

# Conclusion

## *Sensing Our Place in History*

This book began in the Yerkes National Primate Center archive, with the index cards for films of a chimpanzee named Mona that were catalogued alongside her actual body parts. This filing system, in which film was equated with amputated limbs, evokes what Scott Curtis calls “tactile historiography.”<sup>1</sup> Curtis writes that such a form of historiography reflects the process of “handling” film used by scientists, who push and pull the medium to fit their different disciplinary goals. Curtis observes that film historians also use a tactile approach to reveal film’s past uses, meanings, and significance. But he simultaneously makes clear that the term represents the physical constraints of film even as it points to their malleability, the ways in which they resist scientists’ or historians’ attempts to shape their meaning. Deploying Curtis’s method requires one to massage moving image artifacts for markers of the past—the scientific aspirations, political contexts, and intended audiences that guided their production—while also remaining aware of the role that physical, material, and, in the case of Mona, corporeal specificities equally shaped the production of each image. Beyond the institutional, cultural, and historical frameworks that created celluloid specimens, they remain tied to the animals they were made to study.

Throughout the book, I have tried to demonstrate why films of animal behavior are worth remembering, watching, and studying. There was a time when these films were parts of a vastly influential scientific and cultural movement. I have shown the multiple divergent theories that led to their production, the differing political stakes of each film, and the aesthetic debates between different fields and individuals within comparative psychology. Additionally, I have highlighted how their animal subjects resisted enclosure, as well as the ways that scientists allowed for, circumvented, or opposed this resistance. From Yerkes’s affectively layered and complex apes; to the decisions of the rats in Miller’s, Mowrer’s, and Calhoun’s

historical reenactments; to the pigeon's status as symbol for historical change, we have seen animals play important and unexpected roles in their participation with laboratory filmmaking, which often escaped the disciplinary goals of their scientist handlers. In as much as celluloid specimens tell a story of the history of science, they also tell the stories of individual animal lives.

Animal experiences are a concrete component of these celluloid specimens, even as they also consistently slip from the grasp of scientists and historians. The question of what these animals experienced when they performed for the camera is a bafflingly elusive one. Despite being the direct subject of study of these films, the animals' internal motivations, identities, and impulses remain a mystery. As Thomas Nagel famously argued, we cannot simply imagine ourselves within the same subject position of these nonhuman agents as they interact with their world in ways beyond our own senses and experiences.<sup>2</sup> Even without seeking to categorically solve such mysteries, one must acknowledge the undeniable uncertainty they introduce into the work, an uncertainty that draws contemporary viewers into a complex relationship of identification and alienation with animals that have been dead for decades.

I believe this relationship an important one for us to engage with in our current moment—that celluloid specimens like those of Mona have something to say to us today. As Rutherford and Mills argue, the fact that behaviorism is no longer a household name or a prominent psychological movement does not mean that it is a relic of the past.<sup>3</sup> We have seen how Skinner's Project Pigeon continues to resonate with contemporary conceptions of the battlefield, and his radical behaviorism has been adopted by contemporary technology companies when selling their wares. But Skinner's are not the only celluloid specimens reflected in our current political, economic, and industrial landscapes. For instance, take the example of recent changes in classroom management. Rivaling the acceleration in IQ testing in Yerkes's World War I exams, the federal No Child Left Behind Act from 2001 mandated that all public schools require standardized testing.<sup>4</sup> Initially sold on the promise of locating and aiding failing schools, the No Child Left Behind Act has run into many of the same problems that plagued Yerkes's tests, reentrenching the disparities of poverty and access to resources rather than leading to more equitable arrangements of the education system.<sup>5</sup>

The rapid defunding of "failing schools" that No Child Left Behind precipitated has created a vacuum that has been filled largely through high-tech solutions. Noliwe Rooks argues that the resultant cyber-classroom, which is often portrayed as a gift to struggling schools, has become a laboratory for major companies like Apple and Google to test out the effects of new media technologies and tracking algorithms.<sup>6</sup> As with Miller's theories of classroom media, the comparison between the laboratory and the school continues to be made and exploited, now by powerful private interests rather than scientists and social reformers. We lose our sense of the stakes of these efforts if we ignore or forget the films of Mona and her ilk.

Furthermore, the creation of celluloid specimens has not faded away but rather exponentially increased. Despite the overwhelming erasure of the behaviorists both from scientific and popular discourses, their methods for creating and using the moving image persist, often transformed through developments in digital imaging technology and interactions with other fields of science. Scientists continue to use cinematic observations of animal research for their nonintrusive accuracy and capacity to lend order to disorderly circumstances.<sup>7</sup> But despite the advent of high-definition video technology, researchers continue to debate the limitations of moving images as substitutes for direct observations of animal behavior.<sup>8</sup> Many of the specific patterns of practice analyzed in this book endure. Like Project Pigeon, a ballooning number of experiments use films as stimuli for testing animal behavior, including experiments into the spectatorship practices of hens, zebra finches, chimpanzees, Japanese quail, and budgerigars, to name a few.<sup>9</sup> In one futuristic reenactment of Skinner's early experiments, pigeon responses to holograms are also now being tested.<sup>10</sup>

Moving images also continue to be used as lab notes for recording and categorizing emotional behavior. Echoing Yerkes's theories of cinematic affect within the digital age, facial recognition algorithms are now being used to track and identify the expressions of videotaped monkeys.<sup>11</sup> Meanwhile, Miller's collapse of media technology and animal bodies can be seen in the enhanced inventions of gene-editing software like CRISPR, which uses animals' own DNA to monitor and transform their biological functioning.<sup>12</sup> In an evocative recent example, researchers at Harvard used CRISPR to encode the genome of a living bacteria cell with a GIF animation of five of the original twelve photographs of Sallie Gardner from Eadward Muybridge's pioneering 1878 animal locomotion studies.<sup>13</sup> Here, the images made at the origin of the celluloid specimen have been resuscitated and inscribed as nucleotides into the very building blocks of life. The conflation of animal body and moving image material could not be clearer.

This book suggests that we should interrogate our current output of celluloid specimens now or risk dealing with their consequences later. If we can be sure of one thing, it is that their techniques will not remain isolated in the lab or continue to be used only on nonhuman animals. Their connections to political, economic, and cultural forces will continue to shape not only our present but also our future in ways that will take a concentrated effort to uncover. Hanging over all these iterations and mutations is the context of our current relationship with animals, one that Derrida characterized as being exponentially more genocidal than ever before.<sup>14</sup> Putting aside the mass slaughter of animals by industrial agriculture, we are now also living through the unprecedented die-off variously called the Anthropocene, the Capitalocene, and the Chthulucene, which threatens to lead to the extinction of countless species of animals at an astonishing rate.<sup>15</sup> Just as John Berger claims that the proliferation of animal imagery at the end of the nineteenth century was a response to the growing absence of animals in urban life, perhaps

the exploding numbers and types of celluloid specimens points to a similar exodus in the face of climate change, one in which humans themselves could eventually be heading toward the exits if there is not a drastic course correction.<sup>16</sup>

Let me end this book by adopting one of the behaviorists' favorite methods: using animal behavior to conceptualize human social practice. In addition to Curtis's "tactile historiography," I want to propose the metaphor of "echolocation" for dealing with both the archival history of celluloid specimens and our current moment. Drawing from Joan Scott's description of identity formation in relation to the past as a "fantasy echo," we might consider historical echolocation as a process through which one navigates the impending unknowns of both the inaccessible past and the not-yet-present future.<sup>17</sup> Scott uses "fantasy echo" to tell a cautionary tale, one in which too heavy a reliance on ahistorical identification with past figures can lead to an essentialized presentism, to seeing the past only as an echo of the concerns of the present. But, following Curtis, we might place some tactile limits on historians' capacity to manipulate the past. Just as scientific films were never infinitely malleable in the hands of scientists, they also resist, to some degree, the manipulations of contemporary historians. We can touch, mold, stretch, bend, cut, or rearrange these objects from the past, but they will never simply reflect our interests. We might then remember that an echo never simply replays the voice of the speaker but also requires another material surface from which to bounce off. Bats, dolphins, and submarines all listen to their own voice but still sense the presence and contours of others through an act of close listening.

Echolocation as historiography would thus be an intentional deployment of our place in the present, careening between the ongoing effects of the past and the upcoming repercussions of the future. The questions I have sought to answer with these films are firmly shaped by my place in this present moment, a moment in which we struggle to picture alternate modes of living with animals, to avoid the disastrous effects of massively asymmetrical distributions of power and resources, to grapple with the long legacies of racial terrorism in the United States, and to contextualize and understand rapid developments in the scientific study of life. Practicing echolocation acknowledges our own place within the disorienting flow of time, where no amount of distance between ourselves and the events we study is enough to produce a disinterested clarity.

For now, we can touch the films of *Mona* (carefully though, since they are rapidly decomposing). We can handle them, dissect them, fixate on a single frame or project them at different speeds. We can compare them to the scientific theories of their maker, read the correspondences detailing their creation, and search for accounts of their screenings. These films remain tactile objects shaped by past events that need to be turned around and studied in all their specificity. But they also are not simply dead objects that remain in some removed elsewhere in the past. They continue to speak in our social and scientific structures today. We can therefore also ask them pressing questions about our present moment, listen

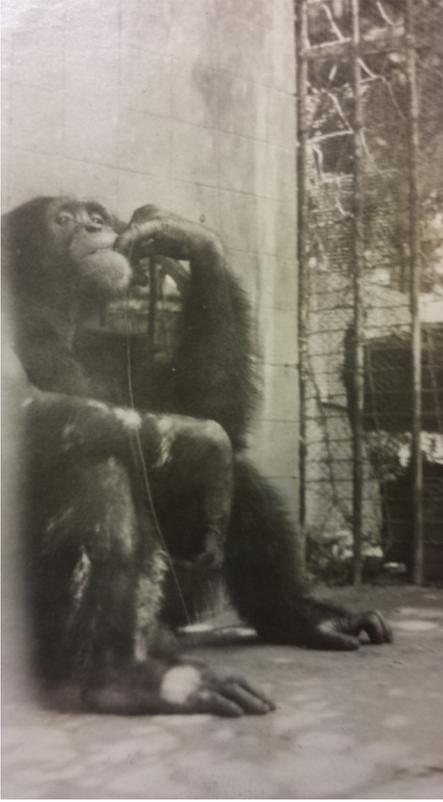


FIGURE 16. Photograph titled “No. 581. Anumá.” Robert Mearns Yerkes Papers (MS 569), box 131, folder 2237, Manuscripts and Archives, Yale University Library.

intently for the sound of our own voice echoing back, and, like a nocturnal or aquatic animal, position ourselves in relation to this response. Like the behaviorists themselves, we can acknowledge that these nonhuman objects have something to say about the way we live our lives and hope they provide a sense of direction as we are carried forward into an unknown future (fig. 16). Mona’s ghost is still speaking for those who bother to listen.