

7 Nim Chimpsky *et al.*: human–animal relations

Terrific achievement. To cast off apehood in five years and gallop through the whole evolution of mankind!

Franz Kafka, “A Report to the Academy,” 1917¹

Chimpanzees seem to occupy a special position in recent writings on the nature/culture divide, as a liminal species at the main border of modernist discourse. Partly drawing upon the life and work of Nim Chimpsky (1973–2000), a chimpanzee raised in experimental and familial settings in the United States in order to test hypotheses about innate and acquired mental capacities, especially language, this chapter discusses the history of comparisons of chimpanzees and people and, more broadly, the relations of humans and other species. If one takes Chimpsky’s near-namesake Noam Chomsky seriously, assuming that language as we know it rests on an innate language “device,” one is inclined to ask what such a device consists of, how it developed, and what might be learned through comparisons of humans, other primates, and other “lower” species, an issue only recently addressed by Chomsky himself (see Hauser, Chomsky, and Fitch 2002).

I shall argue that academic debates about language and mind generated by Chimpsky, other chimpanzees, and their human and non-human collaborators reflect different understandings of the nature/culture divide and what used to be called the animal kingdom. While experiments with the language and sociality of chimpanzees and other species are often non-conclusive and sometimes misguided, they usually bring home important points about ourselves and our relations to other species. The outline of the chapter is as follows: I first briefly discuss the history of human experimenting with chimpanzees, partly with reference to an illuminating and perceptive short story by Franz Kafka that seems to have anticipated what was to come. I then discuss the amazing case of Nim Chimpsky and some of the lessons we may and may

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not learn from it. This is followed by a brief tour into evolutionary and comparative discourse on primate becomings and capacities and linguistic doubts about language universals. Finally, I discuss the growing role of non-human animals in language experiments, summing up the arguments in the chapter and their implications for discussions of the nature/society divide and anthropological engagement with it.

Chimpanzees continue to attract our attention, illuminating the human–animal condition one way or another. Not only is Nim the subject of both a recent biography, *Nim Chimpsky: The Chimp Who Would Be Human* (Hess 2008), and a documentary, *Project Nim* (2011), by James Marsh, also now there is an “autobiography” of a chimpanzee, *Me Cheeta: The Autobiography* (Lever 2008), nominated for the Booker Man Prize in 2009. Moreover, one of the most popular films of 2011 was the science-fiction film *Rise of the Planet of the Apes*, a restart of an earlier popular series, featuring a chimpanzee named Caesar who is a test subject for a new Alzheimer’s cure and, as a result, becomes highly intelligent and eventually leads a revolt of the lab primates. Time and again, animal experiments and their accounts in all kinds of media reveal our own preoccupations and the ways in which we relate to other animals.

Relations between humans and other animals, almost by definition, especially perhaps relations between humans and other great apes, represent a central theme in both anthropology and philosophy, inviting fundamental questions about us and them, nature and culture. Both fields, however, have tended to take a highly anthropocentric position. Ingold (1988: 1) has indicated that the comparative anthropological project itself might be the problem: “Does not the anthropological project of cross-cultural comparison rest upon an implicit assumption of human uniqueness *vis-à-vis* other animals that is fundamentally anthropocentric?” Derrida (2008: 32) launched a similar critique of philosophy, emphasizing the tendency to discuss “the animal” in the singular, almost invariably in contradiction to “the human”: “All the philosophers we will investigate (from Aristotle to Lacan . . .), all of them say the same thing: the animal is deprived of language. Or, more precisely, of response, of a response that could be precisely and rigorously distinguished from a reaction.” Within this general singularity, Derrida continues, “are *all the living things* that man does not recognize as his fellows, his neighbors, or his brothers. And that is so in spite of all the infinite space that separates the lizard from the dog, . . . the parrot from the chimpanzee” (2008: 34; emphasis in the original). Interestingly, however, while Derrida (2008: 99) emphasizes “structural difference between nonhuman types of animal” – presumably he is referring to biological differences between species – he seems to see no point in exploring the ethnography of human takes on relations with other animals,

restricting his own account to biblical narrative, ancient Greece, and a handful of twentieth-century continental European philosophers.

While Derrida's dismissal of ethnography may resonate with his troubled relationship with anthropology (Morris 2007), it seems to contradict his emphasis on pluralizing voice. In fact, he might have found much inspiring thought in recent ethnographies, in particular the broad kind of "multispecies ethnography" (Kirksey and Helmreich 2010) that seeks to go beyond the traditional scale of primates with which many biologically minded anthropologists operate. A rapprochement of anthropology and philosophy on this score is timely and urgent. Recently, the field of animal studies has been vastly expanded and revitalized through new avenues, including those of cognitive studies, primatology, and the animal rights movement (see, for example, Haraway 2008, Kirksey and Helmreich 2010). The revival of totemism, the reappearance and escalation of animal sensibilities in spite of Lévi-Strauss's dismissal of the "totemic illusion," seems to continue on full course. More generally, there is a growing body of work on both the labor of animals and the traffic of animal substances. Harré (2009: xii) has called for "a comprehensive view of how organic beings and their parts and remains have actually been used, together with some idea of the kind of people who have used them and for what scientific purposes." This means paying attention to and granting agency to all those participating in the "living laboratory," including insects, organic clocks, model organisms, and language-learning chimpanzees. "What if a chimpanzee," Harré (2009: 10) asks, "has its own agenda in interacting with those who are studying it?"

7.1 Reports to the academy: almost human, almost chimpanzee

In popular as well as academic discourse, chimpanzees are often seen as a liminal species, endowed with cognitive capacities and socialities that almost elevate them above nature, nearly making them human, almost possessing culture. Humans, likewise, are frequently presented as apelike beings, quasi-chimpanzees, firmly rooted in their primate past despite their cultural heritage. This is exemplified by popular book titles such as *Almost Chimpanzee* (Cohen 2010). Recent developments in genomics have highlighted the same themes, in new terms – thus, *What It Means to Be 98% Chimpanzee: Apes, People, and Their Genes* (Marks 2002). While the popular qualifying reference to "almost" highlights a categorical difference between nature and culture, establishing a narrow but fertile comparative zone of meaningful difference for both biological and social anthropology, it also suggests fascination with experimenting and transcendence – in particular, as we will see, the possibility of communication across the species divide – expanding at the same time the community of "culture" to other primates and possibly beyond. The etymology

of the word “chimpanzee,” introduced into the vocabulary of the Western world in 1738, is significant. Derived from *kivili-chimpenze*, a term in the Tshiluba language spoken in what is now the Democratic Republic of Congo, it translates as “mock human,” suggesting perhaps that Tshiluba speakers may have seen chimpanzees as the product of couplings between humans and other species. The first ape that became widely known in Europe arrived on an English merchant ship, the *Speaker*, in London in 1738. Coming from Angola, she was reported as “an animal of remarkably and terribly hideous countenance . . . called by the name Chimpanzee” (see Marks 2002: 19).

Despite their depressing early impression, chimpanzees eventually became the subject of systematic experimenting and observation, sometimes in close company to humans. A widely discussed case was that of Köhler’s “Anthropoid Station” on the island of Tenerife between 1912 and 1920. In his account on the experiments to the Prussian Academy, Köhler (1956) demonstrated that chimpanzees were capable of solving simple practical problems, typically by rearranging boxes as tools for getting access to food, as if they were making a ladder or, as Köhler reasoned, climbing a tree. While anthropoid apes, contrary to common assumptions, turned out to be capable of creating and using tools, the absence of the sign from their world of communication seemed to reaffirm a boundary between us and them – exemplifying what Haraway (1989: 10) calls “simian Orientalism.” Köhler’s historic experimenting at the Anthropoid Station and its reporting to the Prussian Academy may have inspired Kafka to write his much-cited 1917 short story “A Report to the Academy” about Red Peter, a chimpanzee performing on the variety stage who turned human and told his story. I return to Kafka’s motives later on. In any case, the saga of Red Peter took on a life of its own. Not only did it foreshadow recent discussions of the use and treatment of laboratory animals, it also anticipated language experiments with chimpanzees, including Nim Chimpsky, and the idea of chimp-human transcendence, beyond the almost-culture rhetoric of beyond-nature.

Kafka’s story is centered on a chimpanzee who is captured on the Gold Coast of Africa and five years later, following a traumatic experience, is able to deliver an account of his life: “Honored members of the Academy! You have done me the honor of inviting me to give your Academy an account of the life I formerly lead as an ape” (Kafka 1983: 250). After capture, when he came to his senses, Red Peter found himself inside a cage: “The whole construction was too low for me to stand up in and too narrow to sit down in . . . Hopelessly sobbing, painfully hunting for fleas, apathetically licking a cocoonut, beating my skull against the locker, sticking out my tongue at anyone who came near me . . . But over and above it all only one feeling: no way out” (Kafka 1983: 252–253).

Red Peter offers an account of how he acquired language. One evening he took hold of a schnapps bottle and “like a professional drinker, with rolling eyes and full throat, actually and truly drank it empty,” and in the heat of the moment “called a brief and unmistakable ‘Hallo!’ breaking into human speech, and with this outburst broke into the human community, and felt its echo: ‘Listen, he’s talking!’ like a caress over the whole of my sweat-drenched body” (Kafka 1983: 258). At the same time, he offers some witty observations regarding his spectacular transition to humanity. Breaking into the human community by means of speech meant bypassing the evolutionary past, transcending the nature of the ape:

The strong wind that blew after me out of my past began to slacken; today it is only a gentle puff of air that plays around my heels . . . To put it plainly, much as I like expressing myself in images, to put it plainly: your life as apes, gentlemen, insofar as something of that kind lies behind you, cannot be farther removed from you than mine is from me. Yet everyone on earth feels a tickling at the heels; the small chimpanzee and the great Achilles alike. (Kafka 1983: 251)

“And so I learned things, gentlemen,” Red Peter concludes, “My ape nature fled out of me . . . With an effort which up till now has never been repeated I managed to reach the cultural level of an average European” (Kafka 1983: 258). Those listening to Red Peter are impressed by his account and his accomplishments. One of them observes (Kafka 1983: 261): “Terrific achievement. To cast off apehood in five years and gallop through the whole evolution of mankind!”

Why would Kafka write such a narrative? As already mentioned, he may have been inspired by Köhler’s account of the chimpanzees in Tenerife. There must be more to the story, however. Coetzee (1999: 15) speculates, partly through his fictive character Elizabeth Costello, a moral philosopher and animal rights activist, that the saga of Red Peter on the variety stage may have been “an allegory of Kafka the Jew performing for the Gentiles.” Coetzee (1999: 32) has Costello reason: “If Red Peter took it upon himself to make an arduous descent from the silence of the beasts to the gabble of reason in the spirit of the scapegoat, the chosen one, then his amanuensis was a scapegoat from birth, with a presentiment, a *Vorgefühl*, for the massacre of the chosen people that was to take place soon after his death.” Kafka, Costello (1999: 40) suggests, saw both himself and Red Peter “as hybrids, as monstrous thinking devices mounted inexplicably on suffering animal bodies.” Levinas similarly juxtaposes chimpanzees and Jewish prisoners of war under the Nazi regime: “We were subhuman, a gang of apes” (quoted in Derrida 2008: 117). Derrida comments that the animal “remains for Levinas what it will have been for the whole Cartesian-type tradition: a machine that doesn’t speak, that doesn’t have access to sense, that can at best imitate ‘signifiers without a signified’ . . . , *a sort of monkey with ‘monkey talk’*” (2008: 117; emphasis added).

Whatever the concerns or motives that drove Kafka to write the story, the plot seems to anticipate several highly modern issues – the case of Nim Chimpsky, the biography of Cheeta, the expanding animal rights movement, the unprecedented subjugation of the animal, the biopolitics of life itself, and increased attention to interspecies relations in social theory – all of which figure prominently in the unfolding and collapse of the nature/society divide.

7.2 The life and work of Nim Chimpsky

Serious language experimenting with chimpanzees began in the 1950s. The Hayes tried to teach “Vicki” to speak, raising her as if she were a human child. Apparently she only learned four words in six years (“mama,” “papa,” “cup,” and “up”). Later, the Gardners taught Washoe, caught in the wild in 1966, gestural language, realizing the inadequacies of chimpanzees’ vocal chords for forming words. Washoe accumulated 150 signs in five years, appearing to make sentences and invent new combinations like “candy fruit” (for “watermelon”). The study of Nim Chimpsky signaled a brave new era of ape research and language experimenting, with intense socializing, this time in the wilderness of hippie Manhattan. Sometimes, however, the goal of rigorous testing and observation was overshadowed by a chaotic atmosphere and frequent changes in personnel.

Nim was born on November 19, 1973 in Norman, Oklahoma. His mother was Carolyn, a wild-born eighteen-year-old, imported from Africa as an infant and sold to Chicago Zoological Society. The same year Nim was born, Geertz (1973: 66) summed up attempts to distinguish between species in terms of difference in kind rather than in degree: “Man can talk, can symbolize, can acquire culture, this argument goes, but the chimpanzee (and, by extension, all less-endowed animals) cannot. Therefore, man is unique in this regard.” Geertz’s qualification “this argument goes” seems to suggest that statements about human uniqueness had been elevated to clichés; such attempts, he argued metaphorically, “see adulthood as a sudden transformation of childhood and miss adolescence altogether” (1973: 66).” Devoid of sign making, non-human animals – our presumed closest relatives chimpanzees – were mere signifiers. Nim would become a test case, potentially resolving the issue on the language device highlighted by a famous debate between Skinner and Chomsky (Chomsky 1959) – whence the name “Nim Chimpsky.”

The experimental subject began his stormy life as “number 37” in primate records. About two weeks old Nim was sent to New York, to join a human family and to participate in a major ape language study at Columbia University, Project Nim, led by psychologist Herbert S. Terrace. Terrace’s aim (1987) was to raise the chimpanzee as if he were a human child and to explore whether he could learn to use American Sign Language (ASL). This would

be a challenge to the thesis often attributed to Chomsky that language is inherent and unique for humans. As Nim’s biographer remarks, “Like race-horses breathlessly running around the track, the chimps and the psychologists who were training them were headed toward an elusive finishing line, where Skinner and Chomsky – each with an entourage of followers – stood, waiting to judge the race” (Hess 2008: 132). While thousands of primates (monkeys and apes) lived in laboratories during the 1980s, none of them received the same attention that was shown to Nim. He became a public sensation, frequently discussed in the media. At one point anthropologist-novelist Kurt Vonnegut visited him.

At first Nim was adopted and raised by psychology student Stephanie LaFarge. She would nurse him in her family apartment along with her own children; for a while Nim requested breast-feeding from his “mother,” and LaFarge’s daughter Jenny once asked if Nim was a new baby or a new pet. At Columbia, Nim’s linguistic performance and abilities were subjected to numerous inscription devices, translated into tables and graphs. While few of the instructors were fluent in sign language, Nim turned out to be a real signer. One of the dialogues he had was as follows: “What do you want to do?” / “Rick tickle Nim” / “Tickle where?” / “Tickle here” (see Anderson 2004: 278). In the course of his life, Nim encountered a series of nurses, teachers, labs, and experiments – engaging several families, research teams, and universities in a somewhat unique living laboratory. Most of the people who came anywhere near him developed a personal relationship with him; Nim would play a joke on them or teach them a sign. No one, however, wanted to be stuck with a chimpanzee for good. When the project ran out of funds and Nim’s family, friends, and bosses had turned their attention to other things, he was sold to a medical lab to be the subject of experiments. Eventually, thanks to the intervention of some of his human friends, he was placed in a sanctuary in Texas. There he showed signs of depression, but later he settled in with the inmates, gradually assuming a central place: “He watched the other animals – elephants, giraffes, monkeys, and gibbons – from a captain’s walk in his cage as they arrived at the ranch” (Hess 2008: 320). On March 10, 2000, he had a massive heart attack in the middle of playing. A few days later, a small group gathered for a memorial. Only one representative from Project Nim showed up, Stephanie LaFarge.

Many of those who followed accounts of the language experiments at Columbia in the media and the literature expected that Terrace and his colleagues would proudly announce that Nim had become the first ape to demonstrate a human kind of language structure. However, Terrace asserted to the contrary in a *Science* article (Terrace *et al.* 1979) that there was no evidence that Nim had any ability to string signs together in the manner of human language. Marks (2002: 182) sums up the results of sign-language experiments

with apes: “First, they do have the capacity to manipulate a symbolic system given to them by humans, and to communicate with it. Second, unfortunately, they have nothing to say. And third, they do not use any such system in the wild.” Language, Marks (2002: 184) goes on, “is just not a chimpanzee thing.” Terrace’s conclusions, however, may have been biased against Nim, complicated by other concerns: “Was it possible that Terrace had taken such a negative view of Nim’s abilities because dumping a language-using, humanized ape back in a cage with non-language-using chimpanzees would be worse than doing that to an animal without the ability to use language?” (Singer 2011; see also Terrace 2011). Significantly, some of Nim’s caregivers were surprised by Terrace’s apparent surrender – his “change of mind,” to use his own words. After all, Nim would make sentences much like a human child, initiating conversations that could hardly be pure imitation. Moreover, to some he showed signs of self-awareness and strong emotional bonding. Other studies, notably Savage-Rumbaugh’s keyboard signing with the bonobo (pygmy chimpanzee) “Kanzi” (Savage-Rumbaugh and Lewin 1994), born in 1980, seem to have reopened the issue of the uniqueness of human language.

Despite all the experimenting with apes and language, it has been difficult to settle what was taken as a Chomsky–Skinner issue. But perhaps both sides of the debate missed the point. Recently, the intellectual front-line has moved from the innate language device to other issues, to experimenting among chimpanzees with problem solving and prosocial behavior, studies of the evolution of social interaction, genetic analyses, phylogenies of language, and doubts about language universals – to mention a few related themes.

7.3 Becoming primates, becoming human

Early reflections on chimpanzee communication tended to emphasize the role of imitation in vocal signaling, its limits, and its developmental and evolutionary implications. If human language was not simply the gift of God, why and how did it emerge and what, if anything, might be learned from chimpanzees and other close relatives? These were central and heated issues in nineteenth-century discussions, involving, among others, C. Darwin, M.M. Müller, E.B. Tylor, and R.L. Garner. In *The Descent of Man* Darwin suggested that imitation might have been the forerunner to the language of “barbarous races” and, eventually, civilization:

The strong tendency in our nearest allies, the monkeys, in microcephalous idiots, and in the barbarous races of mankind, to imitate whatever they hear deserves notice. As monkeys certainly understand much that is said to them by man, and as in a state of nature they utter signal-cries of danger to their fellows, it does not appear altogether incredible, that some unusually wise apelike animal should have thought of imitating

the growl of a beast of prey, so as to indicate to his fellow monkeys the nature of the expected danger. And this would have been a first step in the formation of language. (Darwin 2008: 239)

Such ideas seemed to draw upon fairly common perceptions of higher apes as masters of mimicry. Indeed, many languages have words related to “aping” for the act of copying.

At the beginning of the twentieth century, evolutionary speculations about the mentality of primates gave rise to behavioral, psychological experimenting. In their book *Ape, Primitive Man and Child: Essays in the History of Behavior* Luria and Vygotsky extended evolutionary reasoning to ontogenetic theory and observation, maintaining the tripartite distinctions made earlier by Darwin, Köhler, and others about the mentality of chimpanzees, primitives, and humans: “The absence of even the rudiments of speech, in the broadest sense of the term – the ability to make a sign, to introduce auxiliary psychological resources – that everywhere distinguishes human behavior and culture, is what draws the boundary between the apes and the most primitive man” (Luria and Vygotsky 1992: 31). This picture was radically changed through numerous studies of behavior and tool use among a variety of non-human animals. New insights were generated, for instance, by detailed field studies among chimpanzees in the wild pioneered by Goodall’s book *In the Shadow of Man* (1971), based on participant observations in Tanzania in the 1960s. Another important chimpanzee study was that of Kortlandt (1986), who explored tool use in Guinea and Liberia. His evidence suggested that chimpanzee communities had copied habits of cracking oil-palm nuts by means of stone tools from local farmers after careful observation. These communities, Kortlandt suggested (1986: 77), “may represent the first identifiable cases of direct cultural transmission of technology from man to animal in the wild.”

Over recent years, research in several fields, including anthropology, genomics, archaeology, primatology, cognitive psychology, and linguistics, has redefined the historiography of humans, their ancestors, closest relatives, and means of communication (see, for instance, Gibson and Ingold 1993, Marks 2002). At the same time, claims about what counts as grand narrative have changed. In particular, with the development of the “modern evolutionary synthesis” of the 1940s and the “new genetics” of the 1960s onwards (Palsson 2007), skeletal material was moved from the center towards the margin. Some biological anthropologists began to see bones as secondary to DNA sequences and gene frequencies. There is broad agreement on some things – including rough timelines, evolutionary trajectories, and biological and behavioral differences – although many important theoretical issues remain unsettled and debated.

About six million years ago, a population of African apes separated into two distinct species, eventually leading to humans and chimpanzees (see, for

instance, Cavalli-Sforza 2000: 57). *Homo sapiens* arrived on the scene about 500,000 years ago and modern human language between 50,000 and 150,000 years ago. One of the evolving narratives on the evolution of language in the wake of the new genetics is that of the “Forkhead box P2” or *FOXP2* genes. Recently it was reported that the language problem associated with the so-called KE family in Britain, a partially compromised ability to speak and process words, was linked to a mutation in one of their two *FOXP2* genes (Lai *et al.* 2001). Almost immediately, this discovery sparked some evolutionary speculations. Human *FOXP2*, at most 200,000 years old, it was argued, signaled a selective sweep paving the way for modern language (Krause *et al.* 2007). The two amino changes involved in humans seem to have occurred after they separated from chimpanzees.

Neandertals, who split off from modern humans more than half a million years ago, turn out to have the same two changes in their *FOXP2* as modern humans. Their case may be particularly interesting, due to their close phylogenetic affinity to modern humans, but here the only evidence available is that of skeletal material. It is only very recently that a Neandertal genome has been sequenced, by Svante Pääbo and colleagues. It now seems, given Pääbo’s evidence, that humans and Neandertals were not only contemporaries for a long time, they also interbred (see Kolbert 2011). These developments signaled a kind of truce in debates between biological and physical anthropologists about what kinds of material provide the best data about the hominid past; skeletal material was *still* useful – albeit on limited terms – as the source of DNA. Had Neandertals or other relatives closer to us than chimpanzees survived to the present day and we were in a position to interact with them next door or “in the wild,” our fascination with human exceptionalism and the capacity for language might have been subdued – and chimpanzees would probably be far less appealing as experimental objects and liminal icons illuminating the nature/society divide. Would we simply attribute liminality to another species, drawing the lines with higher resolution, focusing on Neandertals, applying the Tshiluba notion of “mock human” (*kivili-chimpenze*) – or some equivalent – to Neandertals rather than chimpanzees? Or would we perhaps take the existence of Neandertals as evidence of continuity, representing “adolescence,” to use Geertz’s analogy mentioned above, the smooth transition from childhood to adulthood in hominid evolution? Would we, in other words, have relaxed our assumptions about human uniqueness? But, then, evolution and history would have unfolded differently and we have no way of knowing who would be “us” in “our” accounts, or how.

Some geneticists and cognitivists imagine the *FOXP2* saga has established order in the house, finally testifying to an innate language faculty, attributing it to a couple of genes. The jury, however, is still out. Other developments – in particular, the emerging evidence of epigenetics – suggest the roles of DNA

and the connections between genotype and phenotype are not only highly complex but also non-deterministic (see, for example, Moss 2003). Perhaps when reflecting on the issue of the genetic roots of language we might keep in mind an earlier moment in the history of experimenting with chimpanzees: Just as the Gardners realized that despite her inadequate vocal chords Washoe might not only learn to “speak” by means of sign language but also to teach her adopted son some signs, should we not consider the possibility that humans are capable of language whatever the mutations on the *FOXP2* genes? Genetic avenues into history and relatedness have undoubtedly proved quite powerful, but they are likely to be redirected in the future with the growing destabilization of gene talk – much like the single-minded bone talk of the past with its cephalic index and measurements.

We might also keep in mind that the broad quest for language has not only been extended to other primates but also to many other far more distant relatives, including whales and dolphins (Rendell and Whitehead 2001) and even “lower forms of life” such as honeybees (Crist 2004). The dance of the honeybee, Crist (2004: 35) observes, disturbs “‘the great chain of being’ still at large . . . ; the picture of man (and other ‘higher mammals’) at the apex and invertebrates in the basement of a hierarchy of ability and value.” While many people probably find it mind-blowing, to say the least, to attribute mind and language to insects, creatures way below primates and mammals in the cladograms of evolutionary discourse, it has been notoriously difficult to exclude honeybees from the republic on fair and objective grounds (for another view, see Anderson 2004).

7.4 Why language?

Whatever the genetics of language, a larger issue remains: Why would we remain focused on the autonomy of language – on “language . . . in and for itself,” as Saussure (1959: 232) had it? In fact, a series of recent studies of primate comparison have emphasized the interactive precursors to language at the cost of genetics and an innate language faculty. Thus, Tomasello (2006) suggests that rather than placing human forms of communication at the center of evolutionary inquiries one should start with the foundation on which they rest, with uniquely human forms of collaborative engagement, including shared intentionality. “Many of the aspects of language that make it such a uniquely powerful form of human cognition and communication,” he argues, “are already present in the humble act of pointing. And so in searching for the phylogenetic roots of human linguistic competence, we might profitably begin with the pointing gesture” (Tomasello 2006: 518). Apparently, apes do not point declaratively; they may point imperatively with an individualistic motive, to say “Gimme water!” or something like that, but they do not simply

summon our attention by saying “Look!” to share an attitude about a referent. If this is the case, for chimpanzees gestures are procedures for getting things done, not a matter of intersubjective experience. One wonders, however, if honeybees point declaratively in the process of dancing. Or sperm whales with their sonar clicks.

Given Tomasello’s perspective, “[a]sking why only humans use language is like asking why only humans build skyscrapers, when the fact is that only humans, among primates, build freestanding shelters at all” (2006: 520). Similarly, Levinson (2006: 44) maintains that through our fixation on innate linguistic structures we have overlooked the critical issue of everyday human interaction, the “interaction engine,” “a set of cognitive abilities and behavioural dispositions that synergistically work together to endow human face-to-face interaction with special qualities” – a precursor, perhaps, to the virtual social networks of Facebook and Twitter. Many experimental studies have followed such leads, emphasizing chimpanzees’ “theory of mind” and prosocial behavior such as generosity and altruism. Schmelz, Call, and Tomasello (2011: 2), for instance, conclude from their study of chimpanzee mentality: “If we define thinking as going beyond the information given in perception to make inferences, we may conclude that not only is thinking not the exclusive province of human beings, but thinking about thinking is not either.”

If there is some kind of innate language device, organ, or faculty, it should be manifest in some universals common to all languages. Assuming that we adequately cover or reflect the variety of human language, it is pertinent to ask, as Foley (2005: 46) does: “If the knowledge of language is innate, simply the flowering of a pan-human ‘language instinct,’ how can we account for the obvious significant variation in the structure of human languages?” Some studies have introduced computational phylogenetic methods to address the nature of constraints on linguistic diversity in an evolutionary framework (Dunn *et al.* 2011). Interestingly, however, while geneticists claim to have located “the language gene” accounting for unique characteristics of human communication, linguists are busily challenging the core Chomskyan notion of language universals. There seem to be good grounds for taking any claims about language universals with a grain of salt. For one thing, claims about universals have been questioned on the grounds of a few detailed empirical studies of non-Western languages. Thus, both Foley (2005) and Levinson (2009) have objected to Pinker’s (1994: 284) claim that “in all languages words for objects and people are nouns . . . words for actions and changes of state are verbs.” Foley (2005: 59) concludes on the basis of studies of Tongan and Tagalog: “Whatever is innate or ‘instinctual’ . . . – and therefore fixed – in humans acquiring language, it can be neither the noun-verb distinction nor any connection between nouns, objecthood, and categorization of

verbs, eventhood, and predication. These connections are learned, not preset, because . . . the lexicon and grammatical patterns can be built otherwise.”

There may be universals, but they are not of the kind normally assumed. Generalizations, however, are difficult if not meaningless due to the problem with variation; only a fraction of the 5,000 or more languages spoken today have been documented and studied by linguistic methods (Evans and Levinson 2009). The issue of language variation is not a trivial one. One of the persistent problems with generalizations about the structures of language is that they have been based on a limited and possibly skewed sample: “One could probably justifiably characterize the efforts of much scientific (and not so scientific) linguistics in [Greco-Latinate] . . . languages over the last few centuries as a kind of linguistic imperialism (killing off indigenous languages being another, more pernicious kind)” (Foley 2005: 60). Ironically, keeping in mind Derrida’s concerns with animals – with pluralizing the “animal,” the brutality of humans to non-humans, and granting voice to other species – this kind of imperialism is echoed in Derrida’s own work (2008), in the lack of sensibility to ethnographic variation.

7.5 Human–animal relations of production

Non-human animals play an increasing role in the biotech mode of production, mainly in the context of biomedical experiments and the production of organs for human use. How should one typify human–animal relations in this context? While Marx did address the work carried out by animals at several points, some of his characterizations, as already suggested, are likely to sound anthropocentric, narrow, and outdated to many modern readers. Reluctant to allow for the possibility that animals might “produce,” he was at pains to make a radical distinction between humans and animals in this respect:

In creating a *world of objects* by his practical activity, in his *work upon* inorganic nature, man proves himself a conscious species-being . . . Admittedly animals also produce. They build themselves nests, dwellings, like the bees, beavers, ants, etc. But an animal only produces what it immediately needs for itself or its young. It produces one-sidedly, whilst man produces universally . . . An animal produces only itself, whilst man reproduces the whole of nature. (Marx 1959: 276; emphasis in the original)

Drawing upon Marx’s critique and at the same time going beyond his anthropocentrism, Haraway’s work *When Species Meet* is a major treatise on many of the issues invited by the biomedical mode of production – the equivalent, perhaps, in the domain of human–animal relations to Marx’s *Capital*, vol. 1 (appropriately, early on Haraway seems to have used the working title of “Biocapital, vol. 1” for her work). Haraway (2008: 62) emphasizes that humans and their “companion species” emerge as “mutually adapted partners in the nature-cultures of lively capital” and that it is time to think hard about

the “encounter value” generated by such mutual adaptation. This encounter value, she suggests, remains underanalyzed and might be more fruitfully addressed by returning to Marx than by attending to the now fashionable bioethics of animal rights: “The Marx in my soul keeps making me return to the category of labor . . . My suspicion is that we might nurture responsibility with and for other animals better by plumbing the category of labor more than the category of rights, with its inevitable preoccupation with similarity, analogy, calculation, and honorary membership in the expanded abstraction of the Human” (Haraway 2008: 73).

There is no good reason, indeed, for excluding the generative powers of animals from the production process. Many foragers present their prey as benefactors engaging in mutual collaboration with humans, in a somewhat Marxian fashion: “Marx could hardly have imagined an Algonquian labor process in which humans and animals successively participate as producers of the other, the animals willingly surrendering the ‘product’ of their own bodies and the hunters returning it to them as cooked food, all figured in the idiom of ‘love.’ But his reflections on an authentically social labour process are evocative of the benefactive model of Cree–animal relationships” (Brightman 1993: 188).

With advances in functional genomics, cross-species research has reached new levels, manufacturing animals that serve as substitutes for human experimentation, testing the limits of anthropocentrism, and posing engaging questions about liminality and ethics. As Hoeyer and Koch (2006: 387) point out, cross-species research in genetics “erodes” the distinction between humanity and animality, challenging the notion of unique human worth, one of the fundamental notions of bioethics frequently introduced in debates on research and experiments involving human embryos. Here, as elsewhere, it may be essential to relax or destabilize some of the ethnocentric assumptions of the grand narratives of Western biology and bioethics. Drawing upon her ethnography from a Papua New Guinean context, Bamford (2007: 27) argues that “[i]f ‘crossing’ species boundaries is threatening to the social order of the West, for Kamea, by contrast, it is constitutive of it.”

7.6 Conclusions

It seems likely, given the evidence of recent primate studies, that human language is just the tip of the evolutionary iceberg, based on the broad foundation of sociality that we share to one degree or another with at least our closest relatives. How to read this theoretically, however, is another issue. One common reading is the dualistic one, assuming the separate but interlinked systems of biology and culture, nature and society (Richerson and Boyd 2008). A rather different reading, drawing upon developmental-systems theory

and related developments in several fields – in particular, anthropology, psychology, and philosophy (Descola and Palsson 1996, Oyama 2000, Ingold 2001) – seeks to collapse biology and culture. The great challenge is to picture humans, chimpanzees, and other beings as constituted by, and embedded in, a single, integrated ensemble of biosocial relations (Palsson 2013), and to explore what such a perspective might entail for the understanding of communication, language, and cognition as they unfold in the stream of life and, more broadly, for the understanding of the human condition and for the refashioning of disciplines traditionally erected around the nature/society divide. The “nature” with which we are born and which we develop is thoroughly biosocial, embodied through human activities.

Cognitive nativists and evolutionary psychologists (see, for instance, Pinker 1994) draw upon Chomsky’s notion of the language faculty to argue that human language is unique, a pan-human skill engraved in our genome thanks to selective pressures during the hunter-gatherer past, pointing out that it is effortlessly acquired by children and universally manifested in the diverse languages of human history and dispersal. Judging from the accounts just discussed, the language universals are still on the run and nativist theory about the uniqueness of human language remains unconvincing. Interestingly, in his co-authored *Science* article Chomsky seems to have distanced himself from the thesis of human uniqueness: “The available data suggests a much stronger continuity between animals and humans with respect to speech than previously believed. We argue that the continuity hypothesis thus deserves the status of a null hypothesis, which must be rejected by comparative work before any claims of uniqueness can be validated. For now, this null hypothesis of no truly novel traits in the speech domain appears to stand” (Hauser, Chomsky, and Fitch 2002: 1574). For some scholars, this must count as a radical shift in perspective, given Chomsky’s earlier writings, a shift that seems to have irritated some of his followers (see Haraway 2008: 235). Yet, although the conclusion of the *Science* article may have violated some linguistic orthodoxy (Anderson 2004), for Chomsky it need not have represented a major move. In his *Knowledge of Language* he suggested that the language faculty is “a distinct system of the mind/brain, with an initial state S_0 common to the species . . . and *apparently* unique to it in essential respects” (Chomsky 1986: 25; emphasis added), adding, however, an important footnote: The questions of “innateness and species-specificity are distinct” (1986: 48, fn. 13), he argues, emphasizing that he has avoided confusing the two. Perhaps, then, *both* chimpanzees and humans acquired a language device in the course of evolution, and possibly sperm whales and honeybees as well. Alternatively, it might be argued, *neither* the language of humans nor that of chimpanzees and other “lower” creatures is best attributed to anything that may be identified as an innate language device. Perhaps the *absence* of

universals, too, should be taken as the null hypothesis, to be challenged by further comparative work.

A few decades ago, anthropologists imagined they could safely cling to the cliché that only humans were capable of tool making, inferences, subjectivity, and, above all, language – in sum, of making and having “culture.” In spite of, perhaps because of, their focusing on comparison and evolution, their perspective has largely remained anthropocentric. Step by step, however, each of the traditional indicators presumed to demarcate human culture and mentality from the natural world of non-human animals – tool use, signing, cultural transmission, emotional bonding, sociality – have proved to be erroneous, flawed, exaggerated, or far more complex and tricky than previously anticipated. And language no longer occupies center stage. Despite all the attention he received, Nim Chimpsky may not have made history, at least not in the context of theory of mind and language. However, while he didn’t contribute much to syntax and semiotics, he was clearly capable of responding, playing, and suffering. If ever there was a serious attempt to cultivate a chimpanzee (or for that matter, any non-human animal) – to “cast off apehood,” as the story of Red Peter had it – it was Project Nim.

As we have seen, chimpanzees are often presented as a border species, almost endowed with speech, almost human, almost in culture. Reaching out to chimpanzees, whether through sign language in experimental settings or participant observation in the wild, has often been rhetorically represented as communication across the nature/society divide, as a handshake through millions of years. The researchers involved seem to imagine they have managed to gallop back through evolution – much as Neil Armstrong triumphantly announced a “giant leap for mankind” across space, when landing on the moon. As a liminal species, chimpanzees keep attracting our attention, offering a kind of view-from-afar on us, across great divides. Such divides, Fox Keller (2000) suggests, represent a persistent, if not unavoidable, “mirage.” For a growing number of scholars in a variety of disciplines it seems both essential and feasible to move beyond the mirage. In the absence of a better non-dualistic language, the notions of becomings and biosocial relations (Ingold and Palsson 2013) may help to challenge current understandings of the division of biological and social anthropology and their essentialist takes on key issues, including those of human nature and relatedness and the interdependencies of humans and other kinds of beings. Chimpanzees, just like humans, are ensembles of biosocial relations, relational beings continually becoming with other beings, including humans.