WHEN SPECIES MEET
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I. WE HAVE NEVER BEEN HUMAN
1. WHEN SPECIES MEET

Introductions

Two questions guide this book: (1) Whom and what do I touch when I touch my dog? and (2) How is “becoming with” a practice of becoming worldly? I tie these questions together in expressions I learned in Barcelona from a Spanish lover of French bulldogs, *alterglobalisation* and *autre mondialisation.* These terms were invented by European activists to stress that their approaches to militarized neoliberal models of world building are not about antiglobalization but about nurturing a more just and peaceful other-globalization. There is a promising autre mondialisation to be learned in retying some of the knots of ordinary multispecies living on earth.

I think we learn to be worldly from grappling with, rather than generalizing from, the ordinary. I am a creature of the mud, not the sky. I am a biologist who has always found edification in the amazing abilities of slime to hold things in touch and to lubricate passages for living beings and their parts. I love the fact that human genomes can be found in only about 10 percent of all the cells that occupy the mundane space I call my body; the other 90 percent of the cells are filled with the genomes of bacteria, fungi, protists, and such,
some of which play in a symphony necessary to my being alive at all, and
some of which are hitching a ride and doing the rest of me, of us, no harm.
I am vastly outnumbered by my tiny companions; better put, I become
an adult human being in company with these tiny messmates. To be one
is always to become with many. Some of these personal microscopic biota
are dangerous to the me who is writing this sentence; they are held in
check for now by the measures of the coordinated symphony of all the
others, human cells and not, that make the conscious me possible. I love
that when “I” die, all these benign and dangerous symbionts will take
over and use whatever is left of “my” body, if only for a while, since “we”
are necessary to one another in real time. As a little girl, I loved to inhabit
miniature worlds brimming with even more tiny real and imagined enti-
ties. I loved the play of scales in time and space that children’s toys and
stories made patent for me. I did not know then that this love prepared
me for meeting my companion species, who are my maker.

Figures help me grapple inside the flesh of mortal world-making
entanglements that I call contact zones. The Oxford English Dic-
tionary records the meaning of “chimerical vision” for “figuration” in an
eighteenth-century source, and that meaning is still implicit in my sense
of figure. Figures collect the people through their invitation to inhabit the
corporeal story told in their lineaments. Figures are not representations
or didactic illustrations, but rather material–semiotic nodes or knots
in which diverse bodies and meanings coshapes one another. For me, fig-
ures have always been where the biological and literary or artistic come
together with all of the force of lived reality. My body itself is just such
a figure, literally.

For many years I have written from the belly of powerful figures
such as cyborgs, monkeys and apes, oncomice, and, more recently, dogs.
In every case, the figures are at the same time creatures of imagined pos-
sibility and creatures of fierce and ordinary reality; the dimensions tangle
and require response. When Species Meet is about that kind of double-
ness, but it is even more about the cat’s cradle games in which those who
are to be in the world are constituted in intra- and interaction. The part-
ners do not precede the meeting; species of all kinds, living and not,
are consequent on a subject- and object-shaping dance of encounters.
Neither the partners nor the meetings in this book are merely literary
conceits; rather, they are ordinary beings-in-encounter in the house, lab, field, zoo, park, office, prison, ocean, stadium, barn, or factory. As ordinary knotted beings, they are also always meaning-making figures that gather up those who respond to them into unpredictable kinds of “we.” Among the myriad of entangled, coshaping species of the earth, contemporary human beings’ meetings with other critters and, especially, but not only, with those called “domestic” are the focus of this book.

And so in the chapters to follow, readers will meet cloned dogs, databased tigers, a baseball writer on crutches, a health and genetics activist in Fresno, wolves and dogs in Syria and the French Alps, Chicken Little and Bush legs in Moldavia, tsetse flies and guinea pigs in a Zimbabwean lab in a young adult novel, feral cats, whales wearing cameras, felons and pooches in training in prison, and a talented dog and middle-aged woman playing a sport together in California. All of these are figures, and all are mundanely here, on this earth, now, asking who “we” will become when species meet.

JIM’S DOG AND LEONARDO’S DOG

Meet Jim’s dog. My colleague and friend Jim Clifford took this photograph during a December walk in one of the damp canyons of the Santa Cruz greenbelt near his home. This attentive, sitting dog endured for only one season. The next winter the shapes and light in the canyon did not vouchsafe a canine soul to animate the burned-out redwood stump covered with redwood needles, mosses, ferns, lichens—and even a little California bay laurel seedling for a docked tail—that a friend’s eye had found for me the year before. So many species, so many kinds, meet in Jim’s dog, who suggests an answer to my question, Whom and what do we touch when we touch this dog? How does this touch make us more worldly, in alliance with all the beings who work and play for an alter-globalization that can endure more than one season?

We touch Jim’s dog with fingery eyes made possible by a fine digital camera, computers, servers, and e-mail programs through which the high-density jpg was sent to me.4 Infolded into the metal, plastic, and electronic flesh of the digital apparatus is the primate visual system that Jim and I have inherited, with its vivid color sense and sharp focal power.
Our kind of capacity for perception and sensual pleasure ties us to the lives of our primate kin. Touching this heritage, our worldliness must answer to and for those other primate beings, both in their ordinary habitats and in labs, television and film studios, and zoos. Also, the biological colonizing opportunism of organisms, from the glowing but invisible viruses and bacteria to the crown of ferns on top of this pooch’s head, is palpable in the touch. Biological species diversity and all that asks in our time come with this found dog.

In this camera-begot canid’s haptic–optic touch, we are inside the histories of IT engineering, electronic product assembly-line labor, mining and IT waste disposal, plastics research and manufacturing, transnational markets, communications systems, and technocultural consumer habits. The people and the things are in mutually constituting, intra-active touch. Visual and tactically, I am in the presence of the intersectional race-, sex-, age-, class-, and region-differentiated systems of labor that made Jim’s dog live. Response seems the least that is required in this kind of worldliness.

This dog could not have come to me without the leisure-time promenading practices of the early twenty-first century in a university town on the central California coast. Those urban walking pleasures touch the labor practices of late nineteenth-century loggers who, without chainsaws, cut the tree whose burned stump took on a postarboreal life. Where did the lumber from that tree go? The historically deliberate firing by the loggers or the lightning-caused fires in dry-season California carved Jim’s dog from the tree’s blackened remains. Indebted to the histories of both environmentalism and class, the greenbelt policies of California cities resisting the fate of Silicon Valley ensured that Jim’s dog was not bulldozed for housing at the western edge of real-estate hungry Santa Cruz. The water-eroded and earthquake-sculpted ruggedness of the canyons helped too. The same civic policies and earth histories also allow cougars to stroll down from the campus woodlands through the brushy canyons defining this part of town. Walking with my furry dogs off leash in these canyons makes me think about these possible feline presences. I reclip the leashes. Visually fingering Jim’s dog involves touching all the important ecological and political histories and struggles of ordinary small cities that have asked, Who should eat whom, and who should cohabit? The rich
natural-cultural contact zones multiply with each tactile look. Jim’s dog is a provocation to curiosity, which I regard as one of the first obligations and deepest pleasures of worldly companion species.  

Jim’s seeing the mutt in the first place was an act of friendship from a man who had not sought dogs in his life and for whom they had not been particularly present before his colleague seemed to think about and respond to little else. Furry dogs were not the ones who then came to him, but another sort of canid quite as wonderful dogged his path. As my informants in U.S. dog culture would say, Jim’s is a real dog, a one-off, like a fine mixed-ancestry dog who could never be replicated but must be encountered. Surely, there is no question about the mixed and myriad ancestors, as well as contemporaries, in this encrusted charcoal dog. I think this is what Alfred North Whitehead might have meant by a concrescence of prehensions. It is definitely at the heart of what I learn when I ask whom I touch when I touch a dog. I learn something about how to inherit in the flesh. Woof . . .

Leonardo’s dog hardly needs an introduction. Painted between 1485 and 1490, da Vinci’s Vitruvian Man, the Man of Perfect Proportions, has paved his way in the imaginations of technoculture and canine pet culture alike. Sydney Harris’s 1996 cartoon of Man’s celebrated canine companion mimes a figure that has come to mean Renaissance humanism; to mean modernity; to mean the generative tie of art, science, technology, genius, progress, and money. I cannot count the number of times da Vinci’s Vitruvian Man appeared in the conference brochures for genomics meetings or advertisements for molecular biological instruments and lab reagents in the 1990s. The only close competitors for illustrations and ads were Vesalius’s anatomical drawings of dissected human figures and Michelangelo’s Creation of Adam from the ceiling of the Sistine Chapel.

High Art, High Science: genius, progress, beauty, power, money. The Man of Perfect Proportions brings both the number magic and the real-life organic ubiquity of the Fibonacci sequence to the fore. Transmuted into the form of his master, the Dog of Perfect Proportions helps me think about why this preeminently humanist figure cannot work for the kind of autre-mondialisation I seek with earthly companions in the way that Jim’s dog does. Harris’s cartoon is funny, but laughter is not enough. Leonardo’s dog is the companion species for technohumanism and its
dreams of purification and transcendence. I want to walk instead with the motley crowd called Jim’s dog, where the clean lines between traditional and modern, organic and technological, human and nonhuman give way to the infoldings of the flesh that powerful figures such as the cyborgs and dogs I know both signify and enact. Maybe that is why Jim’s dog is now the screen saver on my computer.
PROFESSIONAL MEETINGS
That brings us to the more usual encounters of dogs and cyborgs, in which their supposed enmity is onstage. Dan Piraro’s *Bizarro* Sunday cartoon from 1999 caught the rules of engagement perfectly. Welcoming the attendees, the small dog keynote speaker at the American Association of Lapdogs points to the illuminated slide of an open laptop computer, solemnly intoning, “Ladies and Gentlemen. . . behold the enemy!” The pun that simultaneously joins and separates lapdogs and laptops is wonderful, and it opens a world of inquiry. A real dog person might first ask how capacious human laps can actually be for holding even sizable pooches and a computer at the same time. That sort of question tends to arise in the late afternoon in a home office if a human being is still at the computer and neglecting important obligations to go for a walk with the effectively importuning beast-no-longer-on-the-floor. However, more philosophically weighty, if not more practically urgent, questions also lurk in this *Bizarro* cartoon.

Modernist versions of humanism and posthumanism alike have taproots in a series of what Bruno Latour calls the Great Divides between what counts as nature and as society, as nonhuman and as human.10 Whelped in the Great Divides, the principal Others to Man, including his “posts,” are well documented in ontological breed registries in both
past and present Western cultures: gods, machines, animals, monsters, creepy crawlies, women, servants and slaves, and noncitizens in general. Outside the security checkpoint of bright reason, outside the apparatuses of reproduction of the sacred image of the same, these “others” have a remarkable capacity to induce panic in the centers of power and self-certainty. Terrors are regularly expressed in hyperphilias and hyperphobias, and examples of this are no richer than in the panics roused by the Great Divide between animals (lapdogs) and machines (laptops) in the early twenty-first century C.E.

Technophilias and technophobias vie with organophilias and organophobias, and taking sides is not left to chance. If one loves organic nature, to express a love of technology makes one suspect. If one finds cyborgs to be promising sorts of monsters, then one is an unreliable ally in the fight against the destruction of all things organic. I was quite personally made to understand this point at a professional meeting, a wonderful conference called “Taking Nature Seriously” in 2001, at which I was a keynote speaker. I was subjected to a fantasy of my own public rape by name in a pamphlet distributed by a small group of self-identified deep ecology, anarchist activists, because, it seemed, my commitment to the mixed organic–technological hybrids figured in cyborgs made me worse than a researcher at Monsanto, who at least claims no alliance with ecofeminism. I am made to recall those researchers even at Monsanto who may well take antiracist environmental feminism seriously and to imagine how alliances might be built with them. I was also in the presence of the many deep ecologists and anarchists who have no truck with the action or analysis of my hecklers’ self-righteous and incurious stance. In addition to reminding me that I am a woman (see the Great Divides above)—something class and color privilege bonded to professional status can mute for long periods of time—the rape scenario reminded me forcibly why I seek my siblings in the nonarboreal, laterally communicating, fungal shapes of the queer kin group that finds lapdogs and laptops in the same commodious laps.

At one of the conference panels, I heard a sad man in the audience say that rape seems a legitimate instrument against those who rape the earth; he seemed to regard this as an ecofeminist position, to the horror of the men and women of that political persuasion in the room. Everyone
I heard at the session thought the guy was slightly dangerous and definitely politically embarrassing, but mainly crazy in the colloquial sense if not the clinical. Nonetheless, the quasi-psychotic panic quality of the man’s threatening remarks is worth some attention because of the way the extreme shows the underside of the normal. In particular, this would-be rapist-in-defense-of-mother-earth seems shaped by the culturally normal fantasy of human exceptionalism. This is the premise that humanity alone is not a spatial and temporal web of interspecies dependencies. Thus, to be human is to be on the opposite side of the Great Divide from all the others and so to be afraid of—and in bloody love with—what goes bump in the night. The threatening man at the conference was well marinated in the institutionalized, long dominant Western fantasy that all that is fully human is fallen from Eden, separated from the mother, in the domain of the artificial, deracinated, alienated, and therefore free. For this man, the way out of his culture’s deep commitments to human exceptionalism requires a one-way rapture to the other side of the divide. To return to the mother is to return to nature and stand against Man-the-Destroyer, by advocating the rape of women scientists at Monsanto, if available, or of a traitorous keynote environmentalist feminist, if one is on the spot.

Freud is our great theorist of panics of the Western psyche, and because of Derrida’s commitment to track down “the whole anthropomorphic reinstitution of the superiority of the human order over the animal order, of the law over the living,” he is my guide to Freud’s approach on this question. Freud described three great historical wounds to the primary narcissism of the self-centered human subject, who tries to hold panic at bay by the fantasy of human exceptionalism. First is the Copernican wound that removed Earth itself, man’s home world, from the center of the cosmos and indeed paved the way for that cosmos to burst open into a universe of inhumane, nonteleological times and spaces. Science made that decentering cut. The second wound is the Darwinian, which put *Homo sapiens* firmly in the world of other critters, all trying to make an earthly living and so evolving in relation to one another without the sureties of directional signposts that culminate in Man. Science inflicted that cruel cut too. The third wound is the Freudian, which posited an unconscious that undid the primacy of conscious processes,
including the reason that comforted Man with his unique excellence, with
dire consequences for teleology once again. Science seems to hold that
blade too. I want to add a fourth wound, the informatic or cyborgian,
which infolds organic and technological flesh and so melds that Great
Divide as well.

Is it any wonder that in every other election cycle the Kansas Board
of Education wants this stuff out of the science text books, even if almost
all of modern science has to go to accomplish this suturing of rending
wounds to the coherence of a fantastic, but well-endowed, being? Noto-
iously, in the last decade voters in Kansas elected opponents of teaching
Darwinian evolution to the state board in one election and then replaced
them in the next cycle with what the press calls moderates.\textsuperscript{14} Kansas is
not exceptional; it figured more than half the public in the United States
in 2006.\textsuperscript{15} Freud knew Darwinism is not moderate, and a good thing
too. Doing without both teleology and human exceptionalism is, in my
opinion, essential to getting laptops and lapdogs into one lap. More to
the point, these wounds to self-certainty are necessary, if not yet suffi-
cient, to no longer easily uttering the sentence in any domain, “Ladies and
gentlemen, behold the enemy!” Instead, I want my people, those collected
by figures of mortal relatedness, to go back to that old political button
from the late 1980s, “Cyborgs for earthly survival,” joined to my newer
bumper sticker from Bark magazine, “Dog is my co-pilot.” Both critters
ride the earth on the back of the Darwin fish.\textsuperscript{16}

That cyborg and dog come together in the next professional meet-
ing in these introductions. A few years ago, Faye Ginsburg, an eminent
anthropologist and filmmaker and the daughter of Benson Ginsburg, a
pioneering student of canine behavior, sent me a cartoon by Warren
Miller from the March 29, 1993, \textit{New Yorker}. Faye’s childhood had been
spent with the wolves her father studied in his lab at the University
of Chicago and the animals at the Jackson Memorial Laboratories in Bar
Harbor, Maine, where J. P. Scott and J. L. Fuller also carried out their
famous inquiries into dog genetics and social behavior from the late
1940s.\textsuperscript{17} In the cartoon a member of a wild wolf pack introduces a con-
specific visitor wearing an electronic communications pack, complete with
an antenna for sending and receiving data, with the words, “We found
her wandering at the edge of the forest. She was raised by scientists.” A
student of Indigenous media in a digital age, Faye Ginsburg was easily
drawn to the join of ethnography and communications technology in
Miller’s cartoon. Since childhood a veteran of integrating into wolf social
life through the rituals of polite introductions, she was triply hailed. She
is in my kin group in feminist theory as well, and so it is no surprise that
I find myself also in that female telecommunications-packing wolf. This
figure collects its people through friendship networks, animal–human
histories, science and technology studies, politics, anthropology and ani-
mal behavior studies, and the New Yorker’s sense of humor.

This wolf found at the edge of the forest and raised by scientists
figures who I find myself to be in the world—that is, an organism shaped
by a post–World War II biology that is saturated with information sci-
ences and technologies, a biologist schooled in those discourses, and a
practitioner of the humanities and ethnographic social sciences. All three

“We found her wandering at the edge of the forest. She was raised by scientists.”
Warren Miller, from CartoonBank.com. Copyright The New Yorker collection, 1993. All
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of those subject formations are crucial to this book’s questions about worldliness and touch across difference. The found wolf is meeting other wolves, but she cannot take her welcome for granted. She must be introduced, and her odd communications pack must be explained. She brings science and technology into the open in this forest. The wolf pack is politely approached, not invaded, and these wolves will decide her fate. This pack is not one of florid wild-wolf nature fantasies, but a savvy,
cosmopolitan, curious lot of free-ranging canids. The wolf mentor and sponsor of the visitor is generous, willing to forgive some degree of ignorance, but it is up to the visitor to learn about her new acquaintances. If all goes well, they will become messmates, companion species, and significant others to one another, as well as conspecifics. The scientist–wolf will send back data as well as bring data to the wolves in the forest. These encounters will shape naturecultures for them all.

A great deal is at stake in such meetings, and outcomes are not guaranteed. There is no teleological warrant here, no assured happy or unhappy ending, socially, ecologically, or scientifically. There is only the chance for getting on together with some grace. The Great Divides of animal/human, nature/culture, organic/technical, and wild/domestic flatten into mundane differences—the kinds that have consequences and demand respect and response—rather than rising to sublime and final ends.

**COMPANION SPECIES**

Ms Cayenne Pepper continues to colonize all my cells—a sure case of what the biologist Lynn Margulis calls symbiogenesis. I bet if you were to check our DNA, you’d find some potent transfections between us. Her saliva must have the viral vectors. Surely, her darter-tongue kisses have been irresistible. Even though we share placement in the phylum of vertebrates, we inhabit not just different genera and divergent families but altogether different orders.

How would we sort things out? Canid, hominid; pet, professor; bitch, woman; animal, human; athlete, handler. One of us has a microchip injected under her neck skin for identification; the other has a photo ID California driver’s license. One of us has a written record of her ancestors for twenty generations; one of us does not know her great grandparents’ names. One of us, product of a vast genetic mixture, is called “purebred.” One of us, equally a product of a vast mixture, is called “white.” Each of these names designates a different racial discourse, and we both inherit their consequences in our flesh.

One of us is at the cusp of flaming, youthful, physical achievement; the other is lusty but over the hill. And we play a team sport called agility
on the same expropriated Native land where Cayenne’s ancestors herded sheep. These sheep were imported from the already colonial pastoral economy of Australia to feed the California gold rush forty-niners. In layers of history, layers of biology, layers of naturecultures, complexity is the name of our game. We are both the freedom-hungry offspring of conquest, products of white settler colonies, leaping over hurdles and crawling through tunnels on the playing field.

I’m sure our genomes are more alike than they should be. Some molecular record of our touch in the codes of living will surely leave traces in the world, no matter that we are each reproductively silenced females, one by age and choice, one by surgery without consultation. Her red merle Australian shepherd’s quick and lithe tongue has swabbed the tissues of my tonsils, with all their eager immune system receptors. Who knows where my chemical receptors carried her messages or what she took from my cellular system for distinguishing self from other and binding outside to inside?

We have had forbidden conversation; we have had oral intercourse; we are bound in telling story on story with nothing but the facts. We are training each other in acts of communication we barely understand. We are, constitutively, companion species. We make each other up, in the flesh. Significantly other to each other, in specific difference, we signify in the flesh a nasty developmental infection called love. This love is a historical aberration and a naturalcultural legacy.18

In my experience, when people hear the term companion species, they tend to start talking about “companion animals,” such as dogs, cats, horses, miniature donkeys, tropical fish, fancy bunnies, dying baby turtles, ant farms, parrots, tarantulas in harness, and Vietnamese potbellied pigs. Many of those critters, but far from all and none without very noninnocent histories, do fit readily into the early twenty-first-century globalized and flexible category of companion animals. Historically situated animals in companionate relations with equally situated humans are, of course, major players in When Species Meet. But the category “companion species” is less shapely and more rambunctious than that. Indeed, I find that notion, which is less a category than a pointer to an ongoing “becoming with,” to be a much richer web to inhabit than any of the posthumanisms
on display after (or in reference to) the ever-deferred demise of man.\textsuperscript{19} I never wanted to be posthuman, or posthumanist, any more than I wanted to be postfeminist. For one thing, urgent work still remains to be done in reference to those who must inhabit the troubled categories of woman and human, properly pluralized, reformulated, and brought into constitutive intersection with other asymmetrical differences.\textsuperscript{20} Fundamentally, however, it is the patterns of relationality and, in Karen Barad’s terms, intra-actions at many scales of space–time that need rethinking, not getting beyond one troubled category for a worse one even more likely to go postal.\textsuperscript{21} The partners do not precede their relating; all that is, is the fruit of becoming with: those are the mantras of companion species. Even the Oxford English Dictionary says as much. Gorging on etymologies, I will taste my key words for their flavors.

\textit{Companion} comes from the Latin \textit{cum panis}, “with bread.” Messmates at table are companions. Comrades are political companions. A companion in literary contexts is a vade mecum or handbook, like the Oxford Companion to wine or English verse; such companions help readers to consume well. Business and commercial associates form a company, a term that is also used for the lowest rank in an order of knights, a guest, a medieval trade guild, a fleet of merchant ships, a local unit of the Girl Guides, a military unit, and colloquially for the Central Intelligence Agency. As a verb, \textit{to companion} is “to consort, to keep company,” with sexual and generative connotations always ready to erupt.

Species, like all the old and important words, is equally promiscuous, but in the visual register rather than the gustatory. The Latin \textit{specere} is at the root of things here, with its tones of “to look” and “to behold.” In logic, \textit{species} refers to a mental impression or idea, strengthening the notion that thinking and seeing are clones. Referring both to the relentlessly “specific” or particular and to a class of individuals with the same characteristics, \textit{species} contains its own opposite in the most promising—or special—way. Debates about whether species are earthly organic entities or taxonomic conveniences are coextensive with the discourse we call “biology.” Species is about the dance linking kin and kind. The ability to interbreed reproductively is the rough and ready requirement for members of the same biological species; all those lateral gene exchangers such as bacteria have never made very good species. Also, biotechnologically
mediated gene transfers redo kin and kind at rates and in patterns unprecedented on earth, generating messmates at table who do not know how to eat well and, in my judgment, often should not be guests together at all. Which companion species will, and should, live and die, and how, is at stake.

The word *species* also structures conservation and environmental discourses, with their “endangered species” that function simultaneously to locate value and to evoke death and extinction in ways familiar in colonial representations of the always vanishing indigene. The discursive tie between the colonized, the enslaved, the noncitizen, and the animal—all reduced to type, all Others to rational man, and all essential to his bright constitution—is at the heart of racism and flourishes, lethally, in the entrails of humanism. Woven into that tie in all the categories is “woman’s” putative self-defining responsibility to “the species,” as this singular and typological female is reduced to her reproductive function. Fecund, she lies outside the bright territory of man even as she is his conduit. The labeling of African American men in the United States as an “endangered species” makes palpable the ongoing animalization that fuels liberal and conservative racialization alike. *Species* reeks of race and sex; and where and when species meet, that heritage must be untied and better knots of companion species attempted within and across differences. Loosening the grip of analogies that issue in the collapse of all of man’s others into one another, companion species must instead learn to live intersectionally. 22

Raised a Roman Catholic, I grew up knowing that the Real Presence was present under both “species,” the visible form of the bread and the wine. Sign and flesh, sight and food, never came apart for me again after seeing and eating that hearty meal. Secular semiotics never nourished as well or caused as much indigestion. That fact made me ready to learn that species is related to spice. A kind of atom or molecule, species is also a composition used in embalming. “The species” often means the human race, unless one is attuned to science fiction, where species abound. 23 It would be a mistake to assume much about species in advance of encounter. Finally, we come to metal coinage, “specie,” stamped in the proper shape and kind. Like *company, species* also signifies and embodies wealth. I remember Marx on the topic of gold, alert to all its filth and glitter.
Looking back in this way takes us to seeing again, to respecere, to the act of respect. To hold in regard, to respond, to look back reciprocally, to notice, to pay attention, to have courteous regard for, to esteem: all of that is tied to polite greeting, to constituting the polis, where and when species meet. To knot companion and species together in encounter, in regard and respect, is to enter the world of becoming with, where who and what are is precisely what is at stake. In “Unruly Edges: Mushrooms as Companion Species,” Anna Tsing writes, “Human nature is an interspecies relationship.”24 That realization, in Beatriz Preciado’s idiom, promises an autre-mondialisation. Species interdependence is the name of the worlding game on earth, and that game must be one of response and respect. That is the play of companion species learning to pay attention. Not much is excluded from the needed play, not technologies, commerce, organisms, landscapes, peoples, practices. I am not a posthumanist; I am who I become with companion species, who and which make a mess out of categories in the making of kin and kind. Queer messmates in mortal play, indeed.

AND SAY THE PHILOSOPHER RESPONDED?
WHEN ANIMALS LOOK BACK

“And Say the Animal Responded?” is the title Derrida gave his 1997 lecture in which he tracked the old philosophical scandal of judging “the animal” to be capable only of reaction as an animal–machine. That’s a wonderful title and a crucial question. I think Derrida accomplished important work in that lecture and the published essay that followed, but something that was oddly missing became clearer in another lecture in the same series, translated into English as “The Animal That Therefore I Am (More to Follow).”25 He understood that actual animals look back at actual human beings; he wrote at length about a cat, his small female cat, in a particular bathroom on a real morning actually looking at him. “The cat I am talking about is a real cat, truly, believe me, a little cat. It isn’t the figure of a cat. It doesn’t silently enter the room as an allegory for all the cats on the earth, the felines that traverse myths and religions, literatures and fables” (374). Further, Derrida knew he was in the presence of someone, not of a machine reacting. “I see it as this irreplaceable living
being that one day enters my space, enters this place where it can encounter me, see me, see me naked” (378–79). He identified the key question as being not whether the cat could “speak” but whether it is possible to know what respond means and how to distinguish a response from a reaction, for human beings as well as for anyone else. He did not fall into the trap of making the subaltern speak: “It would not be a matter of ‘giving speech back’ to animals but perhaps acceding to a thinking . . . that thinks the absence of the name as something other than a privation” (416). Yet he did not seriously consider an alternative form of engagement either, one that risked knowing something more about cats and how to look back, perhaps even scientifically, biologically, and therefore also philosophically and intimately.

He came right to the edge of respect, of the move to respecere, but he was sidetracked by his textual canon of Western philosophy and literature and by his own linked worries about being naked in front of his cat. He knew there is no nudity among animals, that the worry was his, even as he understood the fantastic lure of imagining he could write naked words. Somehow in all this worrying and longing, the cat was never heard from again in the long essay dedicated to the crime against animals perpetrated by the great Singularities separating the Animal and the Human in the canon Derrida so passionately read and reread so that it could never be read the same way again.26 For those readings I and my people are permanently in his debt.

But with his cat, Derrida failed a simple obligation of companion species; he did not become curious about what the cat might actually be doing, feeling, thinking, or perhaps making available to him in looking back at him that morning. Derrida is among the most curious of men, among the most committed and able of philosophers to spot what arrests curiosity, instead nurturing an entanglement and a generative interruption called response. Derrida is relentlessly attentive to and humble before what he does not know. Besides all that, his own deep interest in animals is coextensive with his practice as a philosopher. The textual evidence is ubiquitous. What happened that morning was, to me, shocking because of what I know this philosopher can do. Incurious, he missed a possible invitation, a possible introduction to other-worlding. Or, if he was curious when he first really noticed his cat looking at him that morning, he
arrested that lure to deconstructive communication with the sort of critical gesture that he would never have allowed to stop him in his canonical philosophical reading and writing practices.

Rejecting the facile and basically imperialist, if generally well-intentioned, move of claiming to see from the point of view of the other, Derrida correctly criticized two kinds of representations, one set from those who observe real animals and write about them but never meet their gaze, and the other set from those who engage animals only as literary and mythological figures (382–83). He did not explicitly consider ethologists and other animal behavioral scientists, but inasmuch as they engage animals as objects of their vision, not as beings who look back and whose look their own intersects, with consequences for all that follows, the same criticism would apply. Why, though, should that criticism be the end of the matter for Derrida?

What if not all such Western human workers with animals have refused the risk of an intersecting gaze, even if it usually has to be teased out from the repressive literary conventions of scientific publishing and descriptions of method? This is not an impossible question; the literature is large, complemented by a much larger oral culture among biologists as well as others who earn their livings in interaction with animals. Some astute thinkers who work and play with animals scientifically and professionally have discussed at some length this sort of issue. I am leaving aside entirely the philosophical thinking that goes on in popular idioms and publishing, not to mention the entire world of people thinking and engaging with animals who are not shaped by the institutionalized so-called Western philosophical and literary canon.

Positive knowledge of and with animals might just be possible, knowledge that is positive in quite a radical sense if it is not built on the Great Divides. Why did Derrida not ask, even in principle, if a Gregory Bateson or Jane Goodall or Marc Bekoff or Barbara Smuts or many others have met the gaze of living, diverse animals and in response undone and redone themselves and their sciences? Their kind of positive knowledge might even be what Derrida would recognize as a mortal and finite knowing that understands “the absence of the name as something other than a privation.” Why did Derrida leave unexamined the practices of communication outside the writing technologies he did know how to talk about?
Leaving this query unasked, he had nowhere else to go with his keen recognition of the gaze of his cat than to Jeremy Bentham’s question: “The first and decisive question will rather be to know whether animals can suffer... Once its protocol is established, the form of this question changes everything” (396). I would not for a minute deny the importance of the question of animals’ suffering and the criminal disregard of it throughout human orders, but I do not think that is the decisive question, the one that turns the order of things around, the one that promises an autre-mondialisation. The question of suffering led Derrida to the virtue of pity, and that is not a small thing. But how much more promise is in the questions, Can animals play? Or work? And even, can I learn to play with this cat? Can I, the philosopher, respond to an invitation or recognize one when it is offered? What if work and play, and not just pity, open up when the possibility of mutual response, without names, is taken seriously as an everyday practice available to philosophy and to science? What if a usable word for this is joy? And what if the question of how animals engage one another’s gaze responsively takes center stage for people? What if that is the query, once its protocol is properly established, whose form changes everything? My guess is that Derrida the man in the bathroom grasped all this, but Derrida the philosopher had no idea how to practice this sort of curiosity that morning with his highly visual cat.

Therefore, as a philosopher he knew nothing more from, about, and with the cat at the end of the morning than he knew at the beginning, no matter how much better he understood the root scandal as well as the enduring achievements of his textual legacy. Actually to respond to the cat’s response to his presence would have required his joining that flawed but rich philosophical canon to the risky project of asking what this cat on this morning cared about, what these bodily postures and visual entanglements might mean and might invite, as well as reading what people who study cats have to say and delving into the developing knowledges of both cat–cat and cat–human behavioral semiotics when species meet. Instead, he concentrated on his shame in being naked before this cat. Shame trumped curiosity, and that does not bode well for an autre-mondialisation. Knowing that in the gaze of the cat was “an existence that refuses to be conceptualized,” Derrida did not “go on as if he had never been looked at,” never addressed, which was the fundamental gaffe
he teased out of his canonical tradition (379, 383). Unlike Emmanuel Lévinas, Derrida, to his credit, recognized in his small cat “the absolute alterity of the neighbor” (380). Further, instead of a primal scene of Man confronting Animal, Derrida gave us the provocation of a historically located look. Still, shame is not an adequate response to our inheritance of multispecies histories, even at their most brutal. Even if the cat did not become a symbol of all cats, the naked man’s shame quickly became a figure for the shame of philosophy before all of the animals. That figure generated an important essay. “The animal looks at us, and we are naked before it. Thinking perhaps begins there” (397).

But whatever else the cat might have been doing, Derrida’s full human male frontal nudity before an Other, which was of such interest in his philosophical tradition, was of no consequence to her, except as the distraction that kept her human from giving or receiving an ordinary polite greeting. I am prepared to believe that he did know how to greet this cat and began each morning in that mutually responsive and polite dance, but if so, that embodied mindful encounter did not motivate his philosophy in public. That is a pity.

For help, I turn to someone who did learn to look back, as well as to recognize that she was looked at, as a core work-practice for doing her science. To respond was to respect; the practice of “becoming with” rewove the fibers of the scientist’s being. Barbara Smuts is now a bioanthropologist at the University of Michigan, but as a Stanford University graduate student in 1975, she went to Tanzania’s Gombe Stream preserve to study chimpanzees. After being kidnapped and ransomed in the turbulent nationalist and anticolonial human politics of that area of the world in the mid-1970s, she ended up studying baboons in Kenya for her PhD. About 135 baboons called the Eburru Cliffs troop lived around a rocky outcropping of the Great Rift Valley near Lake Naivasha. In a wonderful understatement, Smuts writes, “At the beginning of my study, the baboons and I definitely did not see eye to eye.”

She wanted to get as close as possible to the baboons to collect data to address her research questions; the monkeys wanted to get as far away from her threatening self as possible. Trained in the conventions of objective science, Smuts had been advised to be as neutral as possible, to be like a rock, to be unavailable, so that eventually the baboons would go
on about their business in nature as if data-collecting humankind were not present. Good scientists were those who, learning to be invisible themselves, could see the scene of nature close up, as if through a peep-hole. The scientists could query but not be queried. People could ask if baboons are or are not social subjects, or ask anything else for that matter, without any ontological risk either to themselves, except maybe being bitten by an angry baboon or contracting a dire parasitic infection, or to their culture’s dominant epistemologies about what are named nature and culture.

Along with more than a few other primatologists who talk, if not write in professional journals, about how the animals come to accept the presence of working scientists, Smuts recognized that the baboons were unimpressed by her rock act. They frequently looked at her, and the more she ignored their looks, the less satisfied they seemed. Progress in what scientists call “habituation” of the animals to the human being’s would-be nonpresence was painfully slow. It seemed like the only critter to whom the supposedly neutral scientist was invisible was herself. Ignoring social cues is far from neutral social behavior. I imagine the baboons as seeing somebody off-category, not something, and asking if that being were or were not educable to the standard of a polite guest. The monkeys, in short, inquired if the woman was as good a social subject as an ordinary baboon, with whom one could figure out how to carry on relationships, whether hostile, neutral, or friendly. The question was not, Are the baboons social subjects? but, Is the human being? Not, Do the baboons have “face”? but, Do people?

Smuts began adjusting what she did—and who she was—according to the baboons’ social semiotics directed both to her and to one another. “I . . . in the process of gaining their trust, changed almost everything about me, including the way I walked and sat, the way I held my body, and the way I used my eyes and voice. I was learning a whole new way of being in the world—the way of the baboon. . . . I was responding to the cues the baboons used to indicate their emotions, motivations and intentions to one another, and I was gradually learning to send such signals back to them. As a result, instead of avoiding me when I got too close, they started giving me very deliberate dirty looks, which made me move away. This may sound like a small shift, but in fact it signaled a profound change from
being treated like an object that elicited a unilateral response (avoidable), to being recognized as a subject with whom they could communicate” (295). In the philosopher’s idiom, the human being acquired a face. The result was that the baboons treated her more and more as a reliable social being who would move away when told to do so and around whom it might be safe to carry on monkey life without a lot of fuss over her presence.

Having earned status as a baboon-literate casual acquaintance and sometimes even a familiar friend, Smuts was able to collect data and earn a PhD. She did not shift her questions to study baboon–human interactions, but only through mutual acknowledgment could the human being and baboons go on about their business. If she really wanted to study something other than how human beings are in the way, if she was really interested in these baboons, Smuts had to enter into, not shun, a responsive relationship. “By acknowledging a baboon’s presence, I expressed respect, and by responding in ways I picked up from them, I let the baboons know that my intentions were benign and that I assumed they likewise meant me no harm. Once this was clearly established in both directions, we could relax in each other’s company” (297).

Writing about these introductions to baboon social niceties, Smuts said, “The baboons remained themselves, doing what they always did in the world they always lived in” (295). In other words, her idiom leaves the baboons in nature, where change involves only the time of evolution, and perhaps ecological crisis, and the human being in history, where all other sorts of time come into play. Here is where I think Derrida and Smuts need each other. Or maybe it is just my monomania to place baboons and humans together in situated histories, situated naturecultures, in which all the actors become who they are in the dance of relating, not from scratch, not ex nihilo, but full of the patterns of their sometimes-joined, sometimes-separate heritages both before and lateral to this encounter. All the dancers are redone through the patterns they enact. The temporalities of companion species comprehend all the possibilities activated in becoming with, including the heterogeneous scales of evolutionary time for everybody but also the many other rhythms of conjoined process. If we know how to look, I think we would see that the baboons of Eburru Cliffs were redone too, in baboon ways, by having entangled their gaze with that of this young clipboard-toting human female. The relationships
are the smallest possible patterns for analysis; the partners and actors are their still-ongoing products. It is all extremely prosaic, relentlessly mundane, and exactly how worlds come into being.

Smuts herself holds a theory very like this one in “Embodied Communication in Nonhuman Animals,” a 2006 reprise of her study of the Eburru Cliffs baboons and elaboration of daily, ongoing negotiated responses between herself and her dog Bahati. In this study, Smuts is struck by the frequent enactments of brief greeting rituals between beings who know each other well, such as between baboons in the same troop and between herself and Bahati. Among baboons, both friends and non-friends greet one another all the time, and who they are is in constant becoming in these rituals. Greeting rituals are flexible and dynamic, rearranging pace and elements within the repertoire that the partners already share or can cobble together. Smuts defines a greeting ritual as a kind of embodied communication, which takes place in entwined, semiotic, overlapping, somatic patterned over time, not as discrete, denotative signals emitted by individuals. An embodied communication is more like a dance than a word. The flow of entangled meaningful bodies in time—whether jerky and nervous or flaming and flowing, whether both partners move in harmony or painfully out of synch or something else altogether—is communication about relationship, the relationship itself, and the means of reshaping relationship and so its enacters. Gregory Bateson would say that this is what human and nonhuman mammalian nonlinguistic communication fundamentally is, that is, communication about relationship and the material–semiotic means of relating. As Smuts puts it, “Changes in greetings are a change in the relationship” (6). She goes further: “With language, it is possible to lie and say we like someone when we don’t. However, if the above speculations are correct, closely interacting bodies tend to tell the truth” (7).

This is a very interesting definition of truth, one rooted in material–semiotic dancing in which all the partners have face, but no one relies on names. That kind of truth does not fit easily into any of the inherited categories of human or nonhuman, nature or culture. I like to think that this is one treasure for Derrida’s hunt to “think the absence of the name as something other than a privation.” I suspect this is one of the things my fellow competitors and I in the dog–human sport called agility mean
when we say our dogs are “honest.” I am certain we are not referring to the
tired philosophical and linguistic arguments about whether dogs can lie,
and if so, lie about lying. The truth or honesty of nonlinguistic embodied
communication depends on looking back and greeting significant others,
again and again. This sort of truth or honesty is not some trope-free,
fantastic kind of natural authenticity that only animals can have while
humans are defined by the happy fault of lying denotatively and knowing
it. Rather, this truth telling is about co-constitutive naturalcultural dancing,
holding in esteem, and regard open to those who look back reciprocally.
Always tripping, this kind of truth has a multispecies future. Respecere.

BECOMING-ANIMAL OR SETTING OUT THE
TWENTY-THIRD BOWL?
The making each other available to events that is the dance of “becom-
ing with” has no truck with the fantasy wolf-pack version of “becoming-
animal” figured in Gilles Deleuze and Félix Guattari’s famous section
of A Thousand Plateaus, “1730: Becoming-Intense, Becoming-Animal,
Becoming-Imperceptible.”36 Mundane, prosaic, living wolves have no truck
with that kind of wolf pack, as we will see at the end of these introduc-
tions, when dogs, wolves, and people become available to one another
in risky worldings. But first, I want to explain why writing in which I
had hoped to find an ally for the tasks of companion species instead made
me come as close as I get to announcing, “Ladies and Gentlemen, behold
the enemy!”

I want to stay a while with “Becoming-Intense, Becoming-Animal,
Becoming-Imperceptible,” because it works so hard to get beyond the
Great Divide between humans and other critters to find the rich multi-
plicities and topologies of a heterogeneously and nonteleologically con-
nected world. I want to understand why Deleuze and Guattari here leave
me so angry when what we want seems so similar. Despite much that I
love in other work of Deleuze, here I find little but the two writers’ scorn
for all that is mundane and ordinary and the profound absence of curios-
ity about or respect for and with actual animals, even as innumerable re-
ferences to diverse animals are invoked to figure the authors’ anti-Oedipal
and anticapitalist project. Derrida’s actual little cat is decidedly not invited
into this encounter. No earthly animal would look twice at these authors, at least not in their textual garb in this chapter.

*A Thousand Plateaus* is a part of the writers’ sustained work against the monomaniacal, cyclopean, individuated Oedipal subject, who is riveted on daddy and lethal in culture, politics, and philosophy. Patrilineal thinking, which sees all the world as a tree of filiations ruled by genealogy and identity, wars with rhizomatic thinking, which is open to nonhierarchical becomings and contagions. So far, so good. Deleuze and Guattari sketch a quick history of European ideas from eighteenth-century natural history (relations recognized through proportionality and resemblance, series and structure), through evolutionism (relations ordered through descent and filiation), to becomings (relations patterned through “sorcery” or alliance). “Becoming is always of a different order than filiation. It concerns alliance” (238). The normal and abnormal rule in evolutionism; the anomaly, which is outside rules, is freed in the lines of flight of becomings. “Molar unities” must give way to “molecular multiplicities.” “The anomalous is neither individual nor species; it has only affects, infections, horror . . . a phenomenon of bordering” (244–45). And then, “We oppose epidemic to filiation, contagion to heredity, peopling by contagion to sexual reproduction, sexual production. Bands, human or animal, proliferate by contagion, epidemics, battlefields, and catastrophes. . . . All we are saying is that animals are packs, and packs form, develop, and are transformed by contagion. . . . Wherever there is multiplicity, you will find also an exceptional individual, and it is with that individual that an alliance must be made in order to become-animal” (241–42). This is a philosophy of the sublime, not the earthly, not the mud; becoming-animal is not an autre-mondialisation.

Earlier in *A Thousand Plateaus*, Deleuze and Guattari conducted a smart, mean critique of Freud’s analysis of the famous case of the Wolf-Man, in which their opposition of dog and wolf gave me the key to how D&G’s associational web of anomalous becoming-animal feeds off a series of primary dichotomies figured by the opposition between the wild and the domestic. “That day the Wolf-Man rose from the couch particularly tired. He knew that Freud had a genius for brushing up against the truth and passing it by, and then filling the void with associations. He knew that Freud knew nothing about wolves, or anuses for that matter.
The only thing Freud understood was what a dog is, and a dog’s tail” (26). This gibe is the first of a crowd of oppositions of dog and wolf in *A Thousand Plateaus*, which taken together are a symptomatic morass for how not to take earthly animals—wild or domestic—seriously. In honor of Freud’s famously irascible chows, no doubt sleeping on the floor during the Wolf-Man’s sessions, I brace myself to go on by studying the artist David Goines’s Chinese Year of the Dog poster for 2006: one of the most gorgeous chow chows I have ever seen. Indifferent to the charms of a blue-purple tongue, D&G knew how to kick the psychoanalyst where it would hurt, but they had no eye for the elegant curve of a good chow’s tail, much less the courage to look such a dog in the eye.

But the wolf/dog opposition is not funny. D&G express horror at the “individuated animals, family pets, sentimental Oedipal animals each with its own petty history” who invite only regression (240). All worthy animals are a pack; all the rest are either pets of the bourgeoisie or state animals symbolizing some kind of divine myth. The pack, or pure-affect animals, are intensive, not extensive, molecular and exceptional, not petty and molar—sublime wolf packs, in short. I don’t think it needs comment that we will learn nothing about actual wolves in all this. I know that D&G set out to write not a biological treatise but rather a philosophical, psychoanalytic, and literary one requiring different reading habits for the always nonmimetic play of life and narrative. But no reading strategies can mute the scorn for the homely and the ordinary in this book. Leaving behind the traps of singularity and identity is possible without the lubrication of sublime ecstasy bordering on the intensive affect of the 1909 Futurist Manifesto. D&G continue, “Anyone who likes cats or dogs is a fool” (240, italics in original). I don’t think Deleuze here is thinking of Dostoevsky’s idiot, who slows things down and whom Deleuze loves. D&G go on: Freud knows only the “dog in the kennel, the analyst’s bow wow.” Never have I felt more loyal to Freud. D&G go even further in their disdain for the daily, the ordinary, the affectional rather than the sublime. The Unique, the one in a pact with a demon, the sorcerer’s anomaly, is both pack and Ahab’s leviathan in *Moby Dick*, the exceptional, not in the sense of a competent and skillful animal webbed in the open with others, but in the sense of what is without characteristics and without tenderness (244). From the point of view of the animal
worlds I inhabit, this is not about a good run but about a bad trip. Along with the Beatles, I need a little more help than that from my friends.

Little house dogs and the people who love them are the ultimate figure of abjection for D&G, especially if those people are elderly women, the very type of the sentimental. “Ahab’s Moby Dick is not like the little cat or dog owned by an elderly woman who honors and cherishes it. Lawrence’s becoming-tortoise has nothing to do with a sentimental or domestic relation. . . . But the objection is raised against Lawrence: ‘Your tortoises are not real!’ And he answers: ‘Possibly, but my becoming is, . . . even and especially if you have no way of judging it, because you’re just little house dogs’” (244). “My becoming” seems awfully important in a theory opposed to the strictures of individuation and subject. The old, female, small, dog- and cat-loving: these are who and what must be vomited out by those who will become-animal. Despite the keen competition, I am not sure I can find in philosophy a clearer display of misogyny, fear of aging, incuriosity about animals, and horror at the ordinariness of flesh, here covered by the alibi of an anti-Oedipal and anticapitalist project. It took some nerve for D&G to write about becoming-woman just a few pages later! (291–309). It is almost enough to make me go out and get a toy poodle for my next agility dog; I know a remarkable one playing with her human for the World Cup these days. That is exceptional.

It is a relief to return from my own flights of fancy of becoming-intense in the agility World Cup competitions to the mud and the slime of my proper home world, where my biological soul travels with that wolf found near the edge of the forest who was raised by scientists. At least as many nonarboreal shapes of relatedness can be found in these not-always-salubrious viscous fluids as among Deleuze and Guattari’s rhizomatic anomalies. Playing in the mud, I can even appreciate a great deal of A Thousand Plateaus. Companion species are familiar with oddly shaped figures of kin and kind, in which arboreal descent is both a latecomer to the play of bodies and never uniquely in charge of the material–semiotic action. In their controversial theory of Acquiring Genomes, Lynn Margulis and her son and collaborator, Dorion Sagan, give me the flesh and figures that companion species need to understand their messmates.
Reading Margulis over the years, I get the idea that she believes everything interesting on earth happened among the bacteria, and all the rest is just elaboration, most certainly including wolf packs. Bacteria pass genes back and forth all the time and do not resolve into well-bounded species, giving the taxonomist either an ecstatic moment or a headache. “The creative force of symbiosis produced eukaryotic cells from bacteria. Hence all larger organisms—protests, fungi, animals, and plants—originated symbiogenetically. But creation of novelty by symbiosis did not end with the evolution of the earliest nucleated cells. Symbiosis still is everywhere” (55–56). Margulis and Sagan give examples from Pacific coral reefs, squid and their luminescent symbionts, New England lichens, milk cows, and New Guinea ant plants, among others. The basic story is simple: ever more complex life forms are the continual result of ever more intricate and multidirectional acts of association of and with other life forms. Trying to make a living, critters eat critters but can only partly digest one another. Quite a lot of indigestion, not to mention excretion, is the natural result, some of which is the vehicle for new sorts of complex patternings of ones and manyss in entangled association. And some of that indigestion and voiding are just acidic reminders of mortality made vivid in the experience of pain and systemic breakdown, from the lowliest among us to the most eminent. Organisms are ecosystems of genomes, consortia, communities, partly digested dinners, mortal boundary formations. Even toy dogs and fat old ladies on city streets are such boundary formations; studying them “ecologically” would show it.

Eating one another and developing indigestion are only one kind of transformative merger practice; living critters form consortia in a baroque medley of inter- and intra-actions. Margulis and Sagan put it more eloquently when they write that to be an organism is to be the fruit of “the co-opting of strangers, the involvement and infolding of others into ever more complex and miscegenous genomes. . . . The acquisition of the reproducing other, of the microbe and the genome, is no mere sideshow. Attraction, merger, fusion, incorporation, co-habitation, recombination—both permanent and cyclical—and other forms of forbidden couplings, are the main sources of Darwin’s missing variation” (205). Yoking together all the way down is what symbio-genesis means. The shape and temporality of life on earth are more like a liquid–crystal consortium.
folding on itself again and again than a well-branched tree. Ordinary identities emerge and are rightly cherished, but they remain always a relational web opening to non-Euclidean pasts, presents, and futures. The ordinary is a multipartner mud dance issuing from and in entangled species. It is turtles all the way down; the partners do not preexist their constitutive intra-action at every folded layer of time and space. These are the contagions and infections that wound the primary narcissism of those who still dream of human exceptionalism. These are also the cobbings together that give meaning to the “becoming with” of companion species in naturecultures. Cum panis, messmates, to look and to look back, to have truck with: those are the names of my game.

One aspect of Margulis and Sagan’s exposition seems unnecessarily hard for companion species to digest, however, and a more easily assimilated theory is cooking. In opposition to various mechanistic theories of the organism, Margulis has long been committed to the notion of autopoiesis. Autopoiesis is self-making, in which self-maintaining entities (the smallest biological unit of which is a living cell) develop and sustain their own form, drawing on the enveloping flows of matter and energy. In this case, I think Margulis would do better with Deleuze and Guattari, whose world did not build on complex self-referential units of differentiation or on Gaian systems, cybernetic or otherwise, but built on a different kind of “turtles all the way down,” figuring relentless otherness knotted into never fully bounded or fully self-referential entities. I am instructed by developmental biologist Scott Gilbert’s critique of autopoiesis for its emphasis on self-building and self-maintaining systems, closed except for nourishing flows of matter and energy. Gilbert stresses that nothing makes itself in the biological world, but rather reciprocal induction within and between always-in-process critters ramifies through space and time on both large and small scales in cascades of inter- and intra-action. In embryology, Gilbert calls this “interspecies epigenesis.” Gilbert writes: “I think that the ideas that Lynn [Margulis] and I have are very similar; it’s just that she was focusing on adults and I want to extend the concept (as I think the science allows it to be fully extended) to embryos. I believe that the embryonic co-construction of the physical bodies has many more implications because it means that we were ‘never’ individuals.” Like Margulis and Sagan, Gilbert stresses that the cell (not the genome) is the
smallest unit of structure and function in the biological world, and he argues that “the morphogenetic field can be seen as a major unit of ontogenetic and evolutionary change.”44

As I read him, Gilbert’s approach is not a holistic systems theory in the sense that Margulis and Sagan lean toward, and his fractal “turtles all the way down” arguments do not posit a self-referential unit of differentiation. Such a unit cheats on the turtles pile, whether up or down. Software engineer Rusten Hogness suggests the term turtling all the way down might better express Gilbert’s kind of recursivity.45 I think that for Gilbert the noun differentiation is permanently a verb, within which mortal knots of partly structured difference are in play. In my view, Margulis and Sagan’s symbiogenesis is not really compatible with their theory of autopoiesis, and the alternative is not an additive mechanistic theory but a going even more deeply into differentiation.46 A nice touch is that Gilbert and his students literally work on turtle embryogeny, studying the inductions and cell migrations that result in the turtle’s plastron on its belly surface. Layers of turtling, indeed.

All of that takes us to the ethologist Thelma Rowell’s practice of setting out a twenty-third bowl in her farmyard in Lancashire when she has only twenty-two sheep to feed. Her Soay sheep crunch grass on the hillsides most of the day, forming their own social groups without a lot of interference. Such restraint is a revolutionary act among most sheep farmers, who rob sheep of virtually every decision until whole breeds may well have lost the capacity to find their way in life without overweening human supervision. Rowell’s empowered sheep, belonging to a so-called primitive breed recalcitrant to meat–industrial standardization and behavioral ruination, have addressed many of her questions, not least telling her that even domesticated sheep have social lives and abilities as complex as those of the baboons and other monkeys she studied for decades. Probably descended from a population of feral sheep thought to have been deposited on the island of Soay in the St. Kilda archipelago sometime in the Bronze Age, Soay sheep are today the subject of attention by rare breed societies in the United Kingdom and the United States.47

Focused on weighty matters such as feed conversion rates, scandalized sheep scientists with an agribusiness emphasis rejected Rowell’s first papers on feral ram groups when she submitted them (the manuscripts,
not the sheep) for publication. But good scientists have a way of nibbling away at prejudice with mutated questions and lovely data, which works at least sometimes. Scottish blackface hill sheep, Rowell’s numerically dominant ovine neighbors in Lancashire, and the lowland Dorset white-faced breed, mostly on the English Downs, seem to have forgotten how to testify to a great deal of sheep competence. They and their equivalents around the world are the sorts of ovids most familiar to the sheep experts reviewing papers for the journals—at least for the journals in which sheep usually show up, that is, not the behavioral ecology, integrative biology, and evolution journals in which nondomestic species seem the “natural” subjects of attention. But in the context of the ranching and farming practices that led to today’s global agribusiness, maybe those “domestic” ovine eating machines are rarely asked an interesting question. Not brought into the open with their people, and so with no experience of jointly becoming available, these sheep do not “become with” a curious scientist.

There is a disarmingly literal quality to having truck with Rowell and her critters. Rowell brings her competent sheep into the yard most days so that she can ask them some more questions while they snack. There, the twenty-two sheep find twenty-three bowls spaced around the yard. That homely twenty-third bowl is the open, the space of what is not yet and may or may not ever be; it is a making available to events; it is asking the sheep and the scientists to be smart in their exchanges by making it possible for something unexpected to happen. Rowell practices the virtue of worldly politeness—not a particularly gentle art—with her colleagues and her sheep, just as she used to do with her primate subjects. “Interesting research is research on the conditions that make something interesting.” Always having a bowl that is not occupied provides an extra place to go for any sheep displaced by his or her socially assertive fellow ovid. Rowell’s approach is deceptively simple. Competition is so easy to see; eating is so readily observed and of such consuming interest to farmers. What else might be happening? Might what is not so easy to learn to see be what is of the utmost importance to the sheep in their daily doings and their evolutionary history? Might it be that thinking again about the history of predation and the smart predilections of prey will tell us something surprising and important about ovine worlds even on Lancashire
hillsides, or on islands off the coast of Scotland, where a wolf has not been seen for centuries?

Always a maverick alert to complexity in its details rather than in grand pronouncements, Rowell regularly discomfited her human colleagues when she studied monkeys, beginning with her 1960s accounts of forest baboons in Uganda who did not act according to their supposed species script.\textsuperscript{51} Rowell is among the most satisfyingly opinionated, empirically grounded, theoretically savvy, unself-impressed, and unsparingly anti-ideological people I have ever met. Forgetting her head-over-heels interest in her sheep, seeing her patent love for her obstreperous male adolescent turkeys on her Lancashire farm in 2003, whom she unconvincingly threatened with untimely slaughter for their misdeeds,\textsuperscript{52} told me a great deal about how she treats both unwary human colleagues and the opinionated animals whom she has studied over a lifetime. As Vinciane Despret emphasizes in her study, Rowell poses the question of the collective in relation to both sheep and people: “Do we prefer living with predictable sheep or with sheep that surprise us and that add to our definitions of what ‘being social’ means?”\textsuperscript{53} This is a fundamental worldly question, or what Despret’s colleague Isabelle Stengers might call a cosmopolitical query, in which “the cosmos refers to the unknown constituted by these multiple divergent worlds, and to the articulations of which they could eventually be capable, as opposed to the temptation of a peace intended to be final.”\textsuperscript{54} Eating lunch with the circa sixty-five-year-old Rowell and her elderly, cherished, nonherding, pet dog in her farmhouse kitchen strewn with scientific papers and heterogeneous books, my would-be ethnographic self had the distinct sense that Oedipal regression was not on the menu among these companion species. \textit{Woolf!}

**LIVING HISTORIES IN THE CONTACT ZONE: WOLF TRACKS**

Whom and what do I touch when I touch my dog? How is becoming with a practice of becoming worldly? When species meet, the question of how to inherit histories is pressing, and how to get on together is at stake. Because I become with dogs, I am drawn into the multispecies knots that they are tied into and that they retie by their reciprocal action.
My premise is that touch ramifies and shapes accountability. Accountability, caring for, being affected, and entering into responsibility are not ethical abstractions; these mundane, prosaic things are the result of having truck with each other. Touch does not make one small; it peppers its partners with attachment sites for world making. Touch, regard, looking back, becoming with—all these make us responsible in unpredictable ways for which worlds take shape. In touch and regard, partners willy nilly are in the miscegenous mud that infuses our bodies with all that brought that contact into being. Touch and regard have consequences. Thus, my introductions in this chapter end in three knots of entangled companion species—wolves, dogs, human beings, and more—in three places where an autre-mondialisation is at stake: South Africa, the Golan Heights in Syria, and the countryside of the French Alps.

At the off-leash dog park in Santa Cruz, California, which I frequent, people sometimes boast that their largish, prick-eared, shepherd-like mutts are “half wolf.” Sometimes the humans claim that they know this for sure but more often rest content with an account that makes their dogs seem special, close to their storied wild selves. I find the genealogical speculations highly unlikely in most cases, partly because it is not easy to have at hand a breeding wolf with whom a willing dog might mate, and partly because of the same agnosticism with which I and most of my dogland informants greet identification of any largish black dog of uncertain provenance as a “half Labrador retriever.” Still, I know wolf–dog hybrids do exist rather widely, and my dogs’ playing with a few motley claimants tied me into a web of caring. Caring means becoming subject to the unsettling obligation of curiosity, which requires knowing more at the end of the day than at the beginning. Learning something of the behavioral biology of wolf–dog hybrids seemed the least that was required. One of the places that led me, via an article by Robyn Dixon in the Los Angeles Times on October 17, 2004, “Orphaned Wolves Face Grim Future,” was to the Tsitsikamma Wolf Sanctuary on the southern coast of South Africa near the town of Storm River.

During the apartheid era, in quasi-secret experiments, scientists in the service of the white state imported northern gray wolves from North America with the intent of breeding an attack dog with a wolf’s smarts, stamina, and sense of smell to track down “insurgents” in the harsh
border areas. But the security-apparatus scientists at Roodeplaat Breeding Enterprises found to their dismay that wolf–dog hybrids make particularly bad trained attack dogs, not because of aggressivity or unpredictability (both issues with many of the hybrids discussed in the general literature), but because, besides being hard to train, the wolf–dogs generally defer to their human pack leaders and fail to take the lead when ordered to do so on counterinsurgency or police patrols. Members of an endangered species in much of its former range in North America became failed mixed-blood immigrants in the apartheid state intent on enforcing racial purity.

After the end of apartheid, both the wolves and the hybrids became signifiers of security once again, as people terrified for their personal safety in the ripe, still racialized discourses of criminality rampant in South Africa engaged in a brisk newspaper- and Internet-mediated trade in the animals. The predictable result has been thousands of animals unable to be “repatriated” to their continent of origin. Both epidemiologically and genetically categorically “impure,” these canids enter the cultural category of the disposable “homeless,” or in ecological terms “nicheless.” The new state could not care less what happens to these animate tools of a former racist regime. Running on private money from rich donors and middle-class, mostly white people, a rescue and sanctuary apparatus of a sort that is familiar globally to dog people does what it can. This is not an honored truth and reconciliation process trying to meet a socially recognized obligation to those nonhumans forced into “becoming with” a scientific racial state apparatus. The sanctuary practices are private charity directed to nonhumans whom many people would see as better killed (euthanized? Is there any “good death” here?) in a nation where unaddressed human economic misery remains immense. Further, the financially strapped sanctuaries accept only “pure wolves,” though only about two hundred canids could probably have passed that test in 2004 in South Africa, and have no resources for the possibly tens of thousands of hybrids who face, as the newspaper article headlined, a “grim future.”

So, what have I and others who touch and are touched by this story inherited? Which histories must we live? A short list includes the racial discourses endemic to the history of both biology and the nation; the collision of endangered species worlds, with their conservation apparatuses,
and security discourse worlds, with their criminality and terrorist apparatuses; the actual lives and deaths of differentially situated human beings and animals shaped by these knots; contending popular and professional narratives about wolves and dogs and their consequences for who lives and dies and how; the coshaped histories of human social welfare and animal welfare organizations; the class-saturated funding apparatuses of private and public animal–human worlds; the development of the categories to contain those, human and nonhuman, who are disposable and killable; the inextricable tie between North America and South Africa in all these matters; and the stories and actual practices that continue to produce wolf–dog hybrids in unlivable knots, even on a romping-dog beach in Santa Cruz, California. Curiosity gets one into thick mud, but I believe that is the kind of “looking back” and “becoming-with-companions” that might matter in making autres-mondialisations more possible.

Heading to the Golan Heights after running with the wolves in South Africa is hardly restful. Among the last companion-species knots in which I imagined living was one that in 2004 featured Israeli cowboys in occupied Syrian territory riding kibbutz horses to manage their European-style cattle among the ruins of Syrian villages and military bases. All I have is a snapshot, one newspaper article in the midst of an ongoing complex, bloody, and tragic history. That snapshot was enough to reshape my sense of touch while playing with my dogs. The first cattle-ranching kibbutz was founded shortly after 1967; by 2004 about seventeen thousand Israelis in thirty-three various sorts of settlements held the territory, pending removal by an ever-receding peace treaty with Syria. Learning their new skills on the job, the neophyte ranchers share the land with the Israeli military and their tanks. Mine fields still pose dangers for cattle, horses, and people, and firing-range practice vies with grazing for space. The cattle are guarded from the resourceful Syrian wolves, not to mention Syrian people periodically repatriating stock, by large white livestock guardian dogs (LGDs), namely, Turkish Akbash dogs. Turkey does play an odd role in the Middle East! With the dogs on duty, the ranchers do not shoot the wolves. Nothing was said in this Times article about whether they shoot the Syrian “rustlers.” The cattle that the Israelis took over after the expulsion of the Syrian villagers were small, wiry, capable in the same kinds of ways as Rowell’s nonsheepish sheep, and resistant to
the local tick-borne diseases. The European cattle who were imported to replace the supposedly unmodern Syrian beasts are none of those things. The Israeli ranchers brought the guardian dogs into their operation in the 1990s in response to the large number of gray wolves, whose number on the Golan Heights grew significantly after the defeat of Syria in 1967 reduced the Arab villagers’ hunting pressure on them.

The Akbash dogs were the prosaic touch that made the story in the newspaper of more than passing interest in the huge canvas of fraught naturecultures and war in the Middle East. I was a kind of “godhuman” to Willem, a Great Pyrenees livestock guardian dog who worked on land in California that my family owns with a friend. Willem, his human, Susan, and his breeder and her health and genetics activist peers in dogland have been major informants for this book. Willem’s livestock guardian dog people are astute participants in the hotly contested dog–wolf–rancher–herbivore–environmentalist–hunter naturecultures of the contemporary U.S. northern Rocky Mountain region. Willem and my dog Cayenne played as puppies and added to the stock of the world’s joy.58 This is all quite small and unexceptional—not much of a “line of flight” to delight Deleuze and Guattari here. But it was enough to hail me and maybe us into curiosity about the naturalcultural politics of wolves, dogs, cattle, ticks, pathogens, tanks, mine fields, soldiers, displaced villagers, cattle thieves, and settlers become cowboy-style ranchers on still another bit of earth made into a frontier by war, expulsion, occupation, the history of genocides, and ramifying insecurity all around. There is no happy ending to offer, no conclusion to this ongoing entanglement, only a sharp reminder that anywhere one really looks actual living wolves and dogs are waiting to guide humans into contested worldings. “We found her at the edge of the city; she was raised by wolves.” Like her forest-immigrant cousin, this wolf wore a communications pack that was no stranger to the development of military technology for command, control, communication, and intelligence.

Of course, by the first decade of the new millennium, that kind of telecommunications pack could be ordinary equipment for day walkers in the mountains, and that is where these introductions will end, but with the printed word rather than a personal GPS system situating the hiker. In 2005 primatologist Allison Jolly, knowing my livestock-guardian-dog
passions, sent me a brochure she had picked up on her walking tour through the French Alps that summer with her family. The brochure was in Italian, French, and English, already setting it off from unaccommodating monolingual U.S. aids to mountain outings. The transnational paths through the Alps and the urbane, leisured, international hikers expected on the paths were vividly present. On the cover was an alert, calm Great Pyrenees guardian dog, surrounded by text: “Important notice to walkers and hikers [or on the flip side, ‘Promeneurs, Randonneurs,’ etc.]: In the course of your walk, you may encounter the local guarding-dogs. These are large white dogs whose task is to guard the flocks.”

We are in the midst of reinvented pastoral–tourist economies linking foot-traveling humans, meat and fiber niche markets that are complexly both local and global, restoration ecology and heritage culture projects of the European Union, shepherds, flocks, dogs, wolves, bears, and lynxes. The return of previously extirpated predators to parts of their old ranges is a major story of transnational environmental politics and biology. Some of the animals have been deliberately reintroduced after intense captive breeding programs or with transplants from less-developed countries in the previous Soviet sphere, where progress-indicating extinctions sometimes have not gone as far as in western Europe. Some predators reestablished populations on their own when people began trapping and shooting returnees less often. The wolves newly welcome in the French Alps seem to be offspring of opportunistic canids sidling over from unreliably progressive Italy, which never completely wiped out its wolves. The wolves gave the LGDs a job deterring lupine (and tourist) depredations on the shepherds’ flocks. After the near destruction of the Great Pyrenees during the two world wars and the pastoral economic collapse in the Basque regions, the breed came to the Alps from the mountains for which they are named, by way of their rescue by the purebred dog fancy, especially through the collecting practices of wealthy women in England and the eastern United States. French dog fanciers learned some of what they needed to know about reintroducing their dogs to guarding work from U.S. LGD people, who had placed dogs on ranches in western states in recent decades and communicated with their European peers.

The knots of technocultural, reinvented pastoral–tourist economies and ecologies are all over North America too, raising the most basic
questions of who belongs where and what flourishing means for whom. Following the dogs and their herbivores and people in order to respond to those questions attaches me again and again to ranching, farming, and eating. In principle if not always in personal and collective action, it is easy to know that factory farming and its sciences and politics must be undone. But what then? How can food security for everybody (not just for the rich, who can forget how important cheap and abundant food is) and multispecies’ coflourishing be linked in practice? How can remembering the conquest of the western states by Anglo settlers and their plants and animals become part of the solution and not another occasion for the pleasurable and individualizing frisson of guilt? Much collaborative and inventive work is under way on these matters, if only we take touch seriously. Both vegan and nonvegan community food projects with a local and translocal analysis have made clear the links among safe and fair working conditions for people, physically and behaviorally healthy agricultural animals, genetic and other research directed to health and diversity, urban and rural food security, and enhanced wildlife habitat.59 No easy unity is to be found on these matters, and no answers will make one feel good for long. But those are not the goals of companion species. Rather, there are vastly more attachment sites for participating in the search for more livable “other worlds” (autres-mondialisations) inside earthly complexity than one could ever have imagined when first reaching out to pet one’s dog.

The kinds of relatings that these introductions perform entangle a motley crowd of differentially situated species, including landscapes, animals, plants, microorganisms, people, and technologies. Sometimes a polite introduction brings together two quasi-individuated beings, maybe even with personal names printed in major newspapers, whose histories can recall comfortable narratives of subjects in encounter, two by two. More often, the configurations of critters have other patterns more reminiscent of a cat’s cradle game of the sort taken for granted by good ecologists, military strategists, political economists, and ethnographers. Whether grasped two-by-two or tangle-by-tangle, attachment sites needed for meeting species redo everything they touch. The point is not to celebrate complexity but to become worldly and to respond. Considering still live metaphors for this work, John Law and Annemarie Mol help me think: “Multiplicity, oscillation, mediation, material heterogeneity,
performativity, interference . . . there is no resting place in a multiple and partially connected world.”

My point is simple: Once again we are in a knot of species coshaping one another in layers of reciprocating complexity all the way down. Response and respect are possible only in those knots, with actual animals and people looking back at each other, sticky with all their muddled histories. Appreciation of the complexity is, of course, invited. But more is required too. Figuring what that more might be is the work of situated companion species. It is a question of cosmopolitics, of learning to be “polite” in responsible relation to always asymmetrical living and dying, and nurturing and killing. And so I end with the alpine tourist brochure’s severe injunction to the hiker to “be on your best countryside behavior,” or “sorveguate il vostro comportamento,” followed by specific instructions about what polite behavior toward the working dogs and flocks entails. A prosaic detail: The exercise of good manners makes the competent working animals those whom the people need to learn to recognize. The ones with face were not all human.

And say the philosopher responded?