth and beauty without hoax would ultimately be commercially superior, as well as scientifically accurate. "[T]here is no limit to the money it can make. . . . My past training, my knowledge of showmanship, mixed with the scientific knowledge I have absorbed lately, and the wonderful photographic equipment. . . . make me certain that this Big Feature is going to be the biggest money maker ever placed on the market, as there is no doubt it will be the last big Africa Feature made, and it will be so spectacular that there will be no danger of another film of like nature competing with it. For these reasons it will produce an income as long as we live."²⁵ Africa had always promised gold.

The "naked eye" science advocated by the American Museum perfectly suited the camera, ultimately so superior to the gun for the possession, production, preservation, consumption, surveillance, appreciation, and control of nature. Akeley's aesthetic ideology of realism was part of his effort to bridge the yawning gaps in the endangered self. To make an exact image is to insure against disappearance, to cannibalize life until it is safely and permanently a specular image, a ghost. The image arrested decay. That is why nature photography is so beautiful and so religious—and such a powerful hint of an apocalyptic future. Akeley's aesthetic combined the instrumental and contemplative into a photographic technology pro-

viding a transfusion for a steadily depleted sense of reality. The image and the real define each other, as all of reality in late capitalist culture lusts to become an image for its own security. Reality is assured, insured, by the image, and there is no limit to the amount of money that can be made. The camera is superior to the gun for the control of time; and Akeley's dioramas with their photographic vision, sculptor's touch, and taxidermic solidity were about the end of time (Sontag 1977).

Telling Stories

The synthetic story told so far has had three major and many minor sources. Telling a life synthetically makes the tones emerging from inharmonious versions. The single biography, the achieved unity of African Hall, can be unraveled to tie its threads into an imagined heteroglossic narrative of nature yet to be written. A polyphonic natural history waits for its sustaining social history. To probe more deeply into the tissue of meanings and mediations making the specific structure of experience possible for the viewer of the dioramas of African Hall, I would like to tease apart the sources for a major event in Akeley's life: an elephant mauling in British East Africa in 1910. This event leaves my story of the structure and function of biography in the construction of a twentieth-century primate order, with its multiform hierarchies of race, sex, species, and class. Whose stories appear and disappear in the web of social practices that constitute Teddy Bear Patriarchy? Questions about authorized writing enforced by publishing practices and about labor that never issues in acknowledged authorship (never becomes father of the game) make up my story.²⁶

Authors and Versions

She didn't write it.

She wrote it but she shouldn't have.

She wrote it, but look what she wrote about. (Russ 1983: 76)

In Brightest Africa appears to be written by Carl Akeley. But we learn from Mary Jobe Akeley (1940: 222), a prolific author, that the taxidermist "hated to wield a pen." She elaborates that Doubleday and Page (the men, not the company), were enthralled by Carl's stories told in their homes at dinner and so "determined to extract a book from him." So one evening after dinner Arthur W. Page "stationed a stenographer behind a screen, and without Carl's knowledge, she recorded everything he said while the guests lingered before the fire." Editing of this material is credited to Doubleday and Page, and the author is named as Carl. The stenographer is an unnamed hand. Her notes gave rise to articles in a journal called *World's Work*, but the publishers wanted a book. Then Akeley read a newspaper account of his Kivu journey that he liked; it had been written by Dorothy S. Greene while she worked for the director of the American Museum. Akeley hired her as his secretary, to record his stories while he talked with explorers and scientists or lectured to raise funds for African Hall. "She unobtrusively jotted down material which could be used in a book" (M.J. Akeley 1940: 223). Who wrote *In Brightest Africa*? To insist on that question troubles official versions of the relation of mind and body in western authorship.

The physical appearance of the books is itself an eloquent story. The stamp of approval from men like H. F. Osborn in the dignified prefaces, the presence of handsome photographs, a publishing house that catered to wealthy hunters: all compose the authority of the books. The frontispieces are like Orthodox icons; the entire story can be read from them. In *Lions, Gorillas and their Neighbors*, published for young people, the frontispiece shows an elderly Carl Akeley in his studio gazing intently into the eyes of the plaster death mask of the first gorilla he ever saw. Maturity in the encounter with nature is announced. *The Wilderness Lives Again*, the biography that resurrected Carl through his wife's vicarious authorship, displays in the front a young Carl, arm and hand bandaged heavily, standing outside a tent beside a dead leopard suspended by her hind legs. The caption reads: "Carl Akeley, when still in his twenties, choked this wounded infuriated leopard to death with his naked hands as it attacked him with intent to kill."

Carl Akeley's story of his encounter with the elephant that mauled him is in a chapter titled "Elephant Friends and Foes." Moral lessons pervade the chapter, prominently those of human ignorance of the great animals—partly because hunters are only after ivory and trophies, so that their knowledge is only of tracking and killing, not of the animals' lives—and of Akeley's difference because of his special closeness to nature embodied in the magnificent elephants. Akeley witnessed two elephants help a wounded comrade escape from the scene of slaughter, inspiring one of the taxidermist's bronzes. But, the reader also sees Akeley making a table to seat eight people out of elephant ears from a specimen which nearly killed him and Delia, despite each of them shooting into his head about 13 times. In this chapter, the taxidermist is hunting as an equal with his wife. He does not hide stories which might seem a bit seedy or full of personal bravado; yet his "natural nobility" pervaded all these anecdotes, particularly for an audience of potential donors to African Hall, who might find themselves shooting big game in Africa.

His near fatal encounter with an elephant occurred when Akeley had gone off without Delia to get photographs, taking "four days' rations, gun boys, porters, camera men, and so forth—about fifteen men in all" (Akeley 1923: 45). He was tracking an elephant whose trail was very fresh, when he suddenly became aware that the animal was bearing down on him directly:

I have no knowledge of how the warning came. . . . I only know that as I picked up my gun and wheeled about I tried to shove the safety catch forward. It refused to budge. . . . My next mental record is of a tusk right at my chest. I grabbed it with my left hand, the other one with my right hand, and swinging in between them went to the ground on my back. This swinging in between the tusks was purely automatic. It was the result of many a time on the trails imagining myself caught by an elephant's tusk and planning what to do, and a very profitable planning too: for I am convinced that if a man imagines such a crisis and plans what he would do, he will, when the occasion occurs, automatically do what he planned. . . . He drove his tusks into the ground on either side of me. (Akeley 1923: 48–49)

Akeley tells that he lay unconscious and untouched for hours because his men felt he was dead, and they came from groups which refused to touch a dead man. When he came to, he shouted and got attention. He relates that word had been sent to Mrs. Akeley at base camp, who valiantly mounted a rescue party in the middle

of the night against the wishes of her guides (because of the dangers of night travel through the bush), whom she pursued into their huts to force their cooperation. Sending word to the nearest government post to dispatch a doctor, she arrived at the scene of the injury by dawn. Akeley attributed his recovery to Delia's fast action, but more to the subsequent speedy arrival of a neophyte Scottish doctor, who sped through the jungle to help the injured man partly out of his ignorance of the foolishness of hurrying to help anyone mauled by an elephant—such men simply didn't survive to pay for one's haste. The more seasoned chief medical officer arrived considerably later.

The remainder of the chapter recounts Akeley's chat with other old hands in Africa about their experiences surviving elephant attacks. Like his thoughts as he swung between the giant tusks, the tone is reasoned, scientific, focused on the behavior and character of those interesting aspects of elephant behavior. The ubiquitous moral concludes the chapter:

But although the elephant is a terrible fighter in his own defense when attacked by man, that is not his chief characteristic. The things that stick in my mind are his sagacity, his versatility, and a certain comradeship which I have never noticed to the same degree in other animals. . . . I like to think back to the day I saw the group of baby elephants playing with a great ball of baked dirt. . . . They have no enemy but man and are at peace amongst themselves. It is my friend the elephant that I hope to perpetuate in the central group in Roosevelt African Hall. . . . In this, which we hope will be an everlasting monument to the Africa that was, the Africa that is fast disappearing, I hope to place the elephant on a pedestal in the centre of the hall—the rightful place for the first among them. (Akeley 1923: 54–5)

Akeley sees himself as an advocate for "nature" in which "man" is the enemy, the intruder, the dealer of death. His own exploits in the hunt stand in ironic juxtaposition only if the reader evades their true meaning—the tales of a pure man whose danger in pursuit of a noble cause brings him into communion with nature through the beast he kills. This nature is a worthy brother of man, a worthy foil for his manhood. Akeley's elephant is profoundly male, singular, and representative of the possibility of nobility. The mauling was an exciting tale, with parts for many actors, including Delia, but the brush with death and the details of rescue are told with the cool humor of a man ready for his end dealt by such a noble friend and brother, his best enemy, the object of his scientific curiosity. The putative behavior of the "boys" underlines the confrontation between white manhood and the noble beast. "I never got much information out of the boys as to what did happen, for they were not proud of their part in the adventure. . . . It is reasonable to assume that they had scattered through [the area which the elephant thoroughly trampled] like a covey of quail. . ." (1923: 49). Casual and institutional racism heightens the life story of the single adult man. The action in Akeley's stories focuses on the center of the stage, on the meeting of the singular man and animal. The encourage is inaudible, invisible, except for comic relief and anecdotes about native life. In Akeley's rendering, empowered by class and race, white woman stands without much comment in a similar moral position as white man—a hunter, an adult.

Mary Jobe Akeley published her biography of her husband, *The Wilderness Lives Again*, in 1940, four years after the Akeley African Hall opened to the public. Her

purpose was to promote conservation and fulfill her life's purpose—accomplishing her husband's life work. She presents herself as the inspired scribe for her husband's story. Through her vicarious authorship and through African Hall and the Parc Albert, not only the wilderness, but Akeley himself, whose meaning was the wilderness, lives again.

Mary Jobe had not always lived for a husband.²⁷ An explorer since 1913, she had completed ten expeditions to explore and map British Columbian wilderness; and the Canadian government named a peak Mt. Jobe. She recounts the scene at Carl's death when she accepted his commission for her, that she would live thereafter to fulfill his work. The entire book is suffused with her joy in this task. Her self-construction as the other is breathtaking in its ecstasy. The story of the elephant mauling undergoes interesting emendations to facilitate her accomplishment. One must read this book with attention because Carl's words from his field diaries and publications are quoted at great length with no typographical differentiation from the rest of the text. At no point does the wife give a source for the husband's words; they may be from conversation, lectures, anywhere. It does not matter, because the two are one flesh. The stories of Carl and Mary Jobe blend imperceptibly—until the reader starts comparing other versions of the "same" incidents, even the ones written apparently in the direct words of the true, if absent, author-husband.

The key emendation is an absence: the entire biography of Carl Akeley by Mary Jobe Akeley does not mention the name or presence of Delia. Her role in the rescue is taken by the Kikuyu man Wimbila Gikungu, called "Bill." Akeley's gun bearer and companion on several safaris, Bill roused the recalcitrant guides and notified the government post, thus bringing on the Scotsman posthaste (M. J. Akeley, 1940: Chpt. IX). The long quotation from Carl in which the whole story is told simply lacks mention of his previous wife.

Mary Jobe tells a sequel to the mauling not in Akeley's published stories, and apparently taken from his field diaries or lectures. Because it is not uncommon for a man to lose his nerve after an elephant mauling and decline to hunt elephants again, it was necessary for Akeley to face elephants as soon as possible. Again, the first thing to notice is an absence; there is no question that such courage should be regained. But the explicit story does not ennoble Akeley. He tracked an elephant before he was really healthy, needing his "boys" to carry a chair on the trail for him to sit on as he tired; he wounded the elephant with unsportsmanlike hasty shots; and it was not found before dying. If Akeley's nobility is saved in this story, it is by his humility: "The whole thing had been stupid and unsportsmanlike" (M. J. Akeley 1940: 126).

Mary Jobe Akeley pictures herself as Carl's companion and soul mate, but not really as his co-adventurer and buddy hunter—with one exception. Mary Jobe fired two shots in Africa, and killed a magnificent male lion: "An hour later we came upon a fine old lion, a splendid beast, Carl said, and good enough for me to shoot. And so I shot. . . . Carl considered it a valuable specimen; but I was chiefly concerned that I fulfilled Carl's expectations and had killed the lion cleanly and without assistance" (M. J. Akeley 1940: 303). Mary Jobe's authority as a biographer does not depend on her being a hunter, but her status was enhanced by this most desirable transforming experience.

Delia Akeley pictures herself as a joyous and unrepentant hunter; but, by the publication of *Jungle Portraits* in 1930, her husband has some warts. Delia does not

bear the authorial moral status of the artist-scientist, Carl Akeley, or his socially sure second wife. Delia's tales clarify the kind of biography that was to be suppressed in African Hall. In Delia's story of the rescue, "Bill" also appears, and he behaves well. But her own heroism in confronting the superstitions of the "boys" and in saving her endangered husband is the central tale: "Examining and cleansing Mr. Akeley's wounds were my first consideration. . . . The fact that his wounds were cared for so promptly prevented infection, and without doubt saved his life" (D. Akeley 1930: 249).

Delia produced a biographical effect at odds with the official histories; she showed the messiness behind the "unified truth" of natural history museums. Delia dwelt on the sickness and injury of early collectors and explorers; she remarked pointedly on insects, weariness, and failure in the past and contrasted that with the experience provided the current (1930) traveler, the tourist, and museum visitor. She foregrounded the devoted and unrewarded wife who kept camp in the jungle and house at home. The wife-manager of Carl's salaries, aware of the maternal mediations in the quest for manhood and natural truth, showed pique at all the attention given her scientist-husband: "The thrilling story of the accident and his miraculous escape from a frightful death has been told many times by himself from the lecture platform. But a personal account of my equally thrilling night journey to his rescue through one of the densest, elephant-infested forests on the African continent is not nearly so well known" (D. Akeley 1930: 233). This is not the wife who devotes herself to her husband's authorship of wilderness. Indeed, she insisted on "darkest Africa" throughout her book.

Delia foregrounded her glory at the expense of her husband's official nobility. Delia's reader discovers Carl frequently sick in his tent, an invalid dangerously close to death while the courageous wife hunts not only for food for the entire camp, but also for scientific specimens so that he may hasten out of this dangerous continent before it claims him. In the elephant hunt following the mauling, Carl was still searching to restore his endangered "mortal." But this time his wife was his companion in what is portrayed as a dangerous hunt terminating in a thrilling kill marked by a dangerous charge. Delia's story demurred on who fired the fatal shot, but "fatigue and a desire to be sure of his shot made Mr. Akeley slow in getting his gun in position" (D. Akeley 1930: 93).

Delia published an extraordinary photograph of a dashing Carl Akeley smoking a pipe and lounging on the body of a large fallen elephant; her caption reads, "Carl Akeley and the first elephant he shot after settling the question of his mortal." A reader will not find that particular photograph of Akeley in any other publication than Delia's. Further, my hunt in the Museum's archive for the image of Akeley lounging astride his kill caught Delia in a lie (hoax?) about that elephant. But the lie reveals another truth. The accompanying photos in the archive suggest a version of reality, a biography of Africa, which the Museum and its official representatives did not want displayed in their Halls or educational publications.

The images from the photo archive upstairs haunt the mind's eye as the viewer stands before the elephant group in African Hall. First, the particular elephant with the lounging Carl could not have been killed on the occasion Delia described. The occasion shows the white hunter, the Scotsman Richard John Cunningham, hired by Akeley in 1909 to teach him how to hunt elephants, lounging with Delia on the

same carcass. The Museum archive labels the photo "Mrs. Akeley's first elephant." It is hard not to order the separate photos in the folder into a narrative series. The next snapshot shows the separated and still slightly bloody tusks of the elephant held in a gothic arch over a pleased, informal Delia. She is standing confidently under the arch, each arm reaching out to grasp a curve of the elephantine structure. But the real support for the ivory is elsewhere. Cut off at the edge of the picture are four black arms; the hands come from the framing peripheral space to encircle the tusks arching over the triumphant white woman. The museum archive labels this photo "Mrs. Akeley's ivory." The last photograph shows a smiling Cunningham anointing Mrs. Akeley's forehead with the pulp from the tusk of the deceased elephant. She stands with her head bowed under the ivory arch, now supported by a single, solemn African man. The Museum's spare comment reads, "The Christening." [Figure 3.2]

Here is an image of a sacrament, a mark on the soul signing a spiritual transformation effected by the act of first killing. It is a sacred moment in the life of the hunter, a rebirth in the blood of the sacrifice, of conquered nature. This elephant stands a fixed witness in Akeley African Hall to its dismembered double in the photograph, whose bloody member signed the intersection of race, gender, and nature on the soul of the western hunter. In this garden, the camera captured a retelling of a Christian story of origins, a secularized Christian sacrament in a baptism of blood



Figure 3.2 The Christening. Negative no. 211526. Published with permission of the Department of Library Services, American Museum of Natural History.

from the victim whose death brought spiritual adulthood, i.e., the status of hunter, the status of the fully human being who is reborn in risking life, in killing. Versions of this story proliferate in the history of American approaches to the sciences of life, especially primate life. With Delia, the story is near parody; with Carl it is near epiphany. His was authorized to achieve a fusion of science and art. Delia, the more prolific author, who neither had nor was a ghostwriter, was erased—by divorce and by duplicity.

Safari: A Life of Africa

Now with few exceptions our Kivu savages, lower in the scale of intelligence than any others I had seen in Equatorial Africa, proved kindly men. . . . How deeply their sympathy affected me! As I think of them, I am reminded of the only playmate and companion of my early childhood, a collie dog. . . . (M. J. Akeley 1929b: 200)

The great halls of the American Museum of Natural History would not exist without the labor of Africans (or South Americans or the Irish and Negroes in North America). The Akeley's would be the first to acknowledge this fact; but they would claim the principle of organization came from the white safari managers, the scientist-collector and his camp-managing wife, the elements of mind overseeing the principle of execution. From the safari of 1895, dependent upon foot travel and the strong backs of "natives," to the motor safaris of the 1920s, the everyday survival of Euro-Americans in the field depended upon the knowledge, good sense, hard work, and enforced subordination of people the white folk insisted on seeing as perpetual children or as wildlife. If a black person accomplished some exceptional feat of intelligence or daring, the explanation was that he (or she?) was inspired, literally moved, by the spirit of the master. As Mary Jobe (1929b: 199) put it in her unself-conscious colonial voice, "It was as if the spirit of his master had descended upon him, activating him to transcendent effort." This explanation was all the more powerful if the body of the master was physically far removed, by death or trans-Atlantic residence. Aristotle was as present in the safari as he was in the taxidermic studios in New York or in the physiological bodies of organisms. Labor was not authorized as action, as mind, or as form. Labor was the marked body.

Carl and Mary Jobe Akeley's books elucidate safari organization over a thirty-year span. The photographs of solemn African people in a semi-circle around the core of white personnel, with the cars, cameras, and abundant baggage in the background, are eloquent about race, gender, and colonialism. The chapters discuss the problems of cooks, the tasks of a headman, the profusion of languages which no white person on the journey spoke, numbers of porters (about thirty for most of the 1926 trip, many more in 1895) and problems in keeping them, the contradictory cooperation of local African leaders (often called "sultans"), the difficulty of providing white people coffee and brandy in an "unspoiled" wilderness, the hierarchy of pay scales and food rations for safari personnel, the behavior of gun bearers, and the punishment for perceived misdeeds. The chapters portray a social organism ordered by the principles of organic form: hierarchical division of labor called cooperation and coordination. The safari was an icon of the whole enterprise in its logic of mind and body, in its scientific marking of the body for functional efficiency

(Sohn-Reitel 1978; Young 1977b; Rose 1983). In western inscriptions of race, Africans were written into the script of the story of life—and written out of authorship.

Few of the black personnel appear with individual biographies in the safari literature, but there are exceptions, object lessons or type life histories. Africans were imagined as either "spoiled" or "unspoiled," like the nature they signified. Spoiled nature could not relieve decadence, the malaise of the imperialist and city dweller, but only presented evidence of decay's contagion, the germ of civilization, the infection which was obliterating the Age of Mammals. And with the end of that time came the end of the essence of manhood, hunting. But unspoiled Africans, like the Kivu forest itself, were solid evidence of the resources for restoring manhood in the healthy activity of sportsmanlike hunting. Hinting at the complexity of the relation of master and servant in the pursuit of science on the safari, the life story is told from the point of view of the white person. Winiba Gikungu, the Kikuyu known as Bill who joined Carl Akeley in British East Africa in 1905 at thirteen years of age, did not write—or ghost write—my sources. He was not the author of his body, but he was the Akeley's favorite "native."

Bill began as an assistant to Delia Akeley's "tent boy," but is portrayed as rapidly learning everything there was to know about the safari through his unflagging industry and desire to please. He was said to have extraordinary intelligence and spirit, but suffered chronic difficulty with authority and from inability to save his earnings. "He has an independence that frequently gets him into trouble. He does not like to take orders from any one of his own color" (Akeley 1923: 143). He served with Akeley safaris in 1905, 1909–11, and 1926, increasing in authority and power over the years until there was no African whom Carl Akeley respected more for his trail knowledge and judgment. Bill got into trouble serving on the Roosevelt safari, was dismissed and blacklisted. Nonetheless, Akeley immediately rehired him, assuming he had had some largely innocent (i.e., not directed against a white person) eruption of his distaste for authority (Akeley 1923: 144).

Akeley describes three occasions on which he "punished" Gikungu; these episodes are icons of Akeley's paternal ideology. Once Bill refused to give the keys for Carl's trunk to other white people when they asked, "saying that he must have an order from his own Bwana. It was check, and he had to be punished; the punishment was not severe, but coming from me it went hard with him and I had to give him a fatherly talk to prevent his running away" (Akeley 1923: 134f). The "father to the game" claimed the highest game of all in the history of colonialism—the submission of man. Later, the Kikuyu shot at an elephant he believed was charging an unsuspecting Akeley. Akeley had seen the animal, but did not know his "gun boy" did not know. Akeley slapped Gikungu "because he had broken one of the first rules of the game, which is that a black boy must never shoot without orders, unless his master is down and at the mercy of a beast." Realizing his mistake, "my apologies were prompt and as humble as the dignity of a white man would permit" (M. J. Akeley 1940: 132). The African could not be permitted to hunt independently with a gun in the presence of a white man. The entire logic of restoring threatened white manhood depended on that rule. Hunting was magic; Bill's well-meaning (and well-placed) shot was pollution, a usurpation of maturity. Finally, Akeley had Gikungu put in jail during the 1909–11 safari when "Bill" actively declined to

submit when Carl "found it necessary to take him in hand for mild punishment" for another refusal of a white man's orders about baggage (Akeley 1923: 144). Gikungu spend two weeks in jail; the white man's paternal solicitude could be quite a problem.

Akeley relied on Gikungu's abilities and knowledge. Always, his performance was attributed to his loyalty for the master. Collecting the ivory of a wounded elephant, organizing the rescue after the elephant mauling, assisting Mary Jobe Akeley after Carl's death—these deeds were the manifestations of subordinate love. There is no hint that Gikungu might have had other motives—perhaps a non-subservient pity for a white widow in the rain forest, pleasure in his superb skills, complex political dealings with other African groups, or even a superior hatred for his masters. Attributing intentions to "Bill" is without shadow of doubt; the African played his role in the safari script as the never quite tame, permanently good boy. Bill was believed to be visible; other Africans largely remained invisible. The willed blindness of the white lover of nature remained characteristic of the scientists who went to the Garden to study primates, to study origins, until cracks began to show in this consciousness around 1970.

Institution

Speak to the Earth and It Shall Teach Thee. (Job 12:8)²⁸

Every specimen is a permanent fact.²⁹

From 1890 to 1930 the "Nature Movement" was at its height in the United States. Conventional western ambivalence about "civilization" was never higher than during the early decades of monopoly capital formation (Marx 1964; Nash 1982). The woes of "civilization" were often blamed on technology—fantasized as "the Machine." Nature is such a potent symbol of innocence partly because "she" is imagined to be without technology. Man is not *in* nature partly because he is not seen, is not the spectacle. A constitutive meaning of masculine gender for us is to be the unseen, the eye (I), the author, to be Linnaeus who fathers the primate order. That is part of the structure of experience in the Museum, one of the reasons one has, willy nilly, the moral status of a young boy undergoing initiation through visual experience. The Museum is a visual technology. It works through desire for communion, not separation, and one of its products is gender. Who needs infancy in the nuclear family when we have rebirth in the ritual spaces of Teddy Bear Patriarchy?

Social relations of domination are built into the hardware and logics of technology, producing the illusion of technological determinism. Nature is, in "fact," constructed as a technology through social praxis. And dioramas are meaning-machines. Machines are maps of power, arrested moments of social relations that in turn threaten to govern the living. The owners of the great machines of monopoly capital were, with excellent reason, at the forefront of nature work—because it was one of the means of production of race, gender, and class. For them, "naked eye science" could give direct vision of social peace and progress despite the appearances of class war and decadence. They required a science "instaurating" jungle peace; and so they bought it.

This scientific discourse on origins was not cheap; and the servants of science, human and animal, were not always docile. But the relations of knowledge and

power at the American Museum of Natural History should not be narrated as a tale of evil capitalists in the sky conspiring to obscure the truth. Quite the opposite, the tale must be of committed Progressives struggling to dispel darkness through research, education, and reform. The capitalists were not in the sky; they were in the field, armed with the Gospel of Wealth.³⁰ They were also often armed with an elephant gun and an Akeley camera. Sciences are woven of social relations throughout their tissues. The concept of social relations must include the entire complex of interactions among people; objects, including books, buildings, and rocks; and animals.³¹

One band in the spectrum of social relations—the philanthropic activities of men in the American Museum of Natural History, which fostered exhibition (including public education and scientific collecting), conservation, and eugenics—is the optic rectum of naked eye science, i.e., the neural organs of integration and interpretation. After the immediacy of experience and the mediations of biography and story telling, we now must attend to the synthetic organs of social construction as they came together in an institution.³²

Decadence was the threat against which exhibition, conservation, and eugenics were all directed as prophylaxis for an endangered body politic. The Museum was a medical technology, a hygienic intervention, and the pathology was a potentially fatal organic sickness of the individual and collective body. Decadence was a venereal disease proper to the organs of social and personal reproduction: sex, race, and class. From the point of view of Teddy Bear Patriarchy, race suicide was a clinical manifestation whose mechanism was the differential reproductive rates of anglo-saxon vs. "non-white" immigrant women. Class war, a pathological antagonism of functionally related groups in society, seemed imminent. And middle class white women undertaking higher education might imperil their health and reproductive function. Were they unsexed by diverting the limited store of organic energy to their heads at crucial organic moments? Lung disease (remember Teddy Roosevelt's asthma), sexual disease (what was *not* a sexual disease, when leprosy, masturbation, and Charlotte Perkins Gilman's need to write all qualified?), and social disease (like strikes and feminism) all disclosed ontologically and epistemologically similar disorders of the relations of nature and culture. Decadence threatened in two interconnected ways, both related to energy-limited, productive systems—one artificial, one organic. The machine threatened to consume and exhaust man. And the sexual economy of man seemed vulnerable both to exhaustion and to submergence in unruly and primitive excess. The trustees and officers of the Museum were charged with the task of promoting public health in these circumstances.

Three public activities of the Museum were dedicated to preserving a threatened manhood: exhibition, eugenics, and conservation. Exhibition was a practice to produce permanence, to arrest decay. Eugenics was a movement to preserve hereditary stock, to assure racial purity, to prevent race suicide. Conservation was a policy to preserve resources, not only for industry, but also for moral formation, for the achievement of manhood. All three activities were prescriptions against decadence, the dread disease of imperialist, capitalist, white culture. Forms of education and science, they were also very close to religious and medical practice. These three activities were about the transcendence of death, personal and collective. They attempted to insure preservation without fixation and paralysis, in the face of extraordinary change in the relations of sex, race, and class.

Exhibition

The American Museum of Natural History was (and is) a "private" institution, as private could only be defined in the United States. In Europe the natural history museums were organs of the state, intimately connected to the fates of national politics (Holton and Blanpied 1976). The development of U.S. natural history museums was tied to the origins of the great class of capitalists after the Civil War (Kennedy 1968). The social fate of that class was also the fate of the Museum; its rearrangements and weaknesses in the 1930s were reproduced in crises in the Museum, ideologically and organizationally. The American Museum, relatively unbuffered from intimate reliance on the personal beneficence of a few wealthy men, is a peephole for spying on the wealthy in their ideal incarnation. They made dioramas of themselves.

The great scientific collecting expeditions from the American Museum began in 1888 and stretched to the 1930s. By 1910, they had gained the Museum scientific prestige in selected fields, especially paleontology, ornithology, and mammalogy. The Museum in 1910 boasted nine scientific departments and twenty-five scientists. Anthropology also benefited, and the largest collecting expedition ever mounted by the Museum was the 1890s Jessup North Pacific Expedition so important to Franz Boas's career (Kennedy 1968: 141ff). The sponsors of the Museum liked a science that stored facts safely; and they liked the public popularity of the new exhibitions. Many people among the white, protestant, middle and upper classes in the United States were committed to nature, camping, and the outdoor life: Teddy Roosevelt embodied their politics and their ethos. Theodore Roosevelt's father was one of the incorporators of the Museum in 1868. His son, Kennil, was a trustee during the building of African Hall. Others in that cohort of trustees were J. P. Morgan, William K. Vanderbilt, Henry W. Sage, H. F. Osborn, Daniel Pomeroy, E. Roland Harriman, Childs Frick, John D. Rockefeller III, and Madison Grant. Patrons of science, these are leaders of movements for eugenics, conservation, and the rational management of capitalist society.

The first hall of dioramas was Frank Chapman's Hall of North American Birds, opened in 1903. Akeley, hired to prepare African game, especially elephants, conceived the idea for African Hall on his first collecting trip for the American Museum. Osborn hoped for—and got—a North American and Asian Mammal Hall after the African one. The younger trustees in the 1920s formed an African Big Game Club that invited wealthy sportsmen to join in contributing specimens and money to African Hall. The 1920s were prosperous for these men, and they gave generously. There were over one hundred expeditions in the field for the American Museum in the 1920s discovering facts (Kennedy 1968: 192).

There was also a significant expansion of the museum's educational endeavors. Over a million children per year in New York were looking at the Museum's "nature cabinets" and food exhibits circulated through the city public health department. Radio talks, magazine articles, and books covered the Museum's popular activities, which appeared in many ways to be a science for the people, like that of the *National Geographic*, which taught republican Americans their responsibilities in empire after 1888. Both *Natural History*, the Museum's publication, and *National Geographic* relied heavily on photographs. There was a big building program from 1909 to 1929; and the Annual Report of the Museum for 1921 quoted the estimate by its director that

2 1/2 million people were reached by the Museum and its education extension program.

Osborn summarized the fond hopes of educators like himself in his claim that children passing through the Museum's halls "become more reverent, more truthful, and more interested in the simple and natural laws of their being and better citizens of the future through each visit." He maintained that the book of nature, written only in facts, was proof against the failing of other books: "The French and Russian anarchies were based in books and in oratory in defiance of every law of nature."⁵³ Going beyond pious hopes, Osborn had the power to construct a Hall of the Age of Man to make the moral lessons of racial hierarchy and progress explicit, lest they be missed in gazing at elephants. He countered those who criticized the halls and educational work for requiring too much time and money better spent on science itself. "The exhibits in these Halls have been criticized only by those who speak without knowledge. They all tend to demonstrate the slow upward ascent and the struggle of man from the lower to the higher stages, physically, morally, intellectually, and spiritually. Reverently and carefully examined, they put man upwards towards a higher and better future and away from the purely animal stage of life."⁵⁴ This is the Gospel of Wealth, reverently examined.

Prophylaxis

Eugenics and conservation were closely linked in philosophy and in personnel at the Museum, and they tied in closely with exhibition and research. For example, the white-supremacist author of *The Passing of the Great Race*, Madison Grant, was a successful corporation lawyer, a trustee of the American Museum, an organizer of support for the North American Hall, a co-founder of the California Save-the-Redwoods League, activist for making Mt. McKinley and adjacent lands a national park, and the powerful secretary of the New York Zoological Society. His preservation of nature and germ plasma all seemed the same sort of work. Grant was not a quack or an extremist. He represented a band of Progressive opinion terrified of the consequences of unregulated monopoly capitalism, including failure to regulate the importation of non-white (which included Jewish and southern European) working classes, who invariably had more prolific women than the "old American stock."⁵⁵ Powerful men in the American scientific establishment were involved in establishing Parc Albert in the Congo, a significant venture in international scientific cooperation: John C. Merriam of the Carnegie Institution of Washington, George Vincent of the Rockefeller Foundation, Osborn at the American Museum. The first significant user of the sanctuary would be sent by the "father" of primatology in America, Robert Yerkes, for a study of the psychology of wild gorillas. Yerkes was a leader in the movements for social hygiene, the category in which eugenics and conservation also fit. It was all in the service of science.

The Second International Congress of Eugenics was held at the American Museum of Natural History in 1921 while Akeley was in the field collecting gorillas and initiating plans for Parc Albert. Osborn, an ardent eugenicist, believed that it was "[p]erhaps the most important scientific meeting ever held in the Museum." Leading U.S. universities and state institutions sent representatives, and there were many eminent foreign delegates. The collected proceedings were titled "Eugenics in Family, Race, and State." U.S. lawmakers were one intended audience. "The

section of the exhibit bearing on immigration was then sent to Washington by the Committee on Immigration of the Congress, members of which made several visits to the Museum to study the exhibit. The press was at first inclined to treat the work of the Congress [of Eugenics] lightly . . . but the influence of the Congress grew and found its way into news and editorial columns of the entire press of the United States."³⁵ In 1923 the United States Congress passed immigration restriction laws, to protect the Race, the only race needing a capital letter.

The 1930s were a hiatus for the Museum. The Depression led to reduced contributions, and basic ideologies and politics shifted. The changes were not abrupt; but even the racial doctrines so openly championed by the Museum were publicly criticized in the 1940s, though not until then. Conservation was pursued with different political and spiritual justifications. A different biology was being born, more in the hands of the Rockefeller Foundation and in a different social womb. The issue would be molecular biology and other forms of post-organismic cyborg biology. The threat of decadence gave way to the catastrophes of the obsolescence of man (and of all organic nature) and the disease of stress, realities announced vigorously after World War II. Different forms of capitalist patriarchy and racism would emerge, embodied in a retooled nature. Decadence is a disease of organisms; obsolescence and stress are conditions of technological systems. Hygiene would give way to systems engineering as the basis of medical, religious, political, and scientific story-telling practices.

The early leaders of the American Museum of Natural History would insist that they were trying to know and to save nature, reality. And the real was one. The explicit ontology was holism, organicism. The aesthetic appropriate to exhibition, conservation, and eugenics from 1890 to 1930 was realism. But in the 1920s the surrealists knew that behind the day lay the night of sexual terror, disembodiment, failure of order; in short, castration and impotence of the seminal body which had spoken all the important words for centuries, the great white father, the white hunter in the heart of Africa. The strongest evidence in this chapter for the correctness of their judgment has been a literal reading of the realist, organicist artifacts and practices of the American Museum of Natural History. Their practice and mine have been literal, dead literal.

A PILOT PLANT FOR HUMAN ENGINEERING: ROBERT YERKES AND THE YALE LABORATORIES OF PRIMATE BIOLOGY, 1924-1942

[I]t is not the activity of the subject of knowledge that produces a corpus of knowledge, useful or resistant to power, but power-knowledge, the processes and struggles that traverse it and of which it is made up, that determines the forms and possible domains of knowledge. (Foucault 1979: 28)

For, Lady, you deserve this state
Nor would I love at lower rate.
(Andrew Marvell, "To His Coy Mistress")

The Servant of Science

Like Carl Akeley, Robert Means Yerkes (1876-1956) loved the great apes. And like Akeley's taxidermy, Yerkes's science was a practice of second birthing and rational fatherhood. But the forms of love and paternity were not the same. If Akeley's ethos, to be father of the game, is iconically represented in the mounted figure of the Giant of Karisimbi, the image haunting this chapter is Yerkes's sorrowing deathwatch for a special chimpanzee child, recorded in "The Light that Failed: A Tribute to Prince Chim" (Yerkes 1925: 253-55). Probably a pygmy chimpanzee, *Pan paniscus*, Chim was one of Yerkes's first ape research subjects. Yerkes bonded closely with this endearing youngster, who seemed to embody the childhood of a future primate Order promised by science. Stressing the need for order and discipline, kind treatment, play, variety, and directed activity as the apes matured, Yerkes guided the development of Chim and of his female comrade, Panzee, at his New Hampshire summer farm in 1923. [Figure 4.1] Photographs from 1925 show Yerkes's later scientific child-wards—Bill (named for William Jennings Bryant), Dwina (in memory of Charles Darwin), Wendy, and Pan—eating at table in a New England pasture. [Figure 4.2] Yerkes suggested that Mme. Rosalia Abreu provide for her young apes at her estate in Havana, Cuba, "a long table and chairs with facilities for use as a playroom or school-room as well as dining room" (Yerkes 1925: 210).

Ill and bothersome from the start, Panzee died little-lamented in the winter of

REPRISE: SCIENCE FICTION,
 FICTIONS OF SCIENCE,
 AND PRIMATOLOGY

Reading Primatology as Science Fiction: The
 Second Foundation and Starford's Second Primate
 Project, 1983–1984

However, because the genetic interests of individuals are not identical (unless they are clones), conflicts of interest perpetually endanger the survival of cooperative relationships. (Smuts, Cheney, Wrangham, and Struhsaker 1987: 297)

“Unless they are clones”: Surely, this is an innocent parenthetical exception, nothing but a punctuated precaution for hominid zoologists professionally alert to the array of modes of reproduction and replication in the living world, where clones appear naturally in many species, for example, among the colonial insects. Even in the stodgy, conservative primate order, itself a kind of right-wing reaction to the publicly visible, widespread, and baroque practices among fungi and invertebrates, identical twins and kinky replicative habits occur, infrequently and generally only in tropical forests. Or in laboratories. Laboratories are the material and mythic space of modern science, and the naturalistic field is one of the laboratories of modern primatology. Indeed, the field has been primate science’s privileged semiotic center.

The primate field, naturalistic and textual, has been a site for elaborating and contesting the bio-politics of difference and identity for members of industrial and post-industrial cultures. Cloning is simultaneously a literal natural and a cultural

technology, a science fiction staple, and a mythic figure for the repetition of the same, for a stable identity and a safe route through time seemingly outside human reach. Evolutionary biology’s bottom line on difference is succinctly stated in the quotation opening this conclusion: in the end, non-identity is antagonistic; it always threatens “the survival of cooperative relationships.” In the end, only the sign of the Same, of the replication of the one identical to itself, seems to promise peace. Can patriarchal monotheistic cultures ever allow another primal story?

Using Isaac Asimov’s imagination of the *Second Foundation* to set the stage, I would like to begin the conclusion to *Primate Visions* with a return to its recurring themes of repetition, identity, cooperation, whole, difference, change, conflict, fragment, reproduction, sex, and mind. Running through the weave of these themes has been the thread of preoccupation with biological and political questions of survival, catastrophe, and extinction. Explicit in the opening quotation above, questions of difference are questions about survival, for both fragments and wholes. Primatology has been a rich cultural fabric for exploring these matters. “Teddy Bear Patriarchy,” “The Bio-politics of a Multicultural Field,” “Mothering as a Scientist for National Geographic,” “Remodeling the Human Way of Life,” and “The Politics of Being Female” have all turned repeatedly on narratives of the bio-politics of difference and identity in large dramas of twentieth-century history, reaching from pre-World War II African colonialism through post-nuclear and post-colonial struggles over race and gender. Questions about the nature of war, technology, power, and community echo through the primate literature. Given meaning through readings of the bodies and lives of our primate kin, who were semiotically placed in allochronic time and allotropic space, reinvented origins have been figures for reinvented possible futures. Primatology is a First World survival literature in the conditions of twentieth-century global history.

In Asimov’s *Second Foundation* (1964 [1953]), the Seldon Plan for speeding up the return of collective advanced galactic civilization has reached a critical point. Foreseeing the decay of the present Empire, before his death Harry Seldon invented the science capable of predicting social patterns from human interactions in vast masses, a discourse he called Psychohistory. Seldon predicted and manipulated one genetic fragment for the new order and planted the second essential germ cell in the interstices of the fragmenting old Empire. Located “at opposite ends of the galaxy,” the first fragment represented science and technology, and the other nurtured advanced mental powers. But the galaxy’s shape makes the meaning of their relative location hopelessly ambiguous; the two foundations might be in the same place, yet unknown to each other. They might be mirror-image clones, more than haploid fragments. They turn out to relate as center and periphery, nucleus and margin. The Second Foundation finally controlled the meanings and fate of the First Foundation. These spatial ambiguities about the relation of fragments that might be clones, gametes, or parts of the same cell can be metaphors in narratives of the relations of variant explanatory frameworks in scientific repetition, fertilization, or succession. In the *Second Foundation*, a sterile mutant, the Mule, appears by chance in the story. He is the unique event that the Psychohistorians could not have predicted, and this mutation threatens to undermine the Seldon Plan. The Mule has tremendous mental powers for controlling others’ minds, and he puts his power to work conquering the First Foundation and searching for the Second Foundation to add it to his upstart and monstrous empire based on violence and conquest.

Ultimately, the psychohistorians of the Second Foundation overcome the Mule's power, restoring the hegemony of their mental talents needed to knit together a cooperative new civilization.

Asimov's story provides a loose-fitting but still suggestive way to read the Center for Advanced Study in the Behavioral Sciences' second Primate Project in 1983–84, in comparison and contrast with its twin, complement, and predecessor, the first Primate Project in 1962–63. Both projects took place at the prestigious Center located near Stanford University; the Center may be imagined to be a kind of real-time Institute for Psychohistory, where accounts of the foundations of social and cognitive life are regularly reinvented by selected cultural authorities. Throughout *Primate Visions*, science fiction has provided one of the lenses for reading primateological texts. Mixing, juxtaposing, and reversing reading conventions appropriate to each genre can yield fruitful ways of understanding the production of origin narratives in a society that privileges science and technology in its constructions of what may count as nature and for regulating the traffic between what it divides as nature and culture.

The field-defining, synthetic books produced from each project's year of study, writing, and seminars are maps to changing explanatory frameworks for understanding the relations of parts to wholes and sameness to difference in post-war primatology, as well as for understanding networks of competition, cooperation, and professional reproduction among primatologists. These books, *Primate Behavior: Field Studies of Monkeys and Apes* (DeVore 1965a) and *Primate Societies* (Smuts et al 1987), mark critical reinventions of what may count scientifically as primate society. On one level, the second Primate Project was a deliberate repetition of the first, the next generation, a reproduction, a kind of duplicated cultural genetic region, with mutations coding for a novel but affiliated end product, whose substitutions and homologies can be identified, and whose function remains the recognition of difference between self and non-self, human and animal. The second primate year also dramatized the marginalization of the major paradigms and the social networks of the first project. The second project was simultaneously a nucleus directing translations of the primate story, a germinal fragment of a whole, a highly mutated clone, and the successor. *Primate Societies* is located at the opposite end of the galaxy of post-war primate field studies from *Primate Behavior*. But the opposition is based on an identity and repetition. The texts occupy the same field; they are in the same place. And for each, what counts as the core and motor of primate social life is at stake. The dynamics of cooperation and competition are endlessly elaborated in a repeating but differentiated primatological survival literature.

Both primate years at the Palo Alto Center and the resulting books owed many of their conditions of existence to the same powerful paternal figure in the biomedically oriented behavioral sciences, especially the endocrinological and neurosciences and experimental psychiatry. David Hamburg, Hamburg and Sherwood Washburn at the University of California at Berkeley collaborated to organize the first primate project. Washburn's favored former student, Irvén DeVore, played a large role in planning the project year; and he edited the resulting volume, which synthesized and exhibited the dominant frameworks for most United States primate field anthropology for many years. At the time of the Primate Project in 1962–63, Hamburg was the head of the Psychiatry Department at Stanford University's School of Medicine, where he was responsible for the department's redirection to a much

more experimental approach. Washburn was then entering the high plateau of the success that his "plan" would achieve for bringing together primate field studies, functional comparative anatomy, and studies of fossils. Stress was the multivalent concept for bringing together body, mind, evolution, and health in the Washburn-Hamburg vision. "Stress" was a widespread, complex element of post-Hiroshima American Cold War discourse on the relation of human beings to their technological products and animal inheritance. Stress was about cultural perceptions of the traffic between nature and human society and about the connections between body and mind. Stress was part of a discourse about the prospects of survival for nuclear humanity that also faced deep ecological crisis. The terms of possible human community were at the heart of this post-World War II, universalizing, evolutionary narrative about the origins and biology of conflict and cooperation. The solution was the concept of the "social group" as the principal primate adaptation and the "sharing way of life" as its progressive hominid variant. Difference, signified especially by race in a period of decolonization and civil rights struggles, was contained by functionalism and liberalism within an ideology privileging a science-based cultural and political order, reaffirmed in Hamburg's 1983 inaugural lecture as president of the Carnegie Corporation. From the global and local social struggles of the 1960s through the reactionary Reagan years, Hamburg kept the faith that the sharing way of life would be recuperated through international science.

Twenty years after the first primate project, Hamburg, then president of the National Institute of Medicine, invited Barbara Smuts, his former graduate student at Stanford, who was also affiliated with Irvén DeVore and his student network at Harvard, to organize the second primate year. [Figure 16.1] Smuts' webs of connections to people from Gombe, Stanford, Harvard, Cambridge (England), and



Figure 16.1 Barbara Smuts with a group of baboons at Gilgil. Barbara Smuts/Anthro-photo. Published with permission.

several other sites where primatologists evolved or immigrated made her the ideal person to undertake the task. As in the first year, the core of the project was a small group resident at the Center for Advanced Study in the Behavioral Sciences. They utilized their professional networks to solicit papers broadly. *Primate Societies* had forty-six contributors, about equal to the total number of primatologists who had done field studies by the mid-1960s.¹ Twenty contributors to *Primate Societies* were women, including one of the two Japanese participants (Hiraiwa-Hasegawa Mariko). Substantial gender equality in authority and authorship, relative ethnic homogeneity, and extensive collective interactions pervade the text of *Primate Societies*.² Of the thirty-one people who came together to produce *Primate Behavior*, four were women (Frances Reynolds; Jane Goodall, who contributed a paper but was not present; Jane Lancaster; and Phyllis Jay). The center of gravity of the first project was Berkeley; the second project was emmeshed in an inter-institutional and inter-site web exemplified by Smuts's many connections. Prominently missing in 1982–83 was anyone from the Washburn network, or indeed from the recent or present primate people at the University of California at Berkeley.³ The co-editors who spent the year together—Smuts, Cheney, Seyfarth, Wrangham, and Struhsaker—were multiply linked through Robert Hinde at Cambridge, Gombe before 1975, Marler's associates at the Rockefeller University, Stanford, Harvard, and the University of Michigan. The University of California at Davis and the University of Chicago were other well-represented centers of primate work in the volume.

At opposite ends of Darwinism's galaxy, primatology's Second Foundation operated with different enabling explanatory constraints for understanding primate social life compared to the first Primate Project. But like the First Foundation, the links of concepts of mind, body, and community were embedded in a larger discourse on the nature and meaning of difference and on the prospects for primate survival, including implicitly human survival, in the late twentieth century. One of the dialects or codes for that persisting larger social discourse was evolutionary theory, especially contests for the mantle of Darwin. There was one key contrast in this context between the books from the two primate years that bears directly on the bio-politics of difference in the First and Second Primate Foundations. The contrast centers around the treatment of difference, variation, parts, fragments, and wholes. Ironically, the focus on cooperation, complementary differentiation of parts in a social whole, and the social group as the primate order's defining adaptation produced a universalizing and essentializing discourse that finally sharpened narratives of antagonistic difference and preoccupations with dominance and competition. Equally ironically, the commitment in *Primate Societies* to individual selection,⁴ inclusive fitness doctrines, socioecological analysis, strategic modeling, and similar explanatory resources, ordered in the last instance around the principle of antagonistic rather than complementary difference, produced opposite effects. The evolutionary arguments demanded extensive attention to several factors: situational specificity; extraordinary flexibility at all levels of analysis; alertness to myriad forms of coalition, reciprocity, and cooperation; emphasis on animals' social intelligence and generally rich mental and emotional capacities; major interest in previously and relatively invisible kinds of individuals, like the aged or juvenile females; and a sense of the politics of conservation more tempered by awareness of the power-differentiated historical positions and non-harmonious interests of all the those with stakes, human and animal.⁵

In addition, the foregrounded anthropological, rather than zoological, referent of *Primate Behavior* had a paradoxical effect of narrowing the sense of possible continuities between human and animal, while constraining vision of the specificity and multiplicities in the animals' ways of life. As paradoxical, the greater zoological and ecological emphasis of *Primate Societies* seems to permit a richer map of connections between human and animal and a more diverse tool kit of available narratives for the animals. There are many reasons for these contrasts between the two books that are not linked to the explanatory strategies and variant developments of Darwinism, not least the accumulated data from twenty more years of field and laboratory studies, more than a decade of highly visible contestation over biological versions of sex and gender in primate studies, and painfully sharpened conservation dilemmas.

However, at root *Primate Societies* displays a methodological and explanatory commitment to specificity and non-reductive difference that exceeds its bottom-line equation of non-identity ("unless they are clones") with antagonistic opposition. In evolutionary discourse, and indeed much more broadly, reproductive bio-politics are the paradigmatic, iconic condensation of the whole set of narratives about same and different, self and other, one and many. The bio-politics of *Primate Societies* are about situational specificity; intrinsic explanatory and generic heterogeneity; and the construction, as natural-technical objects of knowledge, of multiple centers of agency and power in always-permeable and conditional social wholes. The world of *Primate Societies* is capable of producing surprises, unexpected and promising ways of narrating the meanings of difference and sameness. Ruled by an orthodox reductionism to antagonistic difference and methodological individualism "in the last instance," the discourse of *Primate Societies* repeatedly privileges multiplicity, difference ordered by an exuberant array of possibilities, and above all, specificity. The textual richness of *Primate Societies*—and of the primate and primatological practices that enable the text—is vastly in excess of the its explicit law. Here is the interesting aspect of the Second Primate Foundation from the point of view of *Primate Visions*.

In this sense, I read *Primate Societies* as an exemplar of a widespread groping in 1980s western bio-political and other cultural discourse for ways to narrate difference that are as deeply emmeshed in feminism, anti-colonialism, and searches for non-antagonistic and non-organicist forms of individual and collective life, as by the hyper-real worlds of late capitalism, neo-imperialism, and the technocratic actualization of masculinist nuclear fantasies. The persistent binarism between antagonistic *versus* complementary or organicist ("cooperative") difference, coded in primate evolutionary biology in terms of the opposition between group selectionism or genetic/individual selection, is what is cracking apart in these hydra-headed, medusoid groupings in the Primate Order.

Let me illustrate this way of reading this recent, well-authorized textbook in primate studies by briefly characterizing fragments of the writing of its first editor, Barbara Smuts. In her book based on her thesis research on baboons at Gilgit, Kenya, *Sex and Friendship in Baboons*, Smuts (1985) adopted many of the same writing strategies as those analyzed above in the section on Jeanne Altmann, "The Time-energy Budgets of Dual Career Mothering." The generic heterogeneity in the abrupt juxtapositions of quantitative and highly allegorical and narrative accounts, as well as in the iconography of the photographs, tables, and figures, constantly forced the reader to shift reading conventions. [Figure 16.2] The text's different



Figure 16.2 Baboon friends. Barbara Smuts/Anthrophoto. Published with permission. Smuts narrates, "Such physical intimacy is rare among most male-female pairs, but common among Friends" (1985: 60). In a non-narrative mode, Smuts makes a similar point through measures like the "comparison of the number of Friend dyads in which %A₁ - %I₁ was greater than the same index for Non-Friend males versus the number in which the reverse was true. Sign test: $x = 33$, $z = 3.96$, $N = 40$, $p > .001$ " (1985: 77). (A₁ is the narrative prose, I₁ is leaves by the female.) Neither the photographic image, the narrative prose, nor the statistical statement constitutes a "value-free," intrinsically "objective," non-language-mediated "fact." All three together structure a miniature scientific discursive field.

generic moves did not resolve into a single story. Smuts foregrounded the word "friendship" because she needed its polyvalent connotative loading to represent the animals as the scientifically experienced/constructed them as objects of knowledge. Her account of reproductive politics in the baboons de-centered sex and centered social intelligence and, above all, the agency of the animals. Her principal implicit ideological object of interest was heterosexual friendship. She used all these elements to suggest a story for the transition from animal to human that depended not on the division of labor and economic exchange, but on social, communicative commerce.

In *Primate Societies*, Smuts (1987a, 1987b) deepened her thematic commitment to multi-contextuality, biological anti-essentialism, multi-species perspectivity, and constant renegotiation of the bio-politics of difference as they are written into primate bodies. In "Sexual Competition and Mate Choice," she highlighted variability, complexity, and flexibility, while demoting and contextualizing the explanatory status of dominance. Her systematic attention to female choice led to an extended treatment of the complexities of the bases for female mate selections, for which

individuals and histories, in principle not exhaustively knowable to an observer, counted for a great deal. "Gender, Aggression, and Influence" extended the same thematics. From one point of view, Smuts simply erred in using the word "gender" in her title instead of "sex." Without explicit discussion of the many debates about the culturally specific and contested meanings of sex and gender, she glided within the essay from the term "behavioral sex differences" to "gender." She did not take account of a large body of critical theory that maintains that gender is not about differences, but is about a relationship of power. The concept of sex differences, behavioral or otherwise, reduces an analytic about power to a positivist discourse about roles, properties, or other pre-existent observables.

But from another point of view, Smuts's "mistake" was the result of her destabilization of essentialism, and it may be productive within the terrain of feminist deconstructions of gender. By the time she was through reconstructing biological sex difference, there was no more given biological resource waiting for cultural reformation and appropriation into gender. The entire essay may be read as an argument against biological essentialism in relation to sex. In particular, Smuts makes the concept of "inherent" sex differences impossible to use in discussing differential reproductive strategies within the narratives usually called sociobiological. "Sex" became in Smuts's text a signifier for a dynamic, context-dependent (thus obviously constrained, sensitive to inequalities, and not utopian) array of possibilities. Overall, Smuts's text worked to shift attention away from *intrinsic properties* of individuals and toward constitutive social interactions and contexts with complex dimensions in time and space. The destabilization of intrinsic difference had especially intriguing effects in a narrative explicitly ruled by the premises of methodological individualism in evolutionary theory broadly and in sociobiology particularly. For all their constant strategic thinking, the "individuals" in Smuts's paradoxical text do not pass muster as good methodological individualists. Their boundaries are too permeable and webbed with others. Internally and externally, these individuals are continuously reconstituted in intersecting, partially incongruous, unfinished patterns. When biology is practiced as a radically situational discourse and animals are experienced/constructed as active, non-unitary subjects in complex relation to each other and to writers and observers, the gaps between discourses on nature and culture seem very narrow indeed.

In the Second Foundation's concluding chapter on the "Future of Primate Research," the rough analogy to Seldon's Psychohistorians and the problem of the dangerous mutant mental power of the Mule seems unavoidable (Cheney et al 1987). The relation of cognitive science and complex social behavior was the primatologists' penultimate topic, just before the concluding essay on conservation and primate survival. The topics and their order—mind and survival—are unsurprising in a discourse that constantly appealed to models of strategic reasoning, originary asymmetries, and evolutionary stable strategies at the heart of evolutionary biology. In evolutionary theory staying in the game is fundamentally a question of reproductive politics. Reproductive politics and communications technologies lie very near each other in this discourse. They are both aspects of strategic reasoning in relation to survival, and they are both emblematic of the breakdown of the hermetically sealed individual. Strategic reasoning is social intelligence; both are part of the technology of communication that has been progressively constructed as a central object of knowledge in twentieth-century life, human, and physical sciences.

In the relation between cognitive science and complex social behavior, communication is the luminous object of attention. And communication is where machine, animal, and human boundaries broke down dramatically in post-World War II popular and scientific discourses. Linguistics, machine communication sciences, social theory, neurobiology, and semiology all inter-digitate and sometimes conflate in contemporary cognitive sciences. Cheney, Seyfarth, Smuts, and Wrangham make the pregnant continuities, communicative commerce, and reproductive politics among animal, human, and machine explicit in their characterization of a research strategy for joining evolution, development, complex social behavior, and cognitive science.

One research strategy, pursued in a variety of forms, has been to investigate "almost minds," such as the minds of children or the "minds" of computer programs, to see what makes them different and what would be needed to elevate them to fully human status. As the chapters in this volume illustrate, nonhuman primates provide an extraordinary diversity of "almost minds" that, in their social interactions with one another, promise to provide unique insights into the study of intelligence. . . . In their natural habitats, however, primates are uniquely poised to reveal how, in the first instance, some minds gained an advantage over others. (Cheney et al 1987: 494).

In the first instance, in the beginning, there was difference, and so began the struggle of some minds to gain an advantage over others. This is a fragment of strategic narrative, oedipal narrative, and modern technological narrative, where survival—possible futures—is at stake in a techno-fetal world of "almost minds."⁶⁸ Do "almost minds" have "half-lives"?

Children, AI computer programs, and nonhuman primates: all here embody "almost minds." Who or what has "fully human status"? As if the answer were self-evident, the adult human scientists who wrote "Future of Primate Research" did not ask that question. And yet, primatology has persistently been about just what "fully human status" will be allowed to mean. The authors quietly embodied the maturations of the "almost minds" that they signaled: adult to child, human to nonhuman primate, scientist to machine artificial intelligence. What is the end, or telos, of this discourse on approximation, reproduction, and communication, in which the boundaries among and within machines, animals, and humans are exceedingly permeable? Where will this evolutionary, developmental, and historical communicative commerce take us in the techno-bio-politics of difference?

To address this question, we must move from reading primatology as science fiction to the next logical step—reading science fiction as primatology. Let me turn to Octavia Butler's novel, *Dawn*, the first in her trilogy on Xenogenesis (1987, 1988), as if it were a report from the primate field in the allotopic space of earth after a nuclear holocaust. Let us look at *Dawn* as the first chapter for the text that might issue from the next primate year, the Third Foundation for the third planet from the sun at the Center for Advanced Study in the Behavioral Sciences.

Reading Science Fiction as Primatology: Xenogenesis and Feminism

Lilith: "It won't be a daughter. It will be a thing—not human. It's inside me, and it isn't human."

Olozi: "The differences will be hidden until metamorphosis."
 "I had gone back to school," [Lilith] said. "I was majoring in anthropology." She laughed bitterly. "I suppose I could think of this as fieldwork—but how the hell do I get out of the field?"
 (Butler 1987: 262–3, 91)

Throughout *Primate Visions*, I have read both popular and technical discourses on monkeys and apes "out of context" (Strathern 1987). My hope has been that the always oblique and sometimes perverse focusing would facilitate revisionings of fundamental, persistent western narratives about difference, especially racial and sexual difference; about reproduction, especially in terms of the multiplicities of generators and offspring; and about survival, especially survival imagined in the boundary conditions of both the origins and ends of history, as told within western traditions of that complex genre. *Primate Visions* is replete with representations of representations, deliberately mixing genres and contexts to play with scientific and popular accounts in ways that their "original" authors would rarely authorize (Rabinow 1986: 250). But *Primate Visions* is not innocent of the intent to have effects on the authorized primate texts in both mass cultural and scientific productions, in order to shift reading and writing practices in this fascinating and important cultural field of meanings for industrial and post-industrial people.

Primate Visions does not work by prohibiting origin stories, or biological explanations of what some would insist must be exclusively cultural matters, or any other of the enabling devices among primate discourses' apparatuses of bodily production. I am not interested in policing the boundaries between nature and culture—quite the opposite, I am edified by the traffic. Indeed, I have always preferred the prospect of pregnancy with the embryo of another species; and I read this "gender"-transgressing desire in primatology's text, from the Teddy Bear Patriarchs' labor to be the father of the game, through *Primate Societies'* developmental-evolutionary narrative fragment about a heterogeneous sibling group of "almost minds." Gender is kind, syntax, relation, genre; gender is not the transubstantiation of biological sexual difference. The argument in *Primate Visions* works by telling and retelling stories in the attempt to shift the webs of intertextuality and to facilitate perhaps new possibilities for the meanings of difference, reproduction, and survival for specifically located members of the primate order—on both sides of the bio-political and cultural divide between human and animal.

Tucked in the margins and endnotes of "Teddy Bear Patriarchy" was a little white girl in Brightest Africa in the early 1920s. Little Alice Hastings Bradley was brought there by Carl Akeley, the father of the game, on his scientific hunt for gorilla, in the hope that her golden-haired presence would transform the ethic of hunting into the ethic of conservation and survival as "man" and his surrogates, sucked into decadence, stood at the brink of extinction. The gorilla taken during that "last" hunt turned into the Giant of Karisimbi, potent and alone in his reproduction of the true image of man. After death, that gorilla became a clone of the father of the game, whose own life ended at the scene of his dreams. Duplications, the little girl turned into James Tiptree, Jr., and Raconda Sheldon, a man and a mother, the female author who could not be read as a woman and who wrote science fiction stories that interrogated the conditions of communication and reproduction of self and other in alien and home worlds. But Tiptree's gender, species, and genre

transfigurations were only beginning to germinate in the child placed in the world still authored by the father of the game and the law of the father.⁵

But in a post-colonial world of the politics of being female, the earlier margins of possibility can become the main story. Not in the margins of the opening chapter, but at the culmination of *Primate Visions*, Octavia Butler's speculative/science fiction is preoccupied with forced reproduction, unequal power, the ownership of self by another, the siblingship of humans with aliens, and the failure of siblingship within species. Butler's is a fiction predicated on the natural status of adoption and the unnatural violence of kin. Like Tiptree—and like modern primatologists—Butler explores the interdigitations of human, machine, nonhuman animal or alien, and their mutants in relation to the intimacies of bodily exchange and mental communion. She interrogates kind, genre, and gender in a post-nuclear, post-slavery survival literature. Her fiction, especially in *Xenogenesis*, is about the monstrous fear and hope that the child will not, after all, be like the parent. There is never just one parent. Monsters share more than the word's root with the verb "to demonstrate"; monsters signify. Butler's fiction is about resistance to the imperative to recreate the sacred image of the same (Butler 1978). Butler is like "Doris Lessing, Marge Piercy, Joanna Russ, Ursula LeGuin, Margaret Atwood, and Christa Wolf, [for whom] reinscribing the narrative of catastrophe engages them in the invention of an alternate fictional world in which the other (gender, race, species) is no longer subordinated to the same" (Brewer 1987: 46).

But unlike Lessing, Piercy, Russ, LeGuin, Atwood, Wolf, or Tiptree, Butler's uses of the conventions of science fiction to fashion speculative pasts and futures for the species seem deeply informed by Afro-American perspectives with strong tones of womanism or feminism.⁶ Butler's gender, kind, and genre germinations and transgressions begin with two protean, parental figures: the body-changing Doro, originally from the ancient Kushi people of East Africa, who, after being clothed in many bodies, belongs to no people, including humanity as a whole; and the Wild Seed woman, Anyanwu, taken by Doro to colonial New England from West Africa during the slave trade. The story begins not with the white girl child brought into Africa, but with the black woman taken out, who seeds the diaspora that stands as a figure of the history and possible future of a very polymorphous species (Butler 1977, 1980). This is survival fiction more than salvation history. Catastrophe, survival, and metamorphosis are Butler's constant themes. From the perspective of an ontology based on mutation, metamorphosis, and diaspora, restoring an original sacred image can be a bad joke. Origins are precisely that to which Butler's people do not have access. But patterns are another matter.

At the end of *Dawn*, Butler has Lilith—whose name recalls her original unfaithful double, the repudiated wife of Adam—pregnant with the child of five progenitors, who come from two species, at least three genders, two sexes, and an indeterminate number of races. Adam's rib would be poor starting material to mold this new mother of humanity or her offspring. Preoccupied with marked bodies, Butler writes not of Cain or Ham, but of Lilith, the woman of color whose confrontations with the terms of selfhood, survival, and reproduction in the face of repeated ultimate catastrophe presage an ironic salvation history, with a salutary twist on the promise of a woman who will crush the head of the serpent. Butler's salvation history is got utopian, but remains deeply furrowed by the contradictions and questions of power within all communication. Butler's fiction is about miscegenation,

not reproduction of the One. Butler's communities are assembled out of the genetics of history, not rooted in the fantasies of natural roots and recoverable origins. Hers is survival fiction. Most of the action of *Dawn* takes place on the Oankali ship, itself a living part of their embodied culture of "exchange." The image of deracinated fragments of humanity packed into the body of the aliens' ship inescapably evokes the reader's memories of the terrible middle passage of the Atlantic slave trade that brought Lilith's ancestors to a "New World," where a "gene trade" was also enforced. Implicated in these histories, Butler's narrative has the possibility—indeed, the necessity—of figuring something other than the Second Coming of the sacred image. Some other order of difference must be possible in *Xenogenesis* that could never be born in the Oedipal family narrative.

In the story, Lilith is a young American black woman rescued with a motley assortment of remnants of humanity from an earth in the grip of nuclear war. Like all the surviving humans, Lilith has lost everything. Her son and her second generation, Nigerian-American husband had died in an accident before the war. She had gone back to school, vaguely thinking she might become an anthropologist. But nuclear catastrophe, even more radically and comprehensively than the slave trade and history's other great genocides, ripped all rational and natural connections with past and future from her and everyone else. Except for intermittent periods of questioning, the human remnant is kept in suspended animation for 250 years by the Oankali, the alien species that originally believed humanity was intent on committing suicide and so would be far too dangerous to try to save. Without human sensory organs, the Oankali are primateoid Medusa figures, their heads and bodies covered with multi-talented tentacles like a terran marine invertebrate's. These humanoid serpent people speak to the woman and urge her to touch them in an intimacy that would lead humanity to a monstrous metamorphosis. Multiply stripped, Lilith fights for survival, agency, and choice on the shifting boundaries that shape the possibility of meaning.

The Oankali do not rescue human beings only to return them unchanged to a restored earth. Their own origins lost to them through an infinitely long series of mergings and exchanges reaching deep into time and space, the Oankali are gene traders. Their essence is embodied commerce, conversation, communication—with a vengeance. Their nature is always to be midwife to themselves as other. Their bodies themselves are genetic technologies, driven to exchange, replication, dangerous intimacy across the boundaries of self and other, and the power of images. Not unlike us. But unlike us, the hydra-headed Oankali do not build non-living technologies to mediate their self-formations and reformations. Rather, they are complexly webbed into a universe of living machines, all of which are partners in their apparatus of bodily production, including the ship on which the action of *Dawn* takes place. The resting humans sleep in tamed carnivorous plant-like pods, while the Oankali do what they can to heal the ruined earth. Much is lost forever, but the fragile layer of life able to sustain other life is restored, making earth ready for recolonization by large animals. The Oankali are intensely interested in humans as potential exchange partners partly because humans are built from such beautiful and dangerous genetic structures. The Oankali believe humans to be fatally, but reparably, flawed by their genetic nature as simultaneously intelligent and hierarchical. Instead, the aliens live in the post modern geometries of vast webs and networks, in which the nodal points of individuals are still intensely important. These webs

are hardly innocent of power and violence; hierarchy is not power's only shape—for aliens, primates, or humans.

The Oankali make "prints" of all their refugees, and they can print out replicas of the humans from these mental-organic-technical images. The replicas allow a great deal of gene trading. The Oankali are also fascinated with Liith's "talent" for cancer, which killed several of her relatives, but which in Oankali "hands" would become a technology for regeneration and metamorphoses. But the Oankali want more from humanity; they want a full trade, which will require the intimacies of sexual mingling and embodied pregnancy in a shared colonial venture in, of all places, the Amazon valley. Human individuality will be challenged by more than the Oankali communication technology that translates other beings into themselves as signs, images, and memories. Pregnancy raises the tricky question of consent, property in the self, and the humans' love of themselves as the sacred image, the sign of the same. The Oankali intend to return to earth as trading partners with humanity's remnants. In difference is the irretrievable loss of the illusion of the one.

Liith is chosen to train and lead the first party of awakened humans. She will be a kind of midwife/mother for these radically atomized peoples' emergence from their cocoons. Their task will be to form a community. But first Liith is paired in an Oankali family with the just pre-metamorphic youngster, Nikanji, an ooloi. She is to learn from Nikanji, who alters her mind and body subtly so that she can live more freely among the Oankali; and she is to protect it during its metamorphosis, from which they both emerge deeply bonded to each other. Endowed with a second pair of arms, an adult ooloi is the third gender of the Oankali, a neuter being who uses its special appendages to mediate and engineer the gene trading of the species and of each family. Each child among the Oankali has a male and female parent, usually sister and brother to each other, and an ooloi from another group, race, or moire. One translation in Oankali languages for ooloi is "treasured strangers." The ooloi will be the mediators among the four other parents of the planned cross-species children. Heterosexuality remains unquestioned, if more complexly mediated. The different social subjects, the different genders that could emerge from another embodiment of resistance to compulsory heterosexual reproductive politics, do not inhabit this *Dawn*. In this critical sense, *Dawn* fails in its promise to tell another story, about another birth, a xenogenesis. Too much of the sacred image of the same is left intact.

Even so, the treasured strangers give intense pleasure across the boundaries of group, sex, gender, and species. It is a fatal pleasure that marks Liith for the other awakened humans, even though she has not yet consented to a pregnancy. Faced with her bodily and mental alterations and her bonding with Nikanji, the other humans do not trust that she is still human, whether or not she bears a human-alien child. Neither does Liith. Worrying that she is a Judas-goat, she undertakes to train the humans with the intention that they will survive and run as soon as they return to earth, keeping their humanity as people before them kept theirs. In the training period, each female human pairs with a male human, and then each pair, willing or not, is adopted by an adult ooloi. Liith loses her Chinese-American lover, Joseph, who is murdered by the suspicious and enraged humans. At the end, the first group of humans, estranged from their ooloi and hoping to escape, leave for earth. Whether they can be fertile without their ooloi is doubtful. Perhaps it is not only

the individual of a sexually reproducing species who always has more than one parent; the species too might require multiple mediation of its reproductive biology. Liith finds she must remain behind to train another group, her return to earth indefinitely deferred. Nikanji has made her pregnant by Joseph's sperm and the genes of its own mates. [Figure 16.3] Liith has not consented, and the first book of *Xenogenesis* leaves her with the ooloi's incomprehending comfort that "the differences will be hidden until metamorphosis." Liith remains unconciliated: "But they won't be human. That's what matters. You can't understand, but that is what matters." The treasured stranger responds, "The child inside you matters" (Butler 1987: 263). Butler does not resolve this dilemma.

In the narrative of *Primate Visions*, the terms for gestating the germ of future worlds constitute a defining dilemma of reproductive politics. The contending shapes of sameness and difference in any possible future are at stake in the primate



Figure 16.3 Jacket illustration for the second novel, *Adulthood Rites* (1988) in Octavia Butler's *Xenogenesis* series. Copyright Wayne Barlowe. Published with permission. Mediating the contact of egg and sperm, this medusoid, alien-human, poly-racial hybrid figure of uncertain gender represents one of Liith's children born from her unfree "exchange" with the Oankali, the alien species introduced in the first book of the series, *Dawn*. Barlowe's polyvalent illustration contrasts sharply with that by another artist for the cover of *Dawn*, in which the Afro-American woman, Liith, was pictured as an ivory white Brunette mediating the awakening of an ivory white blond woman aboard the Oankali ship. Illustrating the workings of the unmarked category, "white," *Dawn*'s cover art has allowed several readers whom I know to read the book without noticing either the textual cues indicating that Liith is black or the multi-racialism pervading *Xenogenesis*.

order's unfinished narrative of traffic across the specific cultural and political boundaries that separate and link animal, human, and machine in a contemporary global world where survival is at stake. Finally, this contested world is the primate field, where, with or without our consent, we are located. "She laughed bitterly. 'I suppose I could think of this as fieldwork—but how the hell do I get out of the field?'"

MIRA'S MORNING SONG

BY

RAYNA RAPP, FOR MIRELLE RAPP.

HOOPER

(to the tune of "You are my
Sunshine")

You're not a tarsir
 You're not a lemur
 You're not a monkey or a shrew
 You're not an orang or a baboon
 You're a hominid and we love you

You are not simian
 For you are sapient
 And someday you'll rise to your feet
 You'll learn to walk and you'll learn
 to talk for
 You're a hominid and we think
 you're sweet

You are not gibbon
 Nor gorilla
 Although from apes you once did
 come

Your little vision is stereoscopic
 And you have an opposable thumb

You are not Dryo
 You are not Rama
 You are not gracile nor robust
 You are not habilis nor neanderthal
 You are sapiens, sapiens we trust

This is the story
 My darling Mira
 That science tells us of our worth
 Welcome to culture
 My dearest daughter
 It's the greatest show on earth