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Encountering *El Tigre*: Jaguars, Knowledge, and Discourse in the Western World, 1492-1945

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**Encountering *El Tigre*: Jaguars, Knowledge, and Discourse in the
Western World, 1492-1945**

by

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Dissertation

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Dedication

For my family,
who inspired this journey and supported me along the way;

In memory of Macho B,
may jaguars long wander in his paw prints;

And in memory of my own El Tigre,
a divine source of feline inspiration.

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Encountering *El Tigre*: Jaguars, Knowledge, and Discourse in the Western World, 1492-1945

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Supervisor: Leo Zonn

The jaguar is one of the most charismatic species found in the Western Hemisphere, and its presence has long resonated with human communities. Throughout history these large spotted cats have evoked a myriad of responses, from reverence and respect, to fear and disdain. Situated within ongoing re-examinations of the place of animals in public discourse, this dissertation examines representations of jaguars from the fifteenth through twentieth centuries, exploring the ways in which knowledge about this species was constituted in the Western world within the evolution of scientific thought and natural history. Locating the jaguar at the intersections of nature, science, and culture, this dissertation is concerned with the ways this elusive species' animality was constructed and represented.

Records produced by Europeans in the New World demonstrate the dynamic ways in which humans imagined the jaguar's physical form, interpreted their actions, characterized their feline-ness, and ultimately, attempted to locate these cats within their own notions of natural order. Loaded within these accounts from the outset are notions of

value, which are as fluid as the positions these cats occupied in ecological, biological, and imaginary landscapes of the New World.

This dissertation examines accounts from prominent explorers, scholars, scientists, authors, and artists, all of whom sought to represent jaguar lives. Drawing from accounts of explorations, guides produced by naturalists, scientific reports, and the letters and journals of those who traveled through the shared margins, these chapters locate the jaguar at the center of its own natural history. These jaguars are a connective thread moving through the span of post-contact natural history, and they keep notable company: from Cortés to Balboa; Alexander von Humboldt to Charles Darwin; and Theodore Roosevelt to Aldo Leopold. All of these men published tales of the jaguar that circulated widely through Western Europe and the United States, playing a significant role in the production of jaguar knowledge. In so doing, the jaguar's tale become one that operates across scales of time and space, simultaneously immediate and localized within these encounters and yet timeless and global, embedded within global circulations of information and power.

Table of Contents

List of Figures	xv
List of Illustrations	xvi
PART I: SPOTTED IN THE WILDERNESS	1
Chapter 1: Encountering El Tigre	1
Prologue: Jaguar, Interrupted.....	1
Representing Jaguars	9
Writing A Spotty History.....	11
Hunting for Jaguars in the Archive.....	14
Organization and Overview of the Dissertation.....	17
Chapter 2: Review of Relevant Literature	20
Social Nature.....	22
Constructing “Nature”	24
Critiquing Social Nature	27
Animal Studies and Animal Representations	32
Locating the Animal	39
Bringing the Animals In.....	40
Placing Animals	41
Animal Treatment and Ethics	44
Conclusion	49
Chapter 3: Foregrounding Jaguar Bodies	50
Jaguar Biology and Ecology	51
Jaguar Morphology	51
Population	57
Diet and Prey Base.....	58
Habitat Selection.....	64
Geographic Distribution.....	69
Historical Range.....	69

Contemporary Range and Population Challenges	75
Conclusion	78
PART II: TIGERS OF THE NEW WORLD: ENCOUNTER, REPRESENTATION, AND KNOWING.....	79
Chapter 4: A Tyger by Any Other Name.....	79
Etymology of <i>Jaguar</i>	80
That Which Seizes/ The Eater/ The Carnivore	81
Body of a Dog.....	82
Eater of Us	87
Tigers of Conquest.....	91
Tygers of the New World	99
A Jaguar by Any Other Name.....	104
Identification in the Field.....	109
Conclusion	111
Chapter 5: Jaguars in the Age of Discovery	112
Natural Inheritance.....	113
Classical Nature	113
The Book of Beasts and Spotted Tigers.....	116
Heraldic Cats and Non-spotted Leopards	118
Men of Conquest and Fearsome Imaginaries.....	122
Valuing Jaguars in Early Empire	126
Jaguars as Impediments	127
Jaguars as Assets.....	129
With Seeing Eyes: Observation, Account, Representation.....	133
Oviedo: Pliny of the New World	133
Gesner's Printed Menagerie.....	137
Dutch Realism and a Jaguar Recognized.....	140
Conclusion	148

Chapter 6: Jaguar History, Naturally	150
The Enlightenment and the Men of the Cabinet	152
A Tiger It Is Not: Comte de Buffon and Jaguar Misrepresentation...	156
Carolus Linnaeus, Bodies Unillustrated, and the Thirteenth Edition	169
Baron Cuvier and a Correction of Course in the Nineteenth Century	172
A New Age of Encounter.....	182
Physical Geography, Physical Encounter: Alexander von Humboldt	184
Charles Darwin, Missed Encounters, and a Theory.....	188
Audubon, Bachman and the Legacy of the Artist-Naturalist.....	192
Conclusion: Jaguars Emerging and Disappearing	201
Chapter 7: Disappearing Jaguars and Evolving Rhetorics at the Dawn of the Twentieth Century	204
The Hunter-Conservationist: Theodore Roosevelt	208
The Author-Conservationist: Ernest Thompson Seton.....	215
The Conservationist-Ethicist: Aldo Leopold and Ghostly Jaguars....	228
Conclusion	233
Chapter 8: Epilogue	234
Appendix: The Origins of Feline Nomenclature	249
Bibliography	251
Vita	269

List of Figures

Figure 2.1: Organization and Cross-fertilization of Literature.....21

Figure 4.1: A Confusing Amalgamation of Species Names and Identification...106

List of Illustrations

Image 1.1: Jaguar, Witte Collection, San Antonio	3
Image 1.2: Author visiting Cockscomb Basin Wildlife Sanctuary, Belize.....	7
Image 1.3: Author Visiting Jaguar rehabilitation program, Belize Zoo	7
Image 1.4: Pat the Cat behind the scenes at the Milwaukee Zoo.	8
Image 1.5: Jaguar cubs at the Milwaukee Zoo.	8
Image 3.1: Jaguar	54
Image 3.2: Leopard	54
Image 3.3: Puma with spotted kitten.....	54
Image 3.4: From left to right, spotting patterns of ocelot, margay, and oncilla	56
Image 3.5: Habitat utilized by jaguars in southern Arizona	66
Image 3.6: Jaguar habitat in southern Arizona	66
Image 3.7: Cockscomb Basin Wildlife Sanctuary in Stann Creek, Belize	67
Image 3.8: Sebastian Cabot’s Mapped Monde 1544.	70
Image 3.9. Detail from Cabot map: Spotted Cat in North America	71
Image 3.10 Detail from Cabot map: cat in South America.....	71
Image 3.11: Illustration from Dr. John Brickell (1737).....	72
Image 3.12: Map of Historic and Current Range.....	76
Image 4.1: Native Amazonian canid, the Maned Wolf	84
Image 4.2: Jaguar and Spanish Mastiff.....	86
Image 4.3: Dogs of the Conquest.....	86
Image 4.4: Coyoacan Codex	89
Image 4.5: Honidus’ Map of Guiana, 1598	95
Image 4.6: “The Jaguar or Tiger of Terra Firma”	100

Image 4.7: Other spotted cat species native to the Western Hemisphere	104
Image 5.1: Felines of the Bestiary	119
Image 5.2: A Spotted Panther	120
Image 5.3: Heraldic Lions and Leopards	120
Image 5.4: Oviedo's "Tigre"	137
Image 5.5: Tigris by Conrad Gesner	141
Image 5.6: Leopardus by Conrad Gesner.	141
Image 5.7: Champlain Manuscript.....	142
Image 5.9: Detail from Map: Caspar Barlaeus (1647).....	144
Image 5.10: Jaguar (top) and Jaguarette (bottom), Marcgrave and Piso.	147
Image 5.11: Paul Potter engravings (1650).....	147
Image 6.1: Buffon's "Jaguar"	161
Image 6.2: Buffon's "Jaguar of New Spain"	161
Image 6.3: Buffon's "Jaguar or Leopard" from the <i>Supplément</i> , believed to be a cheetah. Source: <i>Histoire Naturelle</i> (1792).	162
Image 6.4: Buffon's "Female Panther"	162
Image 6.5: Buffon's "Female Ocelot,"	163
Image 6.6.: Buffon's "Male Ocelot,"	163
Image 6.7: Cuvier's (Great) Jaguar.....	177
Image 6.8: Cuvier's (Smaller) Jaguar	177
Image 6.9: Cuvier's Ocelot.....	178
Image 6.11: Cuvier's Panther	179
Image 6.12: Cuvier's Panther of the Ancients.....	179
Image 6.13 Sam Houston's Leopard Vest	199
Image 6.14 John Woodhouse Audubon's Jaguar.....	199

Image 7.1: Theodore Roosevelt and Jaguar	214
Image 7.2: Roosevelt Hunting Party and Jaguar.....	214
Image 7.3: Seton’s drawing of jaguar tracks.	221
Image 7.4: Seton’s drawing of cat scat..	221
Image 7.5: Seton’s "Range of the Jaguar in North and Central America"	222
Image 7.6: Photographs of a Jaguar	224
Image 7.7: John Phillip’s 1910 photograph of “Old One Fang”.....	225
Image 7.8: Seton’s “The Spirit of the Jaguar”	227
Image 7.9: Seton’s “Crossing the Divide”.	227
Image 8.1: Jaguar “Macho B,” Arizona, 2009	235
Image 8.2: An image of a jaguar taken with a remote camera.	238
Image 8.3: Jaguar sighted in Arizona in 2011	247
Image 8.4: Jaguar captured on remote camera trap in Arizona in 2013	247

PART I: SPOTTED IN THE WILDERNESS

El tigre es un animal
que sólo tiene dos vidas:
una dentro de mí
y la otra en el cuerpo de espacio.

The jaguar is an animal
that has only two lives:
one inside me
and the other in the body of space.

—Elsa Cross, “Jaguar” (1991)
John Oliver Simon, English translation

Chapter 1: Encountering El Tigre

PROLOGUE: JAGUAR, INTERRUPTED

For many months my advisor, Dr. Leo Zonn, encouraged me to begin this dissertation with a narrative. “Tell the story,” he urged. But which story? The jaguar’s story of being “discovered” in the New World? Given their reticent nature, perhaps this is not the story with which the cats would want to lead. The tale of the first three cats to set sail for Europe as trophies of conquest, only to cause calamity on the high seas? Or the jaguar who became a national celebrity, having the fortune to be gunned down by the most famous hunter of all time, U.S. President Theodore Roosevelt? Or perhaps I should start with my story, my own encounters with the felid kind?

I titled this section “Jaguar, Interrupted” early in my writing process, as I stared at this empty page. Behind this singular page, the others filled in: animals, people, history, biology, culture, and conservation. Narratives were constructed through space and time as

theoretical scaffolding took shape, connecting the pieces and containing the empirical data within. Still, the title and a question mark were all that remained on this, the front page.

I came to realize as I wrote that ultimately this dissertation *is* about jaguar lives interrupted. Peering into the historical record revealed lives interrupted by death or capture at the hands of fearful, inquisitive, or overzealous conquistadors, explorers, naturalists, colonists, ranchers, travelers, indigenous peoples, hunters, scientists, and zoo or menagerie collectors. Of course, it was not only through capture and killing that jaguar lives intersected with the lives of humans. Jaguars are affected by humans in complex, intricate ways that we are still coming to understand: habitat degradation, impacts on prey species populations, and global climate change have all interrupted jaguar lives, as individuals and entire populations change their habitat selection, geographic ranges, dietary preferences, and behaviors within these shifting paradigms.

Sitting on the floor of the Witte Museum in San Antonio, Texas one spring morning nose-to-nose with a taxidermied jaguar who once roamed the central Texas landscape, the thought resonated within me that my work was littered with the bodies and memories of dead jaguars (Image 1.1). From historical accounts to contemporary encounters, these jaguars died as a result of encounter with humans. I became increasingly interested in the thought of *encountering* el tigre, and finding within this narrative not only jaguar deaths, but jaguar lives.

This realization ultimately took me back to Belize, where I had conducted research for my undergraduate and Master's thesis in the Afro-Indigenous Garifuna

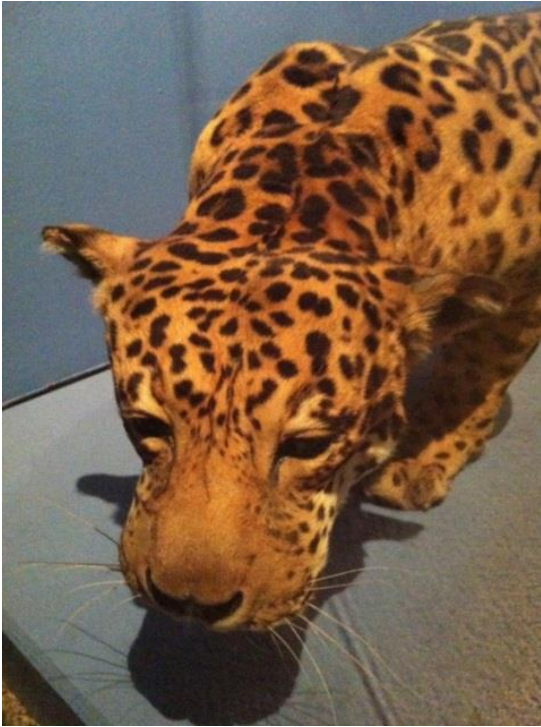


Image 1.1: Jaguar, Witte Collection, San Antonio. Image by Author.

community of Dangriga. While that project had nothing to do with jaguars, it was situated next to Belize's storied Cockscomb Basin Wildlife Sanctuary, famous for one of the densest jaguar populations remaining on the planet. While sitting in a nearby cultural museum conducting my Master's research, there were moments where I longed to be in that forest seeking encounter. And so I returned to Belize, where I had the opportunity to hike the Cockscomb, and to experience jaguar habitats (the cats themselves being far too elusive to typically encounter) (Image 1.2). In Belize, I experienced my own jaguar encounter, not in the wild spaces of the Cockscomb, but within the surrogate habitat of the Belize Zoo (Image 1.3). There, jaguars who have found themselves in conflict with humans, typically because of their fondness for livestock, are "rehabilitated" (conditioned

to captivity) and, if their temperament permits, placed in zoos outside of Belize that participate in conservation breeding programs.

While this dissertation is, at its core, a story of jaguar lives interrupted by human impacts, there is a second narrative that flows like a current beneath the surface. This was also a story of a person's life interrupted. And so, as much as this is a story about jaguars and Americans, there is a subtext—a story about one American and her story adjacent to the jaguar's tale. Ultimately, my own work was interrupted when fate collided into my car at 75 mph one balmy Texas September evening. In that moment, this author was most certainly interrupted. Life has a funny way with the best laid plans; and so my project took on new form and dimension. As I recovered from my injuries, re-acquiring previously taken-for-granted skills, the ways in which I looked at and interacted with the world around me shifted in real, and at times remarkable, ways. As I re-approached my project, I considered new questions, new ways of looking, new ways of knowing—a more reflexive consideration that ventured deeper in the construction of these relationships between humans and animals. This led me to consider the ways in which knowledge is created and how they endure. Looking beyond contemporary conditions to consider the importance of the past in informing these human-animal relationships, I ventured for the first time in my academic career deep into the archives. With this recalibration and expansion of scope, came new perspectives to enrich my work.

There is within this story a measure of balance. I recovered from the accident and lived to write another day. One of those days, I visited the Milwaukee Zoo with my Social Science Research Council Dissertation Proposal Development Fellowship cohort

with our faculty advisor, Dr. Harriet Ritvo and led by one of my committee members, Dr. Nigel Rothfels. He arranged a behind-the-scenes tour of the zoo for our Animal Studies working group. The zoo keepers excitedly informed our group that a jaguar had just arrived from Belize (Image 1.4). This cat, I had heard his name before: Pat the Cat. I stared at this incredibly unhappy cat, shocked by its journey and change in conditions: far from a verdant jungle, removed to a sterile concrete cell. I looked at the cat's coat, and I thought about how jaguar spot patterns are as unique as fingerprints. I consulted with my records later—this was indeed the same jaguar. This cat and I had both come full circle in our own ways, from an encounter in Belize to one in the United States. His life and my life interrupted, but again intersecting in this place and time.

At the Milwaukee Zoo, I found live jaguars, encounter-able jaguars, jaguars who play a very important role in world-wide species conservation breeding initiatives. While Pat's life was certainly interrupted, it was not ended by an irate livestock owner, due in large part to the "Problem Jaguar" program facilitated by the Belize Zoo as a part of The World Conservation Union (IUCN) Species Survival Plan (SSP). Rather than being killed for their predatory natures, these cats live in captivity, contributing through their physical presences in zoos to outreach and education programs and gaining some level of immortality through participation in captive breeding programs intended to ensure the long-term genetic viability of rare and threatened species. Pat's captivity represents the opportunity for the creation of new jaguar lives, a chance, as historian John Coleman saw it, for jaguars to write their own histories by passing down genetic legacies to their offspring (Coleman 2004, 5). On November 13, 2012, two jaguar cubs were born to a

female jaguar (Stella) at Milwaukee Zoo, Pat's first offspring (Image 1.5).¹ Looking into the future, this one interrupted jaguar life may create opportunities again for wild jaguars, as subsequent generations may be part of a reintroduction program into their former range, re-appropriating habitat that was once jaguar space.

This shift in the placement of jaguar bodies prompted me to consider *place* and *value* with regards to animal species in new ways, which ultimately became the foundation of my thesis. With a shifting of site came shifting of situation for Pat: he was physically, symbolically, and theoretically relocated, shifting from predatory pest to a keeper of genetic material and a public figure for outreach and education. This cat had transgressed many boundaries: from wild to captivity; from Latin America to the U.S.; from living a life of jaguar agency to filling a goal constructed by humans by participating in conservation breeding. This shifting of place, and reimagining of value, demonstrate well the ways in which jaguar lives are both removed from humans owing to their physical remoteness, but also clearly impacted by the impacts of these socially constructed notions. These ruminations on place and value became my jumping off point into the historical archive, where I went looking for the origins of these contemporary human-jaguar interrelationships.

¹ These two jaguars were named through public input: one was named by school children in Belize, who selected the historically appropriate name B'alam (the ancient Mayan name for jaguar, translating to "great and powerful king.") The public was able to vote on the name for the second jaguar cub at the Zoo, and selected "Zean" (taken from "Belizean.")



Image 1.2: Author visiting Cockscomb Basin Wildlife Sanctuary, Belize. Image courtesy author.

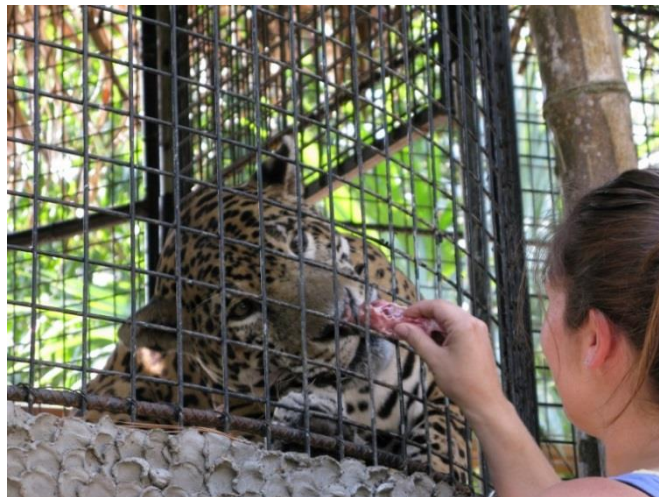


Image 1.3: Author Visiting Jaguar rehabilitation program, Belize Zoo. Image courtesy of author.

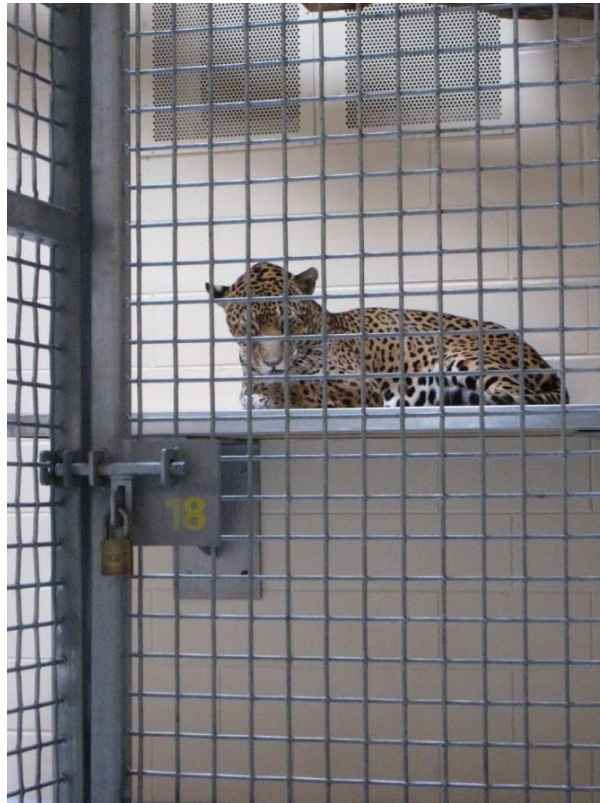


Image 1.4: Pat the Cat behind the scenes at the Milwaukee Zoo not long after arrival.
Image by author.



Image 1.5: Jaguar cubs at the Milwaukee Zoo 2013. Image: Milwaukee Zoo.

REPRESENTING JAGUARS

Jaguars (*Panthera onca*) are striking, charismatic animals. Marked with a rosetted coat and a formidable, muscular build, these cats stood apart from their feline peers of the Western Hemisphere. Throughout history these large spotted cats have evoked a myriad of responses from humans, from reverence and respect, to fear and disdain. In pre-Columbian Mesoamerica, jaguars were made immortal in narrative, religion, and art, enduring in imagery and narratives attesting to the power of their presence. These cats occupied liminal spaces between human and animal, slipping fluidly between constructions as gods, rulers, shamans, and warriors (Saunders 1994, 1998; Benson 1998). After Contact, jaguars occupied very different spaces in the European perspective. In these constructions, jaguars possessed a complex and conflicted set of characteristics, cast as bloodthirsty, fierce, agile man-eaters who were paradoxically clumsy and cowardly once sated (Buffon 1792). Operating as proxies for the insecurities and entitlements embedded within anthropocentrism, Eurocentrism, and Empire, these representations were expressions of competing notions of vulnerability and dominance that simultaneously informed Western interaction with nature, wilderness, wildlife, and the unknown landscapes of the New World.

Locating the jaguar at the intersections of nature, science, and culture, this dissertation is concerned with the ways in which concepts of *place* and *value* are socially constructed for this animal species. This project examines representations of jaguars from the fifteenth through twentieth centuries, exploring the ways in which knowledge about this elusive species' animality was perceived, characterized, organized, and circulated

within the evolution of Western scientific thought and natural history. Situating these discourses within the social, economic and political systems acting at local, national, and global scales reveals the multiplicity of characteristics and meanings attached to jaguar bodies. These discourses play an important reciprocal role in the shaping of human knowledge, attitudes, affections, and actions that produce tangible effects in the physical spaces shared with these animals in the environment, demonstrating that the jaguar is at once removed from physical human populations and yet intricately connected to anthropogenic processes.

Because jaguars prefer areas removed from human occupation, they remain unknown to most humans as physical inhabitants on the landscape. Few people ever encounter a jaguar in the wild. Rather, it is through representation in scientific reports, images, and narratives that the knowledge about jaguars has been constructed and circulated. Through the processes of representation, jaguars are divorced from their own animality, or jaguar-selves, and become discursive objects (Foucault 1969; Woods 2001; Baker 2001). This process must be understood not as a reproduction of the jaguar-as-animal, but a translation whereby the jaguar assumes a new form imbued with human notions of jaguar-ness. The meanings and values coded within this spotted body have changed many times over thousands of years, negotiated and renegotiated relative to social, economic and political contexts. Interrogating the ways in which this knowledge is produced and circulated is very important to understanding the dynamic and conflicted nature of these representations. These representations are extremely powerful,

significantly shaping human actions and policies toward the embodied animal on the landscape.

The “animal turn” in geography has prompted critical reexaminations of the significance of representation and discourse in the construction of knowledge about animal species. This dissertation draws from discursive analysis, offering, as John Hintz notes, “the opportunity to rewrite the discourse, writing back in that which was disallowed or disavowed” (2005, 31). Noel Castree argues that the deconstruction of these discourses presents an opportunity to “denatural(ize) them, that is, showing them to be social products arising in particular contexts and serving specific social, economic, political or ecological ends that ought to be questioned” (2001, 13). This project analyzes the statements which comprised specialized forms of jaguar knowledge and the actions that were taken on the basis of that knowledge, contextualizing them within the structures of the systems that required and circulated this information (see Rose 2001, 136). It is the intent of this project to reveal the constructedness of scientific discourse, opening room for insight into the jaguar lives obscured and ended through mischaracterizations and myths canonized within the discipline of natural history.

WRITING A SPOTTY HISTORY

Animals leave little record of their existence, as they do not maintain archives and histories where we might go in search of their past. Coleman (2004) suggests that through genetic legacy, caring for their offspring, and through other jaguar-y ways of communicating (scrapes, marking, vocalization), histories and memories are passed down

through generations in ways humans cannot fathom. However, for scholars attempting to reconstruct lives of animals past, little remains that testifies to these prior existences. Individual lives are erased as decomposition, hydrologic, aeolian, fire, geomorphic, and other chemical, biologic, or physical processes act upon the landscape, wiping away identifiable traces, tracks, and remains. Uncovering animals in the past frequently requires examination of sources that document those moments of encounter between human and animal, wherein lurk what geographer Michael Woods provocatively terms “ghostly representations” of animal life past (2000, 199). Reconstructing animal histories is complicated by these human records that are, inherently, human-produced. These accounts are typically scarce and frequently bear the marks of anthropomorphism, offering shadowy glimpses of the embodied animal at the center (Fudge 2002). While an animal subject’s experience of a place and time cannot be captured within these records, they reveal moments in the lives (and deaths) of these animals.

Records produced by Europeans in the New World demonstrate the dynamic ways in which humans imagined the jaguar’s physical form, interpreted their actions, characterized their feline-ness, and ultimately, attempted to locate these cats within their own human senses of natural and social order. Loaded within these accounts from the outset are notions of value, which are as fluid as the idea of the jaguar, and the positions these cats occupied in ecological, biological, and imaginary landscapes of the New World.

Through these acts of (re)presentation, animals live second lives outside of their corporeal reality as symbols, subjects, and objects in the discourses of humans. Here,

these rare yet charismatic megafauna experience an imagined population density far greater than actually exists. Despite their rarity, Antonello Gerbi argues that it is important to consider the subject of “tigers” in the New World “because of their popularity and the special attention they have always attracted, on the part of both the general public and the scientific community” (1985, 302). A significant proportion of accounts from European and (later) American explorers, scholars, scientists, authors, and artists who visited jaguar-occupied territories make at least passing mention of these cats. Typically not born of eyewitness testimony, these accounts frequently involve hearsay and legend, further advancing and reinforcing existing rhetoric within jaguar discourse. When jaguars were encountered in the flesh, more often than not, the tale did not end well for the jaguar. Unable to allow this great cat to go on its way, the jaguars were typically either killed out of fear or in the interest of obtaining a trophy, or captured for scientific study or display as a live trophy in a menagerie.

This fascination with jaguars is not an unusual occurrence. Predator species have a unique resonance with humans, their carnivorous natures highlighted by their fearsome appearance and predatory natures. They are nature embodied, red in tooth and claw. Throughout the world charismatic mega fauna are frequently present in cultural discourses, functioning as symbols and proxies for a vast range of beliefs, values, taboos, fears and anxieties (Saunders 1994). The appeal of felines in particular is well documented, as archaeologist and anthropologist Nicholas Saunders observes, “the lion, leopard, tiger, jaguar, and puma have evoked a diversity of cultural responses across the world, and throughout history” (1998, 1). Arguably the most visually remarkable

terrestrial mammal in the Western Hemisphere, cats appear to compel or repel humans in equal measure, prompting Brown and López González to wryly comment, “That the jaguar comes with a reputation cannot be denied” (2001, 4). Occupying this apex niche, coupled with their exotic and compelling appearance, it is little wonder that the jaguar was considered worthy of mention, even by those who did not experience a spotty encounter first hand.

HUNTING FOR JAGUARS IN THE ARCHIVE

In order to reconstruct the ways in which humans encountered and subsequently represented jaguars in the past, I seek to uncover a history of human-jaguar interactions that were inscribed in historical records, accounts, and scientific reports over a span of four hundred and fifty years. This study focuses specifically on materials produced by Europeans and Americans, for the purposes of understanding the ways in which jaguars were collectively constituted within the discourses of discovery, Empire, natural history, and conservation. I have chosen to examine those accounts which were well circulated and popular in their time, owing to their disproportionate impact within jaguar discourse.

These narratives remain relevant today, as jaguar biologists Rafael Hoogesteijn and Edgardo Mondolfi observe, “Most information readily available about jaguars comes from hunting anecdotes and natural history notes” (1993, 6). My intent is to return to these original accounts in order to reconstruct these discourses. I visited archives located at the Smithsonian Institution; The Natural History Museum, London; the Muséum national d'Histoire Naturelle; the Special Collections at the University of Amsterdam; the

University of Texas Libraries; the Harry Ransom Center at the University of Texas; the Briscoe Center for American History at the University of Texas; the Wittliff Collection at Texas State University; the Witte Museum in San Antonio; Louisiana State University Libraries; Texas Tech University Libraries; the Bastrop Public Library; and The University of Arizona. My search was also greatly aided by the ever-increasing availability of primary source material available through library and archive websites. These archives were useful in establishing the ways in which the jaguar's presence was documented, researched, represented and circulated within broader systems of knowledge production and Empire.

Robert Vitalis has noted that, "Those who choose to take the archival turn have their work cut out for them" (2006, 14). At the outset of this project, rigorous archival research was still new to me, and approaching the archives required understanding the techniques and approaches pioneered by historians for rigor, validity, and transparency. Vitalis' writes specifically to scholars not trained as historians who are making a foray into archives, emphasizing the need for returning to original documents when writing a history, rather than synthesizing information published in the works of others (2006). Vitalis argued that it is important for a scholar to visit an archive for oneself and not to rely on the readings, (mis)readings, and interpretations of other scholars. I encountered this almost immediately, discovering that narratives that are a common part of contemporary jaguar lore have been misattributed or poorly translated.

As a cryptic species, encountering a jaguar was not a common experience in the New World. Indeed, some of the men who went looking for an encounter were not able

to arrange such a meeting. Searching for such animals in the archive can be a challenge, as Peter Boomgaard cautions in the Preface to his volume *Frontiers of Fear: Tigers and People in the Malay World, 1600-1950*,

As a warning to those who wish to do similar research... I should point out that, in fact, it can only be done as a sideline. I read hundreds of books in which a few lines on tigers would have been my only reward if I had not been looking at a whole range of other data as well. The tiger (or the leopard and the clouded leopard) is rarely the main protagonist of a book, and in libraries and archives “tiger” is very seldom a key word or a search category (2001, x).

Jon T. Coleman, in the Preface to his *Vicious: Wolves and Men in America*, also remarks on these challenges, although with an invigorated sense of purpose, “...I tried to spot animals in the text. I found them everywhere. Real and imagined beasts surrounded the Euro- and Native American humans at the center of my research” (2004, ix). My experiences reflected those of both Boomgaard and Coleman simultaneously. While jaguars (often referred to as leopards and tigers) were not readily apparent, when one started looking, they did appear throughout accounts—as often encountered on the landscape as in the imaginations of travelers and residents alike. While a majority of the academic work of a jaguar variety is still scientific in nature, a few recent works have begun to locate the jaguar within human culture, including Brown and López González (2001) and Mahler (2009). Within my project, I approach these accounts through a new lens, in order to demonstrate the value of interdisciplinary work connecting a variety of sources in order to better inform our understandings of the production, consumption and deployment of scientific rhetoric.

ORGANIZATION AND OVERVIEW OF THE DISSERTATION

This dissertation is organized into two sections: “Part I: Spotted in the Wilderness” offers background and context for the project and its central subject; “Part II: Tigers of the New World: Encounter, Representation, and Knowing” examines the place of jaguars within the evolution of natural history discourse, from the Age of Discovery to the emergence of rhetorics of conservation in the mid-twentieth century.

Chapter 2 offers a review of literature relevant to this study, beginning with work in academic geography that has sought to deconstruct and make sense of the complex ways in which nature, wilderness, and the environment are socially constructed concepts laden with complex meanings that shift through space and time. Building from this, the literature review takes interest in the rapidly expanding field of Animal Studies, brought about by the “animal turn” in a number of disciplines across the Social Sciences and the Humanities. Finally, the literature review locates Animal Geography at the nexus of these literatures, briefly exploring the fertile ground upon which this study is located.

Chapter 3 introduces the animal subject at the center of this study. Acknowledging the inherent philosophical complications of relying upon representation to re-present this animal subject, this chapter will attempt to foreground the jaguar’s corporeal reality through an overview of the existing knowledge of jaguar lives contributed by studies in ecology, biology and related fields.

This second part of the dissertation examines accounts from prominent explorers, scholars, scientists, authors, and artists, all of whom have sought to recount moments in the lives (and deaths) of jaguars. Drawing from accounts of explorations, guides

produced by naturalists, scientific reports, and accounts of those who traveled through, or lived in, the shared margins, these chapters locate the jaguar at the center of its own natural history. Jaguars are a connective thread moving through the span of post-contact history, and they keep notable company: from Cortés to Balboa; Alexander von Humboldt to Charles Darwin; and Theodore Roosevelt to Aldo Leopold. All of these men published tales of the jaguar that circulated widely through Western Europe and the United States, playing a significant role in the production of jaguar knowledge. In so doing, the jaguar's tale become one that operates across scales of time and space, simultaneously immediate and localized within these encounters and yet timeless and global, embedded within these in circulations of information and power.

Chapter 4 explores the challenge of identifying jaguars on both on the landscape and in the archive. This chapter includes an exploration of the etymology of the term “jaguar,” which has its own complicated history, and also traces the complex issues related to identifying and naming felid species in the wild. Chapter 5 begins with European accounts of jaguars from Contact to the dawn of the Enlightenment (late fifteenth to late seventeenth century), examining the ways in which existing sources of knowledge (classical and religious) obscured jaguars on the landscape, cloaking them as tigers, leopards, and panthers. Chapter 6 examines the canonization of jaguar knowledge within foundation natural history texts from the eighteenth and nineteenth centuries, exploring the complex ways in which this knowledge was constructed and reconstructed within the discourse. Chapter 7 continues into the late nineteenth early twentieth centuries, tracing the place of jaguars within emerging rhetorics of compassion and

conservation. The dissertation ends with a reflection on the themes revealed through this analysis of jaguar discourse and its implications for jaguars and jaguar conservation today.

“I am at two with Nature.”
—Woody Allen

Chapter 2: Review of Relevant Literature

This chapter explores relevant literature that informs this study of the construction of jaguar knowledge and discourse, moving between key resources from Nature and Society, Animal Studies, and Cultural Geography literatures to locate at its nexus Animal Geographies. Informing these key areas is a complex body of literature drawing from diverse areas including Ecology, Conservation Biology, Biogeography, Conservation, Nature and Society studies, Social Constructivism, Representation, and Ethics (Image 2.1). These literatures are not exclusive; rather, reading across this diverse corpus reveals ample spaces for cross-fertilization significant to scholars working within these disciplinary and sub-disciplinary fields.

Until recently animals were largely understudied in humanistic disciplines, but interest has been growing steadily in animals and their interrelationships with human societies. Animals quite literally animate the world, “personifying” nonhuman nature. Broadening discussion of “natures” and “cultures,” to bring the animal alongside the human crosses through a rich terrain of interrelationships and interactions that can expand insight into the complex interrelationships between human society, wildlife, and the environment.

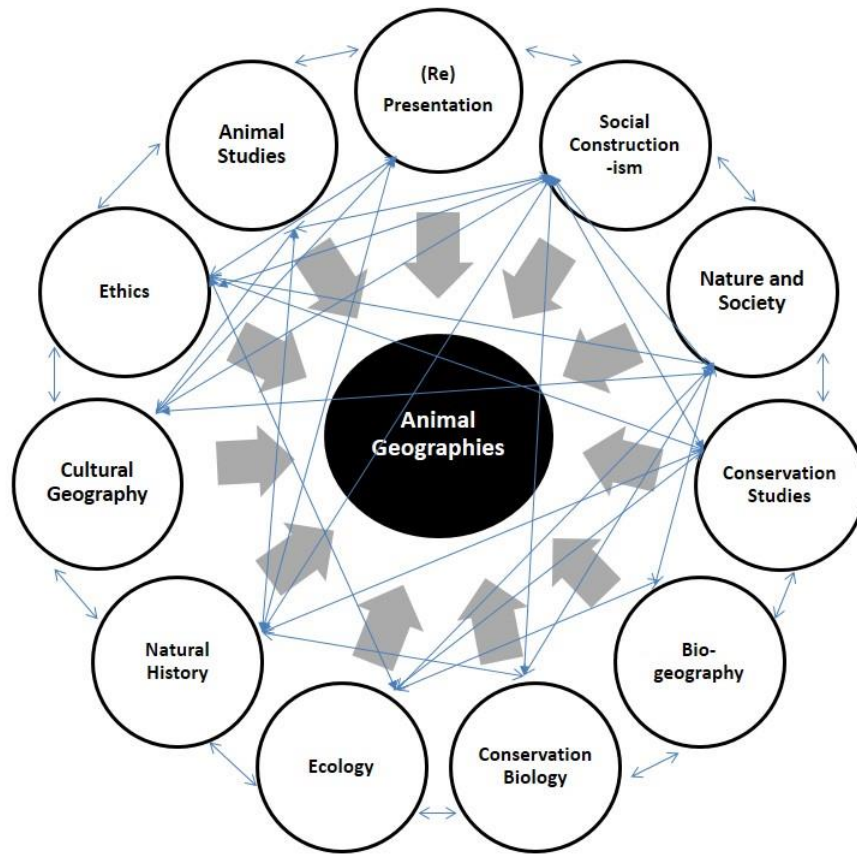


Figure 2.1: Organization and cross-fertilization of literature. Figure by author.

The first section of this chapter examines social construction of “nature,” examining the relative strengths, weaknesses and criticisms of this approach for articulating the interwoven relationships between society, the individual, and the environment. The idea of a social production of nature has been particularly appealing to geographers who have sought a route of navigation through traditional nature-society dichotomies in the discipline (Braun and Castree 2001). The second section of this chapter examines the role of representation of animal subjects, and its treatment within

Animal Studies literature. Finally the third section examines work from within Animal Geographies, informed by Cultural Geography and Geoethics that offer useful perspectives on the ways in which animals are mapped on the landscape and ‘placed’ in human society. Reading across these literatures facilitates theoretical space ideal for exploring the production of jaguar knowledge.

SOCIAL NATURE

Within the past few decades, social constructionism has been embraced as a lens for understanding the ways in which people seek to conceptualize the natural world. Social constructionism has facilitated a theoretical shift towards the processes that ascribe meanings to things, traditions, and practice. While this dissertation takes specific interest in the social construction of “nature” (specifically, wildlife), this theoretical lens is utilized to call into question established ways of thinking about many socially defined categories, and the embodiment and performance thereof, including gender, sexuality, nationality, and race (see Foucault 1977, 1995; Haraway 1988, 1991; Giddens 1991; Moeckli and Braun 2001; Anderson 2001). Fundamentally, a social constructionist approach to nature reflects Noel Castree’s argument that, “nature has never been ‘simply natural’” (2001, 5). Rather, nature is socially constituted and emerges in and through discursive practices (Braun and Wainwright 2001, 46; see also Cronon 1995 and Wapner 2010).

Since the mid-1990s, a number of scholars have taken interest in exploring the idea that nature is a social construction (Castree 1995; Harrison and Burgess 1994;

Gerber 1997; Proctor 1998; Demeritt 2001; Braun 2005; Bakker and Bridge 2006; Wapner 2010). Braun and Wainwright argue, “geographers have taken ‘man and land,’ or more recently ‘nature and society’ as the point of departure for environmental studies,” arguing that this more traditional approach is underlain by the assumption that nature “as it is” is nonsocial (2001, 50). The social constructionist perspective queries whether “these two seemingly separate things—‘nature’ and ‘society’ — are perhaps neither separate nor stable categories of being,” but instead mutually constituted and dependent (50). Rejecting more traditional binaries of “human” and environment,” Braun and Castree embrace the terminology of the “society-nature nexus” as useful to capture the intersecting relations and interrelations between society and nature (2001, 4).

Braun and Castree argue that this fundamental reimagining of the ways in which nature is understood allows “geographers to move away from asking worthy, if limited, questions about what society ‘does’ to nature (and vice versa) towards more fundamental questions such as ‘who constructs what kinds of nature(s) to what ends and with what social and ecological effects?’” (2001, xi). Social constructionism has been embraced primarily by human geographers, although Braun and Castree remark, “it has not been well received in all corners of the discipline... and [is] largely ignored by physical geographers” (2001, xi). This approach suggests that science itself is a social construct, a position largely at odds with those who engage with the production of scientific knowledge directly.

Constructing “Nature”

Attempting to define “nature” is a daunting task. The multiplicity of meanings and connotations attached to the term are bewildering in their complexity. Noel Castree has described the nebulous term “nature” as “both a concept and all of those things to which the concept refers” (2001, 5). He attributes part of its elusiveness to the ways in which the term is employed “daily in a multitude of situations by a diverse array of individuals, groups, and organizations” (2001, 5). Certainly, Castree observes, geographers are only one of many “constituencies who routinely invoke the idea of nature in what they do” (2001, 5). Despite this “complexity, elusiveness, and promiscuity,” of this term, Castree resolves “nature” into three different uses, all of which inform this dissertation: *external nature*, which suggests that Nature is external to, and separate from, human society; *intrinsic nature*, the “inherent and essential quality of something;” and *universal nature* a perspective encompasses everything as part of a “wider, global, ecological system” (humans included) (Castree 2001, 6-7). Castree argues that these ideas about nature, be they external, intrinsic, or universal, are themselves social constructions specific to Western social formations. To grasp nature’s social character, we must therefore not only critique these ideas but also find a way to see how, in both thought and practice, “the natural and the social melt into one another” (Castree 2001, 10).

Building from his three definitions of nature, Castree offers three ways that demonstrate how nature is the product of social processes. First, he claims that knowledge of nature is invariably inflected with the biases of the knower(s) and there is

no singular, objective view of nature. Rather, all versions are discursively mediated, as “knowledge and language are the tools we use to make sense of the natural world that is both different than us and yet which we are a part of” (Castree 2001, 12). These discourses do not reveal or hide truths about nature but, Castree argues, create their own truths (2001, 12). Castree argues for the idea of “socionature” that cannot “disentangle the natural and the social” (2001, 13). This is in no way a denial of the material reality of what is commonly thought to be “natural,” such as flora or fauna. Rather, Castree borrows from Erik Swyngedouw’s (1999, 443) term “socionature,” insisting that the “physical opportunities and constraints nature presents societies with can only be defined relative to specific economic, cultural, and technical relations and capacities” (2001, 13). Thus, the physical characteristics of nature are contingent upon social practices and geographical contexts.

Drawing from these three arguments, Castree argues that, “nature is defined, delimited, and even physically reconstituted by different societies, often in order to serve specific, and usually dominant, interests” (2001, 3). Thus, the idea of nature emerges through historically and spatially specific discursive practices. Braun and Wainwright argue the “reality” of nature is never transparent to us, and our understandings and communications of nature are only accessible to us in particular ways (2001, 46). Proctor argues that social constructionism reminds us that any descriptive or normative pronouncement people make on nature is never innocent of its human origins. While there is certainly a nature “out there,” “humans are limited by our own modes of

perception, invoking human conceptual apparatus, involving human needs and desires—in short, when we speak of nature we speak of culture as well” (2001, 229).

Braun and Castree argue that this perspective of seeing nature as social can alter conventional understandings of the politics of nature, as:

At its best, the argument that nature is intrinsically social should encourage us to ask of our world: ‘who is currently empowered to define what counts as ‘nature’—discursively and materially— and what implications do accepted or hegemonic definitions have?’ In turn, asking such a pointed question leads to another: namely, ‘what counter-hegemonic definitions are currently available to us... and what kind of world do they allow us to envision?’ (Braun and Castree 2001, xiii).

For Braun and Castree, these discourses open new conceptual space where understandings of nature can be “read against the grain,” potentially providing new insights into the complex interactions between humans, society, and the spaces in which they interact and seek to define (2001).

Within public discourses on nature and conservation, the idea of “wilderness” looms large and figures profoundly into human interactions with the environment. The idea of pristine nature untouched by humans has been broadly rethought and challenged in academia over the past decade (see Cronon 1996). Representing “the last remaining place where civilization, that all too human disease, has not infected the earth,” the idea of wilderness has been promoted as “the best antidote to our human selves” and “a refuge we must somehow recover if we want to save the planet” (Cronon 1996, 69). However, William Cronon asserts these nonhuman spaces must also be understood as “a profoundly human creation...wilderness hides its unnaturalness behind a mask that is all the more

beguiling because it seems so natural” (1996, 69). Arguing that while the nonhuman world encompassed in “wilderness” is “far from being merely our own invention, “the ways in which people view, categorize, value, and “set aside” land for protection both reflect and reinforce as idea of “wilderness.” Cronon ties the American idea of wilderness to Frederick Jackson Turner’s frontier thesis. As Turner declared the frontier “gone,” so too was wilderness rapidly disappearing (Cronon 1996, 76). Americans associated their disappearing wilderness with their own identities and national ideals of rugged individualism reflected directly to these landscapes. Looking to the “specific habits of thinking that flow from this complex cultural construction called wilderness,” Cronon reveals the significant paradoxes in human understanding of the environment, as these “untouched” spaces likely survive only with “vigilant and self-conscious management of the ecosystems that sustain it” by humans (81). Through his discussion of “wilderness,” Cronon demonstrates the complex ways in which social constructs have very real impacts in the environment.

Critiquing Social Nature

While making a social constructionist argument for social “facts” such as race or gender is now commonly accepted, the social constructionist argument for nature met resistance within academic geography. Owain Jones argues, “Despite some excellent academic writings on the subject, confusion around the definition, application and value of social constructionism with respect to the environment is rife” (2002, 247). There are many reasons for this, perhaps the most obvious being that there are tangible qualities to

nature (e.g. rocks and water) that give nature the appearance of being all together “fixed and constant... ‘out there’ and therefore not dependent on social beliefs of a given time or place” (Barnes 2001, 748). Jennifer Wolch notes that discussions regarding the partial perspective and subjectivity of science, complicated by the claims of social constructionism, “prompted responses ranging from the cautionary to hostile among natural scientists,” and kicking off what has come to be known as the “science wars” (Wolch 2002, 192).² Pushing back against social constructionism, these scientists argued that they were concerned about the potential practical implications for nature and the environment, as by “stripping scientists of any authority or special knowledge” these critics effectively denied a powerful voice endeavoring to speak for the environment (Wolch 2002, 192). While social constructionism has been interpreted as a threat to scientific knowledge, Demeritt argues, “Demystifying scientific knowledge and demonstrating the social relations its construction involves does not imply disbelief in that knowledge” (2001, 35).

Broadly, social constructionism has been criticized as the pursuit of the elite, that is, “armchair philosophy” with little significance for society or the environment. Poet and environmentalist Gary Snyder states:

I am getting a bit grumpy about the dumb arguments being put forth by high paid intellectual types... [about] the idea of Nature being a ‘social construction’—a shared cultural projection seen and shaped in the light of social values... a

² The science wars were a series of intellectual battles in the 1990s between "postmodernists" and "realists" about the nature of scientific theories. In brief, the postmodernists questioned the objectivity of science and encompass a huge variety of critiques on scientific knowledge and method within the humanities and social sciences. The realists countered that there *is* such a thing as objective scientific knowledge and accused the postmodernists of having practically little understanding of the subject they were critiquing.

lot of this rhetoric, if translated into human politics, would be like saying “black people are the construction of whites’... of course liberal critical theorists don’t talk this way when it comes to fellow human beings because they know what kind of heat they’d get. In the case of Nature, because they are still under the illusion that it isn’t seriously there, they indulge themselves in this moral and political shallowness (1996, 8).

Social constructionism “has been vigorously attacked by some natural scientists and other scholars due to what they perceive as its dangerous flirtation with relativism” (Proctor 1998, 1; see also Soulé and Lease 1995; Gandy 1996; Demeritt 2001; Proctor 2004; Wapner 2010). These fears are based mostly in the thought that theoretical relativism can lead to a muddled environmental relativism within the public, whereby it is impossible to distinguish “between the balance achieved by nature and that contrived by man” (Worster 1990, 241-242, quoted in Demeritt 2001, 28). Thus, these theoretical approaches have been characterized as “attacks on nature and wilderness from the ivory towers” that empower extractive industries and “those who trash the ESA [Endangered Species Act]” (Snyder 1998; quoted in Demeritt 2001, 28). Fear abounds that social constructivist-based approaches would thoroughly undermine science in the public eye, and “without being able to appeal to the higher authority of scientific truth, environmentalists will have no way to refute these claims” (Demeritt 2001, 29). Furthermore, Wapner (2010) examines criticism of social constructivism as distracting and even dangerous in its ability to problematize issues and destabilize the core identity of the environmentalist movement. While anti-constructivists commonly charge that constructivists’ notion of truth is thoroughly relativistic, constructivists typically counter that anti-constructivists

are simply worried about losing their hegemonic role over the production of what counts as “truth” (Proctor 1998, 353).

Proctor (2001) counters these claims by looking at several forms of relativism, comparing two contemporary bodies of thought that are in broad agreement with social constructivism, yet do not promote strong forms of relativism: critical realism and pragmatism. Critical realism is marked by a qualified, though vigorous, rejection of strong forms of relativism in understanding nature, whereas pragmatism involves more of an agnostic response, a sense that the “problem of relativism” is not as serious as critics of the social-construction-of-nature argument would believe (Proctor 2001, 254). Taken together, the two approaches offer more than either one alone, as they both suggest important truths about nature, albeit generally at different scales. Ultimately, pragmatists and critical realists alike admit that all knowledge is partial and a certain degree of relativism is thus unavoidable; yet they both, in a sort of tense complementarity, point to ways that geographers and others whose business and concern it is to represent nature can indeed have something to say (352). Proctor’s purpose is to help facilitate communication “across the chasm dividing constructivists and anticonstructivists by exploring the possibility of developing a third position that takes social constructivism seriously but does not rob us of our ability to speak some degree of truth about nature as a consequence” (1998, 354). Wapner (2010) develops this idea further, arguing that the revelation of the constructedness of nature-as-concept can enable movement beyond static constructions to explore new approaches to thinking about the environment and its place in American society. Wapner frames this “postnature” moment as an opportunity

for the re-imagination and renewal of both empirical and conceptual approaches to the environment. Rejecting traditional binaries that maintain nature and humanity as distinct entities with competing interests, Wapner locates and explores a middle ground between ecocentric and anthropocentric approaches to the environment, wilderness, and natural resources. The ambiguity of this middle ground presents “profound opportunity,” providing the environmental movement the flexibility to begin to wrestle with complex and dynamic problems of globalization, development, science, and technology while disengaging from politically polarizing debates regarding resource use, conservation, and preservation (2010, 12).

Czech et al. (2001) take special interest in the social construction of nonhuman species (wildlife), considering the ways in which certain groups of species are valued relative to one another and how this translates into public policy benefit. Their study evaluates the ways in which understandings of species are socially constructed, and following this, how political power “is held in trust for them by human interest groups” (2001, 1103). Considering “policy targets” (species identified for conservation within the public and scientific spheres), they found that plants, birds, mammals, and fish “have a distinctly more positive social construction” than reptiles, amphibians, invertebrates, and microorganisms (2001, 1103). While their survey revealed a common belief that all nonhuman species should be conserved and that ecological importance and rarity are the most important factors to consider in prioritizing species for conservation, it also made apparent significant hierarchies in public sentiment. These hierarchies of reference, largely constructed around species’ charisma, in turn are reflected in law, public policy,

and the allocation of funds from the third sector (NGOs). The author consider the ways in which these values converge within the American legislative system, pointing to the ways in which the U.S. Endangered Species Act (16 U.S.C. 1531–1544) favors birds, mammals, fish, and plants over less charismatic species like reptiles and amphibians in the policy arena (2001). Thus, they demonstrate the ways in which certain, “more desirable” species are understood to have priority and “right” to life, clearly illustrating the ways in which these social constructions have real-world impacts for species.

ANIMAL STUDIES AND ANIMAL REPRESENTATIONS

Bridging disciplines throughout the humanities and social sciences, “the animal turn” in academic research has expanded the range of possible research topics and brought new understandings of the role of animals past and present, while also challenging relationships between scholars and their animal subjects. “Animal Studies” is not bound by specific disciplinary parameters, but generally these literatures reflect theoretical speculation and reflection on “the question of the animal.” Working from a broad range of disciplines, engaging with a diverse set of theoretical frameworks (including positivism, feminism, Marxism, structuralism, poststructuralism, postmodernism and posthumanism), and an array of nonhuman animal subjects, they broadly query, “how should we (and, some would ask, should we) rethink, rebuild and recast our relationships with other animals?” (Kalof and Fitzgerald 2007, xiv).

In *People and Predators* (2002), Nina Fascione, et al. observes that “throughout the centuries, predators have always held a unique place in the human psyche, inspiring

both awe and fear. Images of carnivores are diverse, but whether the emotional response is positive or negative, carnivores fill our imaginations in ways that are larger than life” (2002, 3; see also Keller et al. 1996). A number of sources within animal studies literature are concerned with the cultural roles of representation in the ways in which humans imagine, construct and communicate knowledge of and about “wild” animals, as in the case of jaguars. Steve Baker asserts that “culture does not allow unmediated access to animals themselves,” and humans can only perceive, relate, and communicate about the animal *as* humans (1993, xvii). Julia Corbett also observes, “much as we might want to understand animals at a level deeper than pop culture, we can only understand them in terms of our own experiences, language, and emotions, and interpret them within our social, historical, and cultural contexts (2006, 178). Writing a “Left Handed Blow” through the historiography of animals, historian Erica Fudge queries, “Is there really an emerging field of work that can be called the history of animals? The emerging field... is clearly there, but it is not a history of animals; such a thing is impossible. Rather, it is a history of the human attitudes toward animals” (Fudge 2002, 6). Geographer Gary Marvin further speculates:

It would seem that humans must necessarily engage with, or distance themselves from, animals in human terms, according to social and cultural representations of them, rather than according to what animals “are” or might be, because it is hard to imagine how they might understand and respond to any definitions which [animals] might have for themselves (2002, 155.)

Geographers Andrea Gullo, et al. argue that knowledge of wild animals like the jaguar are inherently socially constructed, as they are rarely grounded in direct experience with

nature (Gullo, Lassiter and Wolch 1998, 140). Rather, individuals and groups participate in the creation of a perceived reality of the wild animal through ongoing and dynamic processes of representation that affirm the collectively imagined worlds of animal lives. Representational discourses build upon and reconstitute themselves through participation, affirming the “taken-for-grantedness” of these knowledges. However, characterizing these socially constructed relationships is not simple. Baker takes interest in “the representational, symbolic, and rhetorical uses of the animal” arguing that they “must be understood to have as much weight as any idea we may have if the ‘real’ animal, and must be taken seriously” (Baker 1993, 10).

R.J. Hoage identifies a wide range of representational media that contribute to these constructions in American culture, including myth, folklore, the frontier experience, politics, philosophy, wildlife research, zoos, the press, films and television, conservation and animal rights movements (Hoage 1989, xv). Andrea Gullo et al. (1998) have suggested that these all are sites where the negotiation of human-animal boundaries are expressed through popular discourses about the character and behavior of animals, the management problems they present for humans, and their ecological and economic roles. This process is ongoing and ever changing within social, political, economic and ecological contexts through space and time, continuously informing an individual’s and group’s notions of the “nature” of an animal. Thus, perspectives on wildlife vary substantially among cultures; as Baker observes, “our attitudes, our prejudices and indeed our sympathies are all filtered through or clogged up in this thick but transparent mesh (or mess) of history, culture, public opinion, received ideas” (1993, 10; see also Mattson

2004). Furthermore, Nigel Rothfels argues, these discursive representations will continue to be of “profound importance” to the ways in which humans communicate about the challenges facing the environment and its conservation” (2001, xi).

In his widely influential piece *Why Look at Animals?* John Berger observes, “Everywhere, animals disappear” (1980, 24). For Berger, modernization is a site of rupture between humans and nature that has brought with it the dispersing of animals from human lives, relegating them to the marginalized spaces of symbolic representation. This is particularly true of rare wildlife species. Looking to these symbols, geographer Michael Woods argues that,

The process of representation itself...is complex and open to interpretation. Most significantly, representation is not just a re-presentation, or the reproduction of an object in the same form in another arena, but a *translation*, such that an object cannot be represented without taking on a new form... as the translation of an object into an immutable mobile necessarily detaches the subject from the representation, so that the subject and representation must be treated as different entities (Woods 2000, 183).

In this way, animals are removed from their own animality and enter cultural discourses as a symbol. Photographs, film, video, scientific reports, statistics, anecdotal stories, and literature all become what Bruno Latour terms “immutable mobiles,” that present members of society with convincing, standardized representations of the animal, so that they are able to participate in the ongoing negotiations of the social construction of the animal even if they have no basis of experience with the actual animal (Latour 1990; cited in Woods 2000, 183; see also Adams 2009).

Baker promotes a conceptual decentering of the human subject in order to create opportunities to see both animals and humans differently (1993). This “decentering of the human opens up a valuable conceptual space for shifting the animal out of the cultural margins. It does so precisely by destabilizing that familiar clutch of entrenched stereotypes which works to maintain the illusion of human identity, centrality, and superiority” (Baker 1993, 26). Calling for a consideration of the world as a “more than human world,” Bekoff argues that by compartmentalizing animal as ‘Other,’ we are missing a fundamental connection that we are all animals (2002, 41). This reevaluation of the place of animals in American society and on the landscape will require what Alec Brownlaw refers to as “re-creating a place for non-human Others in the social realms of theory and space” (1995, 141).

Representations of animals in American culture are frequently enmeshed with anthropomorphic strategies. Animal studies literature has critically examined this strategy for communicating about animals on human terms. Anthropomorphism, or characterizing, portraying, valuing, and judging animals by human qualities and experiences, has been broadly criticized for its tendency to misconstrue actions and misunderstand needs of nonhuman species (Lockwood 1989, 50). Lisa Mighetto (1991) has demonstrated the ways in which anthropocentric constructions of carnivores in American culture tend to cast animals as “good” or “bad” along socially understood concepts of morality, leading to false identification of animal action and motivation (76). Hoage (1989) also argues that anthropomorphism makes it virtually impossible to see

animals “as animals,” obscuring their animality through a bombardment of humanized images.

It is crucial not to minimize the animal at the center of this examination of social constructionism and representation. Chris Philo and Chris Wilbert suggest that, “If we concentrate solely on how animals are represented, the impression is that animals are merely passive beings onto which human groups ascribe imaginings and orderings of all kinds” (1998). A significant body of literature has emerged in the field of Animal Studies examining the complexities of representation. Representation is close to the heart of this field due largely to the inherent relationship with its subject: attempting to capture, to speak about, to speak of, and to speak on behalf. Representations of animals cannot be confused or conflated with the animal subject itself. Human knowledges of animals are not informed through access or insight into the perspective of the “real” animal, insofar as they cannot experience the internal and external worlds of an individual animal as the animal does (Baker 2001; Woods 2000).

Instead, humans are limited in the ways in which they are able to understand and communicate about the idea of the animal, as humans and within individual, overlapping social discursive networks. Representation is a subjective and dynamic process, whereby certain markers are abstracted from the body or life of the “real” animal in order to identify and communicate about the species. Seemingly objective sources including scientific reports, photographs, and videos work alongside more apparently subjective sources such as folklore, narrative film, art, and literature to contribute to the constructed and standardized representations of the animal subject. These immutable mobiles enable

participation in the ongoing social construction of the animal within a society or social group (Woods 2000, 183). These representations are “immutable” or stabilized in meaning, while also possessing a fluid quality as they are contextualized within the time and place they are produced, reproduced, deployed, or interpreted.

While representation is a necessary and vital part of human communication, it must be considered critically. This process cannot be characterized as simple reproduction, rather, Woods argues, it is a process of translation whereby an animal subject is detached from the representation, taking on a new, entirely different form as an object (Woods 2000, 183). These representational objects are inherently contestable, as this process of translation divorces the subject from the ability to exert any control over its own representation, and places the power of construction and deployment within the human communities who utilize these representations as ways to communicate about the subject (and many other things (2000, 183). Forms of representation that are commonly thought to be objective or unbiased, such as scientific reports, photographs, and video, must be understood to be very much human enterprises, and therefore subjected to perspectives, motivations, and the deeply situated knowledges of those who produce these representations, be they transparent or opaque, deliberate or subconscious (Latour 1987; Haraway 1991). These in turn intersect with popular imaginings, both positive and negative.

LOCATING THE ANIMAL

In 2003, Noel Castree observed of human geography, “It is a peculiar fact that a discipline which, in part, defines itself as the study of society-environment relations has conspicuously failed to engage with questions of the political status of the non-human” (2003, 207). While the ensuing decade has seen the emergence of many scholars participating in the construction of “Animal Geographies,” animal subjects have yet to attain the respect of the larger discipline as a field of inquiry deserving rigorous study and expansion.

Although animals have only recently started to find a more prominent place within the discipline, geographic study has long acknowledged these nonhuman Others to varying degrees (Philo and Wolch 1998). Scholarly interest in animals within the field of geography can be traced to the turn of the twentieth century, where geographical journals offered a range of animal-related topics, including a series of papers on “the geography of mammals” (see Sclater 1894). While animals “appeared” in geographic work throughout the first half of the twentieth century, animal bodies functioned largely as parts of the natural (and sometimes deterministic) landscape, or as resources for human use and consumption. As the influence of spatial science and the “quantitative revolution” became more dominant in geography throughout the 1960s, focuses on areal differentiation, regional geography, and analysis of “place” receded. Along with this, an interest in animals all but disappeared from academic geography for approximately the next two decades.

Bringing the Animals In

It was not until the 1990s that the call to “bring animals in” reached a cultural geography recently and thoroughly reenergized by the “cultural turn.” Reinvigorated interest in cultural animal geographies was informed by new trends in interdisciplinary perspectives from political economy, social theory, cultural studies, feminism, postcolonial studies, and psychoanalysis (Wolch et al. 2002). This “new” cultural animal geography seeks to illuminate human-animal relations within their economic, political, social, cultural and ecological contexts. Critical of previous work which “cast [animals] as purely natural objects to be tracked, trapped, counted, mapped and modeled... [and] assumed devoid of any ‘inner life,’ or any form of experience, consciousness or sociability, which might be worth taking seriously,” these new animal geographies explored new ways of understanding human-animal relationships, animal spatiality, and animal subjectivity (Philo and Wolch 1998, 2; Wolch et al. 2002). Cultural animal geography embraces a range of theoretical frameworks, methods, and animal subjects in order to better understand the interrelated networks that entwine humans, animals and places.

Geographers have explored a wide range of questions regarding the ways in which animal-human relationships are theorized. Broadly, these approaches are influenced by postmodern and poststructuralist perspectives that emphasized a shift towards meanings and culture. Growing from this, social constructionism has been particularly influential, emphasizing the *processes* and *practices* of meanings. A number of animal geographers have considered the animal’s role in social constructions of nature

and of individual human subjects. Philo has described this as a “thought experiment” to see what happens when animals are treated as “another, radically different social group” (1995, 67).

Sarah Whatmore identifies three main lines of enquiry into the study of animals that have developed from the influence of “impulses” of poststructuralism and the broader shifts in the social and political landscapes associated with postmodernity (Whatmore 2001, 25). The first of these involves studies of the social practices and meanings that have shaped relationships between humans and other animals through space and time with attention focused on the changing geographies of human-animal interaction. A second field of research is located in broader social concerns for the treatment of animals, including work in ethics. Finally, a third line of inquiry considers developments in social theory that acknowledge a wider range of actors and their effect in place, pushing this boundary beyond “human.” Within these main frames of study, geographers have explored the complicated relationships between animals and human society (Whatmore 2001).

Placing Animals

The importance of “place” is essential to larger discussions concerning the social construction of wildlife. Place is a complicated concept within academic geography. Humanistic geographer Yi-Fu Tuan’s influential work, *Space and Place* (1977) is useful in conceptualizing this rather slippery geographic terrain. Tuan’s notions of space and place are fluid and are primarily based within the perspective of experience. Within these

nebulous frames, the meaning of space and place can change according to their contexts. However, most generally, it is useful to consider Tuan's experiential characterization of the relationship between space and place as "what begins as undifferentiated space becomes place as we get to know it better and endow it with value" (1977, 6). Edward Relph, a humanistic geographer, offers that "to be human is to live in a world that is filled with significant places; *to be human is to have and know your place*" (1976, 1; emphasis added). By conflating notions of humanity and place, Relph renders the spatial status of the nonhuman Other unknown. Tuan considers the role of space and place in animal lives as he notes, "Recent ethological studies show that nonhuman animals also have a sense of territory and of place. Spaces are marked off and defended against intruders. Places are centers of felt value where biological needs, such as those for food, water, rest, and procreation are satisfied" (1977, 4).

Extending these conceptions of place to wildlife reveals two related, but not conflated, considerations: the physical place of wildlife on the landscape, and the symbolic place of these animals within society. Different species are coded as having different spaces of occupation and roles within human society. For instance, the domestic cat occupies a *place* as companion animal within social norms that locate it within intimately cohabitated *places* alongside humans. For wildlife, especially elusive large carnivores like the jaguar, the perceived social place may function mostly as symbol (representations of jaguars being far more common than jaguars themselves), while the species' physical place on the landscape could be understood as "zones of unoccupied lands beyond the margins of settlement and agriculture ("the wilderness") envisaged as

the province of wild animals” (Philo and Wilbert 2002, 10-11). These deployments of place categories are very much species-specific, bounded in time as well as location.

Wildlife species can complicate notions of symbolic place in society, as some human members struggle with identifying the “role” of a wildlife species, and by extension, their “value” or contribution to a perhaps all-too-anthropocentric concern.

Utilizing Said’s (1978, 54-55, 71-72) “imaginative geographies,” Philo and Wilbert take interest in the “conceptual placing of animals,” suggesting that,

Many human discourses contain within them a definite imaginative geography serving to position ‘them’ (animals) relative to ‘us’ (humans) in a fashion that links a conceptual ‘othering’ (setting them apart from us in terms of character traits) to a geographical ‘othering’ (fixing them in worldly places and spaces different from those we humans tend to occupy (Philo and Wilbert 2002, 10-11).

Certain places are very specifically coded as appropriate or not appropriate for animals within human society. Philo and Wilbert complicate these imagined animal orderings, arguing that certain categories of animal are mapped at an increased distance from humans, “implying that some species should be properly proximate to us while others should be properly more remote” (Philo and Wilbert 2002, 10). These can be understood as “geographies of exclusion,” as David Sibley suggests, whereby power dynamics between groups are expressed through the monopolization of space and the relegation of the Other to environments deemed “less desirable” (e.g. spaces marginalized as wilderness spaces) (1995).

It is also useful to consider Cresswell’s notions of “in-place” and “out-of-place” with particular concern for wildlife. Populations located in geographic fringes and

margins further challenge understandings of the spatiality of a species. These species are simultaneously physically in-place on the landscape, and yet conceptually may be deemed out-of-place based on the proximity of the areas they choose to occupy relative to human populations. Typically, land use and human occupation patterns have a strong influence on these conceptions, as cattle ranchers tend to be less welcoming of these large predators in the shared margins between “wilderness” and grazing allotments, while residents in nearby urban areas largely find that they are still quite comfortable with the theoretical and physical distance between “us” and them.” Cresswell’s discussion of *transgression* is also useful in examining the ways in which these border crossings make apparent these systems that deem what is considered “correct and appropriate” locations for wildlife (1996, 23).

Locating a wide range of human-animal relationships, from intimate settings of domesticity to the wilds of the frontier, geographers have actively “placed” these relationships while examining the multiplicity of ways in which the human-animal species divide is defined, practiced, and negotiated. In the process, these considerations of the human-animal boundary have also opened significant dialog concerning human treatment and concern for animals.

Animal Treatment and Ethics

A second trend in geographic research is located within these broader social concerns for the treatment of animals, and includes work in ethics. Drawing from growing public interest in animal liberation, welfare, and protection, this body of work

challenges ways in which animals are understood as objects or things. Central to this work is the endeavor to extend ethical and moral “communities” to include nonhuman animals.

Suzanne Michel’s (1998) “politics of care” looks at wildlife rehabilitators and their function in “foster[ing] day-to-day reproduction of wildlife species” (174). For Michel, wildlife rehabilitation is significant because,

...First, daily relations with injured wildlife engender trans-species empathy for the ever-growing animal causalities of our ever-expanding political economies. Such empathy, or blurring of the boundaries between humans and animals deconstructs anthropocentric notions of self and fosters the relational identity, which entails kinship and respect for all wildlife that inhabit the community (1998, 174).

Michel argues that a wildlife rehabilitator’s politics of care constitute a part of her “nature-culture borderland politics” that not only engender kinship between humans and animals, but “also result in political resistance at various sites (household, community, ecosystems, and watersheds) and scales (household, local, regional, even global)” (1998, 174). Michel connects this daily contact with animals to a more emotional and passionate stance on wildlife preservation than the attitudes of those who work as decision makers and experts in the public sphere that tend to be physically removed from the animals. Michel’s alternative reading recasts these wildlife rehabilitation and education programs as political acts— a “successful borderland political activity” that takes place in educational, nonpoliticized settings. These programs attempt to foster

borderland identity construction (kinship) as well as borderland politics of resistance to the destruction of the species. She argues,

This resistance is manifested by their encouragement of political activism for the rights of wildlife in both the local community and the household. Hence, environmental education is borderland activism that blurs the boundaries not only between nature and culture, but also between public and private actions. The pro-wildlife political actions that occur at various sites are multiple, linked projects that in my opinion have the potential to foster political resistance at scales from the household to local to global (and back again) (179).

Through her reimagining of conceptual spaces between animals and humans, Michel demonstrates the ways in which (non-pet) animals can be drawn into larger networks of kinship and ethical considerations of care.

Owain Jones considers the ways in which ethical relations between humans and animals are “deeply uneven” in ways that are spatially distinct. Asserting, “Any human-nonhuman relations has to confront this geography of the spaces and places of encounter,” Jones is concerned with “ethical implications of looking at the world in this way” (2002, 268). All of these encounters have ethical resonance, creating a “terrain” of encounters that range from the ethical to the unethical:

I suggest that by taking seriously this geography of (un)ethical encounters, we deal with the world as practice in a way which might be more inclusive, incisive, and embedded than are abstracted, universalized systems of thought. Such an approach opens up a vast array of questions, some of which revolve around notions of moving towards the irreducible ontology of “nonrepresentational theory” (Thrift 1999) while being able to describe, even to prescribe upon, the world in ways which (might) make a difference” (2002, 268).

Jones argues, “The complexity of human-nonhuman relations, coupled with the exclusion of the nonhuman from normative ethical considerations, has led to a fragmentation of the ethical nature of these encounters” (2002, 268). This nonrepresentational approach challenges scholars to look beyond current trends in privileging representations of animals, and instead focuses upon practices, that is, how human and nonhuman formations are enacted or performed, and not simply on what is produced. Building from William Lynn’s use of geographic context to build a spatially sensitized “argument on the moral status of animals,” Jones structures his argument of geographical situatedness, while raising issues addressing individual and collective relations. Jones’ geography of human-animal relations gives consideration to the ways humans tend to look at animals in the collective and not as individuals, making them “ethically invisible” (2002, 288).

Extending to all encounters, including those “out of focus” (2002, 271). Lynn offers,

When we speak out for the moral value of animals, we are engaging in boundary transgressions, that is, transgressing the boundaries of our human-centered moral community by demanding the inclusion of animals. Boundary transgressions elicit great alarm amongst anthropocentrism, and eventuate several objections. Rooted in claims about theology, agency, and species loyalty, each objection tends to be acontextual and categorical, predicating its recognition of moral value on one or more human characteristics (1998, 286).

Because these criteria are self-referential, they have the effect of creating, then reinforcing, “specious moral boundaries” between animals and humans. This work within the field of ethics reveals the importance in investigating what Jones refers to as the “ignored geographies of the nonhuman world” (Jones 2002, 288). It is only, as Lynn

(1998) suggests, when these geographies are “opened up” that new ethical developments can even be considered, and “encounter[s] with the Other can be at the foundation of a moral society” (Davis 1996, 52; cited in Jones 2002, 289).

In his editorial essay *Circle of Concern*, John Murdoch examines the ways in which geography might contribute to the “desperate need... to enlarge our sympathies” to animals (2003, 287). Citing Peter Singer’s (2003) anniversary reflection on the contemporary status of the animal rights movement, he notes that while modest gains have been made for the status of animals in laboratories, the pressing need is to address the plight of animals on American factory farms (see Singer 2003). Murdoch suggests a number of ways that geography “enlarge[s] our circle of sympathies to include the almost unimaginable number of animals being exploited and abused within the modern agro-food industry” (2003, 287). He explores a number of avenues, “Firstly, geography can work on a theoretical level to show that accepted divisions between human and nonhuman animals are both socially constructed and in need of significant reconstruction” (2003, 286). Second, he suggests geography can work on a descriptive level to show in detail how human/animal relationships are configured within the food chain. A great deal of work on food chain dynamics has been especially concerned with the power relations operating in the food sector and helps us to understand how consumers come to be increasingly distanced from production processes and product components. Finally, Murdoch suggests that geography can work on a political level to assist the movement towards “animal liberation.” The significance of animal welfare

considerations has been underplayed in geography, Murdoch argues, and there is room for further contribution within the discipline (2003, 286).

Ultimately, these geographers working in the field of care and ethics are seeking to expand the frames of the nature of geographical work, with a greater emphasis on knowledge generation and compassion, recognition of animals as individuals possessing subjectivity, and opening space within the discipline for a more politically engaged, activist oriented type scholarship that seeks to make real-world impact in the lives and status of animals.

CONCLUSION

Developing from the “cultural turn” in the humanities and social sciences, animal studies and animal geographies have sought to locate the human-animal relationship within critical frames. In recent years, scholars have explored a vast range of species, times, and places, and geography has been considered a leader in “explicating the history and cultural construction of human and nonhuman animal relations” (Wolch 2002, 199). Underlying nearly all of these works is a set of theoretical frameworks that have been deployed in a variety of ways. Located within postmodern and poststructuralist frames, these studies have sought to disrupt the taken-for-granted nature of human-animal interactions. However, these approaches are in no way homogenous, and seek to rework and challenge underlying assumptions at every opportunity. The further these relationships are deconstructed and reconstituted, the more the taken-for-grantedness of certain “knowledge” about animals and their relations with humans are revealed.

“It is a dweller of the forests, of crags, of water; noble,
princely, it is said. It is the lord, the ruler of the animals.”
—Bernardino de Sahagún, *Florentine Codex* (1577)

Chapter 3: Foregrounding Jaguar Bodies

Prior to engaging with discursively constructed jaguars, this chapter seeks to foreground the animal at the heart of the study through a brief consideration of the jaguar’s biology, ecology, and geographic range. These factors physically locate the animal body on the landscape, while also providing some context for the animal at the center of this scientific discourse through history. Jaguar biologists and ecologists note repeatedly in the scientific literature that in these fields human knowledge is incomplete, as jaguars remain relatively under-studied in comparison to other big cat species like the tiger (*Panthera tigris*) or the lion (*Panthera leo*) (Hoogesteijn and Mondolfi 1992; Soisalo and Cavalcanti 2005; Boydston and López González 2005; McCain and Childs 2008; Furtado et. al 2008; Cavalcanti and Gese 2010; Watkins, Noble, and Doncaster 2011). Soisalo and Cavalcanti (2005, 488) succinctly attribute this to “difficulties of monitoring a species of cryptic nature inhabiting extensive areas in difficult terrain,” although recent advances in DNA analysis, scat analysis, camera trap surveys, GPS collaring, advanced modeling, and other techniques allow scientists to overcome traditional limitations posed by terrain and species reclusivity (Silver et al. 2004; Furtado

et. al 2008).^{3 4} While gaps remain in human knowledge of jaguar lives, and the enterprise of scientific description itself is a representational practice that must necessarily abstract the animal by transforming its corporeal reality to quantifiable metrics and description, it is fitting to start here in order to foreground the embodied jaguar and to frame the experience of human encounter with these physical animal bodies.

JAGUAR BIOLOGY AND ECOLOGY

Jaguar Morphology

The jaguar is the largest cat species native to the Western Hemisphere and the third largest in the world, smaller only than the tiger and the lion.⁵ Significant variations in body size have been documented amongst jaguars, with a geographical gradation locating smaller individuals to the northern extent of their range and larger jaguars in the southernmost extent, particularly regions in Brazil, Argentina, and Peru (Rengger 1890; Guggisberg 1975; Rabinowitz and Nottingham 1986; Crawshaw and Quigley 1991; Hoogesteijn and Mondolfi 1993; Hoogesteijn and Mondolfi 1996; Sunquist and Sunquist

³ This is changing rapidly with an exponential increase in studies and publication owing largely to these technological advances (see Wallace et al. 2003; Furtado et. al 2008; Kelly and Silver 2009; Foster et. al 2009; Monroy-Vilchis et. al 2009; Harmsen et al. 2009; Silveira et al. 2010; Núñez-Pérez 2011; Watkins et al. 2011; Harmsen, et al. 2011; Sollman, et al. 2011; Rodríguez-Soto, et al. 2011; Sollman, et al. 2012; Desbiez et al. 2012; Cullen, Jr., et al. 2013; Quiroga, et al. 2013; Tobler, et al. 2013; Foster et al. 2013).

⁴ These methods are not foolproof, of course and data collection is an ongoing process. Furthermore, it is important to not become over-reliant on techniques, as Zeller, et al. 2010 note that “because of errors inherent in remotely sensed data, such as misclassification and resolution issues, changes that may have taken place at the ground level since GIS data were collected, and limitations of least-cost corridor models (Beier et al. 2009; Theobald 2006), field-based assessments are necessary to further refine corridor boundaries. Field assessments are also essential to confirm the use of the corridor by the species for which it is intended, allowing us to determine the appropriateness of the corridor” (Hilty et al. 2006; Noss and Daly 2006).

⁵ In Central and South America, the jaguar is the largest terrestrial mammalian carnivore.

2002). Throughout its range the species demonstrates sexual dimorphism, with females being smaller than males in the same region (Hoogesteijn and Mondolfi 1996; Boydston and López González 2005).⁶ Total jaguar body length measured from head to tail varies from 5 to 8.5 feet, height varies from 25 to 30 inches, and weight spans a considerable range from 140 to over 300 pounds, with larger males weighing as much as 350 pounds and smaller females as light as 79 pounds (Nowak 1999).

The thick-set muscular body and short, stocky limb structure enable the jaguar to exploit a variety of habitats including riparian regions, where they are unique amongst cat species of the Western Hemisphere in their use of these river environments (Nowak 1999). The jaguar's head structure is robust and the jaw is extremely powerful, leading Rosa and Nocke note that this "massive head musculature... makes their faces appear very round" (2000, 26). The jaguar has the strongest bite relative to their size of all felids; the strength in their jaw allows them to crush the cranium of prey and the shells of larger riparian species including large chelonians or crocodilians (Werdelin 1983; Kiltie 1984; Van Valkenburgh and Ruff 1987; Emmons 1987; Emmons 1989; Rabinowitz 1986; Sunkist and Sunkist 2002).

The jaguar's most distinctive and identifiable feature is its spotted coat. Pelage varies in tone, with background color ranging from gold, yellow, tan, and reddish brown, to dark grey and black in melanistic individuals (Nowak 1999). The coat is marked with

⁶ Hoogesteijn and Mondolfi argue that relative size differences between the sexes were not the same in different regions throughout the jaguars' range. They report size variances of 30-31% amongst specimen from Pantanal and South America, and a remarkably high rate of sexual dimorphism in the Llanos, at 50% (1996, 207-208).

rosettes formed of open rings containing within them smaller spots. Each individual possesses an individually distinctive spotting pattern with variations both in color and rosette shape, size and placement. It is widely hypothesized that this coat pattern plays an important role in camouflage, with the rosetted pattern being particularly effective for blending with the dappled light of arboreal habitats (Ortolani and Caro 1996; Ortolani 1999; Eizirik, et al. 2010; Allen et al. 2010).⁷

The jaguar's spotted coat is often confused with that of the leopard (*Panthera pardus*), a species that occurs across a range in the eastern hemisphere that includes sub-Saharan Africa and in fragmented remnant populations throughout North Africa, Southwest Asia, India, China, the Russian Far East, and on the islands of Java and Sri Lanka (Nowell and Jackson 1996; Sunquist and Sunquist 2002). Both species have a similar buff-yellow base coat color with dark spotted markings; however, the jaguar can be distinguished by its larger, open rosettes often containing smaller irregular spots and black bars marking the chest; a stockier body and shorter tail; proportionally shorter limbs and larger paws; and a larger, broader head (Hoogesteijn and Mondolfi 1992; Nowak 1999; Brown and López González 2001; Johnson, Van Pelt, and Stuart 2009; Macdonald et al. 2010) (Image 3.1, 3.2). While jaguars and leopards do share a common ancestor along with lions, tigers, snow leopards (*Panthera unica*), and clouded leopards

⁷ Allen et al. (2010, 6) link particular coat patterns to the size, shape and variability of pattern elements in the background of the species' habitat, with "cats using closed environments and arboreal locomotion are more likely to have complex patterns" like the rosetted coat of the jaguar. "Closed environments" refer to densely vegetated habitats including boreal and coniferous forest, temperate forest, tropical forest, and riparian zones.



Image 3.1: Jaguar. Image: U.S. Fish and Wildlife Service.



Image 3.2: Leopard. While at first glance this cat appears similar to the jaguar, there are evident differences in structure and pelage. Image: Patrick Giraud.



Image 3.3: Puma with spotted kitten. Image: Arkive, Erwin and Peggy Bauer.

(*Neofelis nebulosa*), recent DNA studies reveal that the two are not as closely related as once suggested by morphological study (Pocock 1907; Wayne, et al. 1989; Johnson, et al. 2006).⁸ In general, feline taxonomy has been subjected to a great deal of debate and continued taxonomic revision, and the variance amongst contemporary studies demonstrates that these issues are unresolved and are worthy of continued analysis.

Pumas (*Puma concolor*)⁹ are the only other larger sized cat species found in the Western Hemisphere, and are not typically confused with jaguars.¹⁰ Although there are significant range overlaps, pumas possess a lighter, lither frame and, as the Latin name *concolor* suggests, a solid silvery-grey to reddish colored coat.¹¹ While kittens are born with spotted pelage, these dark non-rosetted spots along their flanks are distinct to the distinctive spotting of the jaguar's coat (Image 3.3). Other felid species whose home range coincides in part with the jaguar's include the margay (*Leopardus wiedii*) and the

⁸ Recent work with mitochondrial DNA has complicated these relationships by suggesting that leopards diverged from the Panthera lineage prior to the lion and jaguar, leaving these two species more closely related (Johnson, et al. 2006). This relationship is supported by evidence in the fossil record, with fossils from both the North American lion (*Panthera atrox*) (30,000 years) and a European Pleistocene cat known as the European jaguar (*Panthera gombaszoegensis*) (1.5 million years) demonstrating characteristics of both primitive lions and jaguars (Johnson, et al. 2006; Werdelin, et al. 2010). While the fossil record indicates the emergence of this common ancestor, *Panthera*, 2 to 3.8 million years ago, this group is believed to be much older, with current estimates somewhere between six and ten million years old (termed a "ghost lineage" as it is undocumented by fossils) (Johnson, et al. 2006; Werdelin, et al. 2010).

⁹ Pumas go by many other colloquial names, including panther, puma, painter, catamount, and cougar. They are listed in the Guinness Book of World Records (2004) as the animal with the highest number of names, with over 40 names in English alone.

¹⁰ While jaguars are designated "big cats" as a member of the Pantherinae subfamily, pumas are considered the largest of the "small cats" and are located within the Felidae subfamily.

¹¹ Concolor: of a uniform color. Pumas stand 24 to 35 inches tall at the shoulders, with adult males measuring an average 7-8 feet long nose-to-tail and adult females average 6-7 feet. Males typically weigh 115 to 220 pounds averaging 137 pounds and females typically weigh 64 and 141 pounds, averaging 93 pounds. (Nowell and Jackson 2006). While pumas can be almost as large as jaguars, they have different body morphology that is less muscular. Where ranges with jaguars overlap, studies have revealed puma body sizes are smaller than average (for instance see McNab 1971; Iriarte, et al 1990; McNab 2010).

oncilla (*Leopardus tigrinus*), both of whom also have spotted coats, however, these cat species are significantly smaller in size. Another member of *Leopardus*, the ocelot (*Leopardus pardalis*) is the species perhaps most frequently confused with the jaguar, sharing a significant degree of range overlap. Ocelots also possess a rosetted coat, but have a very different morphology, averaging 53 to 84 inches in total body length, and weighing 18 to 40 pounds (Sunquist and Sunquist 2002). Although rosetted, an ocelot's coat demonstrates more variation and horizontal flow within the pattern because of blending of the dorsal and flank spots that forms marbled patterns of irregular, rosetted bands (Image 3.4). This unique patterning prompted Ernest Thomson Seton to write that the ocelot's coat was, "the most wonderful tangle of stripes, bars, chains, spots, dots and smudges... which look as though they were put on as the animal ran by" (Seton 1929, 141). Ocelots in particular have caused confusion in the identification and classification of jaguars. Chapter 4 of this dissertation will examine this confusion and subsequent impacts within Natural History in greater detail.



Image 3.4: From left to right, spotting patterns of ocelot, margay, and oncilla. Images: Arkive.org.

Population

Solitary except when breeding, jaguars breed year-round producing anywhere from one to four kittens, with an average of two (Seymour 1989; Sunquist and Sunquist 2002). Gestation lasts approximately 100 days, and offspring remain with females for approximately one and a half to two years (Sunquist and Sunquist 2002). Adult females have their first litter at two or three years of age and breed approximately every two years, producing approximately four to eight kittens in the course of a lifetime (Cavalcanti et al. 2012; Desbiez et al. 2012). Jaguars do not typically live beyond 15 years of age in the wild, with increasing mortality after 10 years of age (Rabinowitz 1986; Desbiez et al. 2012). Desbiez et al. document the highest mortality rates occurring in first year of life while cubs are still with their mothers, which t become more moderate during years when cubs are still with the mother, and lowest for prime age adults (3-9 years) (2012).

Desbiez et al. provide that population size, “is a very important factor in determining the population growth, long term persistence and genetic diversity of jaguar populations.” Fundamentally, jaguar population viability depends upon the breeding n success of individuals, average litter size, sex ratio at birth, and survival rates. Individual survival is challenged by threats including persecution (hunting), disease, and environmental threats including fire and other catastrophic events (Widmer and Azevedo 2012; Desbiez et al. 2012). Collectively, jaguar populations face demographic pressures including inbreeding depression, limitation of mates, and immigration/emigration, all of

which are directly linked to habitat alteration, loss and fragmentation (Haag et al. 2010; Desbiez et al. 2012; Cullen Jr. et al. 2013).

One of the most significant threats to a population is the killing of adult breeding jaguars. This includes hunting for sport and killing for predator control or in retaliation for sustained livestock losses (Michalski et al. 2006; Desbiez et al. 2012; Ramalho 2012). Additionally, accidental deaths from road kills and other unintended anthropogenic sources impact these populations (Michalski et al. 2006). Desbiez et al. (2012) demonstrated that the loss of females is particularly harmful to the long term viability of populations, and the smaller the population the more significant each loss of a female is because the smaller, fragmented populations have lower growth rates and higher probabilities of extinction, indicating that jaguar populations cannot sustain high levels of harvest and even in areas with high population can be driven to extinction (2012).

Diet and Prey Base

Like all other species in the family *Felidae*, jaguars are obligate carnivores (Karanth et al. 2004).¹² Their diet is extensive and opportunistic, taking advantage of the diversity of animal species found throughout the variety of habitats the species inhabits (Emmons 1987; Hoogesteijn and Mondolfi 1992; Silveira et al. 2010). Well adapted to take a wide variety of prey species owing to their proportionally short-legged, powerful

¹² Obligate carnivores are animals that depend exclusively on meat protein and do not possess the physiology to properly masticate and digest vegetable matter. The designation as obligate carnivore is determined by nutritional requirements and methods of ingestion, digestion and metabolism of said nutrients. Of all the members of the order Carnivora, Felidae is the only family where all members are obligate carnivores (Bradshaw et al. 1996).

build, these cats are adept at moving through dense vegetation, climbing, and swimming (Gonyea 1976; Tewes and Schmidley 1987). Jaguars utilize an ambush technique for hunting, either stalking or lying in wait before rushing and pouncing on their prey (Emmons 1987; Sunquist and Sunquist 2002).¹³ Unique amongst Felidae, jaguars bite down directly on the head, utilizing their incredibly strong jaw to pierce with its canine teeth through the temporal bones of the skull and into the brain of prey (Emmons 1987; Rabinowitz 1986; Emmons 1989).

Demonstrating “extreme flexibility” in prey selection, jaguars’ adaptive hunting behaviors include nocturnal, crepuscular, or diurnal habits (Taber et al. 1997; see also Carrillo 2000; Rosa and Nocke 2000; Monroy-Vilchis et. al 2009; Harmsen et al. 2011; Foster et. al 2013). Monthly spatial and temporal variation in predation has been documented, as the cats alternated their behavior to take advantage of certain species during specific times of the month. Carrillo (2000) documented jaguars in Corcovado National Park, Costa Rica were more nocturnal and their range size more restricted during marine turtle nesting periods, then reverted to diurnal habits in order to exploit peccary populations in forested environments (peccaries themselves are diurnal).

The jaguar’s prey base encompasses more than 85 species, with studies documenting the taking of peccaries, feral hogs, capybara, anteaters, coati, agouti, paca, armadillo, deer, sloths, tapirs, monkeys, chelonians, lizards, caiman, iguana, porcupine, anaconda, freshwater fish, freshwater dolphins, birds, as well as a diverse array of other

¹³ Perry (1970) reported accounts of jaguars easily covering distances of more than 20 feet in a leap.

mammals, reptiles, and amphibians (Seymour 1989; Hoogesteijn and Mondolfi 1992; Nuñez, Miller and Lindzey 2000; Brown and López González 2001; López González and Miller 2002; Hatten et al. 2005; Novack, Main, Sunquist, and Labisky 2005; Silveira et al. 2010). In the southwest United States, the jaguar prey base includes species such as the collared peccary (known locally as javelina), elk, white tailed deer, mule deer, coatis, skunk, raccoon, jack rabbit and desert tortoise (Hoogesteijn and Mondolfi 1992; Brown and López González 2001; Hatten et al. 2005). Jaguars typically take both large and medium prey species (Schaller and Vasconcelos 1978; Mondolfi and Hoogesteijn 1986; Rabinowitz and Nottingham 1986; Emmons 1987; Aranda 1994; Crawshaw 1995; Aranda and Sanchez-Cordero 1996; Chinchilla 1997; Taber et al. 1997; Crawshaw and Quigley 2002; López González and Miller 2002; Foster et al. 2009) but are opportunistic and also take small prey (weighing under 1 kilogram) including marsupials, rodents, birds, reptiles and insects (Rabinowitz and Nottingham 1986; Emmons 1987; Emmons 1989; Taber et al. 1997; Foster et al. 2009).

Remarking on the diversity in their diet in Mexico, A. Starker Leopold related an anecdote from a Mexican jaguar hunter, “Sr. Ferreira, who has opened the stomachs of many jaguars killed in Sinaloa, tells me that the contents of no two are the same. He has often found mice, small birds, lizards, and snakes, along with the remains of the larger, grazing animals” (1959, 467). Contemporary studies in jaguar scat analysis support this observation. Taber et al.’s (1997) analysis of 106 jaguar scats in the Paraguayan Chaco revealed 42% of the prey items (17% of the biomass) were small mammals, and 5% of the items representing 3% of the consumed biomass were other small species including

birds, reptiles and insects. Significantly, variation in prey selection was documented within the study site, with was the relative importance of small mammals varying from 31% of the prey items (13% of the biomass) to 52% of prey items (18% of the biomass).¹⁴ Selection of small prey by jaguars is not fully understood, but may be the result of lower availability of large prey, the density of habitat structure, or the influence of competition including sympatric species hunting activity (Emmons 1987; Iriarte et al. 1990; Taber et al. 1997).¹⁵

Prey selection is influenced by availability, abundance, vulnerability, and opportunity, and these constraints have temporal and spatial variability (Nuñez et al. 2000; Carrillo 2000; Brown and López González 2001; Weckel et al. 2006). A number of additional factors may also influence prey selection, including: the sex of individual jaguars; the presence and hunting activity of sympatric species; human impacts on both habitat and prey species; and the introduction of livestock species (Emmons 1986; Taber et al. 1997; Nuñez et al. 2000; López González and Miller 2002; Scognamillo et al. 2003; Novack et al. 2005; Azevedo 2008; Foster et al. 2009).

Differences in prey selection may be sex-linked, as studies have reported prey selection for females can be significantly different from those of males (Ross et al. 1997; López González and Miller 2002). Large prey species may be of particular importance to

¹⁴Nuñez et al. (2002) note that it is important to calculate biomass in addition to occurrence, because, “If percentage of occurrence of prey found in scats is uncorrected to biomass consumed, there will be a relative overestimate of small prey in the diet. So, biomass consumed provides a more accurate representation of diet than either percentage of occurrence or frequency of occurrence” (373-374).

¹⁵ Sympatric species are two populations that inhabit the same area.

females as their energy requirements increase significantly when they are pregnant, lactating, and with kittens (Ackerman et al. 1986; López González and Miller 2002; Foster 2008). Recent studies have also demonstrated that females utilize different habitats than males, which would directly affect potential prey availability (Salom-Pérez et al., 2007; Conde et al. 2010). The next section of this chapter will discuss these effects of habitat selection in greater detail.

The presence of sympatric felid species and their mutual impact on prey selection has been a subject of significant study throughout the jaguar's range in recent years, frequently considering interactions between jaguars and puma (Aranda and Sánchez-Cordero 1996; Taber et al. 1997; Novack et al 2005; Scognamillo et al. 2006; Azevedo 2008; Foster et al. 2009; Sollmann et al. 2012; Foster et al. 2013). Studies consistently reveal jaguars and pumas use the same spaces, but consistently avoided using the same location at the same time (Harmsen et al. 2009; Romero-Muñoz et al. 2010; Sollmann et al. 2012; Foster et al. 2013). These two large cats coexist by exploiting different prey species with little to no dietary overlap, and with each felid selectively exploiting distinct large, medium, and small prey species (Aranda and Sánchez-Cordero 1996; Novack et al 2005; Scognamillo et al. 2006; Foster et al. 2009). Sollmann et al. (2012) found this to be not only a matter of coincidence attributed to differences in habitat use, but a function of active avoidance.¹⁶ Additionally, Harmsen et al. found that in areas of significant, and

¹⁶Jaguars and pumas use territorial marking behavior including scraping the ground and trees, cheek rubbing, spraying urine, and depositing feces to mark territory. Pumas appear to display these behaviors far more frequently than jaguars (Rabinowitz and Nottingham, Jr. 1986; McCain and Childs 2008; Harmsen et al. 2010).

even unusual, felid density, male jaguars' ranges may overlap substantially, but they still do not interact or exploit the same area at the same time (2009).¹⁷

The impacts of human incursion on jaguar prey selection is not fully understood, but cannot be understated. Anthropogenic habitat disturbance disrupt prey species distributions in ways that cannot always be easily anticipated, predicted, or modeled. For instance, Taber et al. (1997) speculated that differences in prey selection within a region may be directly related to differing levels of habitat disturbance. Habitat disturbances can create conditions that favor medium and large-size mammals, while Emmons (1984) and Taber (1997) both observed minimal habitat disturbance in the northern Chaco favors higher small-mammal densities (Emmons 1984). The incursion of both human and cattle populations may also disrupt faunal species distributions. For instance, human incursion can lead to lower large carnivore densities as a result of hunting and persecution, resulting in relatively higher densities of large prey species, which would affect selection of prey species by the remaining cat population (Taber et al. 1997).

The introduction of livestock, including domestic bovids and equids, typically results in jaguars hunting these larger terrestrial mammals. This, in turn, often provokes lethal control measures by ranchers. These interactions are well documented and are of great concern for jaguar population viability (Ackerman et al. 1986; Rabinowitz 1986; Wilcox 1992; Hoogestijn et al. 1993; Hoogestijn et al. 1996a; Rosa and Nocke 2000; Brown and López González 2001; López González and Miller 2002; Polisar et al. 2003;

¹⁷ Harmsen et al.'s (2009) study in the Cockscomb Wildlife Reserve identified 23 individual male jaguars showing high levels of overlap in ranges, with up to 5 different males captured at the same location in the same month (2009).

Rabinowitz 2005; Azevedo and Murray 2007; Azevedo 2008; Rosas-Rosas et al. 2010; Cavalcanti et al 2010; Gutiérrez-González et al. 2012; Soto-Shoender and Main 2013). Polisar et al. (2003) identify five factors that may influence jaguar selection of cattle and other livestock: innate and learned behavior; health and status of individual cats; division of space and resources among jaguar and puma; cattle husbandry practices; and abundance and distribution of natural prey. This leads to significant conflict with ranchers throughout their range, as “the usual retaliation response of ranchers to felid attacks is lethal control through direct persecution by professional jaguar/puma hunters wielding firearms and assisted by a pack of hounds” (Michalski 2006, 180). Desbiez et al. (2012) demonstrate that even the loss of a few jaguars, particularly females, can have significant impact on the viability of a population, particularly in a small population of a top-order mammalian predator whose theoretical maximum population growth rate is not more than 5% under ideal conditions.

Habitat Selection

While jaguars are not habitat specialists, they prefer areas with significant vegetative cover near rivers, such as dense forests, swamps, or other wetlands (Mondolfi and Hoogesteijn 1986; Emmons 1987; Emmons 1989; Crawshaw and Quigley 1991; Sollmann et al. 2012).¹⁸ They can be found in a wide range of habitats, including rainforests, wet grasslands, dry scrublands, beaches, and rocky mountain sides and in

¹⁸ Habitat specialists are species that require a specific habitat type for all or a critical part of their life cycle.

areas varying in elevation from sea level to 3,800 meters in elevation (de la Rosa and Nocke 2000; Sunquist and Sunquist 2002). In Arizona and New Mexico, the mountainous terrain of Madrean evergreen woodland has historically supported jaguars, although this population has been significantly less dense than in tropical forests in Mexico and further south (Brown and López González 2001; Hatten et al. 2005) (Image 3.5, 3.6, 3.7).

Starker Leopold notes that in northern Mexico and the southwestern United States, the cats “are particularly prone to follow the big rivers on their northern peregrinations—the Brazos, Pecos, Rio Grande, Gila, and Colorado,” noting “on occasion they wander great distances from their normal habitat” (Leopold 1959, 466). Contemporary research confirms that significant limiting factors for the northernmost extent of the jaguar’s range may include insufficient habitat and access to water, as in other parts of its range jaguars demonstrate a clear preference for riparian areas (Mondolfi and Hoogesteijn 1986; Emmons 1987; Emmons 1989; Crawshaw and Quigley 1991; Sollmann et al. 2012). Jaguar population densities, ranges, habitat selection, and ability to maintain a viable breeding population are believed to be strongly influenced by the abundance of prey species and the availability of suitable habitat (de la Rosa and Nocke 2000; Rabinowitz et al. 2005; Watkins et al. 2011).

Individual territories are large and vary widely among the species, with female ranges varying from 25 to 40 square kilometers and male ranges being approximately twice as large (Schaller and Crawshaw 1980; Sandell 1989; Brown and López González 2001; Hatten, Averill-Murray, van Pelt 2005; Boydston and López González 2005; Astete et al., 2008; Sollmann et al. 2011). Sex is an important factor in the selection and



Image 3.5: Habitat utilized by jaguars in southern Arizona. Image by author.



Image 3.6: Jaguar habitat in southern Arizona. Image by author.



Image 3.7: Tropical moist broadleaf forest of the Cockscomb Basin Wildlife Sanctuary in Stann Creek, Belize. This habitat is believed to be amongst the jaguar's favorite. The Cockscomb is home to one of the densest jaguar populations remaining today. Image by author.

use of habitats. While male felids disperse long-distances in the process of seeking a home range, female dispersal distances are much shorter when they occur (Logan et al. 1986; López González 1999; Logan and Sweanor 2001; Boydston and López González 2005). The presence of other jaguars affects the size of individual ranges, as male jaguars' home ranges typically will overlap with females but not with ranges of other males, except in areas of abundant prey (Schaller and Crawshaw 1980; Rabinowitz and Nottingham 1986; Sandell 1989; Sunkist and Sunkist 1989; Boydston and López

González 2005; Harmsen et al. 2009). Although solitary, the ranges of female jaguars will overlap, and Schaller and Crawshaw also speculate that the bond between related female jaguars (e.g. mother and offspring) may persist beyond the point where the offspring is independent (1980). Recent studies have revealed females occupying short forest habitats avoided by males, while males were more likely to push into the margins of human occupation, venturing into areas with roads, low-intensity cattle ranching and agriculture (Salom-Pérez et al., 2007; Conde et al. 2010; Sollmann et al. 2011). Females, by comparison, appear to avoid roads and well utilized pathways (Salom-Pérez et al. 2007).

Documenting female jaguars has proven to be more difficult than their male counterparts. Although published studies concerning sex-based distribution suggests that male jaguars' ranges will overlap with multiple female jaguars, males are more frequently represented in data from camera traps (Schaller and Crawshaw 1980; Sollmann et al. 2011). Noting that a female baseline encounter rate at a given trap was close to one tenth of that for males, Sollmann et al. (2011) concluded that “in addition to having smaller home ranges, females also move less than males” (see also Silver 2004; Salom-Pérez et al. 2007). Sollmann et al. note that female avoidance of roads and well established tracks where camera traps are set up likely skew reported population demographics, and generally make studying female jaguar range and behavior that much more difficult.

GEOGRAPHIC DISTRIBUTION

Historical Range

The historical range of the jaguar extends from the central regions of South America, throughout Central America and into the present-day United States (McCain and Childs 2008; Sanderson, Redford, Chetkiewicz 2002) (Image 3.11). The jaguar species *Panthera onca* is recorded throughout Pleistocene fossil records, first appearing approximately 1.8 million years BP and spanning the North American continent from as far north as present-day Washington, Nebraska, and Pennsylvania, and as far east as Florida (Kurtén and Anderson 1980; Pavlik 2003).

While fossil records place the jaguar in the Carolinas and Florida 7,000 to 8,000 years ago, significantly more recent accounts appear to locate them in eastern regions of North America as late as the eighteenth century. A map produced by Sebastian Cabot of this “Tierra Incognita” in 1544 includes a drawing of a spotted cat on the eastern coast of North America (Images 3.7, 3.8, 3.9). This map has provoked a great deal of speculation as to what animal it might represent and how it came to be positioned as it is on the map (Seton 1929; Simpson 1941).¹⁹ Cabot also depicted a second cat in the Western Hemisphere, a cat south of the Amazon that appears to either be solid colored or striped, and may represent a puma or a tiger (Image 3.9). This is not the only representation

¹⁹ John Smith also produced a map in 1616 depicting a leopard-like animal in New England. However, Valerie Babb points out that there are no indigenous elements on this map, rather, the map represents a projection of known flora and fauna from other parts of the globe (1998). With regards to the representations of native animals and peoples depicted in both the Cabot and Smith maps, Babb remarks, “The portraits of humans and fauna are telling, for they indicate how the European imagination superimposed on a territory it had yet to traverse familiar images inspired by previous exploration (1998, 49).

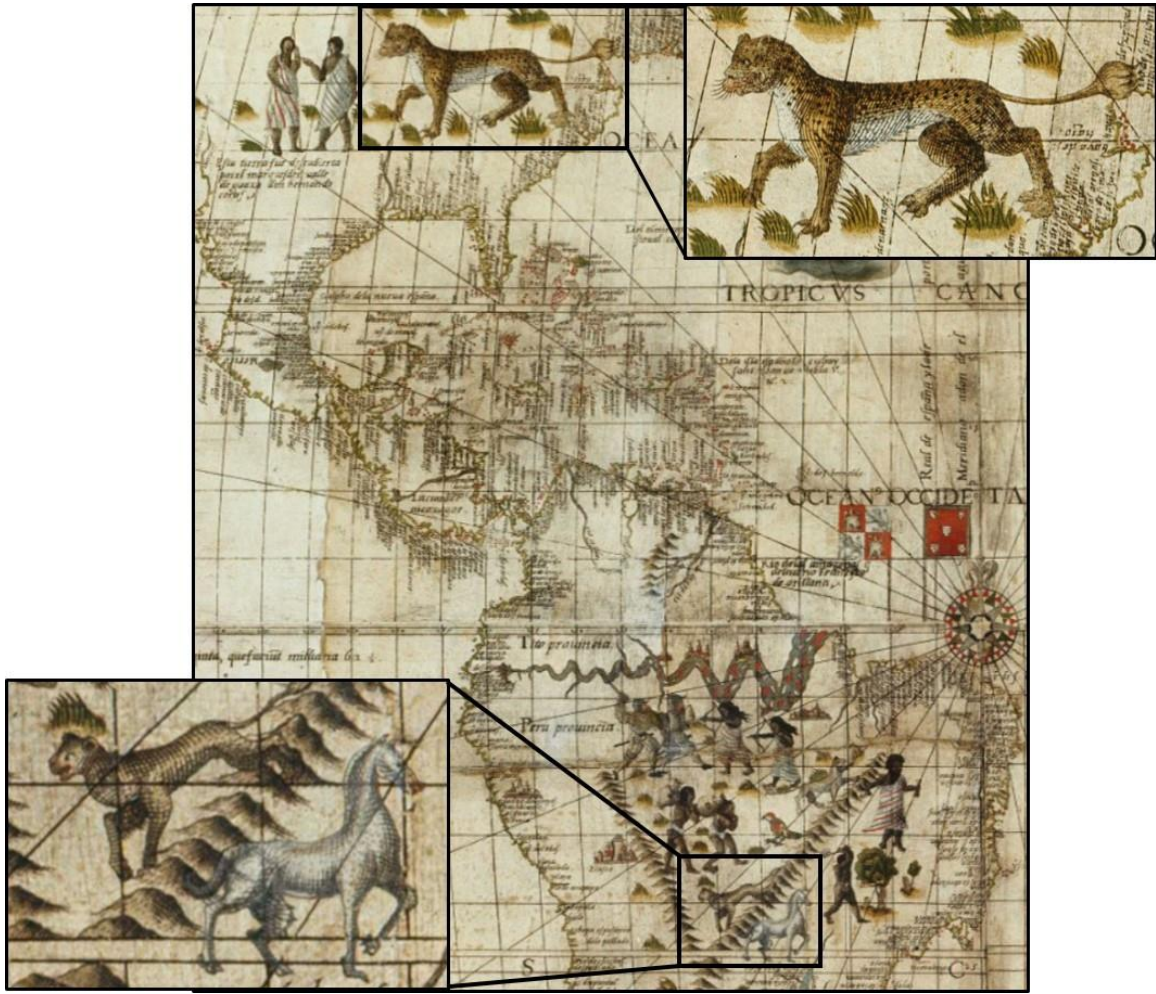


Image 3.8: Sebastian Cabot's Mappe Monde 1544. Image: Bibliothèque nationale de France, Paris.



Image 3.9. Detail from Cabot map: spotted cat in North America. Image: Bibliothèque nationale de France, Paris.



Image 3.10 Detail from Cabot map: cat in South America. Image: Bibliothèque nationale de France, Paris.

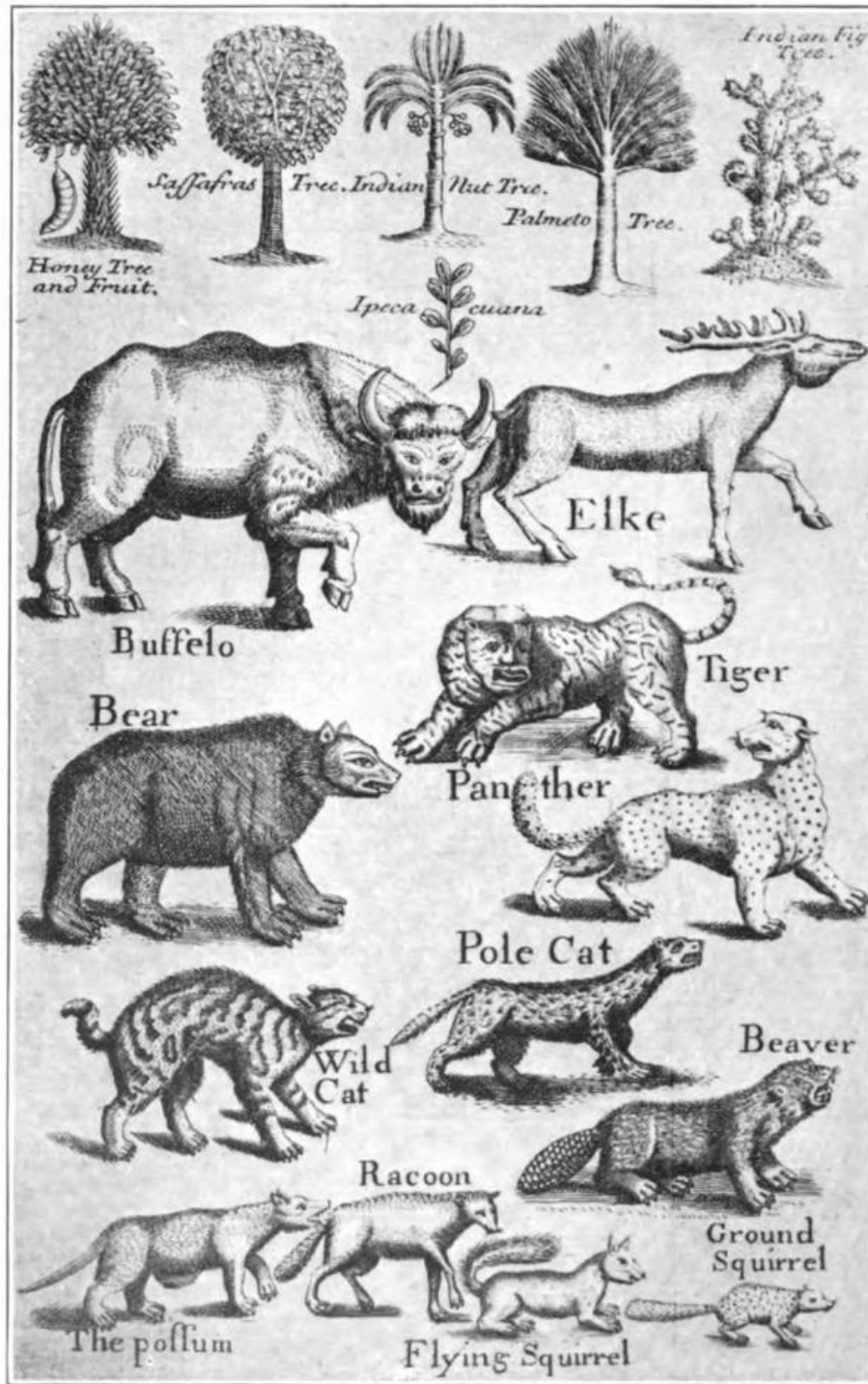


Image 3.11: Illustration from Dr. John Brickell's 1737 volume *The Natural History of North Carolina* depicting a tiger and a panther.

locating spotted cats in this region. Reverend John Clayton of Virginia reports that though he never heard reports of lions, he had heard of a “creature killed whilst I was there, in Gloucester County, which I conceived to be a sort of Pard, or Tyger” (1693-1694). An oft-cited eyewitness account from 1709 by Surveyor-General of the colony of Carolina John Lawson locates tygers in the Appalachian Mountains, as he reports:

Tygers are never met withal in the Settlement; but are more to the Westward, and are not numerous on this Side the Chain of Mountains I once saw one, that was larger than a Panther, and it seem'd to be a very bold Creature. The *Indians* that hunt in those Quarters, say, they are seldom met withal. It seems to differ from the Tyger of *Asia* and *Africa* (1709, 119).

Many have speculated that these tygers might be jaguars (see Rafinesque 1832; Matthiessen 1959; Daggett and Henning 1974; Hairr 2011). As discussed at length in subsequent parts of this dissertation, assumption of “New World” fauna into existing feline nomenclature based on “Old World” species, coupled with incomplete physical descriptions of the specimen, have led to confusion and debate as to whether these “tygers” were jaguars or pumas. While Lawson’s sighting is often cited, and equally as often discounted, Dr. John Brickell’s 1737 volume *The Natural History of North Carolina* includes illustrations of both a tiger and a spotted panther, a testament if not to the species observed on the landscape, then to the enduring legacy of those that endured in legend (Image 3.10).²⁰ Brickell includes the following description:

²⁰ Thomas Jefferson also writes of a mysterious cat species in the mountains of western Virginia. This description is not detailed, but does include an eyewitness account from a person familiar with lions in the region (pumas), who states that this cat was much larger (three times in size). No mention is made, however, about spotted pelage (1799: 246-260).

The *Tyger* is in shape somewhat like a *Lioness*, but has a short Neck. His Skin is most beautifully mottled with several kinds of spots resembling the *Panther*, only the former are not so round, nor have such different Colours. They are large, strong and swift Beasts, but are never to be met with in the Settlements, being more to the Westward, *viz.* on this and the other side of the Mountains, but are very scarce and seldom to be found in this Province, by what I could learn from the *Indians*; and in our Journey up towards the Mountains we saw but one... The Flesh of this Beast is eaten by the *Savage Indians*, who say it is as sweet and good as *Beef*. The *Tyger* is much larger than a *Gray-hound*, with shining Eyes, crooked Nails, sharp Teeth, and Feet having many Toes; they love their young extreamly, which may be tam'd by giving them *Opium*, as it is reported; the Fat is good against *Palsies*, &c.

The jaguar's range retracted southward as a result of human encroachment throughout the nineteenth century, with recorded sightings placing jaguars in Arizona, New Mexico, Texas, and possibly Southern California, Colorado, and Louisiana (Donaldson Chief 1886, 1878; Bailey 1905; Seton 1920; Seton 1925; Taylor 1947; Nowak 1973; Lowery 1974; Brown and López González 2001).

The rate of jaguar sightings grew increasingly rare north of the border, with Arizona Game and Fish receiving only 69 reports of jaguars in Arizona over a span of more than 100 years (1848 to 1998) (Grigione et al. 2007; see also Brown and López González 2001; McCain and Childs 2008). The criteria by which sightings are confirmed and counted are complex and at times contested; these records reveal that the jaguars on

the northernmost edge of the population were increasingly vulnerable to threats and pressures, leading to a contraction in range south of the U.S.-Mexico border.²¹

Contemporary Range and Population Challenges

Over the last century, jaguars have experienced a range contraction of over 54% with a high degree of spatial fragmentation (Sanderson et al., 2002; Rabinowitz and Zeller 2012) (Image 3.12). Jaguars are classified by the International Union for Conservation of Nature (IUCN) as Near Threatened, with all indications that the population is continuing to decrease (Sanderson et al. 2002; Zeller 2007; McCain and Childs 2008; IUCN 2010). The greatest threats to jaguar populations were, and continue to be, human encroachment resulting in habitat loss and fragmentation, declining prey populations, and persecution by humans (Swank and Teer 1989; Quigley and Crawshaw, 1992; Nowell and Jackson 1996; Nuñez, et al. 2000; Novack, et al. 2005; McCain and Childs 2008). While jaguars occupy regions from central Argentina to the southwest United States, these pressures reduce habitat available to this elusive and far-ranging species and fragment the cat's population into isolated pockets, which limits genetic diversity and leaves them vulnerable to a number of threats and pressures (Medellin et al.

²¹ Grigione et al. note "Using the system developed by Girmendonk (1994), 16 of these records are classified as confirmed (i.e., an animal in the hand or photographed) and 20 reports are classified as reliable. In 1996, New Mexico Game and Fish received 58 reports of jaguars killed or photographed in Arizona and New Mexico between 1900 and 1996, but did not rate these records according to reliability or location (i.e. only the county of each record was noted). At least 12 of the New Mexico Game and Fish reports appear to be additional to Arizona Game and Fish records but differences in the format of Arizona and New Mexico Game and Fish records make it unclear how many of the remaining reports are duplicates" (2007, 192).



Image 3.12: Map of Historic and Current Range. Map: Panthera (2009).

2000; Logan and Sweanor 2001; McCain and Childs 2008). Contemporary conservation agendas increasingly emphasize a range-wide hemispheric perspective. These projects are ambitious and require cooperation amongst jaguar biologists and ecologists in order to identify areas of occupation (cores), corridors, and areas of greatest concern and priority (Grigione, et al. 2009; Rabinowitz and Zeller 2010; Desbiez et al. 2012).

Comprehensive jaguar viability assessments throughout the species range are essential to the future of conservation planning (Sanderson et al., 2002; Grigione 2009; Rabinowitz and Zeller 2010; Zeller et al. 2011; Watkins et al. 2011; Petracca et al. 2013; Rodríguez-Soto 2013), however, Silver et al. observe,

Recent efforts to develop a range-wide approach to jaguar conservation brought to light a lack of population data for the species. Despite more than three decades of field research on jaguars, few studies have estimated jaguar populations. Where estimates have been made, they are usually based upon assumptions about the occurrence and home range sizes of a few individuals. To achieve conservation objectives that adequately protect jaguar populations, conservation planners need accurate estimates of densities across a variety of habitats (2004, 148).

Effective jaguar conservation planning is contingent upon further scientific study that will better inform these measures. Near-accurate accounts of population sizes, the flows of genetic material, prey preferences, interactions with other non-prey species, and habitat use will all better enable these programs to address the needs of these cats on the landscape.

CONCLUSION

Having established the animal subject at the center of the study through this brief overview of literature concerning jaguar's biology, ecology, and geographic range, this dissertation now shifts to the historical relationship between jaguars and the Western world. Tracing these encounters from the time of Contact, these subsequent chapters will map the evolution of human representations of jaguars in the scientific literature. Jaguars played significant, and sometimes unexpected, roles in the ways in which the relationships between Europeans and the natural world were imagined and enacted. Almost entirely obscured by their anthropogenic representations, jaguars remained an elusive and ominous presence on the landscapes of the New World.

PART II: TIGERS OF THE NEW WORLD: ENCOUNTER, REPRESENTATION, AND KNOWING

Tyger! Tyger! burning bright
In the forests of the night,
What immortal hand or eye
Could frame thy fearful symmetry?
—William Blake, “The Tyger” (1794)

Chapter 4: A Tyger by Any Other Name

Jaguars are incredibly elusive, making an encounter with these cats rare. This rarity, as well as the difficulty identifying the animal in the wild, creates a number of challenges in reconstructing a record of human-jaguar encounters. Searching for jaguars in the archive requires peering through a confusing mix of terminology, description, and metaphor in order to determine which animal species might be involved, and if so, whether this encounter was physical or symbolic (as imaginary jaguars appear to enjoy a far greater population density than physical jaguars.) However, echoing Jon Coleman’s reflection on his own work in wolf histories in North America (*Vicious*, 2004), the ubiquity of these cats is in itself remarkable, as upon closer examination one discovers the historical record lightly trod upon by silent footprints of the feline variety.²²

²² Coleman notes in his Introduction, “As a history graduate student with my eyes fixed on books, documents, and microfiche most of my waking hours, I tried to spot animals in the mountains of text. I found them everywhere. Real and imagined beasts surrounded the Euro- and Native American humans at the center of my research” (ix).

ETYMOLOGY OF *JAGUAR*

Prior to examining historical discourses regarding the jaguar, the challenges of etymology and feline species must first be addressed. One of the most significant challenges to resurrecting jaguars from historical documents—including reports, narratives, journals and other accounts—is the confusion in terminologies used to identify feline species. The species *Panthera onca*, today most commonly known as *jaguar* in the United States, has been identified by a variety of names in different places and at different times. This chapter seeks to uncover the origins of the term *jaguar* before turning to the confounding challenges presented by feline nomenclature and identification, foregrounding one of the most fundamental sources of confusion in the construction of jaguar knowledge throughout history.

The origins of the term *jaguar* begins with the term *yaguara* (alternatively spelled *iawara*) from the Amerindian Tupí–Guaraní language subfamily, the most widely distributed subfamily of the Tupían languages of South America spanning regions of Brazil, Bolivia, French Guiana, Paraguay, and Peru (Skeat 1886; Perea 1937; Dietrich 2002).²³ Across contemporary popular and academic literature, *jaguar* is simultaneously attributed to three different translations: “the beast that kills [overcomes; takes] its prey in one bound [leap];” “body of a dog;” and the particularly evocative “eater of us” (de la Rosa and Nocke 2000; Brown and López González 2001; Mahler 2009).

²³ Alternatively, the term could also come from the Jivaroan language family spoken by the Achuar in the far Western Amazon, (northern Peru and Ecuador), where the term *yawa* also bears great phonetic similarity to *jaguar*. The term is deployed following very similar conventions to *yaguara/iwara*, and is a term used as a root word for an array of carnivores, but most specifically for jaguars and dogs (Perea 1937; Descola 1994).

The etymology and translation of the term *yaguara* has long confounded scholars, an enduring legacy for contemporary scholarship. English philologist Walter William Skeat examined the origin of the word *jaguar* in his 1886 paper *Words of Brazilian Origin*, comparing the different ways in which sources in the region identified the etymology of the term.²⁴ Skeat's sources reported four translations of this term: "that which seizes," "the eater," "the dog," and "eater of us;" all of which endure with remarkable tenacity.

That Which Seizes/ The Eater/ The Carnivore

"That which seizes" is the most frequently cited translation of the term *jaguar*, often incorporated into the often-repeated, yet never substantiated, "wild beast that seizes/overcomes at a bound/leap;" a translation that naturalist Charles Guggisberg finds "somewhat fanciful" in its florid description (1975, 247). Translations reflecting the cat's predatory nature are long documented in studies of Tupí-Guaraní. Skeat cited Amaro Cavalcanti's analysis of the word, noting "It should be written *yagoar*, for there is no *j* in Tupí-Guaraní":²⁵

The radical part of the word is *ya*, a root found in many names of animals; *g* is a mere connecting letter, and *-ar* denotes the agent or possessor. The doubt as to the exact sense of the word is limited to *ya*, which may mean either the seizing of prey, or the eating of flesh (1886, 90).

²⁴ Skeat prefaces his paper "My authorities are Cabral, an amanuensis of the Public Library, who had access to the notes of our late great Guarani scholar Baptista Caetano; Amaro Cavalcanti, the author of a little work, in English, on Tupí- Guarani; and General Henrique Beaurepaire, who has a practical knowledge of Brazilian." (1886, 90).

²⁵ A point also carefully documented in Perea's work *Notas Ortografía, Ortofonía, Etimología y Procedencia de la Voz* (1937).

These translations focused not only on the predatory action, but the carnivorous preference of the jaguar. Cabral's observations echoed this,

Modification of Guaraní *tahar* = *yahar*, that which seizes. With the addition of a prefix or suffix it may form the name of many carnivorous animals, even those of birds, fishes, and insects (1886, 90).

However, the distinction as to whether the prefix reflects predatory behavior or dietary preference remained unclear, as Skeat observed, "The doubt as to the exact sense of the word is limited to *ya*, which may mean either the seizing of prey, or the eating of flesh." Perea (1937), drawing from Montoya (1876) and Sampaio (1928), further explored this uncertainty, noting that the translation depends on which way the two elements (*ya*- and *guara*) are read alongside one another. He remarked that the "complete reversal of the meaning of the two elements" of the word by different scholars have led to two separate translations. The translation described by Montoya (1876) identified "ya" as a contraction of the Guaraní verb "ayao," meaning fight, with "guara" being a relative pronoun, leading to the translation "fighter" in Guaraní. For Sampaio (1928), however, "ya" was the relative pronoun and "guara" was a verb meaning "to eat" or "to devour," translating *yaguara* to "the hungry" or "devouring" in Tupí. The translation of this prefix remained even more troublesome, as the subsequent section of this chapter concerning "Eater of Us" reveals.

Body of a Dog

A second enduring translation, often cited in concert with a variation of "beast that overcomes at a bound" is "body of a dog." In 1802, Félix Manuel de Azara

remarked that jaguars are referred to in this manner, and Swiss naturalist Johann Rudolph Rengger's 1830 translation of *jaguar* was exactly this: "korper des hundes" (1830, 157).

Many scholars remarked on the connection between the names given to jaguars and that given to dogs. Beaurepaire, noted, "The Indians of Brazil give the name of jaguara to the dog, and of jaguara-ete or jaguarété to the *Felis onca* (jaguar); while Carbral observed that "yahar" is not only applied to "the ounce, the dog" but also as "a generic name for all animals of the genus *Felis*" (cited in Skeat 1886; see also Brehm 1895). A correlation between jaguar and dog bodies is perhaps not surprising, as some canid breeds approach the size and physical stature of the jaguar. However, this translation is immediately complicated by the fact that dogs (*Canis lupus familiaris*) are not native to the Amazon and were introduced sometime in the early sixteenth century (Varner and Varner 1983; Descola 1994; Schwartz 1997). The native canids of South America, including the maned wolf (*Chrysocyon brachyurus*), are far closer to foxes in size and morphology and their bodies bear little resemblance to the muscular stature of the jaguar or its methods of hunting and killing prey (Image 4.1). While there were also domesticated canid species in other parts of the South America, they were small, "barkless" lap dogs found only in the northern fringes of the Amazon around the Orinoco River and modern-day Guiana that again bore little to no resemblance to the jaguar in appearance or predatory action (Schwartz 1997).

Marian Schwartz turned this translation of *jaguar* on its head, writing, "Dogs, coming to both of these Amazonian peoples after the Conquest, were classified as jaguars" (1997, 164). She explained:

The Achuar, not having had dogs before the arrival of Europeans in South America, had no word for the animal. They chose to call the dog *yawa*, a term that also refers to the jaguar. They added the term *tanku*, which means “tame or having the capacity to live with people;” *tanku yawa* is “tame jaguar” (1997, 42; see also Descola 1994).

Archaeologist and anthropologist Nicholas Saunders supported this hypothesis, arguing that Amerindians “accommodated Old World creatures to the nearest indigenous analog,” and so, European dogs became jaguars (1998, 34). Saunders remarked that this process is not unusual, and is clearly mirrored in the European naming of New World animals using Old World terminologies. Hence, jaguars became tigers, leopards, and panthers, as discussed later in this chapter.



Image 4.1: Native Amazonian canid, the Maned Wolf (*Chrysocyon brachyurus*) has been characterized as a “fox on stilts” and bears little likeness to a jaguar. Image: Sean Crane.

In other cases, the introduction of new species also necessitated the adoption of new terminologies. Naturalist Charles Waterton, writing in 1804 of his visit to British Guiana, recounted the debate as to whether dogs existed prior to the arrival of the Spanish. He cited the name used amongst indigenous tribes of Guiana, *perro*, as being a

Spanish loan word explaining, “Whatever the Spaniards introduced, and which bore no resemblance to anything the Indians had been accustomed to see, retains its Spanish name to this day. Thus the Warow, the Arowack, the Acoway, the Macoushi, and Carib tribes call a hat a *sombrero*; [...] a cow *vaca*; and a dog *perro*” (1925, 56). Waterton concluded, “This argues strongly against the existence of dogs in Guiana before it was discovered by the Spaniards, and probably may be of use to thee in thy next canine dispute” (1925, 56). Both Europeans and indigenous peoples struggled to locate and classify new animals after Contact. Perea also remarked on the confusion between terminologies for the jaguar (*yaguara, iaguara*) and those for dogs (*yagua, iagua*), causing confusion “in the turbulent times of Conquest, not only in America, but in Spain itself” (1937, 5).

The translation “body of a dog” is further illuminated when one considers the dogs accompanying the explorers and conquistadors, Spanish mastiffs and greyhounds (Image 4.2). Frequently dressed in steel armor, these large dogs were trained to attack and kill the indigenous inhabitants (Las Casas 1552; Varner and Varner 1983; Saunders 1998) (Image 4.3). Fray Bernardino de Sahagun observed in the *Florentine Codex*, “Then, their [Spanish] dogs are enormous... They are very stout and strong; they are not peaceful, they go panting, they go with their tongues hanging out. They are marked the color of tigers, with many colored spots” (1575). Certainly, in size and morphology of the body and the head, the mastiff bears a striking resemblance to the jaguar, particularly when wearing armor. Naturalist Félix de Azara’s 1802 *La Historia Natural De Los Cuadrúpedos de Paraguay* offered some light into this confusion:



Image 4.2: Jaguar and Spanish Mastiff, demonstrating similarities in morphology. Image at left: U.S. Fish and Wildlife Service. Image at right: American Kennel Club.



Image 4.3: Dogs of the Conquest: Mastiffs and Greyhounds wearing armor. Image: Varner and Varner (1983).

The Guaranese were in the habit of calling this animal *Yagua*; but as the dog, when introduced by the Spaniards, went by this name, they changed it into *Yaguaeté* (*Yagua* properly so called), and afterwards altered it to *Yagüareté* (body of *Yagua*) (translation, de Azara and Hunter 1838).²⁶

This translation supports a likely translation meaning “carnivore” or even an analogous term for “beast” under which dogs would have been subsumed—meaning that rather than *yaguara* translating to “body of a dog,” *yaguar* reflects the dog’s similarity to a beast already well situated in the Amerindian cosmos—the jaguar. It appears likely that the dog was in fact identified as having a corporeal similarity to the jaguar, rather than the other way around as de Azara suggested, *yagua* is better situated in translation as “body of a jaguar,” utilized categorically as a class-name for mammalian carnivorous beasts, with the specific name of the jaguar being *jaguareté*, where -eté is a Tupí augmentative, generally understood as “true.”

Eater of Us

Hans Staden’s captivity narrative recounts his time spent with the Tupinambá in Brazil in 1549 (published initially in 1557 as *True Story and Description of a Country of Wild, Naked, Grim, Man-eating People in the New World, America*), including anthropological notes on their “trade and manners.” In this account, Staden observed, “The name of this feline in Tupí is “ja,” us; and g-u-ara, great eater (the same etymology as the Guara wolf): the whole meaning great eater of us (men)” (1847, 103).²⁷ This

²⁶ Lugones (1924) also comments on this term, noting, “Yaguarete appears to mean ‘painted dog.’”

²⁷ Staden notes that the translation is literally, “a Jaguar (am) I” (103, 1847). Specifically, this statement is made when Staden’s discussion with a Tupí chief, who is consuming human flesh. When Staden refused to consume the meat, stating that this was the act of an animal, the chief replied with this phrase, apparently conflating his act with that of the animal. Bethencourt finds that “the totemic relationship with the natural world is underlined in this anecdote... pointing out how easily the frontier between the human and animal conditions were crossed” (2013, 106). The original phrase could reflect perspectives regarding indigenous

translation endured amongst Europeans in Brazil, as three hundred years later, British geographer Sir Richard Francis Burton included a footnote to his *The Highlands of Brazil, Vol. II* defining, “Jaguara, corrupted Jaguar, Iagoar, and so forth, is properly "Ja," we, us, and "guara," an eater, a devourer (of us), and was applied by the indigenes to all man-eating beasts” (1869, 21). Cabral also echoed this theme in his translation, “The animal that eats people” in correspondence with Skeat in 1886. Into the twentieth century, the translation continued to appear, with many contemporary sources citing in jaguar hunter John Phillips’ use of the translation in his 1913 article, “Transplanting the Jungle King” (10).

Returning to the connection between jaguars and dogs provides interesting context for this translation. These conquistador dogs were described by Spanish Dominican friar Bartolomé de las Casas in 1542 as, “wild dogs who would savage a native to death as soon as look at him, tearing him to shreds and devouring his flesh as though he were a pig. These dogs wrought havoc among the natives and were responsible for much carnage” (17) (Image 4.4). In accepting that the terms for jaguars and other large carnivores like dogs are related and deployed in inconsistent ways, the possible appropriation and deployment of “Eater of Us” might certainly involve jaguar-like dogs trained to eat humans.

Historian of Pre-Columbian art Elizabeth Benson located the possible origins of the translation “Eater of Us” as a common theme in ancient cosmology spanning from the northernmost to southernmost reaches of the jaguar’s range from the Aztecs and Maya to the Toba of the Gran Chaco (1998). She cites the Aztec (Nahua) name for the jaguar,

positioning of the jaguar within the cosmos rather than an act of consumption. Alternatively, the phrase could be concisely related to consumption, as Albert Tootal translates this as “I am a tiger-animal,” which would illustrate the use of the root “ya” in Guarani to indicate the consumption of flesh (1873, 103).

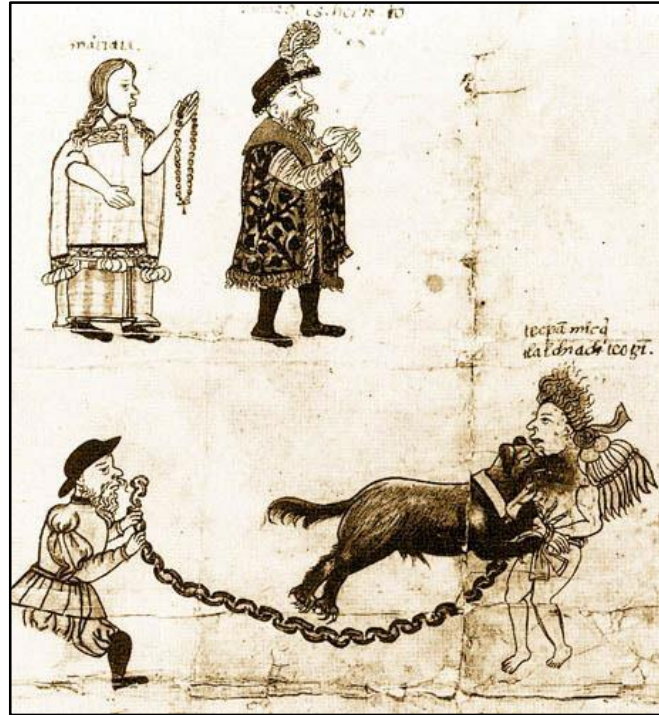


Image 4.4: Detail from the early eighteenth century Coyoacan Codex depicting a chained dog attacking an indigenous man. Image: Bibliothèque Nationale de Paris.

tecuaní, “devourer of people,” and “monster of the earth” (1998, 58; see also Leon-Portilla 1963, 41).²⁸ This construction of the jaguar exceeds the physical reality of the animal, engaging with close associations of the great cat with political leaders, spiritual

²⁸ Perea also notes that the Arawak of the Guyanas also call this cat the “Evil Spirit of the Forests (Espíritu Malo de Las Selvas)” and a missionary by the name of Schulz (1802) translated *yawa* as “demon” (1937, 15). He also notes “This mystical sense of *yawa* has transcended to other people outside the Arawak, evidenced by the almost universal fetishism in our continent, which we see in the various manifestations of their culture on the Indians draw, model and chisel one human head (anthropomorphism of deity) with individual *yawa* fangs or its cognate the ocelot, on both sides of a zoomorphic mouth.” Noting the lion is considered the King of the Jungle for Europeans, so, for the Indians, the tiger and the puma should represent the Spirit of the Forest and as Spirit, something supernatural.” To this end, Perea also cites references to translations in Tupí-Guarani, word *yagua* as “Comet,” “Comet Exhalation (vapor),” or “Tigre Volador” (Flying Tiger) also making connections between jaguars and their otherworldly selves.

figures, and warriors. Benson cites wide-spread Maya lore about past or future “destruction of man by jaguars” and lore of the Toba of the Gran Chaco that “There were jaguars that could talk [and]... killed many people” reflecting a concern with *jaguars* that were not of the feline variety (Wilbert and Simoneau 1982, 336; in Benson 1998, 59).

Anthropologist Claude Lévi-Strauss similarly embraced this more symbolic reading of the translation, noting in his examination of Amerindian mythology, *The Raw and the Cooked*:

The jaguar is seen, then, as being much more a ‘rival’ than a ‘devourer’ of man. When the latter function is attributed to it in the myths, either as fact or potentiality, this is mainly a way of giving metaphorical expression to its first function (1969, 97-98).

Thus, Lévi-Strauss argued, when man-eating jaguars appear in myth, it is not a representation of an observed phenomenon (jaguars attacks on humans are quite rare), but rather a way of expressing anxieties about competition with the jaguar, as humans and jaguars share many common prey including tapir, deer, rodents, and cattle.

These translations begin to reveal the complexities of locating jaguars within the past, when an animal is appropriated even more frequently as symbol than it might be encountered on the landscape. These symbolic appropriations are slippery, both imbuing human subjects with characteristics closely associated with their feline referent and comingling these discursive entities. Like many loan words, the initial translation of the phrase *jaguar* has been at least partially divorced from its original origins and cultural context, filtered through processes of translation and appropriation. The subject itself, a charismatic and fearsome predator, certainly may have imbued the phrase with a more imaginative and colorful translation. Perea stated in 1937, “We confess that, with respect to the true etymology of the word *yaguar* we are immersed in a sea of perplexities,” a sentiment that endures in contemporary scholarship (16).

TIGERS OF CONQUEST

While *jaguar* entered the lexicon as a loan word from the Tupí-Guaraní, the use of the terms *tiger*, *panther*, and *leopard* were far more widespread amongst Europeans for describing felid species in the Western Hemisphere. The term *panther* appeared in accounts from the earliest European voyages to the South American continent, including Amerigo Vespucci's accounts published in 1503 and 1504. Recounting his first voyage of 1497-1498, Vespucci wrote of the New World fauna in his 1504 letter addressed to Pier Soderini, Perpetual Gonfaloniere of the Republic of Florence, "This land is very populous, and full of inhabitants, and of numberless rivers, (and) animals: few (of which) resemble ours, excepting lions, panthers, stags, pigs, goats, and deer: and even these have some dissimilarities of form" (Vespucci 1504; Ober 1907).²⁹ An account of his second voyage written in a letter from Vespucci to Lorenzo di Pier Francesco de Medici in the spring of 1503 similarly mentioned these animals, "How shall I enumerate the infinite variety of sylvan animals: lions, catamounts, panthers—though not like those of our regions—wolves, stags, and baboons of all kinds?" (Vespucci 1503; in Ober 1907). These panthers are commonly believed to be jaguars, as *panther* was a common term used to for either cheetahs (*Acinonyx jubatus*) or leopards (*Panthera pardus*), large

²⁹ This letter has its own sordid history: Published in 1504 as an account written by Vespucci to Soderini, recounting a voyage leaving Spain in May 1497 for the New World and returning in October 1498. If the dates of this letter are accurate, Vespucci reached mainland South America shortly before Cabot, and at least 14 months prior to Columbus (Halsall 1998). There remains a great deal of debate as to whether this voyage took place, as other historical documents place Vespucci in Spain during these years (Ober 1907; Asúa and French 2005). Authorship aside, the details contained within the letter contains a number of accurate details including Amerindian customs (such as the use of hammocks.) From this, the mention of *panther* is worth noting in a reconstruction of human-jaguar encounters (Ober 1907).

spotted cats of the Eastern hemisphere known to Europeans since the ancient Greeks (Toynbee 1973). Within a contemporary context, *panther* is generally a colloquial term not linked to a specific cat species, but forms the basis for the name for subfamily *Pantherinae* and genus *Panthera* which includes jaguars (*Panthera onca*), tigers (*Panthera tigris*) leopards (*Panthera pardus*), and lions (*Panthera leo*).³⁰

One of the first uses of the term tiger/tyger/tigre/tijger for New World fauna occurred in 1513, in Italian-born Spanish court chronicler Peter Martyr d'Anghiera's account of Vasco Núñez de Balboa's explorations in *Decades of the New World (De orbe novo decades)* (1516). While crossing the Isthmus of Panama in search of the Pacific Ocean, Balboa's party encountered a large cat, which they referred to as a "tiger." In recording this account, Martyr queried how the men knew the animal to be a tiger, given that there were no tigers in Spain and likely none of the men had seen one before. They answered "that they knewe it by the spottes, fiercenesse, agilitie, and such other markes and tokens whereby auncient writers have described the Tyger" (1521, *Decades III*, 2).³¹

Accounts from the New World continued to be populated by tigers. Adelantado Pascual de Andagoya's narrative of Pedro Arias Dávila's expedition on the Isthmus of Panama (1514) included encounters with "... lions and tigers, which do much harm to the people..." (18). Toribio of Benavent, one of the first twelve missionaries selected to be

³⁰ Across the colonial European languages these terminologies share common origins and remain markedly similar to one another. Please refer to Appendix 1 for origins of the terms "lion," "tiger," "panther," and "leopard."

³¹ Chapter 5 of this dissertation will examine how representations of tigers in classical and medieval sources frequently represented the tiger as spotted and fleet of foot. Of these accounts, Peter Martyr was himself skeptical, stating "We can only take their word for it" (*Decades III*, 2); quoted in Gerbi (1985, 70).

sent to the New World in 1523, also wrote of tigers in the wilderness surrounding present-day Mexico City. His contemporary, Bartolomé de las Casas, also mentioned “tygers” in his observations of Central America published in 1542. An illustrated map of Guiana (*Nieuwe caerte van het Wonderbaer ende Goudrycke Landt Guiana*) published by famed Flemish cartographer Jodocus Hondius in 1598 included lupaerts and tigres, based on Sir Walter Raleigh’s observations of “Lyons, Tygers, Leopards, and diuers other sortes of beastes” recorded in *The Discovery of the Large, Rich, and Beautiful Empire of Guiana* (1596) (Image 4.5). This map reflects a new awareness of the natural world intersecting with older European representations informed by classical authors and medieval bestiaries. While the map includes a detailed, accurately rendered armadillo, a turtle, and a peccary (none of whom are identified by name), it also includes a fantastical creature, a headless humanoid monster with a face embedded in its chest referred to as the “Ewaipanoma” by Raleigh, also commonly known since classical times as “Blemmyes” (Conniff 2011). Three feline species are represented on the map: an unnamed but clearly illustrated maned African lion frolicking along the banks of the Amazon river, a leopard (“lupaert”) standing in rapt attention staring at an animal that strongly resembles a tapir, and a striped Asiatic tiger (labeled “tygre”) standing halfway between the Orinoco and Amazon rivers. A dog was also present on the map, likely reflecting Raleigh’s report of “Deere dogs” (Indian hunting dogs), and confirming Schwartz’s (1997) observation that dogs were rapidly embraced by different groups in the Amazon. By the mid-sixteenth century, tribes including the Achuar were renowned for their training of dogs to track prey, including dogs trained for specific prey including

deer, peccary, and even jaguars (Raleigh 1596; see also Descola 1994.)

Leopards have a very complex range of deployments, appearing from the fifteenth to the nineteenth centuries in accounts from Canada to Brazil, and representing cats as physically and geographically diverse as the lynx, bobcat, puma, jaguar, ocelot, margay, and oncilla. French explorer André Thévet noted, “The commonest animals of this land are stags, hinds, goats, fallow-deer, bears, leopards, lynxes, divers sorts of wolves” in Florida in the mid sixteenth century (1986, 139); while his contemporary Hans Staden remarked that, “There is also a kind of lion, which is called Leoparda; that is to say, grey lion” in Guiana (1847, 162). These leopards persist well into the nineteenth century, with John Russell Bartlett including leopards as one of the resident species of the region in his *Personal narrative of explorations and incidents in Texas, New Mexico, California, Sonora, and Chihuahua* (1854, 555), and only a few years later, Rufus Sage reported in his Rocky mountain life, “One of our party encountered a strange looking animal in his excursions which from his description must have been of the leopard family” at the headwaters of the South Platte River in Colorado (1857, 347).

This confusion confounded early attempts to catalog fauna of the New World. French naturalist Georges-Louis Leclerc, Comte de Buffon commented on this occurrence in his *Histoire naturelle, générale et particulière* (1756):

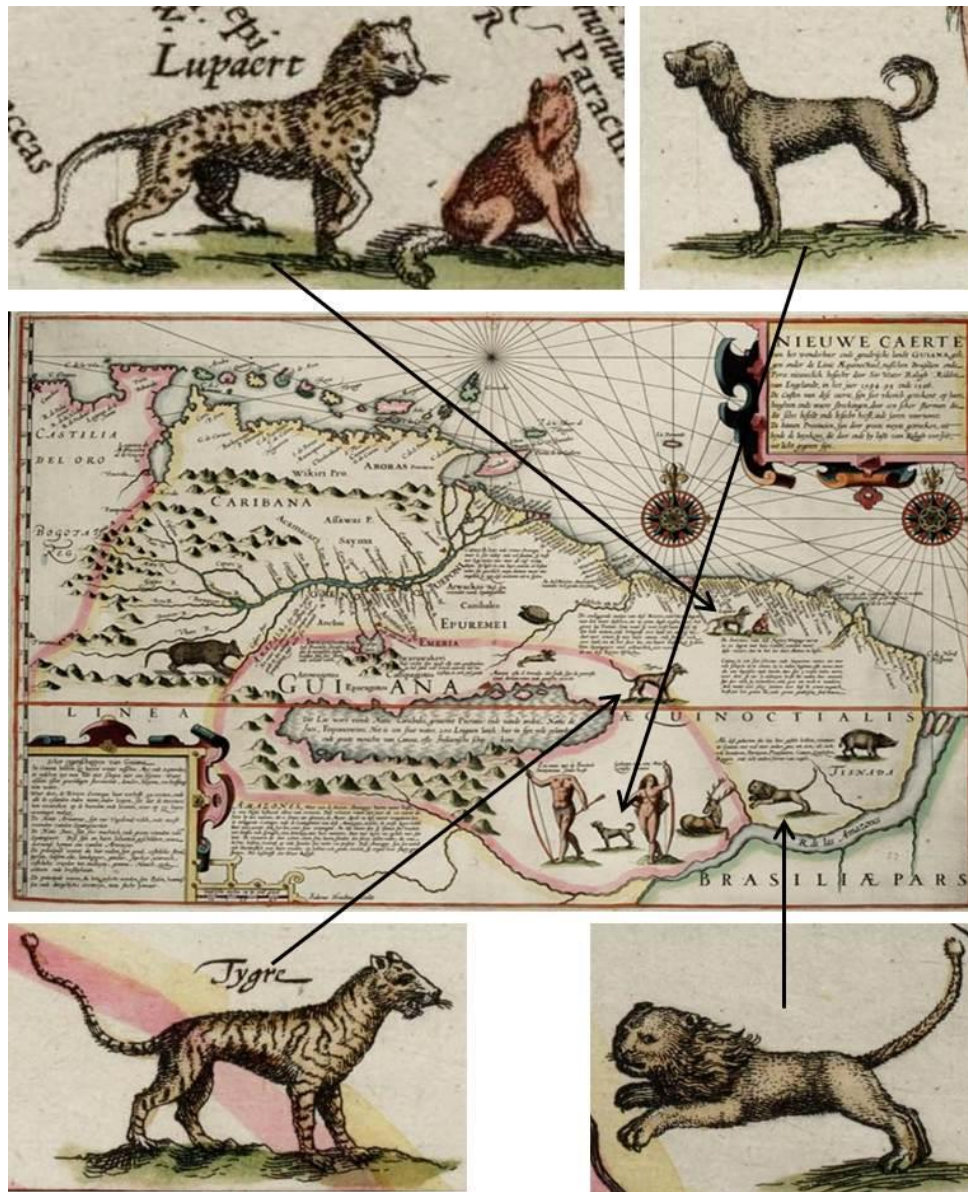


Image 4.5: Honidus' Map of Guiana, 1598. Image: National Library of Brazil.

All those skins which have short hair and roundish and distinct spots, have been called tigers skins; and travellers, deceived by this false denomination, have indiscriminately named every ferocious animal, thus spotted, by the appellation of *tigers*. The academy of science were likewise misled by this prejudice; and, to all the spotted animals they dissected, though very different from the genuine tiger, they have given the same denomination.

The most general cause of the multiplication of equivocal and vague terms in natural history, has arisen... from the necessity of giving names to the unknown productions of the New World. Many animals, merely from some slight resemblances to those of the Old Continent, though very different, both in species and dispositions, have had the same names imposed on them. The error of calling every spotted animal a *tiger*, began in Europe, and was transported to America, where it was doubly augmented. For spotted quadrupeds being discovered in this new country, they were instantly called *tigers*, though they neither belonged to the species of the true tiger, nor to any of those Asiatic or African animals who had falsely received that name. Hence, in place of one species of tiger, their number has been increased to nine or ten; and, consequently, the history of those different animals has been greatly embarrassed, what belongs to one species being often ascribed to another (1792, 88-89).

Early European explorers were challenged by the task of identifying and naming the people, places, animals, plants, objects and concepts they encountered in the New World. Philologist Ralph Penny identifies this as a process determined by one of three methods: a word may be borrowed from another language, an entirely new term may be created, or an existing word may be extended to encompass the new object or concept (2002, 310). Penny argues the choice in terminology used to identify jaguars represents a hybrid approach between borrowing a new term and extending an existing word, which

leads to regional variations in preference still used today. While *jaguar* was eventually absorbed into the lexicon of the European languages, the species also became readily identifiable by a number of European names for Old World species, including variations on *tigre*, *leon*, and *leopardo*. “Thus,” Penny argues,

The jaguar, the puma, and the pineapple were at first named by means of the Old World terms *tigre*, *leon* and *pina*, words which eventually came to have competitors of Amerindian origin (*jaguar*, *puma*, *anana(s)*), and this competition may survive through the centuries. In the cases mentioned, *jaguar* and *puma* became part of the Old World Spanish, while *tigre* and *leon* continue in use (at least in popular speech) in much of the area where these animals have their habitat... (2002, 277).

The choice in terminology was perhaps as much, if not more, a reflection of the (perceived) nature, or character of a new species as it was its physical appearance—as demonstrated by the early accounts recorded by Martyr. While a tiger is striped and a jaguar spotted, the qualities of *el tigre* allow for the concept of the word to be stretched to encompass this new animal, perceived to be the fiercest and most bloodthirsty of the New World felids. The term *el tigre* extends beyond the object of identification to embody its qualities, as Richard Perry recalls his conversation with Dr. Drennler de la Tour in *The World of the Jaguar*:

He goes on to point out that the use of the word “tiger” or *tigre* for jaguar in South American literature has been a source of perpetual confusion, since in Spanish as in French *tigre* is the equivalent of fierce or strong, and may be employed as appropriately to an outstanding tango-Dance as to a jaguar or any other strong and ‘savage’ animal.” (1970, 149).

The terms *jaguar* and *tigre*, while not etymologically related, do share a commonality in the ways in which these terms were utilized to engage the character of the animal and ascribe those characteristics to other (human and animal) subjects.

Because of the species' cryptic nature, colonists often found themselves reliant on indigenous peoples for names, descriptions of morphology and behavior, and in order to locate these species in the field. While this cooperative species-seeking was an obvious site of interaction between these peoples, it is minimized and even completely hidden within the European record. In foregrounding spotted bodies, these records eclipse, or at least generalize and exoticize, the collaborators behind them. Sujit Sivasundaram's (2011) consideration of botanical gardens in British Ceylon offers a richer illustration of this linguistic and biological appropriation, positioning British colonists as "agents who minted a new science by incorporating and overtaking local knowledge" (129). Sivasundaram demonstrates that indigenous knowledge and European natural science did not exist in "a simple dichotomy between colonial and colonized knowledge," rather, they were connected through systems that appropriated and exploited these knowledges both on the landscape and through formalized colonial systems of knowledge circulation (128). Sivasundaram locates this as a localized, political act, arguing that co-opting of names in indigenous language was part of a bigger project that incorporated names and knowledge into natural history catalogs, simultaneously writing Europeans into history of natural history and leaving indigenous contributors unidentified, nameless and erased from the record. This theft of local knowledge occurred throughout colonial empire.

Here too in South America, knowledge of the jaguar and the name itself, are claimed for European understandings. In claiming the jaguar, indigenous guides and collaborators are erased from communication, becoming as nameless and faceless as the cats themselves.

By utilizing these existing names for known Old World species endemic to Europe, Africa and Asia, early European explorers absorbed these new animals into their existing worldview. Appropriating New World animals with Old World labels from other known regions of empire “rendered the unknown less so by characterizing an unexplored continent through impressions already associated with European expansionism” (1998, 49). This process of colonial hegemony is well demonstrated in the production of Euro-centric conceptions of nature through the body of the jaguar.

TYGERS OF THE NEW WORLD

Jaguars appear disguised as tigers in unexpected places. An excerpt of the famous poem “The Tyger” (1794) by William Blake provides a provocative example of such a covert appearance. This poem is perhaps best remembered for the lines,

Tyger! Tyger! burning bright
In the forests of the night,
What immortal hand or eye
Could frame thy fearful symmetry?

In what distant deeps or skies
Burnt the fire of thine eyes?
On what wings dare he aspire?
What the hand dare seize the fire?

Historically the poem, pondering the Creation of a fearsome predator, was commonly attributed to the Asiatic tiger. However, Blake's friendship with British-Dutch soldier and



Image 4.6: “The Jaguar or Tiger of Terra Firma” and “The Tiger-cat of Surinam” from John Gabriel Stedman’s *Narrative of a Five Years’ Expedition* (1806). Source: Archive of Early American Images.

author John Gabriel Stedman offers a different perspective on the identity of this fearful predator (Erdman 1954; Conniff 2011). Stedman, whose account *The Narrative of a Five Years Expedition against the Revolted Negroes of Surinam* (1796), included illustrations by Blake and describes the “tyger-cat” as “a very lively animal, with its eyes emitting flashes like lightning; but ferocious, mischievous, and untamable...” (Stedman 1806,

52).³² The use of the term “tyger-cat” brings to light another point of confusion with New World tigers, as while Stedman was describing the ocelot in this colorful description (two paragraphs prior, he also describes the jaguar, or tyger, in detail), Blake very likely seized upon the idea of the jaguar with flashing eyes, as this cat most certainly strikes a far more fearsome figure, but mistakenly uses the term “tyger-cat” (Image 4.6).³³

Tigers remained abundant in narratives and literature produced in the Americas in the nineteenth century. Meriwether Lewis and William Clark used the term *tiger* in their diaries of 1803-1806. While recording observations of plant and animal life on their transcontinental journey from Missouri to the Pacific Ocean, they each made mention “tiger (tyger) cats” on more than one occasion. Although not trained naturalists, Lewis and Clark were keen observers and the journals offer a detailed description of the species which enables us to conclusively establish that this specimen was not a jaguar, as,

This Cat differs from any which I have ever Seen. it is found on the borders of the plains and the woody Country lying along the Pacific Ocean. this animale is about the Size or reather larger than the wild Cat of our Countrey and is much the Same in form, agility and ferosity. the colour of the back, neck and Sides, is a redish brown irrigular varigated with Small Spots of dark brown the tail is about two inches long nearly white except the extremity which is black; it termonates abruptly as if it has been cut off... [break] Covered with fine black hair, Short except at the upper point which is furnished with a pencil of verry fine Streight black hair, $\frac{3}{4}$ of an inch in length, the fur of this animale is long

³² Connecting this poem to Stedman’s influence is not without precedence: Blake later included some of his images from Stedman’s *Narrative* in his poem “Visions of the Daughters of Albion” (Honor 1975, 343).

³³ Naturalist Charles Waterton (1804) observed in British Guiana, “Several species of the animal commonly called tiger, though in reality it approaches nearer to the leopard, are found here, and two of their diminutives, named tiger-cats” (1804, 8).

and fine. much more So than the wild Cat of the U States but
less so than the Louserva of the N West (Clark 1806).³⁴

Having described the lynx (*Lynx canadensis*) by the name *louserva* (believed to be a corruption of the French term for the lynx, *loup curvier*) in the journals, the cat described above is almost certainly a bobcat (*Lynx rufus*) (Burroughs 1961). The term tiger endures, perhaps because of its deeper associations with the unknown and altogether feline. The ways in which these terminologies endured are deployed in the American West throughout the nineteenth and early twentieth centuries remained slippery and problematic.

In an 1858 diary documenting his journey from Ohio to Tucson, Phocion R. Way recounted a moment in his journey near Tubac, Arizona, where “Mr. Fuller had killed a tiger in my absence and he and Grosvenor had quite a chase after a bear that ventured near the camp . . . but they did not succeed in capturing him” (287). While the journal entry includes a fairly detailed discussion of different bear species in the region, it did not include a description of the cat, making it extraordinarily difficult to tell what species met its fate at the end of Mr. Fuller’s shotgun. This is complicated by an annotation to the journal authored by editor William Duffan added in the 1960 printing, which stated, “*El tigre*, a name commonly applied to the puma, puma, or cougar by the Spanish-speaking people of the Americas. There is also a spotted cat that comes into this area from Mexico, referred to as *el tigre*” (287). While *leon* was the more common Spanish term utilized for

³⁴ Lewis and Clark also report an animal “of the tiger kind” in their journals, which lead to great speculation in the literature as to which animal they encountered. This “brownish yellow” animal was most likely a puma, or perhaps a wolverine.

pumas, this entry reflects the confusion over terminology that spanned from an author writing in the mid-nineteenth century to an editor writing in the mid-twentieth. Lending credence to the idea that this tiger was in fact a jaguar is the site of the encounter, south of Tucson and tucked against modern-day Coronado National Forest, which is the same area where contemporary jaguar sightings have occurred. Gottfried Duden, a German writing of his travels in eastern Missouri in the 1820s, similarly revealed the confusion of utilizing the term “tiger” for pumas reporting, “Several weeks ago a cougar (American panther, but called tiger here) was shot four miles from here” (1980, 126). The cat that Duden proceeded to describe, “with the exception of small black spots on the ears and the mouth, the color of the body is yellowish,” is most certainly a puma (126).

From the earliest days of contact, tigers were reported prowling landscapes throughout the Americas. The use of the term tiger reveals the complex ways in which Europeans interacted with the landscapes and inhabitants of the New World, as they strove to incorporate newly encountered places, peoples, and animals into their existing world view. While the deployment of the term tiger has been confusing for natural history, the socio-cultural dimensions it illuminates in the ways in which peoples communicated about the environment is an area fruitful for continued study.

A JAGUAR BY ANY OTHER NAME

David Brown and Carlos López González note that the more “exotic” name jaguar has only recently come into use in the United States (2001). Until recently, jaguars were more commonly known to Americans as the American or Mexican leopard, the American tiger, or as they are still known today in Mexico, *el tigre*, (Audubon and Bachman 1854; Carmony 1995; Brown and López González 2001). This tangled terminology is understandably problematic in untangling a history of sightings, as further illustrated by the tangled ways in which terminologies are deployed for a host of native cats in the Western Hemisphere (Image 4.7).



Image 4.7: Other spotted cat species native to the Western Hemisphere, from left to right: Margay (*Leopardus wiedii*), Ocelot (*Leopardus pardalis*), and Oncilla (*Leopardus tigrinus*). Images: Arkive.org.

A variety of names have been used amongst and across in different regions at different times to describe jaguars including: *tigre*, *American tiger*, *onza*, *yaguarete*, *yaguara pichuna*, *tigre real*, *yaguar*, *yagua-hu*; *water tiger*, *otorongo*, *occlotl*, *onça pintada*, *onça negra*, *tigre jaguaretê*, *pinima/pishuna* (black), *tigre serrano* (mountain tiger), *pinta menuda* (small spots) and *tigre mariposa* (butterfly tiger) (Perry 1970;

Hoogesteijn and Mondolfi 1993; de la Rosa and Nocke 2000) (Figure 4.1). In Brazil, the jaguar is known as *onça* (reflecting the Latin name *Panthera onca*), even though the Guaraní term jaguar originates in this region (Brown and López González 2001). *Onza*, a term used for different cats in different regions of Latin America, is itself derived from the English term *ounce* (used to identify for the Snow Leopard (*Panthera uncia*) of Central Asia), an Anglicization of the term *l'ounce*, which is itself a term derived from the Latin *lyncea* or lynx.

Feline nomenclature becomes even more confusing when one considers the mélange of names appropriated for different spotted cats in Central and South America. The terms *gato tigre/tiger-cat*, *tigrillo*, *tigrito*, *oncillo*, *cunaguaro*, *leopard-cat*, *panther cat*, *gato pintado*, *tortoiseshell tiger*, and *little spotted cat* are used interchangeably for smaller spotted felids native to the tropical rainforests of Central and South America, including the ocelot (*Leopardus pardalis*), margay (*Leopardus wiedii*), and oncilla (*Leopardus tigrinus*). These terms vary by region and during different time periods, and may refer to one, more than one, or all of these species, all of whom possess rosetted coats and are frequently mistaken for one another (Alston 1879; Carmony 1995). The oncilla and ocelot are also referred to as *gato-do-mato*, *gato-do-pequeno* or *gato-do-pintado*. Oncilla may be *leopardo tigre*, *gato manchado*, *gato tigre menor*, and *tiger ocelot*; while margays are also referred to as *caucel*, *maracayá*, and *gato-maracajá*. Ocelots are also commonly known as *jaguarcito*, *jaguaririca* (in Brazil), *jaguarete 'i o mbarakaja*, and in Guaraní *pequeño jaguarete* or *gato respectivamente*. The margay is sometimes referred to as a “tree ocelot,” while the ocelot is known as the “dwarf

linguistic derivative of *onça*) has a very complex history (Marshall 1961). Generally, it is utilized as a general term for medium sized cat species in the region (Marshall 1961; Carmony 1995; Reyes 2008). Ernesto Alvarado Reyes notes that the term “onza,” when combined with the common name of a species, is used in Mexico to indicate a variety of species with “recessive traits that make them look different to most individuals from their population” (Reyes 2008, 147). This colloquialism is likely the reason that A. Starker Leopold documented this term being used in rural northern Mexico to describe another wild cat species, the jaguarundi (*Puma yagouaroundi*) (Leopold 1959, Reyes 2008). Even more confusing, jaguarundis are also known as *gato colorado*, *gato moro*, *léon brenero*, and the ever-popular *tigrillo*, while ocelots are also known as *tigrillo* as well as *gato onza* in some parts of their range, including Argentina.

This terminology is further complicated by the fact that in northwestern Mexico, the term *onza* refers to a mythological large wildcat that inhabits the Sierra Madre Occidental (Marshall 1961; Carmony 1995; Reyes 2008). In 1961, Robert Marshall described the cat as a “terrible cat creature the size of the puma, or puma, of very uncertain temperament and horrifying agility- a frightful beast whose diabolical predations, both real and imagined, are as much a part of life in the *barrancas* and high Sierra as the ubiquitous burro or the distinctive footwear of the inhabitants” (Marshall 1961, 17) while Neil Carmony offers a more tempered characterization of this fabled animal in 1995 as, “not a jaguar, not a mountain lion, the onza was considered more elusive and ferocious than either” while (Carmony 1995, 12). This legend has long

endured, as Ignez Pfefferkorn's 1725 description of the Province of Sonora (which encompassed what is today northern Sonora and southern Arizona) describes a cat "by some it is called lion, by others, leopard," to which he remarks, "In my opinion it is neither." (109). Describing a solid colored reddish cat that is unquestionably a puma, he differentiates this animal with the "onza," which is "in shape almost like the animal described" (the lion), but smaller, broader, and more aggressive.³⁵ Onzas also appear in the literature as "onca," but with the clear purpose of describing this cat and not a jaguar. The term "onza" has much deeper roots, connecting etymologically to onca (onça) and lynx, all of which take their origin from Old French and Italian terms *l'once* and *l'onza*, which were historically deployed to describe Iberian lynxes, caracals, and cheetahs in Europe (Marshall 1961, 74).

This tangle of feline identification and nomenclature once prompted Texas folklorist J. Frank Dobie, who wrote stories featuring jaguars, pumas (although he preferred the term panther), and mysterious onzas, to state, "I propose to use whatever name sounds best in the place and at the time it is used" (Dobie 1928).³⁶ Certainly, the wide range of contexts within which this term was deployed lead to great confusion in communicating about cats' presences on the landscape and in cultural discourse.

³⁵ Pfefferkorn also mentions tigers living in the region, but only states "Tigers [Tieger] are so well known in Germany that a description of them would be superfluous here." (108).

³⁶ Individual people often hold strong opinions on what name this species goes by. In keeping with his habit of writing notes to himself in the front pages of the books in his personal library, Bruce S. Wright's 1959 volume *The Ghost of North America: The Story of the Eastern Panther* includes J. Frank Dobie's characteristic scrawl, "Blessings on Mr. Bruce Wright for keeping the good old name of panther instead of the pretentious name of mountain lion!" (Note is signed by Dobie and dated 1959.)

IDENTIFICATION IN THE FIELD

Complicating historical and contemporary records is the difficulty of identifying a species in the field. This is particularly difficult in early documents from the fifteenth to eighteenth centuries, when naturalists were attempting to identify and classify species. This remains a challenge today for scientists, naturalists and enthusiasts. Encounters with wildlife are typically fleeting (unless an animal is killed, or, for contemporary encounters, if photographs or video are taken), making it difficult to accurately identify an animal in the wild.

Further confusing the identification of jaguars in the wild are melanistic (black) jaguars, which are often confusingly referred to as black panthers (*pantera* in Mexico), a name which is also applied to melanistic leopards and other cat species. Despite a rash of unconfirmed sightings of in the borderlands through present day, black jaguars are not known to occur north of Belize (Brown and López González 2001). A long and varied history cast these black panthers, or black tigers, as a separate species more fearsome throughout the Americas, as evidenced by Herbert Huntington Smith's 1879 account, *Brazil, the Amazons and the Coast*:

The black tiger, largest and fiercest of all, has been regarded as a melanic [sic] variety of the jaguar, but the Indians laugh at that idea. The black species, they say, belongs only on the terra firme, like the uriauara; the black mother always has black cubs; the animal attains a larger size, and is feared more than the most terrible jaguar. Finally, the body is thicker and heavier in proportion, and the Indians distinguish the cry of this species from that of any other. For the present, I prefer to believe that they are right, and that *F. nigra* is a valid species (Smith 1879, 198).

There are a number of cat species whose range overlaps to some degree with the jaguar including the aforementioned ocelot, margay and oncilla. The puma (*Puma concolor*), known also as the léon, American lion, Mexican lion, mountain lion, cougar, panther, painter, catamount or puma in different regions of the United States, also has significant areas of overlap with the jaguar (Carmony 1995, Nowell and Jackson 2006). As discussed in Chapter 3, although the puma is somewhat similar in size to the jaguar, is nonetheless easy to distinguish as adults do not possess a spotted coat and have a much more lithe build than the powerfully built jaguar. While juvenile pumas are spotted, these markings occur in irregular dorsal lines rather than the distinctive open rosettes of the jaguar.

Along with ocelots, margay, oncillas and pumas, jaguars share the borderlands region with jaguarundis (*Puma yagouarouandi*) and bobcats (*Lynx rufus*). While jaguarundis and bobcats do not resemble jaguars, Brown and López González note, “That most people want to see a jaguar greatly increases the incidence of misidentification, and normally reliable people have made jaguars out of large dogs (especially yellow or black Labrador retrievers) and even house cats and coatis” (Brown and López González 2001, 15). Time and again, the record of human-jaguar encounters is confused by the dissonance of what a person expects to see, wants to see, and what is really before them.

CONCLUSION

Searching for jaguars in the archive and on the landscape is difficult for a number of reasons. The validity of a given jaguar sighting is difficult to ascertain: the imperfect nature of human eyewitness, and a person's desire to have seen the biggest American cat can complicate reports of jaguars past and present. The terminologies used to communicate about these cats are flexible and slippery through space and time, making hunting for the jaguars of yesteryear an elusive challenge in the present. Having located the physical species, as well as foregrounded the confusion in terminologies deployed to communicate about these cats, this dissertation will now move to consider the ways in which jaguars were represented in the discourses of natural history.

“What raptures must they have felt to land upon
countries where everything was new to them!”
—Rev. W. Sheffield (1772)

“Travelers see strange things.”
—Anon.

Chapter 5: Jaguars in the Age of Discovery

From the time of Christopher Columbus’ initial encounter with the Western Hemisphere, a New World opened to the Europeans of both physical and metaphorical dimension. Populated by a dazzling, almost overwhelming, array of new species, these new discoveries immediately complicated, confused, and confounded traditional ways of organizing the world. Expansion into this New World necessitated a radical shift in European worldview, as lands, plants, animals, and peoples previously unknown created an immediate demand for recalibration of centuries-old constructions of the cosmos (Butzer 1992). Reporting their stories of encounter, these explorers’ accounts simultaneously introduced new species and attempted to place them by describing and identifying them, while also characterizing these animals in terms of potential value and worth to the enterprise of Empire. This chapter examines the nature and character of these representations, specifically locating jaguars within early discourses of Empire in the fifteenth through seventeenth centuries.

NATURAL INHERITANCE

Prior to Contact, understandings of the natural world and constructions of the animals that inhabited it were deeply infused with the legacies of classical sources and medieval Christian teachings. Early explorers were at least familiar with these works. For instance, Columbus had in his library, well-marked with annotations in the margins, the medieval encyclopedia *Imago mundi* and Pliny's *Naturalis Historia* (Asúa and French 2005; see also Butzer 1992). The influence of Marco Polo's account of his journey through Asia (1271-1295) is also well documented, populating Asia in the imaginations of these explorers. Undoubtedly, many scholars have argued, the influence of these earlier systems of organizing the natural world, coupled with the assumption that they had reached Asia, had a strong influence on how and what these men saw, interacted with, and reported upon arrival in the New World (Flint 1992; Asúa and French 2005).

Classical Nature

Leading into the explosive beginning of the Ages of Exploration, Empire and Discovery, European ideas about animals were largely informed by classical writings, most notably Aristotle's *Historia Animalium* (fourth century BC) and Pliny the Elder's *Naturalis Historia* (first century AD). The fourteenth and fifteenth centuries were marked by "rediscovery" of the classics that shifted them to a position of authority. Butzer has critiqued that while these works are rediscovered, they did not provoke philosophical reassessment, rather, they were treated with deference that was unproductive and "stifled intellectual progress" (1992, 54). While works by other ancient

Greek and Roman philosophers and naturalists, including Herodotus and Strabo, were also influential, the legacy of Pliny and Aristotle eclipsed all others in modern European natural history. While Aristotle and Pliny were both fascinated with the natural world, their projects were significantly different. Aristotle's theories on the natures of animals, located within his broader natural philosophy, were developed in his *History of Animals* (in the original Greek, *Inquiries on Animals*), *On the Generation of Animals*, and *On the Parts of Animals*. These works developed from Aristotle's empirical observations, interpretations, and conjectures, but also included a notable presence of myth and superstition, particularly embedded within the sections drawing from the work of his predecessors. Aristotle located animals within a hierarchical classification system, dividing animals based on observable physical attributes, placing them along the "Ladder of Life" according to complexity of structure and function. Based on these hierarchies, Aristotle set humans apart at the apex, based on the capability to reason. Aristotle argued that following this, it is "natural and expedient," that the function of animals is to serve the needs of human beings (Book I, Part V). This organization of natural systems enabled and justified human use of "lower" species (both plants and animals.) This theoretical placement of animal bodies beneath and at the disposal of humans resonated within human societies for thousands of years.

Pliny the Elder's *Naturalis Historia* enjoyed great popularity throughout medieval Europe, into the Renaissance and well into the nineteenth century, eclipsing even the influence of Aristotle's works (Gudger 1924). In 1469, *Naturalis Historia* became the first scientific book issued using the newly-invented printing press. However, it was

already in broad circulation, as Gudger observes, “During the Dark and Middle ages the *Historia* seems to have been *the* work on natural history, and copies were made in great numbers as is evidenced by the fact some 200 manuscripts are extant today” (1929, 271). While Aristotle’s work encompassed challenging theoretical maneuverings, Pliny’s took the form of narrative. *Naturalis Historia* represented a catalog of nature prominently featuring animals. Organized at the scale of landscape, Pliny’s descriptive work attempted to describe and recreate the natural world. Pliny utilized Aristotle’s division of nature (animal, vegetable, mineral) and hierarchies, however, Pliny’s representation of nature was more explicitly connected to notions of value embedded within animal bodies. Devoting considerable effort to elucidating the value of plants and animals to human life, Pliny started his treatment of animals by centering humans, “for whose sake great nature appears to have created all other things” (VII: Preface). Pliny’s work represents an anthropocentric viewpoint common to antiquity and later incorporated into the fundamental teachings of Christianity. Pliny wrote at a moment not dissimilar from the Age of Discovery, as imperial expansion introduced an array of exotic plants and animals into Rome, amongst them tigers, leopards, lions, and panthers.

Pliny’s accounts of the large cats were varied in detail, with the section on the lion particularly well-developed. These accounts included a physical description of the animal, geographic distributions, and narratives and commentary demonstrating each animal’s “character.” Centering the human, Pliny’s accounts of these animals are largely concerned with the potential threat of attack each species presents. Beyond that, the cats appear as commodities (sources for fur) as well as an esteemed source of entertainment,

as Pliny locates lions within the spectacle of combats and menageries. These cats are not clustered together in sharing attributes of character, rather, they occupy very different places within the text. While “the lions are then in their kind most strong and courageous” (VIII: XVI) the tiger is “fierce and cruel” (VIII: IV) and “most dreadful for incomparable swiftnesse” (VIII: XVIII). Recounting tales of prior interactions between human and cat, Pliny drew on accounts from all levels of society, from a slave girl to well-known philosophers. These encounters, testifying to the character of the animal, include moments of violence and moments of intimacy. Many of these narratives were already by Pliny’s time, old and rife with myth and allegory. For instance, Pliny includes a narrative concerning the panther, an older narrative handed down from the philosopher Demetrius that related the tale of kinship between panther and human. Coming upon a panther whose kittens had become stuck, the traveler assists her by freeing her kittens and in turn, the panther “accompanied him, and directed him all the Way to beyond the Wilderness” (VIII: XVII). These observations and accounts echoed through history, strongly influencing the ways in which Europeans imagined these cats for well over a thousand years.

The Book of Beasts and Spotted Tigers

Fifteenth century understandings of the natural world were largely constructed through the voices of antiquity. Accounts of early trans-Asiatic explorations, most notably by Marco Polo, also served to populate the animal world with exotic beasts real and fantastic. Additionally, medieval sources, most notably the bestiaries, greatly

influenced perceptions of nature and its inhabitants. Bestiaries, or the Book of Beasts, were illustrated manuscripts featuring fabulous beasts cast in morality plays of Christian parable. These allegories became the meeting point for classical teaching, ancient tradition, and modern Christian knowledge and practice. Animals were cast in the ultimate acts of anthropocentrism obscuring any concern for animality, as these beasts became proxies for human values, ethics, and anxieties. Spotted cats were prominently featured and among many other animals (real and imaginary), functioned as emblems—in a sort of discursive shorthand, these animals were immediately identifiable symbols for idea, concept, parable, or person.

The distinction of different cat species has a very interesting history within bestiaries, and one that profoundly influenced the ways in which jaguars (as well as ocelots and other spotted cats) were encountered, seen, and characterized in the New World. Many cats populate the pages of these manuscripts, including the panther, the tiger, the pard, and the leopard (Image 5.1) (see Appendix). Nearly all of these cats are spotted, including the tiger (a traditional representation borrowed from the classical period) as well as the panther, pard, and leopard.³⁷ Each cat emblem had its own narrative demonstrating a religious or moral lesson. While these representations had little, if anything, to do with direct observation, they were easily and readily identifiable symbols. The Second family bestiary (mid-twelfth century) also clearly echoed Pliny in identifying these species, stating, “The tiger is so called because of this speed” (Clark

³⁷ Pliny observed, “The panther and the tiger are nearly the only animals that are remarkable for a skin distinguished by the variety of its spots” (VIII: 23). This was, most certainly, what the men who reported tigers in the New World to Peter Martyr were referencing. (See Chapter 4 of this dissertation.)

2006). The panther who had assisted the traveler in ancient Greek lore evolved; constructed as good and beautiful, with sweet breath that drew other creatures.³⁸ The panther with a coat of many colors (spotted) became closely associated with Jesus Christ as, “Thus, our Lord Jesus Christ, the true panther, descending from the heavens delivered us from the power of the Devil” (Clark 2006) (Image 5.2). The panther’s sweet breath came to represent the word of Christ, drawing “all of mankind to him.” At the same time, leopards (who, in the physical world, are most typically also identified as panthers) were considered evil: the illegitimate, degenerate product of a pairing between a lion and a pard.³⁹

Heraldic Cats and Non-spotted Leopards

The feline form was frequently incorporated into other forms of Western European symbolism, developing its own unique taxonomy within the heraldic tradition. Different feline forms were embraced as metaphors, with the most popular being, by far, the lion, associated with bravery and regal bearing since antiquity. However, these taxonomies were far more complex, nuanced, and metaphorically based. For instance, in British heraldry (borrowing from an older French tradition), lions are depicted as facing in profile, standing (*lion statant*), walking (*lion passant*), sitting (*lion sejant*), leaping (*lion salient*) rearing (*lion rampant*), or lying down (*lion couchant or dormant*). Yet, the

³⁸ Pliny first wrote of panthers “their wonderful smell attracts all four-footed creatures (Book VIII, Part XXIII).

³⁹ This definition of a leopard (although not so named), and its characteristics, also first appeared in Pliny (Book VIII, Part XVII).



Image 5.1: Felines of the Bestiary. Top: The Panther, Folio 9 recto of the *Aberdeen Bestiary*, Twelfth century. Image: University of Aberdeen. Middle: The Tiger, Folio 8 recto of the *Aberdeen Bestiary*, Twelfth century. Image: University of Aberdeen. Bottom Left: The Pard, Folio 8 verso of the *Aberdeen Bestiary*, Twelfth century. Image: University of Aberdeen. Bottom right: The Leopard, Folio 7 from the *Rochester Bestiary*, Thirteenth century. Image: British Library.



Image 5.2: A spotted panther drawing other creatures with her sweet breath. *Berner Physiologus*, Ninth century. Image: Stadtbibliothek, Switzerland.

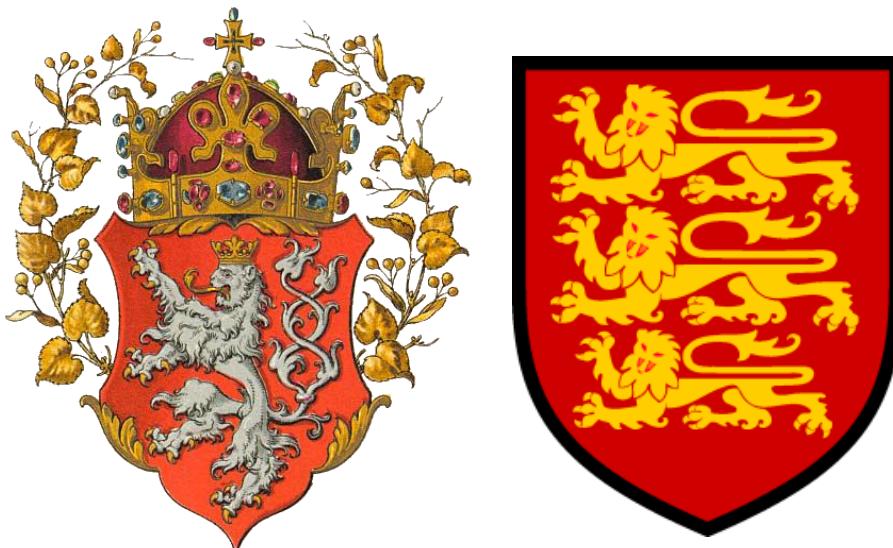


Image 5.3: Heraldic lions and leopards. Left: A lion rampant on the arms of the Kingdom of Bohemia, dating from the Middle Ages. Image: Wappenrolle Österreich-Ungarns nach H. Ströhl. Right: Shield of Richard I (Richard the Lionhearted) bearing three leopards, 1198. Image: Alamy.

lion can become a leopard, as, “When a lion, instead of being side-faced, looks out of the shield full-faced, he becomes heraldically ‘a leopard’; not the spotted beast of that name, but merely a lion who looks at you” (Evans 1854).⁴⁰ Building from associations of the leopard with evil, this “bad lion” born “contrary to nature” was embraced by the English, who intended for the image to frighten enemies (specifically, the French, who were also well imbued in the significance of these icons) (Clark 2006) (Image 5.3).⁴¹ Contrary to the bestiary felines, but reflecting the same flexibility in form, spotted coats were abandoned in their entirety. These emblems would endure and spotted, non-leonine leopards do not appear in heraldry until centuries later.

Drawing from this legacy of over thousand years of natural knowledge, constructed from fable, faith, and philosophy, Europeans had developed distinct notions about the world they sought to explore, exploit, and conquer. The New World, however, lay over the horizon, waiting with surprises of its own. A diversity and wealth in animals, plants and resources awaited that, through the course of its discovery, would both fuel the machinations of empire and simultaneously rupture the entire construction of the Eurocentric cosmos.

⁴⁰ Appropriately this emblem is known as "*Lion Léoparde*" in French.

⁴¹ Lions and leopards were popular amongst England's kings. Lions, closely associated with positive characteristics and known as the “king of beasts,” was an obvious choice. Henry I's menagerie at Woodstock (ruled 1100-1135) is commonly reported to have housed both lions and leopards, and Bostock notes, “the lions (or leopards—there is some doubt which) in the English royal arms date from his reign or soon thereafter” (1993, 15). Richard I (ruled 1189 –1199) was particularly fond of the three “bad lions” motif, which endures to this day in the royal coat of arms (Clark 2006). During the Hundred Years' War, the French sometimes referred to the English as “the leopards.”

MEN OF CONQUEST AND FEARSOME IMAGINARIES

Immersed in an anthropocentric and Eurocentric worldview, for the men who arrived in the New World at the end of the fifteenth century, this discovery was a matter of divine right. Loaded with these entitlements, inherited and reinforced through antiquity and faith, new landscapes opened for conquest, irresistible in their abundance. These men sought all that may benefit empire, many looking initially with an eye far less attuned to observation than to valuation, considering the ways in which the resources of the lands and its inhabitants might benefit the Empire.

Sailing westward to Asia, Columbus and those who followed had distinct ideas about the lands and animals they would encounter, and these assumptions and expectations directly impacted the ways in which these men understood and interacted with New World inhabitants, species and landscapes. These men gleaned knowledge from the classics, bestiaries, and the travel accounts from men like Marco Polo, all of which cast Asia as a land inhabited by fantastical creatures and monsters. Given these deeply rooted expectations, this is exactly what these men encountered. Species like the sloth, armadillo, and opossum were surprising enough in their unique and unusual physicality, which grew to monstrous proportion as these men reconciled what they had seen with what they expected to encounter (Asúa and French 2005). New World animals morphed into beasts like tigers, leopards, and elephants, while imaginary creatures also ran free on the landscape. Unicorns, griffins, mermen, and dragons, inherited from the ancients and living in bestiaries, heraldry, and legend, came to populate the New World throughout accounts produced in the fifteenth and sixteenth centuries. In the eyes and

minds of these men, the fabulous beasts were as real as any other species encountered, and are often included innocuously in accounts from the New World. Englishman John Hawkins' voyage to the West Indies in 1565 includes amongst his observations in Florida, "Of beasts in this country besides deer, foxes, hares, polecats, coneys, ounces, and leopards, I am not able certainly to say: but it is thought that there are lions and tigers as well as unicorns" (Hakluyt 1880).⁴² Within this fantastic menagerie, it was no surprise that tigers, ounces, and leopards prowled the landscape. These fearsome beasts were well reported in Asia, and that legacy, allowing for the confluence of real and imagined qualities of the tiger to be directly grafted onto the body of the jaguar. These animals, so out-of-place and exoticized in Europe, were immediately located in-place in the New World, far from the lands they actually inhabited.

The immense diversity of animal life in the New World quickly problematized these familiar animal placements within established systems of classification and organization inherited from the ancient philosophers. Asúa and French succinctly observe, "The New World was an unexpected and unruly guest in the sophisticated and polite system of those classic personages and, as such, made itself notorious by asking the

⁴²It is not always easy to determine which species was imagined into which fabulous beast. While mermen (male mermaids) have been linked to manatees and dragons to iguanas, the unicorn presented a challenge of interpretation (Asúa and French 2005). Popular in British legend, heraldry, and iconography, and conspicuously present in the King James version of the Old Testament, numerous accounts of unicorns emerge from around the globe in the sixteenth century. These unicorn sightings are typically attributed to narwhals, oryx, and rhinoceroses (Ritvo 1997, 176-178). However, none of these species occur near the West Indies or Florida. Hawkins' evidence of the unicorn is limited to his observation that, "The Floridians have pieces of unicornes homes which they wear about their necks... Of those unicornes they have many..." It was speculated in the January 8, 1897 edition of *Forest and Stream*, following a "delicious bit of reasoning," that based on this evidence, that the "unicorn" of Florida is the ivory billed woodpecker, based on the fact that contemporary tribes in bill as an ornament, with paintings contemporary to Hawkins show no change in adornment (21).

wrong questions – questions for which the Greeks could provide no answers” (2005, 76-77). Systematically and individually, these new animals did not fit into existing frameworks by appearance, name, or character. In his second letter to Lorenzo di Pierfrancesco de' Medici, Amerigo Vespucci recalls his third voyage to regions now known as Guyana and Brazil, remarking, “How shall I enumerate the infinite variety of sylvan animals: lions, catamounts, panthers—though not like those of our regions—wolves, stags, and baboons of all kinds? We saw more wild animals—such as wild hogs, kids, deer, hares, and rabbits—than could ever have entered the ark of Noah...” (1503). Vespucci continues, “If I was to attempt to write of all the species of animals, it would be a long and tedious task. I believe certainly that our Pliny did not touch upon a thousandth part of the animals and birds that exist in this region...” (1503). In his letter, Vespucci captures one of the fundamental anxieties of the Europeans as they realized these creatures were not those of Asia, and that their relative abundance challenged both ancient philosophy and Christian teachings. These animals simply did not fit in the landscapes of Pliny or in the Arc of Noah.

Despite this, Aristotle and Pliny continued to have enormous impact on the ways animals were organized, placed, and valued well into the eighteenth century. These systems organized animals in terms of anthropocentric concern, as species were either good or bad, useful or an impediment. Observations and accounts of species were undeniably projects of empire, as men tasked with reporting back on all aspects of the land and its inhabitants to the Crown (Asúa and French 2005). Tigers, leopards, ounces, and panthers appear in passing. While they are rarely the sole focus, they also rarely go

without mention. Within these accounts these cats were broadly imagined in one of two ways: as either impediment or an opportunity for empire. So characterized, these reports, and the cats themselves, become part of a broader global-scale circulation of information and knowledge, power, wealth, and prestige.

Two challenges faced these early men of empire as they encountered new creatures great and small. Of primary importance was to describe and identify the species to the best of their ability, and second (and just as important) was identifying the animal's potential usefulness to the empire.⁴³ This was not an easy task, particularly for conquistadors and soldiers for whom discovery was more an act of conquest.

Observation was itself a significant challenge, as these men struggled to describe animals that had not been seen before. For many, "the obvious way is to report to comparisons with familiar things" and of course, "comparisons can be misleading" (Asúa and French 2005, 13). Certainly, the cryptic nature of the jaguar made observation and description that much more challenging. This absence reinforced associations with the tiger, itself not an animal well known to these men outside of Pliny's descriptions and bestiaries. Reports, gleaned from letters, diaries, reports, and testimony before the royal court by explorers, conquistadors, soldiers, mercenaries, other religious figures were often left

⁴³ While these early expeditions were driven by the desires of empire (acquisition of wealth, identification of resources), these new plants and animals also inspired significant curiosity in the royal courts. Spain's Ferdinand and Isabella both held a keen fascination with these plants and animals, requesting specimens be returned to Spain (both live and dead, many trapped live did not survive the trip and were hastily preserved) (Asúa and French 2005). Their son, Holy Roman Emperor Charles V, was equally fascinated by these animals, and in 1525 ordered officials in Hispaniola to send all varieties of plants and animals to the royal historian Peter Martyr (Barrera-Osorio 2006). Charles V kept a menagerie of animals collected from throughout his empire (including, for a brief time, a jaguar claimed from Montezuma's menagerie in Mexico). His son, Phillip II's menagerie was even more legendary.

wanting of detail, and just as often, these men relied on myth and stories told to them by indigenous guides in order to fill in the missing details (Asúa and French 2005). This reliance on names and descriptions from native communities was also difficult and complicated, as the divisions and systems within Amerindian constructions of the cosmos did not translate well for Europeans. For instance, different indigenous groups classified jaguars in different ways, distinguishing them by physicality (size, color, or fur length), behavior (preferred habitat), or by which realm they inhabited (whether the animal was of this earth or of a spiritual dimension).⁴⁴ Europeans did not know quite how to categorize these divisions within their own systems of classification, which created ongoing confusion well into the nineteenth century.

VALUING JAGUARS IN EARLY EMPIRE

Jaguars occupy a unique place amongst species of the Western Hemisphere with regard to their imagined potential threats and services to empire. As the largest felid species, and one of the largest (and most impressively marked) terrestrial mammalian predators in the hemisphere, jaguars appeared to present a very real threat to human safety. Simultaneously, the jaguar's unique appearance and relative rarity also cultivated a sense of value and demand for the animal as a trophy.

⁴⁴ This jaguars of the other world were particularly confusing for the Europeans, who did not always grasp that these jaguars were other-worldly.

Jaguars as Impediments

It is not surprising that in many accounts jaguars were characterized as beasts that could cause great harm to men, based on their fearsome appearance and association with tigers (who do have a well-documented history of attacking, killing, and even consuming humans). Members of Balboa (1513) and Dávila's (1514) expeditions in modern-day Panama, spoke of “spotted, fierce, and agile” tigers as described to historian Peter Martyr in the Spanish court in 1516, “which do much harm to people.” Martyr also recorded accounts of tigers terrorizing Darién (the first city founded by conquistadors on the American mainland in modern day Colombia), writing “The country is infested by crocodiles, lions, and tigers, but measures have already been taken to kill a large number of them” (1516). Martyr concludes “This story was told me by those who had suffered from the ravages of that tiger, and had touched its skin; let us accept what they give us” (1516). Hans Staden, who was held captive in Guiana 1552, similarly commented, “In this country are also many tigers, which devour the people, and which commit great ravages” (1557; 1847, 162). In this construction, jaguars were spotted impediments to empire, inhibiting movement, exploration, and settlement, encroaching from the wilderness to threaten colonial towns. These cats were an infestation that had to be exterminated in the name of natural order, human progress, and empire.

Jaguars were also considered potential threats to social order and colonial control. Conquistador Ulrich Schmidl, in an account of his numerous expeditions in the Parana, Paraguay River, Mato Grosso, and parts of Peru, Guiana, and coastal Brazil, from 1535-

1555 includes a chapter “Of a panic among the Spaniards and Indians, caused by a tiger.”

Schmidl recounts,

The governor and his army were marching through the skirts of a thick forest, and night was approaching, when a tiger passed through the midst of the [Guarani] Indians, causing a great panic and confusion among them, so that the Spaniards took to their arms, and, thinking the Indians were in revolt, fell upon them... In that fray several Indians were wounded, and their companions, seeing the attack made upon them, fled to the mountains.

[Spanish Colonial Governor] Álvaro Núñez, seeing the Indians had fled, and anxious to put an end to the disorder, dismounted and rushed into the forest after them. He called to them that it was nothing more than a tiger had caused the confusion, that he and his Spaniards were their friends, and that they were all brothers and subjects of His Majesty, and that all should advance together and drive the enemy from the country. The Indians, seeing the governor in person among them, and hearing all he said, became appeased, and descended the hill with him.

It is certain that things were at one time so critical as to endanger our men, because, if the Indians had fled and returned to their homes, they would never again have had confidence in the Spaniards (1567, 143-144).

This narrative reveals the tiger to be a cause of social disruption whose presence triggered panic and jeopardized peace, revealing the uneasy relationships that existed amongst the Guarani and the Spanish. Acting as a trigger for instability and chaos, the cat was viewed as an absolute impediment to Spanish aims, whose presence revealed tensions that ran beneath the surface and with whom even a fleeting encounter threatened to undermine an uneasy human alliance.

Jaguars as Assets

While jaguars inspired fear amongst humans, they also inspired awe. As such, jaguar bodies were also included as potential assets for the empire. Early detailed accounts, reporting on the potential wealth of the new lands, frequently listed tigers, panthers, ounces and/or leopards amongst many other species as a source of game (for food) as well as pelts. At the time, Dickensen (1998) observes, the concept of which animals were edible was broader, encompassing many beasts and birds. Thus the jaguar was included on lists, like Vespucci's, enumerating potential game animals. The early record is filled with accounts of consumption. Peter Martyr reported, "A civilian called Juan de Ledesma, a friend of Vasco, and his companion in danger, says that he ate the flesh of that tiger; he told me that it was not inferior to beef" (1521), and many accounts included mention of indigenous people in South America consuming this "sweet flesh."⁴⁵ These cats also frequently appear in lists of furbearers, and very few manifests from early ships returning from the New World did not contain amongst their cargo stacks of tiger skins. However, Shawn Miller (2007) argues even though these pelts were "elite status goods" given as gifts amongst the very wealthy, they were more a novelty item, a trophy functioning as a marker of status, rather than a viable good for trade as there was simply not the demand for these items in the European markets.

⁴⁵ Jaguar consumption is still reported today among rural communities in Amazonia (Ramalho 2012), the Atlantic Forest of Brazil (Rocha-Mendes et al. 2005), and the Colombian Chocó (Balaguera-Reina and González-Maya 2008).

Beyond hunting food or for a pelt, there remained an even more compelling reason to hunt a jaguar—for a trophy. The English, French, German, and Dutch were particularly taken with sport hunting. Explorer Walter Raleigh observed that:

There is no countrey which yeeldeth more pleasure to the Inhabitants, either for those common delights of hunting, hawking, fishing, fowling, and the rest, than Guiana doth. It hath so many plaines, cleare riuers, abundance of Pheasants, Partridges, Quails, Rails, Cranes, Herons, and all other fowle; Deare of all sortes, Porkes, Hares, Lyons, Tygers, Leopards, and diuers other sortes of beastes, eyther for chace or foode (1596, reprinted 1848).

Hunting was as much for the sport of chase as for food. The act of sport hunting and the acquisition of material trophies were richly connected to constructions and performances of masculinity and class. Hunting was a pursuit of leisure and access; to participate was to enact the privilege of the upper class, as James Cleland, an early seventeenth century English author stated, “He cannot be a gentlemen which loveth not hawking and hunting” (see Thomas 1984, 145; and Dickensen 1998, 119). Certainly, masculinity is also practiced and reaffirmed through the act of overcoming fearsome beasts. The jaguar stood out amongst its peers in formidable nature and charismatic appearance, making the tiger of the New World a compelling trophy to include in one’s collection.

Beyond the individual’s hunt for trophies there was something even grander: live trophies claimed in the name of empire. Animals, captured and displayed in menageries, became overt symbols of the power and reach of empire (Ritvo 1987; Veltre 1996). Ritvo (1987) and Veltre (1996) position menageries as sites where empire and domain are simultaneously enacted, revealing complexly layered cultural values, political power, and

economic might of empire. These animals become emblems, Ritvo argues, “tokens of political submission,” immediately conflated with narratives of conquest and control (1987, 206). Veltre locates menageries as spaces of containment, domination, and control acted out on animal bodies as a larger expression of European control (Veltre 1996, 19-20). Anthropocentrism is enacted alongside this heavy-handed Eurocentrism, as these spaces reinforced the apparent dominance of humans over nature, as the menagerie becomes a new space for encountering the wild, darkest corners of the vast reaches of empire (Ritvo 1987).

Hernán Cortés was keenly aware of the power of displaying the jaguar as an imperial trophy, and he was intensely impressed by the elaborate display of animal bodies in Montezuma’s sprawling menagerie in the Aztec capital of Tenochtitlan.⁴⁶ Cortés understood the deeply symbolic nature of this display, as “the vastness and variety of this menagerie left no doubt that Montezuma controlled a great empire... and to his subjects it also signaled that the emperor was like a god, ruling over all creation” (Morton 2007, 65). Reaching across language, culture, and geographical distance, this “symbolic display of the dialectics of power and submission which benefitted the spirit of conquering people like the Aztecs” resonated within his Spanish heart as well (Asúa and French 2005, 28). Unsurprisingly, when Cortés sacked Tenochtitlan in 1521, he destroyed the menagerie, claiming three jaguars as trophies and loading them, along with countless other spoils of conquest, on a ship bound for Spain in 1522 (Martyr 1525; Gómara 1964; Morton 2007).

⁴⁶ Nearly half of his 1520 letter to Charles V is dedicated to describing the menagerie in great detail.

Cortés had claimed the ultimate trophy, robbing Tenochtitlan of one of its greatest symbols of empire and divine presence. These jaguars became symbols of glories of conquest of the New World, over nature and of human civilization. However, these jaguars were not willing to go along with this spectacle without a fight.

The story of Cortés' three tigers is certainly a remarkable one. Two jaguars were loaded on one ship bound for Spain, while the third jaguar was placed on a second ship. These jaguars were not willing participants in seafaring, and midway through the journey to Spain one escaped its cage at night during a storm, and, as Peter Martyr related:

Once free, this ferocious beast tore about the vessel as furiously as though it had never seen a man... The tiger rushed hither and thither, knocking over seven men, tearing off the arm of one, the leg of another, and the shoulders of a third. Armed with hatchets, swords, and every sort of weapon, the sailors assembled, and the tiger, covered with wounds, was forced to spring into the sea. Fearing that a similar accident might occur with the other tiger, it was killed in its cage (1525).

The lone jaguar on the second ship managed to survive, despite the ship narrowly escaping capture by French corsairs. However, this jaguar also manages to make history in its own small act of conquest. While in Holy Roman Emperor Charles V's menagerie in Toledo, it attacked its trainer, nearly killing him, and was ultimately "helped... to die" (Oviedo *Hist XXI*, 14). These tigers of conquest, stolen as the ultimate expression of colonial supremacy, ultimately expressed their own form of resistance in what perhaps could be characterized as Montezuma's revenge.

WITH SEEING EYES: OBSERVATION, ACCOUNT, REPRESENTATION

Early encounters between explorers and New World animals were characterized by utility, as these men assessed the natural landscape and its animal inhabitants in terms of benefit to the empire. Reports of animals were largely not based in careful observation, but rather overlain with expectations of the animals that the explorers had anticipated encountering. These were men of conquest, deeply inculcated in empire and not trained to look upon the natural landscape “with seeing eyes” (Asúa and French 2005). However, at the same time, men arrived in the New World with a different concern for new plants and animals they encountered. Rather than evaluating species relative to anthropocentric value, these individuals attempted to locate them both on the landscape and within the classical systems of nature.

Oviedo: Pliny of the New World

Amongst the Europeans writing about the New World in the early sixteenth century, Gonzalo Fernández de Oviedo y Valdés (or, simply, Oviedo) was unique in the thoughtful, observant ways in which he wrote about its human and animal inhabitants. Prior to and contemporary with Oviedo, the only materials available on the New World were exploration and military accounts like those produced by Hernan Cortés, and histories produced from second hand accounts (most notably Peter Martyr’s *De Orbe Novo* of 1530) (Myers and Scott 2007). His *Summary of the Natural History of the Indies* (1526), written at the request of Holy Roman Emperor Charles V, led to Oviedo’s appointment as the “official chronicler” of the New World in 1530. Subsequently,

Oviedo completed his comprehensive 19 volume *General and Natural History of the Indies*, the first part of which was published in 1535.⁴⁷ At a time when, “the Spanish crown followed a fairly consistent policy of treating any kind of information about the Indies as a state secret” (Asúa and French 2005, 53), Oviedo’s *Summary* and the first three chapters of *History* were published and widely read, ensuring the popularity and legacy of his influence.

Oviedo is credited as being the first to describe, with considerable accuracy, many species of animals and plants in the New World (Gerbi 1985; Asúa and French 2005; Myers and Scott 2007). His work was strongly influenced by classics, and he envisioned himself to be the “Pliny of the New World” (Gerbi 1985, 62).⁴⁸ However, while his *Historia* modeled on the 37 books of the *Naturalis Historia*, his methodologies were not (Gerbi 1985; Asúa and French 2005; Myers and Scott 2007). Writing as an “ocular witness” Oviedo recorded his careful observations and direct experiences of place, compiling “what I here write from two hundred thousand hardships, privations, and dangers in the more than twenty-two years that I have personally witnessed and experienced these things” (Book 1 Proemio; Book II Preface). Oviedo’s attempt to identify and classify New World animals was richly layered, simultaneously revealing many of the anxieties of the early European concept of the New World, reconciling newly discovered species with classical teachings of Pliny and Aristotle. However, he

⁴⁷ While the first three chapters were published in 1535, the complete work was not published until 1851-1855.

⁴⁸ In the opening letter, he states “in a certain way, I understand that I follow and imitate the very Pliny.” (Book 1, Dedicatory letter).

was not constrained by Pliny's system, as he examined new species and their place in the natural and human environment not simply in terms of ancient classification systems (Myers and Scott 2007). Oviedo was the first to speculate on the distinctness of the New World species, although the distinction between New and Old world species was not always apparent to him (Asúa and French 2005). Oviedo turned his focus first to the jaguar in his *Summary*, carefully enumerating and examining the evidence before him in order to determine the jaguar's relationship to Old World species while simultaneously establishing the physical and theoretical place for the species within natural orders and on the landscape. Utilizing physical characteristics, (spotted skin) and behavior (lack of speed and an "evident clumsiness"), Oviedo determined jaguars cannot be tigers, "because they do not have the speed attributed to the tiger" or the "litheness of the tiger" (Sum, XI, 487, p. 144; see also Gerbi 1985, 303) (both characteristics were attributed to the tiger by Pliny) (*Hist* XXIX, 10: PT III, 242A). Within these passages an enduring narrative emerges, (and later picked up by Buffon): the idea that New World fauna were not as skilled or fearsome, and were generally more diminutive in stature. These new species were held to a classical standard and found wanting.

This assessment also cast jaguars as a symbol of empire, but for very different reasons than expressed by Cortés. For Oviedo, "The particular distinctiveness of the tiger of the New World (slower and wilder than its Old World counterpart) draws attention to the distance between the two worlds and suggests the vastness of Charles' empire, the expansive power of which reaches further and beyond the limits imposed on the heroes of Antiquity..." (Asúa and French 2005, 66). Here jaguars are also an expression of the

geographical extent of empire, but rather than through the display of their bodies, their corporeal difference suggests ample remoteness and distance.

Although not typically recognized for this contribution to the corpus, Oviedo also recorded his observations in the form of rudimentary illustrations in the *History*, including an image of a jaguar. The only existent copy was likely copied from a woodblock, and as a result is crude and lacking in its original detail. Still, this illustration is markedly different from the bestiary cats that preceded it. Much like his written descriptions, this image attempts to evoke the qualities of the jaguar. Even in its simplicity, this illustration does exactly this, representing the physicality of the animal including its square jaw, thick body, and open rosetted coat (Image 5.4).

At length, Oviedo determines that these new animals are not tigers, as these species do not fit into this system because they were not known to ancient writers:

In my opinion these animals are not tigers, nor are they panthers or any of the numerous known animals that have spotted skins, nor some new animal that has a spotted skin and has not been described. The many animals that exist in the Indies that I describe here, or at least most of them, could not have been learned about from the ancients, since they exist in a land that had not been discovered until our own time. (Sum Ch. 11, p. 148; Gerbi 1985).

Rather, these new animals are a thing apart, that “belong to a land discovered by Columbus” (Asúa and French 2005, 65). Oviedo’s observations demonstrated the need for

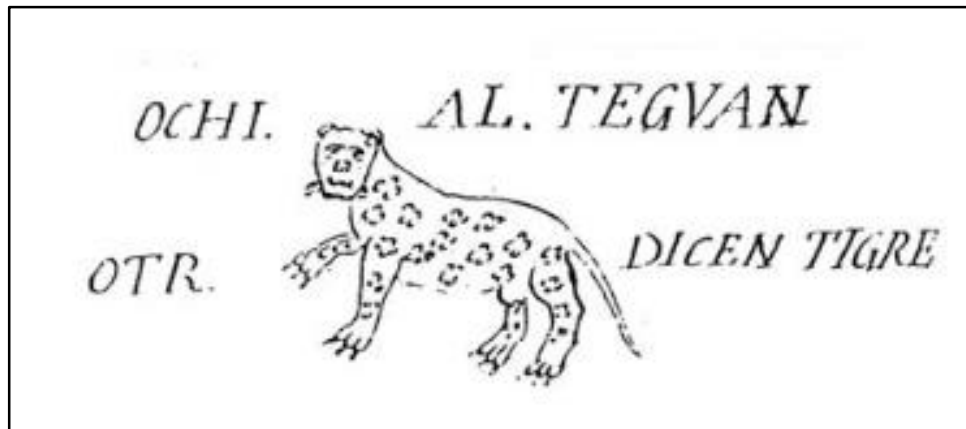


Image 5.4: Oviedo's "Tigre," (*History Book 12, Chapter 10.*) Image from eighteenth century copy of original manuscript made by Juan Bautista Muñoz, believed to be faithful to the original. Source: Myers and Scott (2007).

new systems of natural order that could account for New World species as the existence of these animals insist on consideration in their own right. Oviedo's methodologies, including observation, naturalism, and illustration, all anticipate a revolution in natural history a few decades later.

Gesner's Printed Menagerie

From 1551 to 1558, Swiss naturalist Konrad Gesner published his ambitious 3,500 page folio series, *Historia Animalium*. Drawing on everything from ancient philosophers and bestiaries to contemporary sources, Gesner attempted to create a resource that accounted for the entirety of existent knowledge on animal species. Articles on individual species allowed for overlap and even conflicts in information, as Gesner chose to include all available knowledge without editing it, for the sake of inclusivity

(Kusuwaka 2010). Asúa and French characterize this approach as incorporating “anything that every author everywhere had ever said about a particular beast, bird or fish” (2005, 191). The *Historia Animalium* was immensely important to the development of natural history, as it was the first of its kind and remained one of the only natural history guides throughout the sixteenth century.⁴⁹

Imposing order on an unwieldy and rapidly expanding world of animals became the fundamental purpose behind the grand project of natural history, starting with Gesner. Gesner followed Aristotle’s general classification system, dividing species into four volumes: live-bearing four-footed animals, egg-laying quadrupeds, birds, and fish and aquatic animals (1558).⁵⁰ Like Oviedo, Gesner also faced the confounding problem of identifying and classifying New World animals unknown to classical authorities like Pliny. Gesner “made room in the classical menagerie for the exotic and classically unprecedented animals,” incorporating a few New World species like the guinea pig and the armadillo, but these entries were based on second or third hand accounts (Ashworth 1996, 27).

⁴⁹ The influence of Gesner’s volume is enhanced in the seventeenth century by the publication of Edwards Topsell’s English translation, *Historie of foure-footed beastes* (1607) but abridged and edited, drawing from “a fertile, unchecked imagination” (Dance 1978, 32). Dance likens Topsell’s volume as a step toward the bestiaries, as “Topsell was perhaps the only seventeenth century writer on natural history whose ignorance of the subject is conspicuously evident in almost every line he wrote (33) producing “one of the most notorious, most popular, most scientifically worthless, most plagiarized and most fascinating of all books purporting to deal with members of the animal kingdom.”

⁵⁰ The volumes were published as *Quadrupedes vivipares* (1551), *Quadrupedes ovipares* (1554), *Avium natura* (1555), *Piscium & aquatiliu animantium natura* (1558). A fifth and final volume concerned with snakes and scorpions was published in 1587 after Gesner’s death.

One of the most remarkable features of the *Historia* is its woodcut illustrations. While medieval bestiaries were richly illustrated with highly stylized animal emblems far removed from their worldly forms, these images were unique in their attempt to naturally render animal bodies (Ashworth 1996). The importance of these naturalistic images cannot be understated, “the face of natural history was changed forever as a result” (Ashworth 1996, 27). Gesner employed eminent artists to develop as accurate illustrations as possible, drawing from specimens, existing illustrations, and written accounts. These illustrations, produced from woodcuts, were coarse and static, sacrificing detail, but they were effective in representing the fundamental characteristics of the depicted species (Dance 1978). Gesner’s illustrations would resound through natural history, and would become an emblem of the animal itself. These images would endure for centuries, echoed in illustrated manuscripts and subsequent natural history guides (1978).

While Gesner did include a few species from the New World, the jaguar does not appear amongst the pages of these volumes. However, Gesner’s impact on the evolution of the categorization and representation of animal bodies had direct implications for the representation of jaguars from the second half of the sixteenth century and well into the seventeenth. As explorers and naturalists reproduced these images, the species associated with the symbol became more fluid.⁵¹ French explorer Samuel Champlain ultimately relocates Gesner’s tiger, panther, and lynx to the New World in his heavily illustrated manuscript *Brief Discours des Choses les plus remarquables que Samuel Champlain de*

⁵¹ This convention was standard at the time, and not considered plagiarism (Whitehead 1976).

Brouage a recognues aux Indes Occidentales (Image 5.5, 5.6, 5.7).⁵² Recounting his voyage sailing with a Spanish fleet to the Caribbean in 1599 to 1602, "to make a true report of them to his Majesty on his return" [to France], Champlain locates the tiger and leopard in Mexico, noting only, "There are also numbers of tigers of the skin of which great care is taken. They do not attack unless pursued" (1602; 1859, 35). While many of Champlain's images are original, he borrows from Gesner for these cats species, likely because he was not able to see them for himself (Giraudó 2004, 64). Nearly 200 years later, these images were still invoked in the new world, as with the panther in John Brickell's 1737 volume *The Natural History of North Carolina* directly invoking Gesner's image from 1551 (see Image 3.11).

Dutch Realism and a Jaguar Recognized

For over a hundred years, Gesner's *Historia Animalium* was by far the most influential volume in natural history, significantly affecting the ways in which animals were organized, envisioned, described and located. By the late seventeenth century, Europe was experiencing significant shifts of power along the lines of empire and faith. The Dutch Republic, formed after separating from Spain in 1581, emerged as the most prosperous nation in Europe, whose economic prosperity also fueled advancements in science and the arts, both of which intersect in natural history. During the seventeenth

⁵² The manuscript was believed to be completed soon after his return, but not published until 1859 after having been lost for many years. Three copies of this manuscript remain, and they vary in detail (written and illustration.) Some questions have been raised about attribution and authenticity (Giraudó 2004).



Image 5.5: Tigris by Conrad Gesner. These images would be republished in subsequent natural history guides (including Topsell) for over a century. Image: Special Collections, University of Amsterdam.

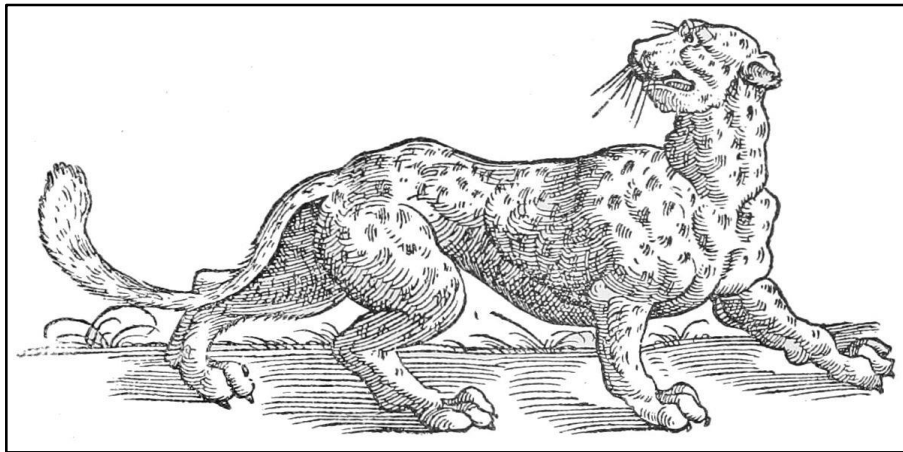


Image 5.6: Leopardus by Conrad Gesner. These images would be republished in subsequent natural history guides (including Topsell) for over a century. Image: Special Collections, University of Amsterdam.



Image 5.7: Champlain Manuscript (1602?), illustrations of New World species demonstrated the direct influence of Gesner. Image: Brown University.

century, three different Dutch sources substantially contributed to the recognition, placement, and evolution of the jaguar within natural history.

Given the success of their empire in Brazil during this time, it is not surprising that naturalistic descriptions and images of jaguars emerge from the Dutch, reflected both cartography, natural history guides, and the arts. At the center of these enterprises, as well as many other economic, political, and social endeavors, was a man of significant influence: Johan Maurits, governor of the Dutch possessions in Brazil in 1636-1644. A

man of considerable wealth and political standing he was an active and involved patron of the sciences and the arts. In 1647, Maurits hired Caspar van Baerle (Barlaeus), to compile a book on Dutch Brazil and Maurits' activities as governor of that colonial territory. Barlaeus drew from Maurits' archive, including materials amassed by Willem Piso and Georg Marcgrave, which would be compiled and edited by Johan de Laet and published a year later (Boeseman 1994). Barlaeus published *Rerum per octennium in Brasilia et alibi nuper gestarum sub praefectura* (1647), which, drawing from the notes of Marcgrave, contains one of the earliest naturalistic renderings of a jaguar, as well as a very brief description. The image of the jaguar is included in one of the volume's maps, and it positions a large spotted cat with a lion's tail casually walking past a well-rendered tapir and a capybara in the San Francisco river basin region of Brazil (Image 5.8, 5.9). Barlaeus notes in his text, "Also there is here a large number of Tijgers which with their ferocity increased by hunger and by their speed are feared by the population" (Barlaeus 1647, 175; cited in Boeseman 1994, 115-116).⁵³ Only a year later, this map would appear again, along with a similar, but more detailed description still making the same distinction.

Historia naturalis Brasiliae (Brazilian Natural History), was published the following year, and is commonly considered an important early resource on Brazilian flora and fauna. De Laet notes in his letter to the reader, the observations recorded therein were "not from somebody else's account, but from [Marcgrave's] own exacting inquiry

⁵³ This reference to speed is an echo of the Plinian legacy.

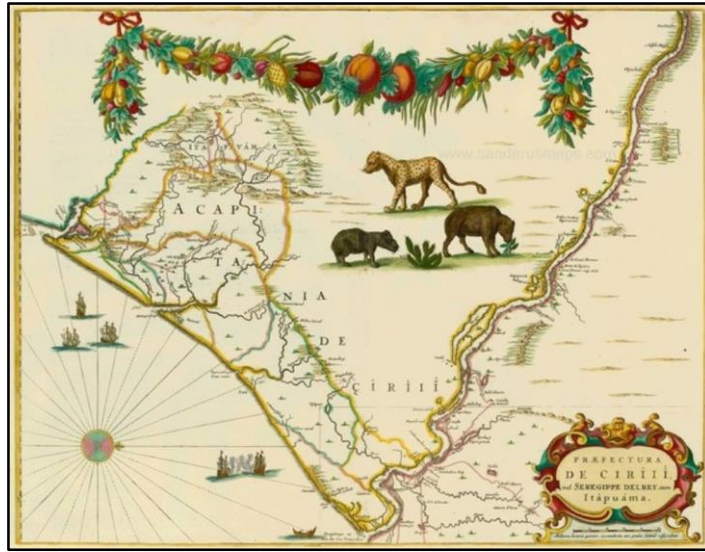


Image 5.8: Map: Caspar Barlaeus (1647) and Marcgrave and Piso (1647).



Image 5.9: Detail from Map: Caspar Barlaeus (1647) and Marcgrave and Piso (1647).

and exacting observation.” The entry in this volume for the jaguar is brief, mostly describing the cat’s physical body. However, this short description is incredibly important, as this is the first detailed written description of the jaguar’s body based on direct observation. The entry also includes a fairly rudimentary drawing of a jaguar, which, while not that detailed, clearly signals a move away from the shorthand of the bestiaries spotted tiger emblems, toward a realistic representation. The subsequent entry after the jaguar is the “jaguarete.” The entry for this species is even more brief, identifying the jaguarete as very similar to the jaguar in appearance and behavior, only with a black coat. The differences between the jaguar and the jaguarete are likely distinctions made by the local indigenous community, and they confounded future scholars. Naturalist Thomas Smith resolves from these description:

The jaguarete is an animal inhabiting the same regions, and possessing the identical qualities and dispositions of the jaguar, so that naturalists have been at a loss to determine whether they were two distinct species of the same genus, or only varieties of the same specie; both Piso and Marcgrave, the only writers who seemed to have opportunity of giving original descriptions of this animals, say, that its hair is shorter, more glossy, and variegated with spots of a deeper black, than those of the jaguar; but in every other respect, they bear the most perfect resemblance: we may, therefore, with great propriety, fix this animal merely as a variety of one and the same species (1806, 330).

Confusingly, there is dissonance between the text and illustration. The image of the jaguarete in the volume does not reflect this slight difference, and the form of this cat is represented as being entirely different and more weasel-like (Image 5.10).

Acosta and French have argued that the production of this volume should be connected closely to flows of information and capital within empire, as the reason for producing this volume is entirely different than that of Oviedo, who set out explicitly to revise the project of natural history based on observation of new species (2005). Piso and Marcgrave's project was, edited by de Laet and financed by Johan Maurits, and "for all practical purposes it can be considered as part of the scholarly facet of the colonial enterprise of the Dutch West India Company" (2005, 138). Writing in service to empire, their larger project intended to explore both plant and animal species conducted the backing of the "powerful DWIC [Dutch West India Company], which hoped to obtain from their investments some kind of profit or future revenue in the form of useful knowledge about... the country and its creatures" (2005, 137). This project was directly linked to establishing value, although the entry on the jaguar does not reflect this. Despite this focus, and largely owing to Marcgrave's contributions, Marcgrave and Piso's volume is often cited as the foundation text for Latin American natural history by Linnaeus, Buffon, Cuvier and later authors, becoming one of the earliest works in the modern natural history canon.

At the same time that Enlightenment-era science, based in this careful observation, took hold in the Netherlands, the Dutch were also evolving into the Golden Age of Dutch painting, characterized by a similar interest in observation and realism. At



Image 5.10: Jaguar (top) and Jaguarett (bottom), Marcgrave and Piso (1647).

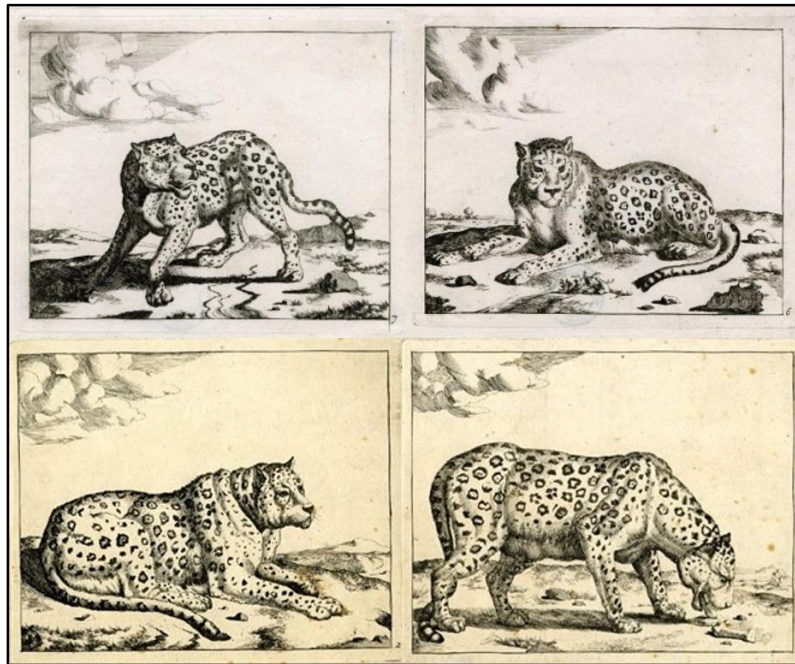


Image 5.11: Paul Potter engravings (1650). Believed to be amongst the oldest realistic image of jaguars. Images: Dieter Schierenberg; Wellcome Library, London; the British Museum, London.

the center of these movements were many men connected to Maurits; as Asúa and French note, “the scientific interests pursued in Maurits’ entourage were connected with a burgeoning artistic effervescence” (2005, 117). Known best for his monumental landscape paintings that elevated the animal subject beyond its station with traditional art history, the work of Dutch painter Paulus Potter reflects this emerging realism. Potter’s studies of a jaguar from 1650 are widely credited to be the first naturalistic representation of the species in European history (Image 5.11). These images, studies done for a monumental painting never composed, are very typical of Potter’s corpus of work that specialized in naturalistic renderings of animals in landscapes, usually with a low point of view. Long attributed (and cataloged by the British Museum Collection database) as a leopard, these images are now thought to be of a jaguar, given the cat’s open rosetted coat and strong, squared jaw. Despite being completed around the same time as works by Barlaeus and Piso and Marcgrave, all of whom shared the same patron, there is little to no communication between the natural sciences and the arts, resulting in radically different levels of representation of jaguar bodies. While science and nature coevolved, there was limited cross-pollination, as is amply demonstrated in these representations of jaguars.

CONCLUSION

From the moment of Contact to the late seventeenth century, European interactions with New World landscapes were characterized more by acts of discovery than the acquisition of knowledge. Colored by an inherited world view that was both anthropocentric and Eurocentric, those who encountered new animals like the jaguar

struggled to identify these animals and to locate them within existing notions of place and value. These ventures into lands uncharted were driven by the machinations of empire, framing the ways in which these discoveries were reported and characterized. The animals that these men encountered challenged and confounded them, forcing a shift away from medieval legacy and the sources of antiquity. The species of the New World all but insisted on a new frame of reference, refusing to fit neatly into established categories of animality.

Those who made careful observations of species in the New World, from Oviedo in the sixteenth century to Marcgrave and Piso in the seventeenth, offered a new way of seeing these animals based in direct observation. These observations “in the field,” coupled with the move toward realism in the visual arts as exemplified by Potter, demonstrated a substantial move away from fantastical imaginings of exploration and discovery, and towards the rational impulses of the Enlightenment. While this shift enabled the jaguar to step out from shadow of the tiger, ounce, and leopard, the cat still remained partially obscured by myth, legend, and hyperbole. Again, it would be the men who sought direct encounter with these animals that were best able to contribute to the evolution of jaguar knowledge within naturalist discourses.

“Conceal’d amidst the darksome tangled wood,
By hunger stung, and all athirst for blood,
The savage jaguar lurks, till man or beast
Afford another sanguinary feast.”
—Thomas Smith (1806)

Chapter 6: Jaguar History, Naturally

The jaguar’s tale is one thread amongst thousands woven into the complex tapestry of natural history. This cat became enfolded within ambitious projects to identify, name, and describe the diversity of plant and animal species on the planet and to characterize their relationship relative to one another. Examining the natural world and the place of humans relative to nature, inherent to these discourses were overt and covert constructions of value and place for different species and nature at-large. The jaguar presented its own set of challenges within these grand undertakings, as naturalists endeavored to locate, capture, and place the jaguar amongst a confusing cavalcade of spotted cats encompassing both worlds, New and Old. In the eighteenth and nineteenth centuries, older narratives and legends about the jaguar were largely abandoned in favor of contemporary accounts testifying to the name, appearance, nature, and character of the animal. Within these discourses of the natural, a new set of identifications and narratives emerged that were simultaneously canonized and contested within the rapidly expanding body of literature.

Throughout the eighteenth and nineteenth centuries, the production of natural history witnessed a shift in its center of gravity away from Spanish and Dutch accounts of empire toward French, British, and American scholarship. While these discourses were

not explicitly tied to imperial want and need as in the Age of Discovery, these circulations of scientific knowledge remained inescapably ensconced in empire. Some were funded by government institutions, while others undertook projects of immense scale driven by private passions and funded by personal wealth, sponsorship, or publication subscriptions. While government sponsored projects were overtly linked to the interests of empire, private scientific exploration and publication were also embedded in these processes at all stages, from funding, to securing trans-oceanic transportation, to circulating the results through systems of publication.

Empires functioned as complex networks, circulating capital, material objects, people, animals, information, and knowledge. This scientific knowledge was shaped and reshaped in dynamic processes of production, conveyance, consumption, and utilization within these systems. These discourses represented both the fluidity and spatiotemporal natures of knowledge and theory, as they were appropriated with complex global networks of empire (Withers and Livingston 2011).

The importance of publication cannot be understated, as this was one of the primary sites for these global-scale discursive practices. In these spaces, theories were shared, complicated, developed, and contested. To gather information was not enough, this information had to be assimilated and submitted into the discourse to become a part of the productions of knowledge. Withers and Livingston observe, “In whatever period, either traveling locally to observe and order plants or being on a continental expedition or voyage of global navigation and returning with new knowledge, specimens and reputation could count for little unless one’s results made a yet further voyage—into print” (2011, 11).

While natural history publications were fairly limited prior to the eighteenth century, the Enlightenment witnessed a proliferation of these texts. Partially enabled by improvements in the process of reproducing type and illustration, natural history publication was fueled by expanding sources of information from which to draw coupled with a growing readership with access to education, capital, and an interest in the emerging revolutions in scientific and rational thought.

Jaguars have the distinction of appearing in the writings of many of the most prominent men in in the discipline of natural history. Reading across six of the most influential writers in the eighteenth and nineteenth centuries reveals the ways in which jaguar knowledge was acquired (both in the lab and in the field) and disseminated through publication. These representations shows how these discourses are constructed and reconstructed through space and time, subtly shaping and reshaping the idea of jaguar-ness.

THE ENLIGHTENMENT AND THE MEN OF THE CABINET

At the start of the eighteenth century, Gesner's *Historia Animalium* (1551-1558) and Topsell's *Historie of foure-footed beastes* (1607) (the edited and abridged English translation of Gesner's work) were the only illustrated natural histories widely available and circulated throughout Europe (Dickenson 1998). For two hundred years, these works had been the standard-bearers for species identification, which was particularly problematic within a rapidly expanding cosmos of global-scale Empire. However, the eighteenth century would witness remarkable change in the era of the Enlightenment, as long-held traditions and beliefs (including the constructions of animal knowledge

discussed in the previous chapter) were abandoned in favor of the pursuits of reason, intellectualism, and science.

By the start of the eighteenth century, natural history was still troubled with many of the same problems inherited from the previous three hundred years: an overwhelming biodiversity that greatly complicated the identification of species by name, appearance, and location. The project of natural history was a good fit for the Enlightenment, as the processes of identifying, naming, assimilating, organizing, and classifying species so perfectly enacted those values that were the most enshrined. One of the most compelling needs within natural history in the eighteenth century was a system of organization, or taxonomy. Not only did a system of organization help to organize species relative to each other, disciplining the discipline, but Harriet Ritvo observes that it also served to legitimize the projects and the scholars that undertook them by “defin[ing] and dignify[ing] the place of both the discipline of natural history and its adherents in the human intellectual order” (1997, 15-16). However, the creation of a standardized taxonomic system was itself contested, located at the heart of one of the greatest divides in natural history in the eighteenth century.

In the eighteenth century, two men rose to positions of influence, each offering his own system for conceptualizing and organizing nature: George-Louis Leclerc, Comte de Buffon and Carl von Linnæ (Carolus Linnaeus). These two men approached the project of natural history from two different perspectives, and often found themselves at odds with

each other.⁵⁴ Ultimately, their two different projects lead to two remarkably different publications that had very different impacts at the time of publication, and throughout the reach of history. The scholars differed fundamentally on the condition of species: while Linnaeus believed species were fixed and unchanging, Buffon believed nature was in a constant state of change whereby species are altered according to changes in their environment (for instance during migration). These underlying philosophies give rise to two very different systems of organizing the animal world. Buffon found the Linnaean system arbitrary, inflexible, and not appropriate for reflecting the relationships between species. Buffon's approach situated animal species within a cultural context and similarities of form (families). Linnaeus' systems organized all of animal life beyond species and families, to demonstrate the interconnection of life.

Despite their differences in theory, Buffon and Linnaeus utilized similar methodologies. Following the tradition of Gesner, both men depended on networks scattered throughout the globe to bring them the materials and specimens they required for study. These were not men of exploration, these were men of letters—as Dickens wryly notes, “The majority of the European naturalists stayed firmly in their cabinets” in eighteenth century naturalism was not carried out in the wild: it took place in the

⁵⁴ The relationship between these men was quite hostile, to the point where the only time they acknowledged each other publically was to cast aspersions on the other's work in a most ungentlemanly way. Buffon mocks Linnaeus in his *Histoire Naturelle* and refers to the system of sexual classification in plants as “immoral.” Linnaeus jokingly characterized Buffon as the fellow who lived in the garden and “always wrote against Linnaeus.” Linnaeus also named a particularly awful smelling plant *Buffonia* (see Koerner 1996, 155).

“Cabinet of Europe” (Dickenson 1998, 191).⁵⁵ Similarly, Rogers observes, “Natural history in the King” and in similar intuitions” (Rogers 1997, 83).⁵⁶ While Buffon drew from very influential networks made possible by his position at the French Jardin du Roi, Linnaeus created his own army of “Apostles,” former students ignited by charismatic, passionate enthusiasm (Conniff 2011). The identities of many of the people who contributed to their work have largely been forgotten by history, despite their sacrifices. Richard Conniff notes that “hundreds, or more likely thousands, of naturalists died in the sacred cause of natural history,” pursuing species with an almost religious zeal (Conniff 2011, 8). Moreover, Conniff points out, local hunters and guides were more often than not deeply involved in these projects of species collection, and yet rarely identified by name in the record (Koerner 1996; Coniff 2011; Sivasundaram 2011).⁵⁷ Drawing from these resources and sixteenth and seventeenth reports, Buffon and Linnaeus’ publications played active roles in the creation of representations and “acted as mediators in the transmission of knowledge about American animals” (Asúa and French 2005, xv). Unfortunately, the lack of first hand observation would lead to significant confusion

⁵⁵ Emerging in the sixteenth century, “Cabinets of Curiosities,” were rooms maintained by members of the nobility, as well as wealthy merchants and scholars. These cabinets contained collections of items (real and fake) from the natural and human worlds, including taxidermy, parts of animal bodies, fossils, rocks, minerals, and items from human cultures including relics, ethnographic objects, medical abnormalities, works of art (including cabinet paintings), and antiquities. Much like a menagerie, the possession of a these collections operated as expressions of power and influence over geographic and scholarly domains of the human and natural worlds (Mauriès 2001).

⁵⁶ Linnaeus does make one excursion into the field early in his career, traveling to Lapland in his 20s.

⁵⁷ In his volume *The Species Seekers*, Coniff includes a Necrology that testifies to the danger and loss of life, detailing the cause of loss of life for approximately 70 individuals who lost their life to causes as variant as tiger attack, plunging from a sea cliff, murder, death by spear, and poisoning (both intentional, as well as resulting from exposure to arsenic and/or mercury which was not uncommon amongst taxidermists in the nineteenth century) (379-383). These challenges also help to contextualize the real danger Humboldt and Darwin later faced in their own work.

within the record, exemplified in the treatment of the jaguar. At the start of the nineteenth century, this legacy would greatly complicate the work of another man of the cabinet, Buffon's successor, Baron Georges Cuvier. However, while Cuvier's work would address many of the confusions created and canonized by Buffon and Linnaeus, he would also suffer from the limited methodologies of "armchair" scholarship that resulted in restricted access to live specimens and confusion in the naturalist discipline.

A Tiger It Is Not: Comte de Buffon and Jaguar Misrepresentation

In 1749, Buffon published the first volumes of his monumental *Histoire Naturelle, Générale et Particulière avec la Description du Cabinet du Roi*. This project spanned nearly 40 years, with the final volumes published posthumously in 1788. The series had immense reach both within the scientific and popular communities, as Buffon focused intentionally on creating an accessible work that was both readable and well-illustrated (Anderson 2013). Innumerable reprints and translations circulated Buffon's influence throughout the European empires. The immense popularity of these volumes reveals their importance to jaguar discourse: for a century to come, Buffon's description and images of the jaguar were the standard bearer. Unfortunately, Buffon's section on the jaguar demonstrates as well the flaws within his methodology, and this work served more to confuse than to clarify identification of the species.

Part of the popularity of Buffon's work could be attributed to his system of taxonomy, which he structured around the presumed familiarity to the general reading public (Anderson 2013). This system grouped animals according to familiarity to

humans, clustering them geographically and by family (sharing physical characteristics) (Anderson 2013). Buffon's system of organization literally placed animals properly proximate or properly remote to humans (see Philo and Wilbert 2002), with domestic animals organized as closer to humans than wild animals. This system was blatantly, unapologetically anthropocentric, locating humans at the center of this system of relative proximity. Buffon believed that this anthropocentrism was justified, as Roger observes, "Since it was man who was constructing science, he had the right to impose his order on nature... So at first, Western man could believe to be at the center of the world" (2005, 228). Buffon characterized this as a "logical order" starting with horses, and then moving through animals of the (French) farmyard: sheep, goats, pigs and dogs. Moving outward from there, wild cats were located at the farthest margins. Therein lay some degree of truth, as the jaguar was not proximate and not well known, leading to both exoticism and confusion with regards to the appearance and behavior of the cat.

Buffon was concerned with identifying and naming each species, and providing descriptions of their morphology, behavior, distribution, as well as evidence of the animal's "nature." Unlike Gesner and Linnaeus, Buffon did not adhere to a standard format for each article. Rather, Buffon believed that "each animal raised a problem of its own, unlike the one before, and it was with this problem that Buffon started" (Roger 1997, 269). For the jaguar, Buffon addressed many of the confusions that plagued identification and characterization of this species since the fifteenth century, most particularly, the issues confusing feline nomenclature. Buffon was particularly critical of the Spanish and French inclination to call the animal a "tiger," stating "the French,

without reason, have called it a *tiger*, for it has no affinity to that animal” (92).

Distinguishing the tiger from the jaguar, “His skin is not variegated with round spots, but with black bands on a yellow ground,” and citing the tiger’s enormous size and ferocity, Buffon concluded, “These characters are sufficient to distinguish the tiger from all the carnivorous animals of the New World, the largest of which scarcely exceed the size of our mastiffs or grey-hounds” (Buffon 1792, 92). Buffon acknowledged that the jaguar and panther (leopard), were much more similar, as “these differences, however, hinder not the jaguar of Brasil from resembling the panther, more than any other animal of the Old World” (93-94). This comment is telling, as this was a point that clearly confused Buffon in his own identification of a live cat kept in the royal menagerie at Versailles.

Buffon is largely credited with introducing the name *jaguar* into the European scientific literature, drawing from Marcgrave and Piso, who “who first described cat fully, [and] called him *jaguara*” (Buffon 1792, 92).⁵⁸ Buffon considered the variety of other names applied to this cat, attempting to clarify its geographic and physical distinctiveness:

We shall likewise find, that the tiger and panther are peculiar to the Antient [sic] Continent, and that the animals of South America, who have received these names, are different species. The leopard and panther of Africa and Asia, are not nearly so large as the tiger, and yet they are much larger than the rapacious animals of South America (1792, 92).

⁵⁸ As a result, Buffon also inherits their confusion over the jaguarete, noting of the black individuals, “However, as we have only seen one of these animals, we cannot determine whether they are two distinct species, or a variety of the same species” (1792, 92).

Buffon's article on the jaguar begins with a limited physical description (size, appearance) before revealing a key factor that will lead to new centuries of confusion. The publication of *Histoire Naturelle* included one image of a jaguar, drawn from the skin that Buffon describes as his source:

We have never seen this animal alive; but had one sent us well preserved in spirits; and it is from this subject that our figure and description have been taken. It had been taken young, and brought up in the house till it was two years old, when it was killed, in order to be transmitted to us. It had not, therefore, acquired its natural dimensions. But, it was evident, from the bare inspection of this animal, that, when full grown, he could not exceed the size of an ordinary dog" (1792, 188) (Image 6.1).

The text, and accompanying image, describe a species much more in keeping with an ocelot than a jaguar.⁵⁹ Believing this cat to be a jaguar, Buffon's article is littered with references to the cat's small stature. It was observation of this specimen, in part, from which Buffon drew to develop his theory of "American Degeneracy," developed in in the *Histoire Naturelle*:

In America, therefore, animated Nature is weaker, less active, and more circumscribed in the variety of her productions; for we perceive, from the enumeration of the American animals, that the numbers of species is not only fewer, but that, in general, all the animals are much smaller than those of the Old Continent. No American animal can be compared with the elephant, the rhinoceros, the hippopotamus, the dromedary, the camelopard [giraffe], the buffalo, the lion, the tiger, etc. (1792, 115).

⁵⁹ There is a further hint in the text itself, as Buffon included a note: "This animal was sent to us by M. Pagés, King's physician at St Domingo, under the name of *Chat-tigre*" (1792, 434). This was most likely an ocelot or margay, and "chat-tigre" was a common French term for margays.) He also notes "that it had swelled in the spirits," meaning the specimen which was already too small to be a jaguar, was already distorted by the preserving alcohols (434).

The idea that animals of the Western Hemisphere were smaller and weaker was a naked claim for European supremacy, and one that incensed many Americans (chief amongst them Thomas Jefferson, who devoted a chapter of his *Notes on the State of Virginia* (1780) to debunking Buffon's theory.) Believing the western continents to be a land of swamps and humid, fetid conditions, Buffon argued that even sturdy European livestock quickly felt the effects of climate, producing lines of inferior offspring.⁶⁰ This foundation text for environmental determinism was immensely popular in Europe well into the nineteenth century.

Buffon's two subsequent illustrations of the jaguar, published in the *Supplément*, (1789) did little to clarify this erroneous representation of the tiny jaguar. The first illustration, "The Jaguar of New Spain," was drawn from observation of a spotted cat sent to France from the New World (Image 6.2); and the "Jaguar or Leopard," was created by Buffon's illustrator from a drawing sent "without either name or history" (Image 6.3). Buffon expresses confusion in identifying the animal in this second illustration as either the leopard or the jaguar, having remarked repeatedly in the past on the similarity between the two, as "We are ignorant whether it is a native of the Old or New Continent, and as it differs from the ounce and leopard by the form of its spots, and still more from the jaguar and ocelot, we could not determine to which of these animals it may be referred. It appears, however, to have a greater relation to the jaguar than to the leopard" (192.) This image was later relabeled a "Hunting Leopard," in other volumes, and was most likely a cheetah. At

⁶⁰ This theory had a strong racial component, as Buffon characterized indigenous peoples as similarly degenerate.

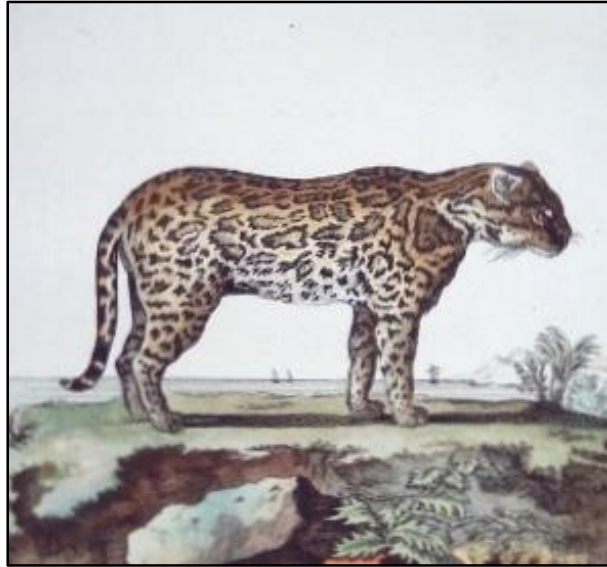


Image 6.1: Buffon's "Jaguar," original illustration from *Histoire Naturelle*, thought to be an ocelot. Source: *Histoire Naturelle* (1792).

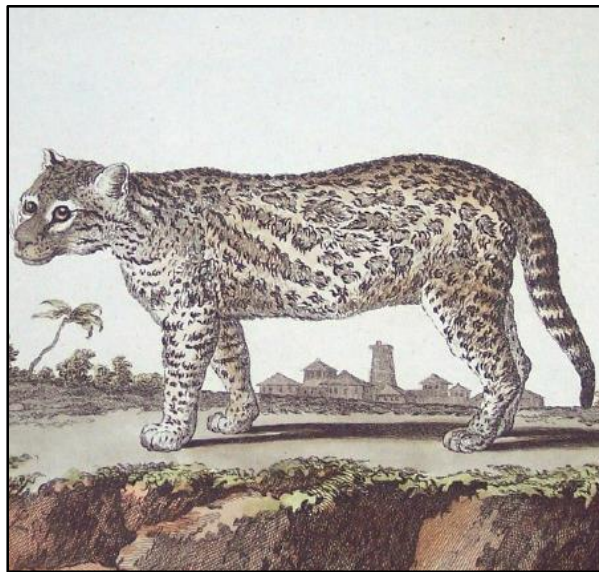


Image 6.2: Buffon's "Jaguar of New Spain" from the *Supplément*, thought to be an ocelot. Source: *Histoire Naturelle* (1792).

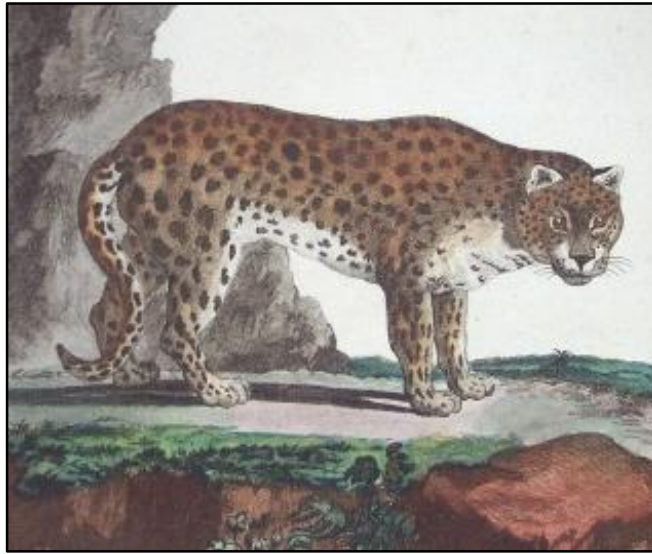


Image 6.3: Buffon's "Jaguar or Leopard" from the *Supplément*, believed to be a cheetah. Source: *Histoire Naturelle* (1792).

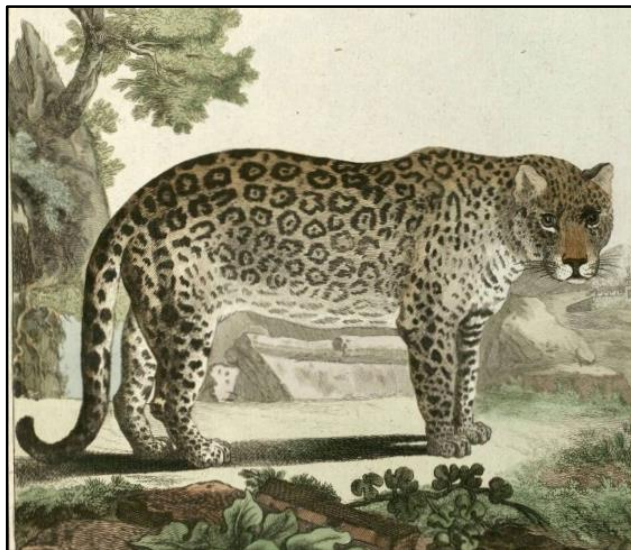


Image 6.4: Buffon's "Female Panther" original illustration from *Histoire Naturelle*, believed to be a jaguar. Source: *Histoire Naturelle* (1792).

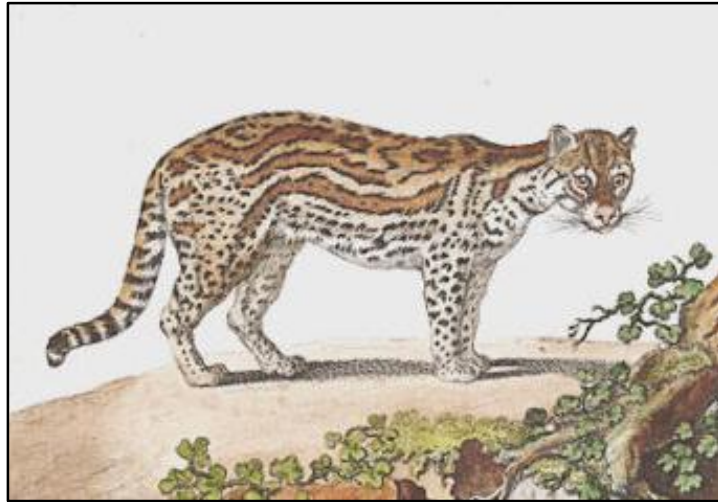


Image 6.5: Buffon's "Female Ocelot," accurately named and depicted. Source: *Histoire Naturelle* (1792).



Image 6.6.: Buffon's "Male Ocelot," accurately named and depicted. Source: *Histoire Naturelle* (1792).

the same time, an image a female leopard, observed in the menagerie at Versailles, is clearly a jaguar, possessing its stocky build and open rosetted coat (Image 6.3 and 6.4).

Although Buffon intended to clarify identification of this species, the images and accompanying text greatly complicated these issues, in both the scientific community and European society at large. Edward Bennet noted in his volume *Quadrupeds*, published as part of a series covering the gardens and menagerie of the Zoological Society of London:

That which is entitled the male panther is in all probability a leopard; the female is unquestionably a Jaguar, the Jaguars, both of the original work and of the Supplement, are either Ocelots or Chatis; and that which purports to be the Jaguar or Leopard, although probably intended for a Cheetah, is not clearly referable by its form and markings to any known species (1835, 96).

Expectedly, confusion and conflation characterizes the representation of ocelots in Buffon's text as well. Buffon and principal artist Jacques de Sève had the opportunity to observe two (properly identified) live individuals kept in France, and their written description and illustrations reflect a significant level of realism and sensitivity to these animal subjects borne of this encounter (Image 6.5 and 6.6).⁶¹ Buffon wrote that the animals they observed "were shewn by the name of the tiger-cat, but we have rejected this denomination as precarious and confused, especially since the jaguar, serval, and the margay, or Cayenne cat, were sent to us under the same denomination, although those three animals were very different from each other, as well as from the one we are at present treating of," further revealing the absolute chaos caused by feline nomenclature in

⁶¹ Buffon writes that "a male and a female were shewn at the fair of St. Ovide, in September 1764" (Buffon 1792, 9).

the laboratories of the Jardin du Roi (Buffon 1792, 9). The ocelot's article identified the cat as "ferocious and carnivorous," with a physical description that cast the cat alongside the jaguar and the cougar as they were "very near in the same size and resembles them in figure and dispositions" (1792, 9). Buffon struggled to identify one of the ocelots, believing it might be a jaguar, but he later determined in the *Supplément*, "I then supposed the first might be the same as the jaguar, and therefore gave him the Mexican name *tlatlahuqui ocelotl* (jaguar), which I am now convinced does not belong to him; and since I have seen both the male and the female, I am persuaded, that the two, described by Recchi, are the same animal" (1792, 11).

Like the jaguar and other cats, these animals are represented as bloodthirsty and cruel. They were reported to have become "so strong and cruel" that at the age of three months they killed and ate their mother, demonstrating without a doubt the depravity of the character of these animals (1792, 9). Creepily, "he prefers blood to flesh and for this reason he destroys a great number of animals; for instead of satisfying his hunger by devouring their flesh, he only quenches his thirst by sucking their blood" (1792, 9).

Buffon was convinced of this aspect of feline nature, noting,

The genus of cruel and rapacious animals is one of the most numerous and most diversified. Evil here, as well as elsewhere, assumes every kind of form. The lion and the tiger, being detached species, hold the first rank. All the others, as the panther, the ounce, the leopard, the lynx, the caracal, the jaguar, the cougar [*sic*] the ocelot, the serval, the margay, and the cat, constitute but one sanguinary family, the different branches of which are more or less extended and diversified, according to the difference of climates. All these animals, though very different in magnitude and figure, resemble each other in their natural

dispositions. They all have fiery eyes, short muzzles, and sharp, crooked, and retractile claws. They are all destructive, ferocious, and untameable” (1792, 434-435).

This heavy handed anthropomorphism was characteristic of Buffon’s writings, and he reserved some of his harshest critiques of character for the feline family. However, the illustrations of these animals in no way reflect the tone of the text, although they do contain their own anthropomorphic quality. These animals are quiet, composed, and nonthreatening. Art historian S. Peter Dance observes,

The illustrations to his original edition are exquisitely engraved and exude aristocratic elegance and charm.... The animals do not seem like wild beasts roaming free in their native woods, deserts, and mountains, but like actors performing among stage props and painted scenery for the benefit of the lords of creation... Buffon’s artists had their own ways of showing animals off to best advantage and always endeavored to make them look clean, neat and innocent” (1978, 59).

This innocent quality reverberates from these animals’ human expressions. In some of the illustrations, the cats have decidedly human eyes, and in many, they appear to smile out at the viewer with feline Mona Lisa expressions. Claws retracted and fangs neatly cloaked by uplifted lips, these cats were not depicted in their predatory moments.

While the illustrations do not coincide with the tone of the text, this in no way negated their influence. Victoria Dickenson explores the significance of the image in natural history, arguing that, “From the mid-sixteenth century on, the coloured drawing had become accepted by naturalists as a simulacrum of the thing itself and a medium for the exchange of information” (1998, 145). The importance of illustration had been

elevated to the level of the text by the Enlightenment. This represents a significant shift in discursive method, Dickenson notes, as Pliny eschewed the “use of mere pictures over words” (Dickenson 1998, 146). These images had an immense impact in the field of natural history, as, like Gesner before, they were copied time and again (see for instance, Schreber 1774; Shaw 1800; Desmarest 1820). The images themselves became the discursive symbol of the totality of that animal. This is problematic, Dance argues, because the images composed by Buffon’s artists were ultimately “just elegant set pieces which tell us more about Buffon and his circle than about the animals themselves,” valuing composition over realistic representation (1978, 59). Thus, these images are dually layered: reflecting the confusion of the text in their corresponding titles, drawn from misidentified specimen, and complicated by the mannered representation that divorced the animal from both the text and its observed qualities.

In addition to the theory of American degeneracy, highly anthropomorphic descriptions and narratives emerged that obscured the jaguar at the center of this project. These are largely representations of the animal’s “nature” that shifted the discussion of the value of the animal’s “character.” Buffon drew criticism for his descriptions of the “nature” of animals from peers who found these tropes quite out of place within the rational approach characteristic of the Enlightenment; truly, Buffon’s writing was popular with the public and anticipated the exaggerated anthropomorphism of the Victorian era.

The first of these narratives involved a curious two-step that characterized the jaguar as both cruel and cowardly. The jaguar was characterized as physically lacking, as “He is neither nimble nor active, but when pressed with hunger,” an inferiority reflected

in his character.”⁶² Coupled within descriptions of its inferior stature, “This animal, however, is the most formidable, the most cruel, in a word, he is the tiger of the New World, where Nature seems to have contracted every kind of quadruped” (1792, 188-189). At the same time, the jaguar is “cowardly,” as “he is not so bold as the leopard or panther” (1792, 187), and “but a light is sufficient to make him fly; and, when his stomach is full, he so entirely loses all courage and vivacity, that he runs before a single dog” (1792, 189). Thus begins one of the most dominant narratives of jaguar nature, locating this cat as deplorable at both ends of the spectrum: not only cruel, but cowardly, speaks of a character simultaneously deplorable and lacking. Thus, for Buffon, the jaguar’s demonstrated reticence near humans (fleeing rather than attacking) is very un-predatory (certainly un-leopardy), a failure to be a feline amongst felines. Buffon cites multiple sources reporting these qualities, but it is his inclusion of these descriptions that canonizes this perspective that echo, like their accompanying images, thorough the discourse for more than a century.

One of the most enduring narratives about the jaguar was its taste for certain races of humans over other. Buffon, again, was not the first to report this, but his inclusion of the narrative holds significant weight. He explained, “The savages, who are naturally poltroons, are afraid to encounter him [the jaguar]. They alleged, that he prefers them to the Europeans, whom he never attacks. The leopard is likewise said to prefer the Blacks

⁶²Buffon’s theories evolved throughout his career, and many were revised or updated in his *Supplément*. This volume included many counterpoints to his initial article on the jaguar submitted by people familiar with the animal. These comments included statement reflecting the much larger size of the jaguar (late in his career Buffon rethinks his theories of American degeneracy), as well as quotes attesting to the non-cowardly nature of the animal.

to the Whites, whom he is supposed to distinguish by the smell, and attacks them during the night as well as the day” (1792, 189).⁶³ This narrative also had remarkable endurance, repeated time again in natural history guides and travel narratives. Likely born from an anxiety of large predators, Europeans used their perception of racial hierarchy to assure themselves they were the least like animals, and therefore the least likely to be selected as potential prey.

Buffon’s legacy lived within the (anthropocentric and Eurocentric) theoretical essays, richly detailed anthropomorphic species descriptions, and beautifully composed color imagery of the *Histoire Naturelle*, the first since Gesner to have such broad and enduring impact. Certainly, no one had as significant an impact on jaguar discourses for a century, as old legends were laid to rest and new ones are invoked and enshrined. Buffon’s legacy echoed well into the nineteenth century, when the men of letters took to the field. The influential naturalists of the nineteenth century including Cuvier, Darwin, Humboldt, and Audubon each directly address through their own work, testifying to the enduring legacy of Buffon’s work.

Carolus Linnaeus, Bodies Unillustrated, and the Thirteenth Edition

An examination of the development of the discipline of natural history cannot overlook Carolus Linnaeus and his *Systema Naturae*. First published in 1735 as a

⁶³ In the *Supplément*, Buffon included remarks from Manoncour disputing this alleged preference, stating, “With regard to the supposed predilection of the jaguar to the natives of the country, rather than to the Negroes or Whites, I suspect strongly that it is fabulous” (195).

comprehensive hierarchical classification system to encompass all known living things, the volumes went through a dozen revisions with substantial updates to each. The tenth edition, published in 1758, is recognized as the beginning point of modern zoological nomenclature, introducing the binomial system still used in the scientific community today. An edited and enhanced thirteenth edition was published posthumously by Johann Friedrich Gmelin from 1788-1793 that contained a substantial expansion of many species descriptions, including the jaguar.⁶⁴

Linnaeus' influence in the discipline is still evident in contemporary biology and ecology. His taxonomic system represented a realigned world view that was no longer centered on humans, but positioned them within larger natural systems. This approach was quite at odds with Buffon's contemporary human-centered orientation of creaturely proximities. Linnaeus' careful concern for the complexities of taxonomic classification is credited as foundation to the modern system of taxonomic classification, and frequently identified as the foundation that stimulated a century of work that culminated in Darwin's theory of evolution (*On the Origin of Species*, 1859). Linnaeus' contribution of a standardized naming system, the Latin-based binomial nomenclature, created a system of naming that could incorporate and locate new species as they were discovered, addressing long standing anxieties surrounding the conceptual placement of the newly discovered.

⁶⁴ While the first edition was 11 pages in length, the twelfth was comprised of 2,400 pages accounting for 10,000 different species.

Linnaeus' purpose was not to contribute new information about known species. Rather, his project was concerned with the organization and classification of species, as well as the discovery and incorporation of new species into this system. Following the tradition of Gesner, Linnaeus utilized a network of associates and former students to acquire materials, specimens, books, and drawings to further inform the construction of this natural system. Entries for species reflected this concern: unillustrated and brief, the entries typically included a history of nomenclature, and a brief statement with regards to their physical appearance and geographic range.

Through the twelfth edition, the article on jaguars was limited to the cat's scientific name *Felis onca* (assigned in the tenth edition), a few colloquial names (jaguara, lynx brasiliensis, pardus), the brief comment, "Habitat in America meridionali," and a brief description of the species' appearance and morphology (1767, 62). Linnaeus did not engage in florid descriptions of species "characters," as he "attempted to banish from his science the use of language as a means of persuasion or for emotional effect" (Koerner 1996, 155). While Buffon was criticized for his anthropomorphic approach, Linnaeus was embraced by philosophers like Rousseau for his Enlightenment-friendly concern with order and emphasis on reason. Gmelin's thirteenth edition (1793) represented a general departure from this focus, broadly updating and expanding species descriptions based on modern references. This edition expanded the jaguar's description to approximately 300 words, including a number of new citations, a physical description, and observations of the animal's behavior. Many aspects of Buffon's work on the jaguar in *Historie Naturelle* are included in this article. Most notably, the thirteenth edition of

Systema Naturae invokes two anthropomorphic narratives that have remarkable endurance: that the jaguar is “cruel,” and yet “very cowardly; and that it is a man eater” who “is believed to prefer Negroes to Europeans, and these to American Indians,” each of which was counter to Linnaeus’ concern for non-emotional language and reason (1767, 78).

Linnaeus’ volume was unique amongst its contemporaries in that it was not illustrated. Dance observes that without illustration, “very few of the animals named and described by Linnaeus could be identified with any certainty” (1978, 63). Dance identifies this as a problematic moment: while the *Systema Naturae* represented the beginning of modern zoological nomenclature, the necessity of referencing illustrations in other volumes simultaneously elevated them to prominent scientific importance. Along with Buffon’s volume, older source materials produced by scholars like Gesner and Marcgrave and Piso were immediately relevant, even if they were “woefully out of date in most respects, but their pictures [were] of vital importance” (1978, 64). Even prior to the thirteenth edition, Linnaeus’ choice to not illustrate his volume (largely for financial reasons) had the unintentional effect of reinforcing the standing of illustrated volumes like Buffon’s.

Baron Cuvier and a Correction of Course in the Nineteenth Century

Prior to the publication of Charles Darwin’s *The Origin of Species* in 1859, Baron Georges Cuvier’s *Règne animal distribué d'après son organisation (The Animal Kingdom Arranged in Conformity with its Organization)* (1817) was considered the authority on

species taxonomy. Like Buffon and Linnaeus before him, Cuvier was an “indoor naturalist,” and the last of the great men of the cabinet, who relied on descriptions and specimens collected from the field to influence the evolution of natural theory without ever leaving the safety of the offices and neatly controlled landscapes of the Jardin des Plantes in Paris.

Cuvier’s work in comparative anatomy and paleontology reflected a larger shift towards the study of physiology within the discipline in the nineteenth century (Ritvo 1997). Cuvier’s research with fossils and living species greatly enriched Linnaean taxonomy. Cuvier did not believe that species changed, arguing that the evidence in the fossil record demonstrated that each species was “as permanent in their forms and characters as those which exist at present” (Cuvier 1818). Cuvier’s work with the mastodon proved the existence of extinctions, and from which he developed his theory of catastrophism which allowed for the creation of new species after sudden, violent catastrophic extinction events.

In 1817, Cuvier published his unillustrated *Règne*, followed by the illustrated octavo second edition in 1828. Cuvier did not consider this to be his most important work, believing his *Recherches sur les ossemens fossiles de quadrupèdes, où l'on rétablit les caractères de plusieurs espèces d'animaux que les révolutions du globe paroissent avoir détruites* (1812) and *Discours sur les revolutions de la surface du globe* (1825), where he introduced the results of his paleontological and geological research, to be of far greater importance. However, *Règne* was by far Cuvier’s most popular volume, reaching audiences throughout Europe and the United States through a plethora of translations and

editions. Much like Buffon's volume from the prior century, the illustrations and compelling accounts of the lives of animals fascinated the public. In 1827 an ambitious illustrated English translation was published by Edward Griffith (editor) and Edward Pigeon (translator) titled, *The animal kingdom arranged in conformity with its organization*. More than a faithful translation of the *Règne*, Griffith also skillfully wove in material from Cuvier's *Ossemens Fossiles* (Cowan 1969).

Cuvier published *Règne* as an updated and inclusive guide to classification of the entire animal kingdom, in part correcting errors from Buffon that had had remarkable tenacity. The family *Felidae* remained a source of confusion and misinformation, prompting Cuvier to write, "It might well be presumed, that the natural history of a genus of animals playing so conspicuous a part on the theater of life as the Felinae, would be by this time clearly known, and the species accurately defined; but such a conclusion would vary widely from the truth" (1827, 427). Rather, Cuvier observes in his introduction to *Recherches*, "the large Carnivora with retractable claws, and spotted fur, have been for a long time the torment of naturalists, by the difficulty in distinguishing with precision their several species" (1812). A student of Buffon's and an adherent to the Linnaean system, Cuvier's project inherited the legacy of both men. While developing Linnaean taxonomy, he also engages in Buffon's more colorful species descriptions, once noting, "Linnaeus grasped with finesse the distinctive traits of organisms; Buffon embraced in a glance their most remote relationships" (Conniff 2010).

Cuvier also engaged in anthropomorphic evaluation of animal behavior, introducing the section on felids in *Règne*, "We are now arrived at the genus FELIS, the

most prominent of this terrible order of animals...” (1827, 421). Despite this, Cuvier contributed the first accurate, detailed description of the jaguar body, locating it relative to other felid species:

The Jaguar is very like the Panther or Leopard of the Old World, but the spots or rings of the former are larger and more oblong, particularly down the back, and those near the dorsal line have a central black dot, which is never seen in the Panther or Leopard; the head is rounder; the animal altogether stouter and stronger; and the tail never reaches farther than to the ground, which last is, perhaps, the most obvious difference between them (1827, 456).

Cuvier acknowledged the necessity of this description, as, “On the whole, we are inclined to conclude that no accurate description has hitherto been given of the large variety of the Jaguar; or otherwise, that the individuals of this species are so subject to vary, as to render any specific character inconclusive” (1827, 456). Noting great diversity in the appearance of jaguars including variations in body size, coat color and spotting patterns, Cuvier addressed the idea of there being two varieties of jaguars, an enduring theme mentioned by Marcgrave and Piso, Buffon, and Linnaeus.⁶⁵ While these prior distinctions were along the lines of color (spotted and black), Cuvier did not believe this is the accurate metric; rather, more broadly, the two varieties were distinguished by a difference in size, appearance of fur, and disposition.⁶⁶

⁶⁵ This distinction appears to have originated from native accounts in the Orinoco, and is reported by several observers throughout the centuries.

⁶⁶ Griffith notes, “It is extremely difficult to say what is a variety, and what a distinct species. The Black Jaguar is, probably, only a variety; but as it is not found in the parts where the Common Jaguar abounds, it may be thence presumed, that they are distinct.

The variation in body size and coat pattern of the jaguar prompted Cuvier, in consultation with artist Charles Hamilton Smith (himself a naturalist who had observed the cats), to include two jaguars in illustration: a larger and a lesser.⁶⁷ The greater jaguar possesses the heavy musculature and open rosetted spotting pattern characteristic of the species (Image 6.7). The cat is depicted mid-step, capturing a coiled intensity and simultaneous grace contained within its body. Despite the representation of power, there is no overt predatory threat. Though the paw is lifted, claws are not bared; similarly, the cat's mouth is open, its teeth are not bared; rather, the tongue protrudes, reminiscent of the "flehmen face." While the first jaguar has lost the anthropomorphic quality entirely, there is something uncannily human in the expression of the second jaguar (Image 6.8). The cat is represented in a remarkably similar pose, but it lacks the same latent energy and intensity. This cat turns to regard the viewer, a strikingly human quality to its face and eyes. Along with their accompanying narrative, these two images were by a significant degree the most accurate to appear thus far in natural history. There is nothing overtly threatening about either of these cats, while their animality is honored through the illustration's realism.

⁶⁷Charles Hamilton Smith was a soldier and artist who had traveled throughout the West Indies, providing the distinct advantage of being to draw from direct observation, whereas most natural history illustrations to this point were drawn by professional artists in Europe working from (badly preserved) specimens, other drawings, and written accounts. Cuvier held Smith's knowledge in high regard and frequently refers to Smith's opinion in his writings.



Image 6.7: Cuvier's (Great) Jaguar. Source: *The Animal Kingdom* (1827).

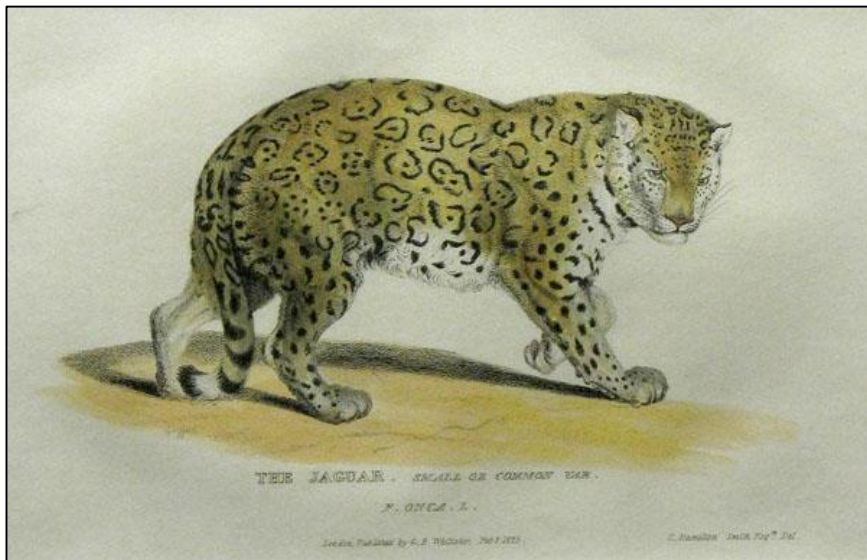


Image 6.8: Cuvier's (Smaller) Jaguar. Source: *The Animal Kingdom* (1827).

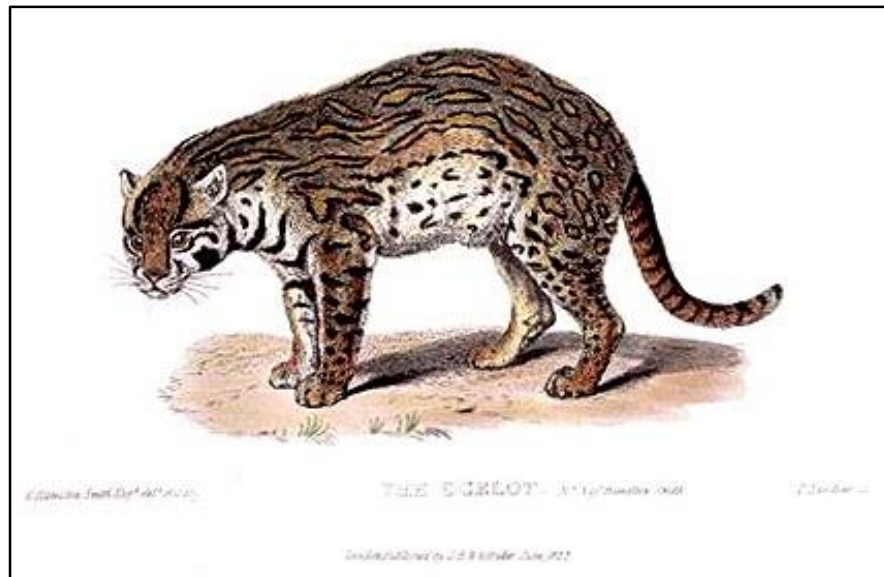


Image 6.9: Cuvier's Ocelot, drawn to demonstrate similarities with Buffon. Source: *The Animal Kingdom* (1827).



Image 6.10: Cuvier's Ocelot. Source: *The Animal Kingdom* (1827).

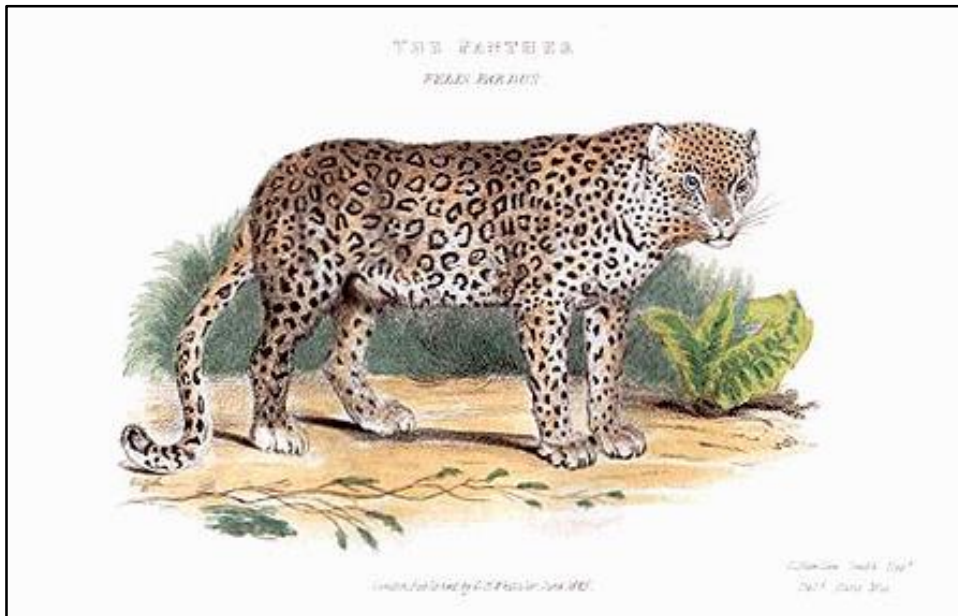


Image 6.11: Cuvier's Panther. Source: *The Animal Kingdom* (1827).

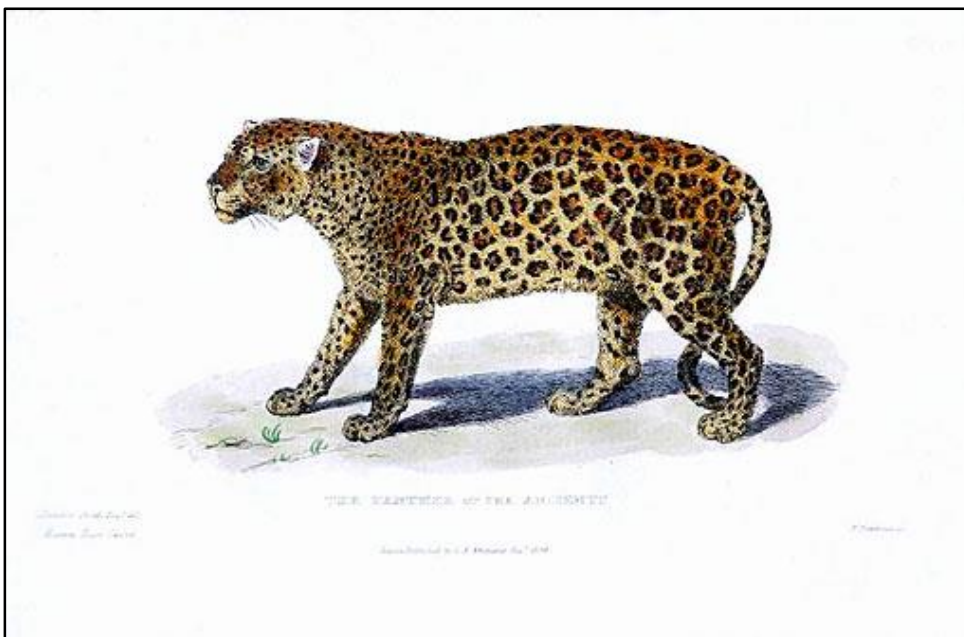


Image 6.12: Cuvier's Panther of the Ancients. Source: *The Animal Kingdom* (1827).

One of the greatest concerns within *Règne's* article concerning feline species was sorting out the confusion of nomenclature and species identification established by Buffon. Cuvier addressed multiple confusions of the species in the Buffon text, most notably discrediting the idea of degeneracy amongst the species of the Western Hemisphere noting of the jaguar, "It is peculiar to America, and is sometimes called the Tiger of that continent. In size and powers, indeed, it is but little inferior to that formidable beast" (454). Cuvier also addresses the confusion of cat species in Buffon's volume, particularly the jaguar masquerading as a panther, and the ocelots as jaguars:

Buffon, the brilliancy of whose work has blinded mankind to his imperfections, imbibed an idea which he never seems to have lost sight of, that the American animals were degenerate, and less in size than the species of the old world belonging to the same order: hence, probably, he was led into a misunderstanding, or too willingly confirmed in error on this subject. He has mistaken the Jaguar, which he describes from an Ocelot; and refers the former animal, because, probably, it was a large species to the Panther of the Ancients, transposing his figures accordingly (1827, 457).

In *Règne*, Cuvier and Smith provided numerous illustrations of the ocelot, including one drawn from Buffon's representation of the jaguar in order to establish the similarity between these representations (Image 6.9). Three other ocelot images also grace the pages, featuring anthropomorphized but realistically rendered small spotted cats with undeniably cheerful expressions (Image 6.10). While Cuvier was still wrestling with the distinctions between panthers and leopards, he is confident that "Buffon has mistaken the jaguar for the panther of the Old World" (474). The accompanying two illustrations of

the panther are discretely different than jaguar in body shape and spotting pattern (Image 6.11, 6.12).

Cuvier, reflecting Buffon and anticipating the sentiment of the soon-to-come Victorian age, utilizes anthropomorphism to cast judgment on the conduct of certain members of the cat species. While “the Lion, we should submit, when compared with the Tiger, is a noble animal; he possesses more confidence, and more real courage; he likewise differs in his permanent attachment to his mate, and protection of his young,” the tiger’s conduct is not moral or becoming, as the cat “shows no partiality beyond the period of heat in the female, and is himself frequently the first and greatest enemy of his own offspring” (430). Despite his overt anthropomorphism in other parts of the article on felids, the jaguar section is remarkably free of these moments of editorialized narrative. Rather, Cuvier’s attention was mostly focused on the jaguar’s prey base and hunting techniques including many accurate observations. Observing that these cats are hunted by humans with dogs, he also recounts the potential outcome of an unanticipated encounter:

The traveller, who is unfortunate enough to meet this formidable beast, especially if it be after sunset, has but little time for consideration. Should it be urged to attack by the cravings of appetite, it is not any noise, or a fire-brand, that will save him. Scarcely any thing but the celerity of a musket-ball will anticipate its murderous purpose. The aim must be quick and steady; and life or death depends on the result (827 457-458).

However,

Generally speaking, particularly during the day, the Jaguar will not attack a man; but if it be pressed by hunger, or have

previously tasted human flesh, its appetite will overcome its fears; and during the residence of d'Azara in Paraguay, no less than six men were destroyed by this formidable beast, two of whom were at the time before a large fire (459).

Even while this beast was “formidable” and “murderous,” Cuvier avoided indulging in overtly anthropomorphic condemnations of this New World predator. His balanced representation of the jaguar was far more in keeping with the reality of jaguar lives on the landscape than his predecessors in the natural history discourse. At the same time, Cuvier’s peers, writing from their own observations in the field, would greatly enhance the nature and character of these representations, further developing upon this new theoretical foundation and alliance with observation.

A NEW AGE OF ENCOUNTER

The nineteenth century witnessed a new era for natural history. No longer tucked away in their cabinets, most of the foremost leaders of the discipline possessed an adventurous spirit, striking out on grand projects of scale and scope. Amongst these men, Alexander von Humboldt, Charles Darwin, and John James Audubon each produced contributions of lasting merit, arguably enriched by their time spent in direct contact with their research subjects. These men were writing from observation across the nineteenth century, at times interacting and corresponding with one another. Each man sought out nature and based their studies from careful observation in the field, rather than the halls and gardens of Europe. Each also undertook his project not in service to a government or a company, but out of his own intellectual curiosity. John Anderson characterized this as

the “luxury of impracticality;” these men were “willing to go to great trouble to find out things that [they] didn’t need to know” (2013, 235). These were men with access to education and means: Humboldt was from a prominent Prussian family whose resources he drew on to fund his trip, while both Darwin and Audubon were from European families of considerable wealth.⁶⁸ This social position afforded these men the access to education, capital, resources, and social networks necessary to undertake and complete these projects. Although they were conducting their own projects outside of formal government or academic systems, these studies were intricately bound to larger circulations of empire through networks of support, patronage, scholarly exchange, and publication.

Public consumption of narratives produced on these journeys into the natural was also increasing in demand, as naturalist John McGillivray notes in his introduction to Humboldt’s *Travels and Research*,

The public taste has of late years gradually inclined towards objects of useful knowledge—works of imagination have in great measure given place to those occupied with descriptions of nature, physical or moral—and the phenomena of the material world now afford entertainment to many whoin former times would have sought for it at a different source (1833, 5-6).

Thus, demand helped to drive this evolving discourse, as there was a public interest that

⁶⁸ While Audubon is closely associated with his studies of North American wildlife, he was not an American. Born in Haiti and raised in France, he departed on a false passport at the age of 18 to avoid conscription in the Napoleonic Wars.

enabled fluid movement facilitated by flows of capital through these circulations of knowledge.

Jaguars prowl throughout Humboldt and Darwin's narratives. While Humboldt was not explicitly interested in the jaguar as a research subject, he contributed abundant narratives about this cat in its environment including from his own personal tale of encounter, at times seeming almost exasperated with their sheer abundance. For Darwin, jaguars became a small but integral part in the development of his theory of evolution. Audubon's volume documented the jaguar's last years in Texas, never encountering the cat directly but coming into contact with a cast of characters in the search for this trophy. These men offered new ways of seeing these cats in narrative and illustration. Their representations brought these felines to life, and foregrounded their predatory existences in ways that would haunt the imagination of the reading public.

Physical Geography, Physical Encounter: Alexander von Humboldt

Celebrated today as the father of modern geography, Baron Friedrich Wilhelm Heinrich Alexander von Humboldt set out from Europe to explore the landscapes of South America, arriving in 1800. Along with botanist Aimé Bonpland, he explored the Orinoco river basin, studying the immense diversity in plant and animal life. In 1801, the men explored the western spine of the continent, travelling down the Cordilleras Mountain ranges from Colombia to Peru, before boarding a ship to southern Mexico, where they arrived in 1803. Throughout his travels, Humboldt utilized the most modern scientific instrumentation to survey and record weather conditions, landscape features,

elevation, and geologic features (including earth magnetism.) Additionally, he collected over 60,000 specimens, much to the chagrin of the indigenous men hired to help him transport these plants and animals. Humboldt's research influenced the study, identification, and classification of climates not only in South America, but worldwide. His approach, which would inform the modern geographic discipline, was landscape level—both methodologically and conceptually. Concerned with “the unity of nature,” or the interrelation of geology, weather, and flora and fauna on a landscape, his meticulous observations of species distributions formed the foundation of biogeography and greatly enriched Darwin's work thirty years later (1799). As Humboldt traversed the landscape, he composed his engaging travel narrative, parts of which were published a few years after his return to Europe. Possessing the mind of a scientist and the soul of a poet, once Humboldt once wrote, “Nature herself is sublimely eloquent. The stars as they sparkle in firmament fill us with delight and ecstasy, and yet they all move in orbit marked out with mathematical precision” (1841). These qualities made Humboldt's *Personal Narrative* an immense success upon publication.

Among the prominent writers in natural history, Humboldt has the distinction of being the only one who observed jaguars in the wild, often within close proximity. Throughout Humboldt's narrative, jaguars were immediate, present, and encounterable. Jaguars hid behind bushes, spooked horses, trailed men, and circled camps at night.⁶⁹ The soundtrack in the evening, encamped in the forest, was often the cats' relentless roaring.

⁶⁹ While some accusations have been made the Humboldt was given to flights of fantasy, his descriptions of the jaguars behaviors in each of these narratives are entirely consistent with observed jaguar behaviors. It has been speculated that in areas of significant density, these cats were bolder than they are today.

Despite this spectacular density leading to so many jaguar-filled moments, he did not delve into fantastical narratives of monsters lurking in the night. These cats are part of the landscape, at times even an inconvenience. On more than one occasion, a camp location had to be yielded to jaguars already ensconced in place, as Humboldt related:

We had intended to pass the night at the Vuelta del Palmito, but the number of jaguars at that part of the Apure is so great, that our Indians found two hidden behind the trunk of a locust-tree, at the moment when they were going to sling our hammocks. We were advised to re-embark, and take our station in the island of Apurito, near its junction with the Orinoco (1819, 452).

Cultivating an intentional distance, Humboldt endeavored not to inject emotion into his observations. These representations of jaguars, as a result, are rare in their cool objectivity. At one point, being cajoled into moving faster by a local guide bearing ominous warnings of “danger from tigers,” he “calmly represented to our guide, that those animals did not attack men, on coasts where the goats furnished them with abundant food” (267). Humboldt’s candid thoughts on camping in the Orinoco revealed this tension between rational observation and fear:

The security displayed by the Indians inspires travellers with confidence. You persuade yourself with them, that the tigers are afraid of fire, and do not attack a man lying in his hammock. These attacks are in fact extremely rare; and during a long abode in South America, I remember only one example of a Llanero, who was found torn in his hammock opposite the island of Achaguas (1819, 437).

Even his narrative of a near face-to-face encounter is remarkable in its profound lack of dramatic rhetoric. Rather, Humboldt finds within this event a moment to control his own human responses:

This excursion had nearly proved fatal to me. I had kept my eyes constantly turned towards the river; but, whilst picking up some spangles of mica agglomerated together in the sand, I discovered the recent footsteps of a tiger, easily distinguishable from their form and size. The animal had gone towards the forest, and turning my eyes on that side, I found myself within eighty paces of a jaguar that was lying under the thick foliage of a ceiba. No tiger had ever appeared to me so large.

There are accidents in life against which we may seek in vain to fortify our reason. I was extremely alarmed, yet sufficiently master of myself and of my motions to enable me to follow the advice which the Indians had so often given us as to how we ought to act in such cases. I continued to walk on without running, avoided moving my arms, and I thought I observed that the jaguar's attention was fixed on a herd of capybaras which was crossing the river. I then began to return, making a large circuit toward the edge of the water. As the distance increased, I thought I might accelerate my pace. How often was I tempted to look back in order to assure myself that I was not pursued! Happily I yielded very tardily to this desire. The jaguar had remained motionless. These enormous cats with spotted robes are so well fed in countries abounding in capybaras, pecaries, and deer, that they rarely attack men (1819, 445).

An encounter with a large predator is chilling in its own right, and Humboldt captures this moment, but without the need to indulge in overblown rhetoric casting the animal as a bloodthirsty murderer with evil intent.

This narrative is not limited to thrilling tales of encounter. Drawing from his personal observations and accounts from local tribes, Humboldt recorded detailed notes on the jaguar's preferred habitats, prey, hunting methods, and behavior. He also directly addressed Buffon's description of the character of this cat, concluding that stories of jaguars being cowardly were unfounded, observing that they were only driven off a kill

by armed humans “only after a long and obstinate resistance” (1819, 230). Humboldt concluded that the cat “does not flee from man, when it is dared to close fight, and when it is not frightened by a number of assailants... Buffon was entirely mistaken with respect to the greatest of the feline race of America. What Buffon says of the cowardice of tigers of the new continent, relates to the small ocelots” (230). However, these cats are not ruthless killers, Humboldt demonstrated repeatedly, observing, “Tigers very rarely attack boats by swimming to them; and never but when their ferocity is heightened by a long privation of food. The noise of our oars led the animal to rise slowly, and hide itself behind the sauso bushes that bordered the shore” (158).

Humboldt’s contributions to jaguar discourse are unmatched amongst his peers in his ability to represent the animal at the heart of his narrative. His *Travels and Research* marked the first time jaguars were presented as living animals, free from the freighted concepts of value and place typically slung across their bodies. These are not monsters, nor are they romanticized. They were, simply and yet complexly, jaguars. The reach of Humboldt’s work was far and wide. Notably, his *Travels and Research* was read by Darwin during his journey on *The Beagle*. So informed, Darwin arrived in South America seeking his own encounter with the jaguar.

Charles Darwin, Missed Encounters, and a Theory

Charles Darwin set off on his only major journey, and the one which would make him famous, in 1831. The five year journey around the globe provided him with the insights that would eventually inform his theory of evolution, published in the *Origin of*

Species (1859). Long before that, Darwin and his journey were made famous by the publication of his travel journal, *The Voyage of the Beagle* in 1839 (originally published under the title *Journal and Remarks* as a volume in the compiled *Journal of Researches pertaining to the Beagle's voyage*.) Like Humboldt before him, this was a travel account which found an audience hungry for true-to-life tales of adventure in the wilderness.

Darwin read Humboldt's *Personal Narrative* while on his own journey aboard the *Beagle*, and was an avid fan of Humboldt. In his autobiography, Darwin recalled reading "with care and profound interest Humboldt's *Personal Narrative*" recalling in a letter to his father that the book had "stirred up in me a burning zeal to add even the most humble contribution to the noble structure of Natural Science" (Darwin 1887, 47).

However, unlike Humboldt's journey, Darwin did not encounter jaguars directly on his travels in South America, prompting him to note in his journal, "I should say that all my information about the Puma & Jaguar has been obtained by conversing with several different country people" (1831, 26 verso). This was not for want of trying, although on one excursion Darwin hastily retreated back to the ship, as he related,

These thickets afford a retreat for carpinchos and jaguars... The fear of the latter animal, quite destroyed all pleasure in scrambling through the woods. This evening I had not proceeded a hundred yards, before finding indubitable signs of the recent presence of the tiger, I was obliged to come back. On every island there are tracks; and as on the former excursion "el rastro de los Indios" had been the subject of conversation, so in this was "el rastro del tigre" (1833, 159)

Not dissuaded, Darwin later recounted in his journal "on the banks of the river, called Punta Gorda. On the way we tried to find a jaguar. There were plenty of fresh tracks, and

we visited the trees, on which they are said to sharpen their claws; but we did not succeed in disturbing one” (1833, 171). While they did not avail themselves directly, these cats are present in Darwin’s mind and in his journal, lurking unseen on the landscape, embodied in the scratched marks on the trees and in the narratives of the inhabitants with whom he interacted. However, owing to this dearth of directly observed information, these cats are not included in the zoology volume produced from this journey, where Darwin notes, “I must refer the reader to my journal for some account of the habits of the jaguar and puma, which being well known animals, and the facts that I mention having little scientific interest, I have not thought it worth while to repeat them here” (1838, 20). Although Darwin discredits the information since it was not taken from direct observation, his journal includes notes on reported range, hunting behaviors, prey preferences, and habitat preferences. Darwin is also concerned about the threat to these cats posed to human safety, but, like Humboldt, refrains from anthropomorphic dramatics:

On the Parana they [jaguars] have killed many wood-cutters, and have even entered vessels at night. There is a man now living in the Bajada, who, coming up from below when it was dark, was seized on the deck; he escaped, however, with the loss of the use of one arm. When the floods drive these animals from the islands they are most dangerous. I was told, that a few years since, a very large one found its way into a church at St. Fe: two padres entering one after the other were killed, and a third, who came to see what was the matter, escaped with difficulty. The beast was destroyed by being shot from a corner of the building which was unroofed. (1833, 159).

The importance of the jaguar within Darwin's account was not captured within the moment of encounter. Rather, this cat played a small, but significant role in the development of Darwin's theory of evolution.

Upon observing sign of jaguars inhabiting riparian areas during his travels, and hearing numerous accounts of them in the areas, preying on fish, Darwin noted in his travel journal, "They seem to require water," speaking not to their thirst but habitat selection. Reflecting upon this image of jaguars successfully preying on fish in the water, Darwin noted (later published as the *Notebooks on Transmutation of Species*):

All the discussion about affinity & how one order first becomes developed & then another—(according as parent types are present) must follow after there is proof of the non-creation of animals. — Then argument may be,—subterranean lakes, hot spring &c &c inhabited therefore mud wood [would] be inhabited, then how is this effected by—for instance, fish, being excessively abundant | & tempting the Jaguar to use its feet much in swimming, & every development giving greater vigour to the parent tending so produce effect on offspring—but *whole* race of that species must take to that particular habitat. — All structures either direct effect of habit, or hereditary & combined effect of habit,—perhaps in process of change (1838, 62-63)

Thus began Darwin's thoughts on natural selection and the altering of species traits according to favorable characteristics in the environment. In a subsequent essay (1844) he developed this same example further:

... It has been maintained by several authors that one species, for instance of the carnivorous order, could not pass into another, for instance into an otter, because in its transitional state its habits would not be adapted to any proper conditions of life; but the jaguar is a thoroughly terrestrial quadruped in its structure, yet it takes freely to the water and catches many

fish; will it be said that it is *impossible* that the conditions of its country might become such that the jaguar should be driven to feed more on fish than they now do; and in that case is it impossible, is it not probable, that any the slightest deviation in its instincts, its form of body, in the width of its feet, and in the extension of the skin (which already unites the base of its toes) would give such individuals a better *chance* of surviving and propagating young with similar, barely perceptible (though thoroughly exercised), deviations? Who will say what could thus be effected in the course of ten thousand generations? Who can answer the same question with respect to instincts? If no one can, the *possibility* (for we are not in this chapter considering the *probability*) of simple organs or organic beings being modified by natural selection and the effects of external agencies into complicated ones ought not to be absolutely rejected (1844, 303-305).

Darwin connected this “thoroughly terrestrial quadruped” that “took freely to water” as the potential starting point for the evolution of marine carnivores, including whales. This significant role the jaguar played in the development of Darwin’s theories has largely been obscured, because by the publication of the first edition of *The Origin of Species*, Darwin had changed the jaguar to a bear, and by the sixth edition, he had abandoned the narrative altogether (Zimmer 1998; Pauly 2004).

Audubon, Bachman and the Legacy of the Artist-Naturalist

Like Humboldt and Darwin, John James Audubon was not content to write about nature unobserved. While Audubon’s work was very different than Humboldt or Darwin’s, they shared a degree of similarity, as all were projects of personal passion. While Humboldt and Darwin were interested in the mechanisms that defined life and landscape, Audubon was a man whose grand vision took him down another path. Rather

than looking at grand theory, he was an observer of life at the finest scale, whose contribution refined and revolutionized the field of visual representation within natural history.

Audubon's initial project, *The Birds of America* (1827-1838), was created as a definitive guide to the avian species of the continent. It was a sumptuously illustrated guide carefully depicting nearly five hundred North American species. The volume, filled with hand colored, richly detailed lithographs, was a success in America and Europe and earned Audubon a significant level of fame. This project was a massive undertaking, involving more than fourteen years of field observation, scrupulous note taking, and concise drawing. The resulting folio was also very expensive, and the printing was financed by selling subscriptions to the very wealthy patrons. Although critical that Audubon was not a scholar but a hobby naturalist and an artist, Cuvier acknowledged his work as the "most magnificent monument that art has ever erected to ornithological science" (Stevenson 1905, 404). Audubon in turn countered that his specialty was in his ability to render detailed paintings from direct observations, rather than those working from specimens and secondhand info (a pointed dig at his fellow Frenchman in the cabinet) (Peck 2000).

In the early 1840s, Audubon undertook the second great project of his career: *The Viviparous Quadrupeds of North America*, intended to be a comprehensive guide to the mammals of the continent. Much like *Birds of America*, this was a project of unprecedented scale. There was a great need for such a volume, as even by the mid-nineteenth century few guides to American wildlife that were complete or accurate.

However, the project was soon complicated by Audubon's declining physical and mental condition (Peck 2000). Unlike with *Birds of America*, Audubon was increasingly dependent on assistance to complete this ambitious project. A man who notoriously controlled every detail of his project, Audubon relied on three people he trusted completely: his sons, John Woodhouse Audubon and Victor Gifford Audubon, and his lifelong colleague and trusted friend John Bachman. Bachman was a respected amateur naturalist who had assisted Audubon with acquiring specimens and information for *Birds of America*. For *Quadrupeds*, Bachman was responsible for writing all of the text, drawing from his own expertise in mammals (Peck 2000). Audubon's sons managed the financial support for the volumes, and John Woodhouse traveled, compiling notes for Bachmann's text. As a result of his father's continued decline, John Woodhouse eventually assumed the role of artist and completed approximately half of the images in the final volume. Audubon did not live to see the project completed, and the final volumes in the series were published posthumously (Peck 2000).

A "new" jaguar wanders into natural history within the spaces of *The Viviparous Quadrupeds*: the "American" jaguar. While the cat's range in the nineteenth century encompassed parts of the United States including Texas, New Mexico, Arizona, Colorado and California, these northernmost cats were rarely accounted for in the literature of that time. The jaguars of natural history were exotic jungle animals of the Orinoco and the sacred cats of the fallen Aztec civilization. *The Viviparous Quadrupeds* revealed a new dimension to the jaguar's range, and along with it, new narratives of encounter emerged. The article on jaguars was based primarily on John Woodhouse's solo expedition to

Texas from 1845-46 where many narratives of jaguar encounters were collected, although the animal itself was not (rather, a captive jaguar was later observed in a zoo in Charleston) (Audubon and Bachman 1854, 7).⁷⁰ Although he does not encounter a live jaguar in that time, he is regaled with stories of this fearsome tiger in San Antonio. Although certainly steeped in folklore, this article represented one of the most significant (and only) records of jaguars in the United States in the nineteenth century.

One of this volume's most significant contributions was the detailed physical description of the cat, which exceeded Cuvier's in its level of refined detail. Reflecting Audubon's tradition of direct observation, the jaguar is described to precise dimensions, gathered by measuring the dimensions of two captive jaguars' bodies. A lifelong correspondent with Humboldt, Bachman was also well aware of the corpus of literature within which he was writing. In his description of the species' appearance, Bachman addressed the inheritance of Buffon and Cuvier:

Buffon, in describing the habits of the Jaguar, appears to have received his accounts of the timidity of this species from those who referred to the Ocelot, which is generally admitted to be a timid animal [...] Buffon has given three figures of the Jaguar, the first and third of which we consider as the Ocelot, and the second as probably the Panther {F. Pardus) of the eastern continent. Hamilton Smith, in Griffith's Cuvier, has given us two figures of this species, differing considerably in colour and markings : the former is very characteristic. He has named this species Felis Jaguar, which is inadmissible. There is some resemblance in this species to the panther (F. Pardus), as also to the leopard (F. Leopardus) of Africa, but they are now so well described as distinct species that it is scarcely necessary to point out the

⁷⁰ John James Audubon had traveled to Texas once in his life, visiting coastal areas in and around Houston in April and May of 1837 (Geiser 1948). This journey was taken to collect information published in the final section of his landmark *Birds of America* (1837-1838).

distinctive marks of each. Buffon's panthere femelle... evidently are [is] figures of our Jaguar (Audubon and Bachman 1854, 10).

In addition to locating the jaguar body within the history of its representation in the naturalist discourse, the volume included many new accounts of jaguar nature and character. Unlike Humboldt and Darwin, Bachman indulges in anthropomorphic rhetoric to paint an image of this cat with words, imbuing it with a new sense of greatness. Thus, the jaguar is introduced:

Alike beautiful and ferocious, the jaguar is of all American animals unquestionably the most to be dreaded, on account of its combined strength, activity, and courage, which not only give it a vast physical power over other wild creatures, but enable it frequently to destroy man (Audubon and Bachman 1854, 3).

Drawing from narratives of encounter between tough, prominent men of the Texas frontier and these cats, Audubon and Bachman's descriptions exerted powerful force in shaping popular understanding of jaguars throughout the latter half of the nineteenth century. The article included a number of accounts of jaguars stalking and attacking men. In fact, every mention of the jaguar includes reference to this threat. Descriptions of jaguars taking prey are particularly florid:

...this savage beast exhibits great patience and perseverance remaining for hours crouched down with head depressed and still as death... The unsuspecting creature draws near the dangerous spot suddenly with a tremendous leap the jaguar pounces on him and with the fury of an incarnate fiend fastens upon his neck with his terrible teeth whilst his formidable claws are struck deep into his back and flanks. The poor victim writhes and plunges with fright and pain and makes violent efforts to shake off the foe but in a few moments is unable longer to struggle and yields with a last

despairing cry to his fate The jaguar begins to devour him while yet alive and growls and roars over his prey until his hunger is appeased (Audubon and Bachman 1854, 3-6).

This foregrounding of the jaguar-as-hunter, reflecting notions that predators were as ferocious beasts to be feared and vilified, lead historian Lisa Mighetto to comment that “the idea of the predator, then, has been more terrifying than the habits of the animal warrant” (1991, 81-82).

John Woodhouse’s research in Texas brought him into contact with a cast of characters. A colorful array of tough masculine personas grace Audubon’s account. John Woodhouse recorded personal accounts provided by General Sam Houston, Colonel Jack Hays, David Bowie, Captain J. P. McCown and members of the Texas Rangers. These men related tales that were remarkably similar in nature, pitting masculine strength against the terrible force of predatory animality. These tales populated the state with jaguars, from Colonel Hayes’ tale of a jaguar stalking him in Bexar county, to Sam Houston’s eyewitness accounts of the cats prowling the perimeter of camps east of the San Jacinto River and finding their “horses... found to have been killed and eaten up entirely, except the skeleton” (1854, 6). Captain J.P. McCown’s narrative, set along the Rio Grande, found jaguars sneaking directly into camp and sitting by the campfire in a quiet challenge to the presence of humans, whereby the cat “seeming to know it was discovered, but without exhibiting any sign of fear, slowly, and with the stealthy, noiseless pace and attitude of a common cat, sneaked off” (1854, 6).

The narrative relished in the killing of these animals in a way that prior works of natural history did not, likely reflecting the enthusiasm of the men interviewed by John

Woodhouse. Adopting a contrived nonchalance, these men engaged in Texas-sized tall tales. After reportedly being stalked for miles, Colonel Hayes “now thought it high time to shoot, so he fired, and killed him in his tracks. ‘The skin,’ as he informed us, ‘was so beautiful, it was a pleasure to look at it’” (1854, 6). Jaguar pelts remained a trophy, a symbol of man’s domination over even the most formidable enemy. Audubon observed, “These skins are very highly prized by the Mexicans, and also by the Rangers; they are used for holster coverings and as saddle cloths, and form a superb addition to the caparison of a beautiful horse, the most important animal to the occupants of the prairies of Texas, and upon which they always show to the best advantage” (1854, 6). “Leopard” attire was also popular amongst American soldiers in the region, as this association with masculinity is layered with a sense of wildness, an association with an already-disappearing wilderness. Prestige of adorning in pelt is perhaps best exemplified by Texas military hero and statesman Samuel Houston, who frequently donned a “Leopard Vest” under his proper gentlemanly attire (Flanagan 2010) (Image 6.13).

The accompanying illustration of a jaguar is very different than most in the natural history cannon, reflecting the tone of the text (Image 6.14). Fangs and claws bared, the cat is menacing and mere seconds away from attacking. Here, the jaguar is abstracted and condensed into a caricature of its own predatory nature. The jaguar is overtly present, stalking humans behind every tree and bush. These accounts in particular are more tailored to the contemporary perception of predators rather than observed or recorded behavior, as there are very few accounts of jaguars ever attacking

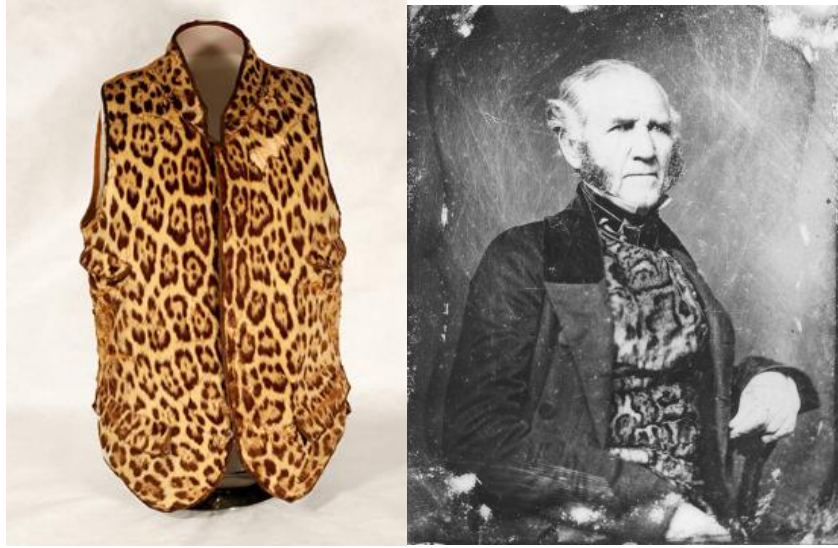


Image 6.13 Sam Houston's Leopard Vest. Images: Sam Houston Memorial Museum Images Collection.

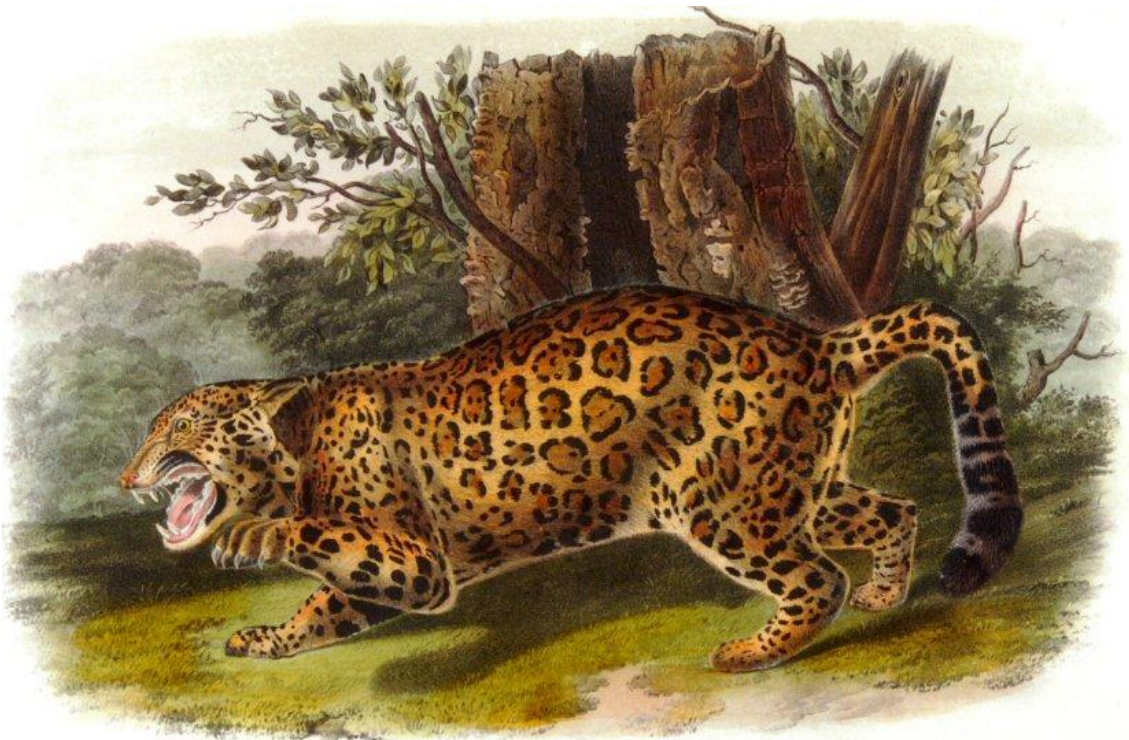


Image 6.14 John Woodhouse Audubon's jaguar. Source: *The Viviparous Quadrupeds of North America* (1854).

men. While the coat is sumptuously rendered, the cat's body possesses an awkwardness in shape and proportion. This image was done by John Woodhouse, and is often thought to be one of his better works; however, he did not possess the keen skill of his father and his images often displayed odd scale and perspective when representing animal bodies (Peck 2000). While not executed to the same level of mastery, the image is very much in keeping with Audubon's style, and the image was one of the most popular and celebrated of the series—a trophy in its own right.

Throughout the narrative in of *The Viviparous Quadrupeds*, the jaguar is present in unlikely abundance, stalking men and their companion horses (themselves symbols of animality dominated and nature tamed) from behind every tree and bush, even working in teams, to destroy humanity. Despite these representations, colored by Texas-sized tall tales, the article had many points of merit. Bachman's detailed description of the species, developed from live animals, were the most complete and accurate of their time. Similarly, Bachman is the first to record the wide variety of habitats utilized by the jaguar, also previously unremarked in the literature. Bachman drew from literature and accounts not cited by the European naturalists, imbuing these cats with an American-ness, while these new tales amongst similar ones retold from accounts from Humboldt, establishing their credibility within the discourse (Peck 2000). Bachman's article, drawing from the legacy of John James Audubon and the observations of John Woodhouse Audubon, enabled new perspectives and accounts more fully painting the picture of what a jaguar was, and what it was not. The narratives of American frontier masculinity were enhanced by encounters with this worthy adversary, and worth the tale.

CONCLUSION: JAGUARS EMERGING AND DISAPPEARING

The eighteenth and nineteenth centuries witnessed a proliferation of ambitious projects in natural history. Following the thread of one species, in this case the jaguar, makes evident the complex ways in which knowledge about an animal is created, negotiated, and revised. The evolution of jaguar knowledge through this time also reveals the tensions inherent in the construction of broader theories attempting to explain life on the planet. While these men wrestled with classifying species and explaining their interrelationships, they were attempting to construct these theories in the absence of reliable data on many individual species. As species-specific knowledge evolved, so too could the theory.

Within this era, older legacies were laid to rest, and new representations were enshrined by men like Buffon and Linnaeus. Almost as soon as they were canonized, many of these representations were contested by those with access to the species, ultimately making a strong argument for the importance of direct observation even within the most theoretical pursuits (Darwin being perhaps the best example.)

Notions of place and value relative to this species shifted during this era. The placement of species became more complex, as not only did this account for locating the jaguars' bodies on the landscape, but also theoretical and conceptual placement of species relative to humankind (and mankind specifically). Locating species bodies within systems of taxonomy (and later, evolution) reveals the ways in which humans conceptualized animal interrelationships, as well as how they conceived the location of humans relative to nature.

While contributions from men like Audubon and Bachman greatly expanded the knowledge of the physical spaces that jaguars occupied, these were also the last moments for these cats in many of these locations. With human encroachment, these animals were both physically and conceptually shifted “out of place.” Wild nature simply had “no place” in human habitations like San Antonio, Texas. Anthropomorphic rhetoric cast predatory species as murderous villains who were “no good”—creatures without redeeming value. As jaguar spaces became human-occupied places, the notion of the value of this species continued to suffer, justifying large scale acts of felicide. Here, value and place entangles, as these cats became valued as trophies testifying simultaneously to the man’s domination of nature, the American domination of the frontier, and the individual’s masculinized feats of death-defying bravery.

Lurking within all of these accounts are warning signs for the future of the species. Each of the naturalists included in this chapter remarked on the rapid, observable changes in jaguar populations. Buffon noted in the mid eighteenth century, “The jaguar is not now so common in Brasil, which is its native country, as formerly. A price has been set on his head; numbers of this species have accordingly been destroyed; and the rest have retired from the coasts into the most desert parts of the country” (1792, 192). Over fifty years later, Cuvier observes, “Many parts of South America which were once grievously pestered with Jaguars, are now almost freed from them, or are only occasionally troubled with their destructive incursions” (1827, 458). Humboldt reported “More than four thousand jaguars are killed annually in the Spanish colonies, several of them equalling the mean size of the royal tiger of Asia. Two thousand skins of jaguars

were formerly exported annually from Buenos Ayres alone.) These animals are very frequent in the tracts situated between the Cerro Maraguaca, the Unturan, and the banks of the Pamoni” (1821, 591). Darwin also noted, “The jaguar [had] been banished for some years,” from the Maldonado region (present day Uruguay) (1845, 50).

Simultaneously, conceptions of place and value justified this retraction: these jaguars were out of place and justifiably removed. Ironically, just as the species was becoming known, it was vanishing.

“During the night, the Jaguars roared and grumbled in the forests
as though the world was going wrong with them.”
—Charles Waterton (1804)

Chapter 7: Disappearing Jaguars and Evolving Rhetorics at the Dawn of the Twentieth Century

Tracing representations of jaguars across the broad sweep of time, space, and empire reveals dynamic ways in which Europeans and Euro-Americans encountered and organized nature. Containing animals within systems of classification, the observations of species like the jaguar shifted through space and time, reflecting the socially constructed nature of the project itself. From early accounts of exploration to eighteenth and nineteenth century scientific discourse, these representations positioned jaguars relative to anthropocentric concerns. While these projects attempted to capture the jaguar in descriptions of its body, habitat, and behavior, they also revealed an escalating and enduring impact of human incursion into jaguar spaces, a retraction in the cats’ range and declining population numbers. This was not limited to jaguars, animals only recently recorded by naturalists were disappearing at an alarming rate.⁷¹

By the mid to late nineteenth century, these evident large-scale changes in species populations and distributions prompted new perspectives on the interrelationship between humankind and wildlife. Long-constructed notions concerning the place and value of nature and its animal inhabitants were challenged by the emergence of romanticized and

⁷¹ In his *Birds of America*, Audubon included the hyper-abundant passenger pigeon, however, not even one hundred years later, the species was extinct (1837). White tailed deer also hovered near extinction during this era.

sentimentalized perspectives. These new discourses on nature, and the human place within, coincided with significant social change in Western Europe and the United States during the mid-nineteenth century. Scientific revolutions, inherited from the Enlightenment and perhaps most notably shaped by Darwin's *Origin of Species* (1859), led to the revolutionary, unsettling, and ultimately wide-spread recognition that humans were descended from animals, and so remained a part of this worldly kingdom (Mighetto 1991; Mangum 2002). This realization of human animality was coupled with an emerging Victorian humanist movement. Pushing back against the cold, scientific quality of the Enlightenment, discourses of the Victorian age were overtly anthropomorphic, considering the natural world through an unapologetically humanized lens that cultivated this sense of compassion and empathy for the pain and suffering of animals (Mangum 2002).

Within these emerging discourses of compassion, however, all animals were not created equal. Within these overtly anthropomorphic constructions, predators remained cruel, bloodthirsty, immoral villains who committed murder on innocent prey animals (Mighetto 1991). Scientific, economic, literary, and popular discourses all reinforced the perception that these animals were out of place, committing acts of cruelty and suffering upon a largely romanticized, docile nature. This moral positioning of predators was coupled with a more pragmatic economic perspective that claimed that predators were competing with humans for resources (game animals and livestock). The inconsistency in perspective that positioned a predator as evil for killing game animals and livestock while humans remained entitled to commit their own acts of violence for consumption

and trophy reflects a deeply entrenched anthropocentrism that remained insidiously entwined throughout these stances of compassion. Reflecting Buffon's placement of domesticated animals conceptually closer to humans in a taxonomy of familiarity and use, wild animals, particularly carnivorous mega fauna, stood outside of humanity's circle of concern.

The rhetorics used to characterize jaguars and other predators were not new. Prior to the Victorian era, predators were constructed as possessing undesirable human characteristics. The dominant discourse, as evidenced in the corpus of natural history in the previous chapters, characterized jaguars and other predators as "cruel" and "cunning," killing with intent. The idea of this species as dangerous was unfounded in evidence but justified in a majority of scientific writing, reinforcing notions like that of naturalist Alfred Russell Wallace that the jaguar is "the most powerful and dangerous animal inhabiting the continent" (1889, 166).

Simultaneously, expanding animal husbandry operations in places like the southwest United States and Brazil brought jaguars into direct conflict with ranchers, reinforcing these representations and strengthening the call for "control" (killing) of these animals. The discourse continued to reinforce the idea that cats are wanton murderers that "destroy" and "exterminate" herbivores, a crime compounded when these herbivores are domesticated and of financial value. Geographer Robin Doughty and Barbara Parmenter (1989) characterize this attitude succinctly, as "Other animals, the canids and larger members of the cat family, required purposeful elimination. In the minds of townspeople and ranchers alike, wolves, cougars, bobcats, and jaguars had no redeeming

value other than as decorative skins and trophies to brag about.” (23). *Economic Mammalogy*, a textbook published in 1932, demonstrated the tenacity of these narratives of violence, stating that, “Jaguars kill many mammals, big and little, including men” (Henderson 1932, 117). No predator escapes this critique, as “The two most destructive groups of mammals are the ‘beasts of prey,’ especially the Canidae and Felidae, and the Rodentia and their allies” (1932, 161); furthermore, “It is fortunate for the human race that they are not more abundant” (1932, 231). These narratives, locating predators as animals without place or value, had remarkable and enduring tenacity and justified ongoing, relentless killing.

It is not until many of these species, including the jaguar, were quite literally disappearing from sight that a shift of attitude occurred that began to reconsider the place and value of these species. This evolution was embodied in three of the most prolific and influential writers of the era: Theodore Roosevelt, Ernest Thompson Seton, and Aldo Leopold. Throughout their careers, these men provoked discussions of stewardship and conservation, prompted more careful considerations of man’s impact on landscape, which in turn stimulates an evolving attitude towards predator species by the turn of the twentieth century. Each of these men specifically went looking for the jaguar during their careers, and these encounters (or lack thereof) would deeply affect their narratives, and the larger discourse regarding nature and the place and value of predators. This chapter will briefly examine the trajectory of each of these men, and the jaguar’s place within their individual stories.

The Hunter-Conservationist: Theodore Roosevelt on the Jaguar Trail

Theodore Roosevelt is often credited as an influential figure in the birth of the modern environmental movement. As President, Roosevelt was instrumental in making the environment an issue of social, political, and economic concern in the United States. He recognized the need to protect lands in order to conserve natural resources and to protect landscapes deemed to be of particular importance. He expanded the U.S. National Park system and the wildlife refuge system, establishing protections for these landscapes and their wild inhabitants. “Nature” was personally important to Roosevelt as a life-long amateur naturalist and avid sportsman, and it was an intrinsic aspect of his wildly popular hyper-masculinized public persona. A prolific writer and popular public figure, Roosevelt greatly affected rhetorics of conservation at the turn of the century.

Roosevelt saw nature as something to be pursued, captured and possessed, once bragging “It has been my good-luck to kill every kind of game properly belonging to the United States” (1903, 448). A founder of the Boone and Crockett Club, Roosevelt was an outspoken proponent for wildlife conservation, although that ethos was limited to game species. He was an anthropocentrist for whom the value of animal life was measured against their usefulness to humans, which strongly influenced his stance on predatory species. These animals were in need of protection from large scale commercial harvest, largely to preserve them as trophy prospects. As a younger man, Roosevelt voiced the common perception of predators as bloodthirsty killers who competed with men for resources. In his book *The Wilderness Hunter*, Roosevelt engaged in particularly anthropomorphic language, representing cougars (pumas) “as ferocious and bloodthirsty

as they are cowardly,” with a “desire for bloodshed which they lack the courage to realize” (1903, 344; see also Johnston 2002). Wolves and other predators do not fare much better in his assessment; in fact, wolves were designated as something even worse as “beasts of waste and desolation” (1903, 386).

At the turn of the century, Roosevelt waged a very public war against sentimentalism and romantic representations of nature exemplified by popular literature published by authors like Ernest Thompson Seton. Roosevelt was angered over the liberties taken in the representation of animal behavior (typically attributing these animals individual senses of morality, loyalty and other admirable human qualities) that Seton asserted were written from direct observation of the animals (Anderson 2013). Roosevelt rejected this idea of individualized, intelligent, humanized animals presented by these so-called “nature fakers,” fearing that this would lead to the dismissal of natural history as a scientific discipline. Anderson points out that all parties likely benefitted and lost in this exchange, as “the result was a series of savage back-and-forth denunciations and rebuttals that probably did little to hurt sales, but doubtlessly damaged the overall perception of natural history within the academic community” (Anderson 2013, 242). While Roosevelt was certainly not a sentimentalist, he indulged in a different sort of anthropomorphism, attributing to predatory animals a different set of emotional lives. While Seton and other nature writers attempted to cultivate sympathy with their quasi-realistic animals, Roosevelt’s legacy continued to attribute a second set of human characteristics that were just as misleading and arguably more harmful to the animal subject.

Roosevelt's perspective on predators evolved later in his career, particularly after observing the effects of elk overpopulation in Yellowstone following aggressive predator control measures on pumas and wolves in the park (Johnston 2002). With the reduction of predators, elk populations increased rapidly to the point where the landscape could no longer sustain them and the animals died from starvation. Borne of a concern for these game populations, Roosevelt began to recognize the role predators played in maintaining the health of these animals. In 1908, Roosevelt ordered a moratorium on lethal control of cougars in the park, writing to the park Superintendent,

I do not think any more cougars should be killed in the park. Game is abundant. [...] It may be advisable, in case the ranks of deer and antelope right around the Springs should be too heavily killed out, to kill some cougars there, but in the rest of the park I certainly would not kill any of them. On the contrary, they ought to be let alone (1908; see Johnston 2002).

However, these measures were started again six years later, when predator control was formally authorized by U.S. Congress (Johnston 2002). Roosevelt's recognition of the ecological role of predators was ahead of its time, and not at all in keeping with the ethos of land management in the United States. The public discourse remained deeply entrenched in the idea of predators as evil and unnatural, evidenced by the National Park Service Director's Horace Albright statement in 1928 that, "the rangers have grown to love all wild life except those predatory species which they so often observe destroying young antelope, deer, or elk. Aside from those outlawed animals, a national park ranger is never known to kill a native animal or bird of the park, or to express a desire to kill" (1928, 15; see also Johnston 2002). This rhetoric left predators completely vilified for

their carnivorous natures, placed outside moral, ethical, and legal circles of concern and rendering them simultaneously out of place on the landscape or within a sense of natural order.

Even after leaving office, Roosevelt remained a dominant figure in environmental discourse. Following a highly publicized safari in Africa in 1909-1910, he set off in 1913 on his last great expedition, which brought him to the Amazon and into encounters with jaguars. Much like on his trip to Africa, Roosevelt was accompanied by naturalists from the nation's premier museums. He characterized the journey in his first person account, *Through the Brazilian Wilderness* (1914), as "an account of a zoo-geographic reconnaissance through the Brazilian hinterland" (ii), "not intended as a hunting-trip but as a scientific expedition" (27). Roosevelt maintained his deep alliances with public museums like the Smithsonian Institution and the American Museum of Natural History throughout his life, reinforcing the significance of these spaces as places central to the simultaneous construction and enactment of the entwined discourses of nature and of American national identity. Like their menagerie cousins, natural history museums remained spaces where artifacts were situated and displayed in multilayered material expressions of American reach and domination. Roosevelt's very public acquisition (killing) of specimens like the African elephant prominently displayed in the center of the Smithsonian's Natural History Museum's central hall represented larger-than-life trophies attesting to American masculinity, control over nature, and an emerging geopolitical reach.

Much like Humboldt and Darwin's narratives, Roosevelt's *Brazilian Wilderness* is prowled by jaguars. Roosevelt deliberately sought jaguar trophies, having in the past bemoaned that this was one of the only species inhabiting parts of North America that he had not "had the good luck to kill" (1903, 448). Mounted aboard "shabby little horses" and accompanied by hounds, Roosevelt and his son Kermit embarked on a jaguar hunting excursion, resulting in the death of two jaguars (1914, 80) (Image 7.1, 7.2). The deaths of these cats were justified and celebrated in Roosevelt's text, as both were "well known" killers of livestock. The pelts from these cats were taken and displayed as trophies, reinforcing an anthropocentric view that these predators who caused trouble for ranchers did not belong in that place, and that the only spaces they were of value would be within a collection of dead animals displayed for entertainment. This hunting account further romanticized the killing of these animals amongst the American public, and Richard Mahler observes, "Inflamed a growing passion among the wealthy for jaguar hunts" in Mexico and the Amazon (2009, 127).

While Roosevelt's account included valuable observations of jaguar behavior, (most notably the observation that jaguar predation on livestock in Brazil was directly related to the availability of wild prey), his enduring legacy re-established the jaguar as a fierce, blood thirsty beast in the minds of his eager reading public (Mahler 2009). While Roosevelt had abandoned the more overtly anthropomorphic, anti-predator rhetoric late in his life, the narratives he conveyed remain true to this spirit. Roosevelt's narrative reinforced the popular idea that jaguars are wanton man-eaters, something largely discredited in the scientific literature prior to this by Buffon (in the *Supplément*),

Humboldt, and Darwin. Roosevelt observed in *Brazilian Wilderness*, “The jaguar, however, has long been known not only to be a dangerous foe when itself attacked, but also now and then to become a man-eater. Therefore the instances of such attacks furnished me are of merely corroborative value” (32). Roosevelt retells second- and third-hand accounts of “savage” jaguars with “career[s] as man-eater[s]” (32). He included narratives that stirred a chilling sense of fear within his readership of jaguars prowling in search of human prey:

On several occasions a jaguar came into camp after this dried beef. Finally they succeeded in protecting it so that he could not reach it. The result, however, was disastrous. On the next occasion that he visited camp, at midnight, he seized a man. Everybody was asleep at the time, and the jaguar came in so noiselessly as to elude the vigilance of the dogs. As he seized the man, the latter gave one yell, but the next moment was killed, the jaguar driving his fangs through the man's skull into the brain. There was a scene of uproar and confusion, and the jaguar was forced to drop his prey and flee into the woods.

The only features of note about these two incidents was that in each case the man-eater was a powerful animal in the prime of life; whereas it frequently happens that the jaguars that turn man-eaters are old animals, and have become too inactive or too feeble to catch their ordinary prey (1914, 33).

In this way, Roosevelt’s environmental legacy is complex and difficult to characterize. While he introduced and advanced rhetorics of conservation in the United States, certain species including predators remained mischaracterized and marginalized by these emerging ethics. Roosevelt’s representation of jaguars in Brazil is similarly fraught, locating their depredation of livestock within larger ecological shifts that altered traditional prey bases. At the same time, Roosevelt’s indulgence in drama cultivated fear



Image 7.1: Theodore Roosevelt and his jaguar trophy. Photo by Kermit Roosevelt.



Image 7.2: Roosevelt hunting party and jaguar trophy. Photo by Kermit Roosevelt.

of large mammalian predators, which fueled continued destruction of these animals through formal (government sponsored) and informal channels. In his narrative, jaguars remain monsters, whose only value was tied to the location of their dead bodies in the halls of museums and trophy rooms. Ernest Thompson Seton and Aldo Leopold would first encounter nature in this regard, both men killing predators as part of their early careers. However, for Seton and Leopold, encountering the moment of death would not be a moment of celebration and victory; rather, it was a moment of profound loss that led to an evolution in the ways in which they each interacted with and understood nature. These evolutions would have immense impact on the place of predators within American environmental discourse, opening new conceptual space for the place and value of these animals.

The Author-Conservationist: Ernest Thompson Seton and Sentimentalized Nature

Ernest Thompson Seton was a best-selling author in the United States and Canada at the turn of the twentieth century whose fictional stories of animals captured the popular imagination. Seton had traveled extensively and at one time worked as a wolf hunter, killing wolves that caused problems for ranchers. However, his encounter with one wolf, Lobo, forever altered his perspective on wild animals. Later recounting this tale in the immensely popular *Wild Animals I Have Known* (1898), Seton became a sympathetic champion for animals writing highly anthropomorphized tales drawn from his direct experience with nature. “These stories are true,” Seton stated in his introduction to the *Wild Animals*, “They lived the lives I have depicted, and showed the stamp of heroism

and personality more strongly by far than it has been in the power of my pen to tell” (1898, 9). Seton felt that one of the greatest flaws in natural history was the erasure of individual animals as, “I believe that natural history has lost much by the vague general treatment that is so common,” basing his stories on the tales of animals’ humanized “personal histories” (1898, 9).⁷² This sentimental, nostalgic literary style sparked an entire genre that was wildly popular amongst children and adults. Given its widespread popularity, this genre quickly became the focus of great ire from naturalists and men like Theodore Roosevelt, who felt that these representations were false, misleading, and damaging to the credibility of natural history. While Seton’s work most certainly involved the projection of human emotions, values, and intents onto the actions of animals, it had a value in its own right. Seton was amongst the first to engage in this new sort of anthropomorphism that countered the older rhetoric with which that Roosevelt himself had engaged. Rather than reading cruelty and bloodthirstiness into the actions of predators, Seton saw acts of intelligence, cunning, loyalty and even love. After thousands of years of anthropomorphic projections casting predators as cruel villainous murders, a dose of compassion was perhaps not the worst crime perpetrated against these animals.

Seton’s moment of ecological awakening took place in the mountains of New Mexico in 1894, in a series of events that was remarkably similar to Aldo Leopold’s experience three decades later. Hired to hunt a particularly elusive wolf known to local

⁷² Seton acknowledges that some of his animal characters are “composites,” but argues that these characteristics and events remain those from the lives of individuals, and not just a broad statement about the species in general.

ranchers as “Lobo,” Seton related with admiration the tale of the crafty wolf who again and again foiled his attempts to capture and kill it, displaying “diabolic cunning” (1898, 35) and intelligence, his “sagacity seemed never at fault” (1898, 40). Eventually, Seton trapped Lobo’s mate, a white wolf they name “Blanca.” Seton and his colleagues killed her brutally, an event Seton recounted later as an “inevitable tragedy, the idea of which I shrank from afterward more than at the time” (1898, 46). Using her scent to lure Lobo, Seton captures the wolf, coming face to face with him. The wolf leaves an indelible impression, as “His eyes glared green with hate and fury” (1898, 50). Instead of killing Lobo, Seton restrained him and held him captive overnight in the camp. The next morning, Lobo was dead, broken in heart and spirit. For Seton, this was a watershed moment, as he saw both the “truth about animals,” and the devastating hand of man (Witt 2010). Lobo was an outlaw, but possessed a sense of honor and an enduring dedication to his mate. Seton came to believe that animals possessed their own internal emotional lives, intelligences, allegiances, and loyalties, which he attempted to characterize through anthropomorphic language. Equally as evident to Seton was the destruction caused by man, and the violence “guns in the hands of men and boys” brought to nature. These themes would underlie Seton’s work both in fiction and nonfiction, marking a significant, public shift away from anthropocentrism, and suggesting that animals themselves had a sense of belonging to the lands they inhabited. No longer were these animals out of place, they were in a space that was rapidly shifting under the tides of human progress. Simultaneously, Seton established a new, sentimentalized anthropomorphism that located

within animals once excluded, and in so doing, acknowledged that the value of these animal lives might exist outside of anthropocentric systems of value.

The development of his personal ethic of conservation was as much a life-long process for Seton as it had been for Theodore Roosevelt, and as it would be for Aldo Leopold. For Seton, it was a second animal death, this one of a cat (not a jaguar, but a lynx) by his hand years later that crystalized his commitment to species conservation (Witt 2010). In 1907, while traveling through Canada, Seton spotted a lynx, retrieved his rifle, and shot it. In the *Lives of Game Animals*, he recounts the moment:

It sounds all right and clear, but to this day I cannot forget the kitten-like wonder of those big, mild eyes, turned on me as I fired. He fell without a sound, and when I came up, he still gazed without a moan, without a sign of resentment, with nothing but pained surprise, which my conscious translated into: “So this is your love of the wild things” (1929).

This passage would later be mirrored in Aldo Leopold’s famous “Green Fire” passage in 1949, and the spirit of it remains haunting. Seton biographer David L. Witt remarked on the significance of these two animal deaths in Seton’s trajectory, as “Seton had at last fully internalized the meaning of Lobo’s death. [...] he dedicated himself almost fully to the cause of wildlife conservation” (2010, 88).

Despite Seton’s popularity as a novelist, it is his nonfiction work that has been his enduring legacy within the field of conservation. The *Lives of Game Animals*, published in four volumes from 1925 to 1929, was Seton’s first nonfiction work and it represented a turning point in his career. The volumes were well received within the scientific community, blending volumes of scientific data in Seton’s fluid prose. These volumes

represented a massive undertaking spanning nearly a decade, accounting for 3,115 pages and 1,500 drawings. Seton drew from his lifetime of material, notes, illustrations and experience to complete the volume. He provided detailed descriptions, but also “stories and histories, observations and speculations,” much in the spirit of Gesner and Buffon (Witt 2010, 90).

The jaguar occupied a place of prominence for Seton, and he began the first volume of *Lives of Game Animals* with an article on the species. Despite working in the American southwest killing wolves earlier in his career, Seton had not encountered a jaguar directly.⁷³ Rather, he utilized host of accounts and resources available to him, as well as his own observation of specimens (live and dead) at the American Museum of Natural History, the Smithsonian Institution, and the National Zoo in Washington D.C., simultaneously reaffirming museum and menagerie as sites of importance in the production of discourse. Drawing from respected sources in natural history including Linnaeus, Humboldt, and Audubon and Bachman, Seton also utilized contemporary resources and sources not previously included in the natural history canon. This included tales of encounter and observations from natural history professionals at American museums (including George Cherrie, who accompanied Roosevelt to the Amazon, and jaguar hunter John Phillips, who procured numerous specimens for the American Museum of Natural History including a number of jaguars from Mexico), and hunters (notably, Theodore Roosevelt and George Capen “Grizzly” Adams). Drawing from this

⁷³ This is not surprising, as jaguars were already scarce in the southwest by the turn of the century.

diversity of sources, Seton's was a significant contribution to the scientific representation of jaguar bodies and behaviors. Richly detailed, much of the article was devoid of anthropomorphism, engaging in scientific rhetoric. The article carefully details various names attributed to the species, its physical appearance (including observations of individual specimen), discussion of regional variations in body type (what he terms "races"), detailed observations of paw prints (for tracking) (Image 7.3), diet (down to a detailed, and illustrated, analysis of scat)(Image 7.4), hunting behavior, mating behavior, vocalization, habitat, population numbers and distribution, a range map (the first of its kind, with a high degree of accuracy) (Image 7.5), and detailed notes on jaguar observations in California, Arizona, New Mexico, Texas, and Colorado, from which Seton concluded "It is now nearly extinct as a resident within our limits" (1925, 7).

The final sections of the jaguar article adopted a noticeably different tone. Seton segued into a section concerning "Attacks on Mankind," where he posed the question, "To what extent does the superb King-cat commit the crime of crimes, that is, attack mankind?" Seton segued directly into Roosevelt's account in Brazil, followed by "The Murderous Jaguar of Santa Fe," related an account of a jaguar attack in a Catholic church originally reported by Darwin and often repeated, owing largely to the dramatic images the story invoked. The language of Seton's sources was noticeably anthropomorphic in his own characterizations of the "superb King-cat." Subsequent sections, "Curiosity" and "Playfulness," revealed Seton's trademark sentimental anthropomorphism. Seton incorporated text from Humboldt describing an account of a jaguar playing with two

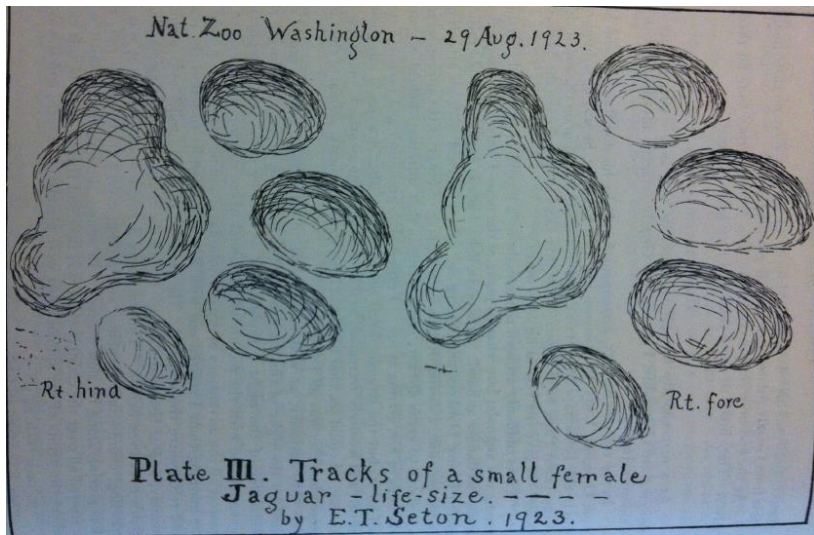


Image 7.3: Seton's drawing of jaguar tracks. Image: *Lives of Game Animals* (1925).

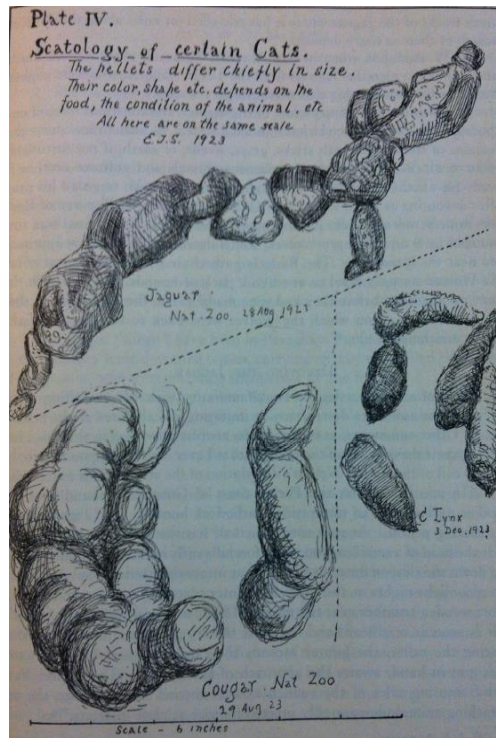


Image 7.4: Seton's drawing of cat scat. Image: *Lives of Game Animals* (1925).

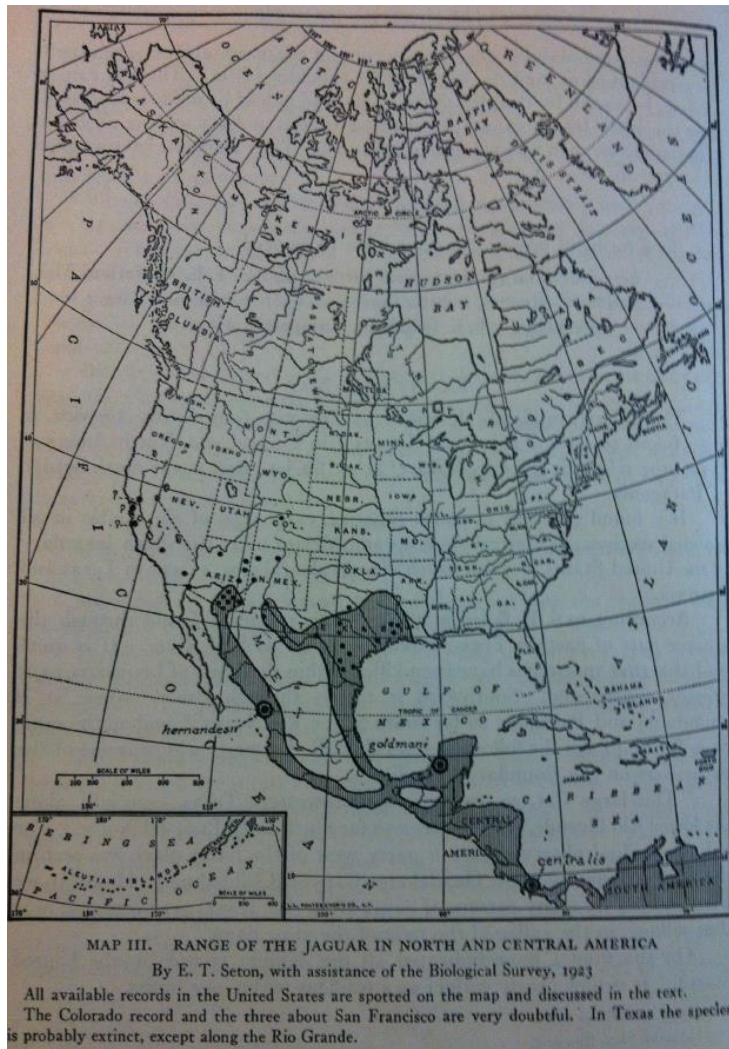


Image 7.5: Seton’s map, “Range of the Jaguar in North and Central America.” Image: *Lives of Game Animals* (1925).

children without attempting to kill them, referring to the cat as “highly intelligent” and “moved by laudable curiosity” (1925, 29). Seton concluded,

Had Humboldt been equipped with the fuller information that is presented in the Cougar chapter of this work, he would have been led much further in this recognition of the animal’s human side. He would doubtless have concluded,

as do most modern naturalists, that these, our wild brethren, have the same faculties and emotions as we do. Sweeping generalizations are useful chiefly in emphasizing the wonderful and variant individuality of these animals (1925, 31).⁷⁴

For Seton, these animal's internal emotional lives and social structures were as rich as that of humans, and a necessary aspect to understanding the unpredictable behavior of these cats. Seton ends with a final section on the jaguar, "Enemies," stating:

Man is, of course, the implacable enemy of the Jaguar. It is only a question of time now, and maybe very little time, so far as the United States is concerned, before man sends this masterpiece of creation the way of the Dodo, the Auk, the Antelope, and the Sea-cow. One cannot reasonably object, and yet all naturalists regret the ever-widening trail of the exterminator (1925, 31-32).

Seton completely reversed the rhetoric of natural history. Whereas before, predators were exterminators who destroyed prey, Seton repurposed the terminology to characterize human interaction with other animals. He asserted the humanity of animals and the inhumanity of humans (Witt 2010).

Seton also incorporated a number of illustrations of the jaguar, and was among the first to incorporate photographs within a natural history volume. He included images of a captive jaguar at the National Zoo (Image 7.6), as well as included what was believed to be the first photograph of a live jaguar, taken by John M. Phillips in Mexico in 1910 of a jaguar known as "Old One Fang" (Image 7.7) Along with these photographs, he included his own drawings. While the photographs were intended to give a true-to-life rendering,

⁷⁴ The cougar article which Seton references discusses the love and loyalty demonstrated by male and female cougars toward their offspring.

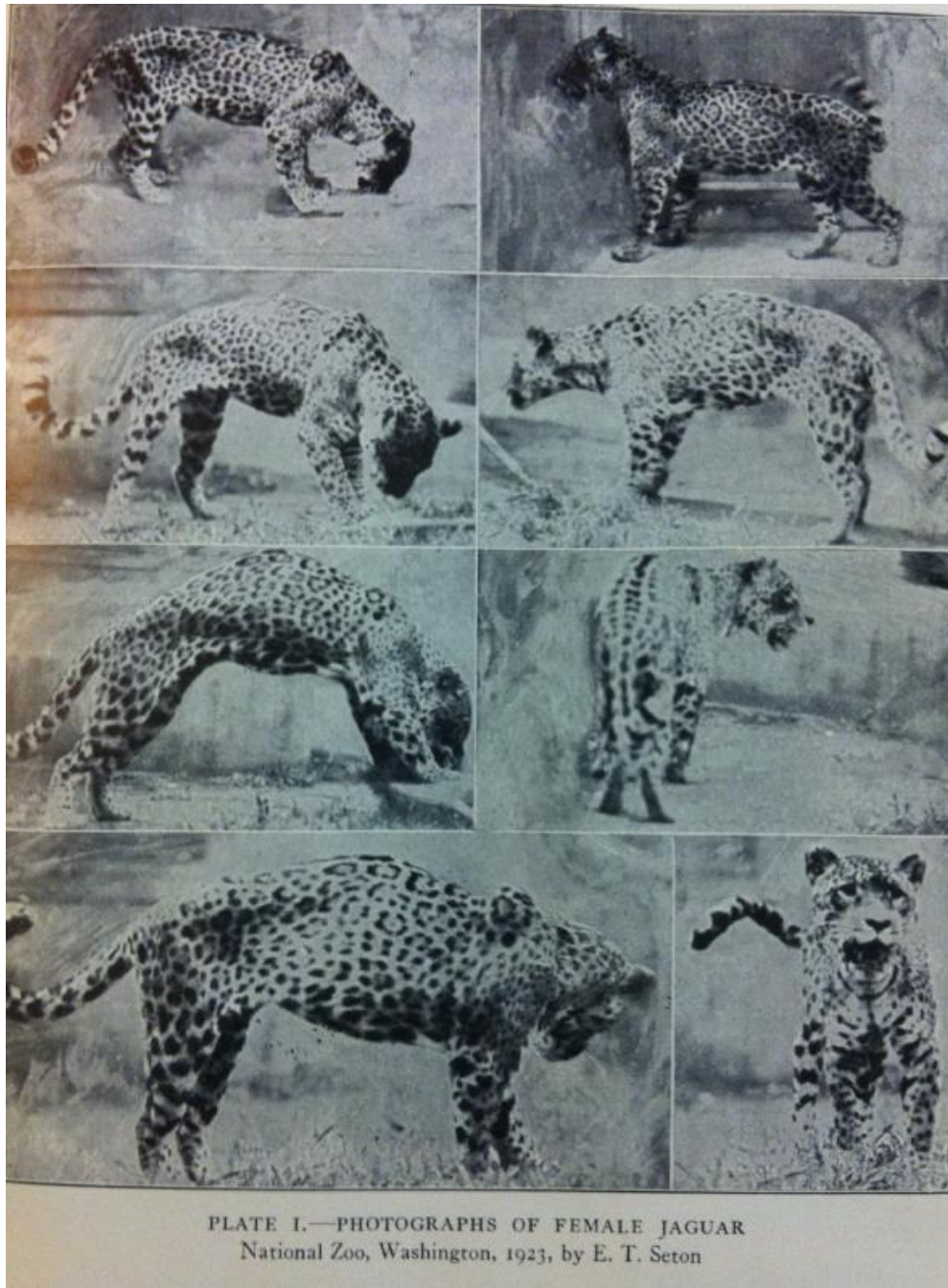


PLATE I.—PHOTOGRAPHS OF FEMALE JAGUAR
National Zoo, Washington, 1923, by E. T. Seton

Image 7.6: These photographs of a jaguar in Washington, D.C. at the National Zoo were amongst the first published in the field of natural history. Image: *Lives of Game Animals* (1925).

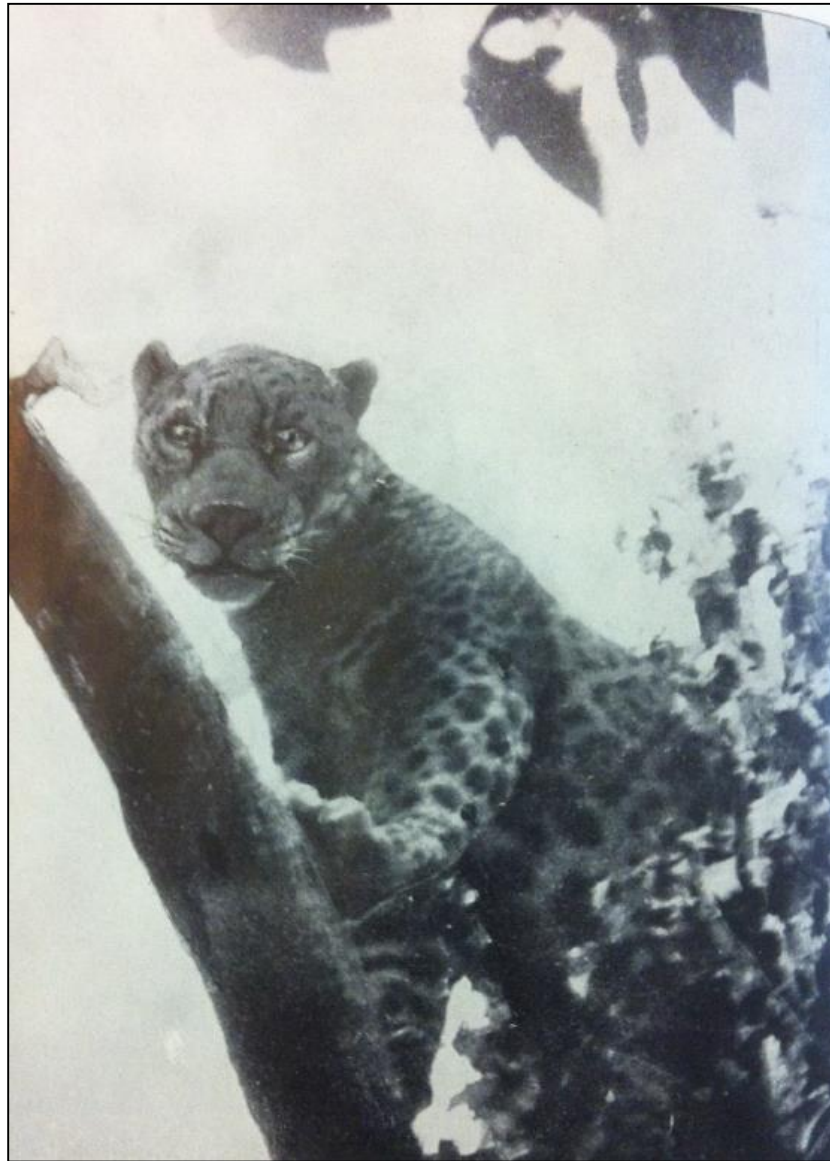


Image 7.7: John Phillip's 1910 photograph of "Old One Fang," is believed to be the first photograph of a live jaguar. Image: *Lives of Game Animals* (1925).

they left room for Seton's drawings to be less representational and more symbolic. His illustrations were unusual for natural history, and intended to "show the animal for its character" (Witt 2010, 90). Witt notes that "Seton accomplished something remarkable and daring in these drawings. His animals often wear expressions of joy or triumph" (2010, 90). These representations were infused with a sense of hope that did not translate to Seton's text (2010). While he was concerned with the destructions of animals by humans, in his images, these animals overcoming seemingly impossible odds in order to live (Witt 2010). Seton's representations of the jaguar are noble and calm. Surrounded by imagery evoking the southwest, in "The Spirit of the Jaguar" the cat calmly rests, a crown upon its head and surrounded by symbolism of the southwest (Image 7.8). In the second illustration, "Crossing the Divide," the jaguar looks back over its shoulder, a smile upon its face and a crown upon its head, as it moves across the Rio Grande, south, away from the American persecution (Image 7.9). These jaguars are not bloodthirsty killers, caught in a moment of thrilling, forbidden predation, or displayed as trophies. These cats possess their own internal lives and agency, outside of an anthropocentric framework.

Seton's nonfiction work had an enduring legacy, representing the most comprehensive descriptions of North American species of its time. Biographer Witt noted that, "With the publication of *Lives of Game Animals* Seton became a poet for conservation" (2010, 90). Embedded within these descriptions were of Seton's own



Image 7.8: Seton's "The Spirit of the Jaguar." Image: *Lives of Game Animals* (1925).



Image 7.9: Seton's "Crossing the Divide." Image: *Lives of Game Animals* (1925).

sentimentalized perspectives on animal life in America. These animals, particularly predators, were misunderstood and mischaracterized, and Seton wrote to incorporate his perspective into the natural history canon. Through his use of sentimental anthropomorphism, Seton attempted to destabilize taken-for-granted anthropocentric perspectives that had underlain the entire project of natural history since its inception. Seton's attempt to recast animals as sympathetic and empathetic figures who possessed their own realities and individual lives marked the beginning of an inclusive, non-anthropocentric environmental ethos that recognized the negative impacts a human-oriented perspective continued to reinforce on the landscape.

The Conservationist-Ethicist: Aldo Leopold and Ghostly Jaguars

This chapter ends with a man who looked for jaguars in the northern part of their range in the mid-twentieth century, never finding them and knowing they were all but gone. Aldo Leopold wrote one of the most stirring, poetic passages about jaguars in the naturalist literature. This passage told of loss and of change, as landscapes were rapidly transformed by humans leaving no space for the wild animals that had once roamed.

By the 1930s, many of the environmental problems Roosevelt and Seton predicted had come to fruition (Mighetto 1991). In addition to the catastrophic failure of land management schemes resulting in the Dust Bowl, the 1930s also witnessed the outcomes of ill-advised predator control programs resulting in prey species population crashes, degraded landscapes, and localized predator extinctions. By this time, Leopold had emerged as the nation's leading expert in wildlife management. For Leopold, the failure

of anthropocentric systems of environmental protection and management were evident. Rather than managing lands under systems established by Roosevelt to protect game species for human sport, Leopold saw the need to protect the diversity and function of entire ecosystems (Meine 2010).

Much like Roosevelt and Seton before him, Leopold's position on humanity's place and role within natural systems continued to evolve throughout his career. Leopold also began his career killing predators. From 1909-1924, Leopold was employed by the U.S. Forest Service, where he was tasked with killing predators like wolves and jaguars in Arizona and New Mexico. These predator control programs were intended to protect ungulates in regional game reserves, and to protect cattle rancher's stock in the region. Like Seton, Leopold encountered the fierce green gaze of a wolf he was hired to kill on the Kaibab Plateau of northern Arizona. Leopold wrote his seminal essay "Thinking Like a Mountain" reflecting upon the task of predator management, and what it meant for wildlife and wild places:

We reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that there was something new to me in those eyes—something known only to her and the mountain. I was young then, and full of trigger-itch; I thought that because fewer wolves meant more deer, that no wolves would mean hunters' paradise. But seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view (1949, 138-139).

Leopold realized that the problems facing ungulates in this region could be connected directly to the elimination of predators (Meine 2010). Without predators, the Kaibab deer population exploded, overgrazing and destroying the landscape. Leopold began to turn

away from predator elimination as a wildlife management strategy and to rethink the environment on an entirely different scale and dimension. Over time, he developed a perspective that was holistic and biocentric, emphasizing the interconnected nature of all dimensions of a landscape, both flora and fauna. This inclusive approach, foundational to the field of ecology, assigned value to animal species within an entirely different frame of reference. An animal's place and value became deeply intertwined with their function in natural systems, rather than direct or indirect service to humans.

For Leopold, this perspective required the cultivation of a new ethic among humans, predicated upon their recognition of the interconnectedness of these systems and the need for protection of systems in their own right, not because of their service to humanity. Leopold recognized this anthropocentrism as an underlying problem throughout natural history. Rather than developing programs focused on the conservation of "resources," Leopold argues for the cultivation of a "land ethic," where humans were one member of a broader ecological community. As such, people would have to embrace an ecologic consciousness within a web of systems, and abandon the idea that nature served human purposes and was best controlled by human hands (Mighetto 1991). His essay, "Thinking Like a Mountain" spoke precisely to this point, "assuming a broader viewpoint than merely the human" (Mighetto 1991, 103). This fundamental decentering of the human was revolutionary.

Leopold only mentioned jaguars once in his writing. The short passage included in Leopold's essay "The Green Lagoons" was written on a three week trip to the Colorado River delta with his brother, Carl:

We saw neither hide nor hair of him, but his personality pervaded the wilderness; no living beast forgot his potential presence, for the price of unwariness was death. No deer rounded a bush, or stopped to nibble pods under a mesquite tree, without a premonitory sniff for el tigre. No campfire died without talk of him. No dog curled up for the night, save at his master's feet; he needed no telling that the king of cats still ruled the night; that those massive paws could fell an ox, those teeth shear off bones like a guillotine. By this time the Delta has probably been made safe for cows, and forever dull for adventuring hunters (1949).

Leopold explicitly connected the jaguar as a symbol of the rapidly disappearing wilderness and humanity's connection to the wild. This passage evokes many of the images, both the real and imagined, associated with the jaguar. In these narratives, the jaguar is not present, and yet the idea of the fierce man-eater remained a provocative image that "pervades" the landscape. Leopold captures the lived reality and collective imaginings of wilderness as they mingle together in the form of the spotted cat, *el tigre*. The jaguar becomes that missing link, that reminder that humans are, ultimately, a part of the ecosystems in which they inhabit and participate.

This narrative ends with Aldo Leopold. In many ways, Leopold stood upon the shoulders of the men who had come before him. He inherited myth and reality equally, but he also inherited a new perspective, made accessible by those who came before. From his vantage, Leopold could survey the landscape and see the totality and interconnectedness of all that lay before him. Leopold represented a moment of transition in the mid-twentieth century, both for broader discourse of conservation in American society, as well as for jaguars specifically. These shifts were profound, marking the decentering of human need as the primary and singular concern for the

landscape and its wild inhabitants. Certainly, men before Leopold had made similar public appeals at the start of the 20th century for the inherent value of nature “for nature’s sake.” Leopold’s appointment as Professor of Game Management in the Agricultural Economics Department at the University of Wisconsin–Madison, the first professorship of wildlife management in the United States, also afforded Leopold the opportunity to influence, create, and legitimize new discourses of conservation, ethic, and care. However, for the jaguar, these shift in the public perception of predators, symbolized in Leopold’s personal journey, were perhaps too late. While Leopold’s land ethic introduced new discursive constructs for locating the place and value of a species well outside of anthropocentric want and need, the jaguar was simultaneously retreating south of the border, its range retracting as a result of human population pressures, habitat alteration, and persecution. Aldo Leopold’s poetic tribute to the jaguar represented nearly four hundred and fifty years of encounter between these cats and the men who originally arrived from Europe. In that time, Europeans and Americans attempted to corral the cat, assigning it place and value. However, jaguars continued to slip these bonds, forcing them to re-evaluate what constituted jaguars, jaguar places, and jaguar values. While forever altered, the jaguar’s story was not finished. Not only did the cat remain entrenched in other parts of its range, but it would be seen again along the U.S.-Mexico border years in the future.

CONCLUSION

The early- to mid-twentieth century witnessed an evolution in the ways in which predator species like jaguars were collectively imagined, placed, and valued in Western discourse. While these species were “known” to be cruel, cunning, and murderous, careful observation of the lives and deaths of predators, prey, and landscapes suggested something different. Located within a period of broader shifts in perspective with regards to the environment, Roosevelt, Seton, and Leopold’s personal evolutions each reflect similar trajectories reevaluating the social constructs of place and value wherein predators were located. Careful ecological observation destabilized anthropocentric perspectives, suggesting that perhaps there was more to the lives of animals than to fulfill human need. In large part, this reflected a growing recognition for the place of these animals in the landscape as a necessary part of functioning ecosystems. This paradigm shift that allowed for the creation of new conceptual spaces, engendering discourses concerned with the ethical dimensions of human interactions with the environment and challenging the ways in which scientific knowledge is created, consumed, and enshrined within Western society.

What has been written
will be fulfilled.

Though you may not comprehend it
though you may not understand it
he will come who knows
how the ages unfold
one unto another
like the stone steps
on the palace of the governor.

For now
The priests, the prophets
will interpret
what is to be fulfilled,
shall herald with sorrow
the destruction of the jaguar.

Chilam Balam, *Ah Kaul Chel Speaks*, late fifteenth century

Chapter 8: Epilogue

I end this dissertation as I began, with a personal reflection on jaguar life and jaguar death. The year 2009 was a difficult year, but also a formational year for this dissertation research project. In March of that year Arizona's "resident" jaguar, named Macho B, was killed by those who were tasked with protecting him. His death was inadvertent, but avoidable. Lured into a humane trap by biologists who did not have the authority to take this action, he was examined, collared, and released (Image 8.1). He died a week later, largely from the effects of the stress associated with his capture.

In his life, Macho B came to represent wilderness and the promise of renewal to many people. The cat had a very public following who embraced the idea of this "American" jaguar returning to the northernmost portions of its historic range. His tenure

was documented by nearly fourteen years of confirmed observations in Arizona. However, little was known about the cat, as he lived the cryptic life typical of his species.

The period following Macho B's death was filled with blame and confusion. Certainly, mistakes were made and human egos overruled sound judgment, leading to the cat's demise. Many people, myself included, mourned for this cat who had suffered in his last days owing to the acts of men. However, I realized that I did not want this story of death, failure, and blame to be the core of my project. I did not want this to be my contribution or Macho B's legacy. I knew I had to move in a new direction, and so I turned to the archive and began an entirely new journey in search of the histories that still inform human-jaguar interactions today.



Image 8.1: Jaguar “Macho B,” Arizona, 2009. Image: Arizona Game and Fish Department.

Even a brief glimpse into Western discursive representations of jaguars since Contact reveals a dynamic, complex, conflicting, and contested set of narratives and images. These scientific accounts and artistic renderings demonstrate the multiple ways in which humans sought to understand a particular species. Certainly, they also demonstrate the “messiness” of knowledge construction about an animal species, particularly a wild, rare, and cryptic species. Within the discursive spaces occupied by these cats, a limited corpus of representations have results of disproportionate impact, as these few observations and narratives of encounter have to speak for the entirety of the species.

This dissertation concluded its narrative in the mid-twentieth century, at a time that marked a number of significant changes for jaguars and humans. Roosevelt, Seton, and Leopold’s individual evolutions in ecological perspective through their respective lifetimes signified a broader shift in Western society that opened the conceptual space for a new ethic that destabilized long held anthropocentrist frames. Ironically, as discourses of conservation were making room for these cats, they were being pushed from the landscape by human incursions into jaguar occupied territories.

What does this history of scientific representations tell us about our current conservation paradigms? What does the story of jaguar past mean for contemporary cats? The broad themes examined within this dissertation remain entirely relevant today. Reading across a human-jaguar history spanning approximately four hundred years, a number of themes emerge that remain entirely relevant:

1. We still do not know all that much about jaguars;

2. As Humboldt and Darwin demonstrated, extensive fieldwork and careful observation are essential and crucial to the evolution of scientific knowledge;
3. Scientific knowledge is not objective, nor is it omnipotent;
4. The production of scientific knowledge is dynamic and contingent upon systems of funding and knowledge circulation;
5. The place and value of a species are intertwined, dynamic constructions that are deeply enmeshed and informed by scientific, economic, political, cultural, and social contexts,
6. If there is a chance we can affect positive change for jaguar populations, we must find places for jaguars on the landscape and in our circle of concern; and
7. Anthropomorphism and sentiment are worth revisiting in the evolution of a new ethic.

My intent here is to briefly examine the ways in which these historical lessons can directly inform the current directions and trends within broader jaguar discourses.

From confusion regarding its name, physical description, and area of residence to the inflammatory and likely fictionalized narratives concerning its behavior, jaguars were difficult cats to know. This legacy endures, with many issues surrounding the species' range, genetic classification, and legal status contested and debated. The cats present their own set of challenges to those who seek to know them, as Archie Carr noted in 1953, "More ever, they often show a stubborn tendency to keep out of sight that has brought bitter frustration to many a zoologist. The cats—ocelot, puma, and jaguar—are masters of eluding observation... Elsewhere, I have been told of the jaguar that walked, unseen as a ghost, for miles between me and the next man only a few minutes ahead of me on the trail" (Carr 1953, 27-28). To be sure, the jaguar is one of the most rare, cryptic mammalian mega fauna species, with no interest in being found and observed by humans.

Nearly any scientist who incorporates wild jaguars in their research will confirm that these cats are relatively understudied. Given these constraints it is rather evident

that, as Humboldt and Darwin demonstrated so effectively through their own research, field work and careful observation are essential to the advancement of jaguar knowledge. While the jaguar's cryptic nature presents a number of challenges for study, technologies like satellite imagery, GPS collaring, remote camera traps, and DNA snags provide insight into the lives of these cats (Image 8.2).



Image 8.2: An image of a jaguar taken with a remote camera. Image: Emil McCain.

Certainly, a survey of the history of natural history confirms that scientific knowledge is dynamic. An accepted truth in one age or society will not be such for another, as science is discursive, evolving through space and time. In contemporary western society, scientific representations are privileged over other discursive forms, while they are, as geographer Michael Woods notes, “presented as a panacea which overcomes the problems of bias inherent to other forms of representation and provides

objective, factual, information from which rational judgments may be made” (Woods 2000, 194). However, Woods argues, this becomes especially problematic for debates regarding the status of wildlife when “appropriate scientific knowledge does not exist,” as with the jaguars in the borderlands (194; see also McCain and Childs 2008).

In many ways, “objective” scientific opinions about the status of a species are very much subjective (Barry and Oelschlaeger 1996; Woods 2001; Nielsen et al. 2001; Rykiel 2001; Wallington and Moore 2005). Haraway contests the very notion of scientific objectivity, asserting that “detached passive neutrality” in scientific accounts cannot be produced (1991, 183). Instead, the ways in which scientists approach their study subject, their methods, the ways they interpret their results, and the recommendations they make based on their results are all informed by complex interplays between the social positions the scientists occupy, including their gender, race, and class, as well as specific niches they may occupy, or aspire to occupy, within their profession or discipline (Haraway 1991; Barry and Oelschlaeger 1996). Haraway notes, “Objectivity turns out to be about particular and specific embodiment, and definitely not about the false vision promising transcendence of all limits and responsibility” (1991, 183). Rather, scientific observations are “highly specific... each with a wonderfully detailed active, partial way of organizing the world” (Haraway 1991, 184; Kuhn 1970; Haraway 1988). Thus, Thomas Kuhn observes, “When scientists must choose between competing theories, two men fully committed to the same list of criteria for choice may nevertheless reach different conclusions” (1970, 322). Value judgments and policy recommendations made in the name of scientific objectivity concerning the viability or importance of

wildlife populations are derived from personal perspectives, motivations, and deeply situated knowledges—be they transparent or opaque, deliberate or subconscious (Nielsen et al. 2001; Haraway 1991). Haraway concurs, “from this point of view, science... is rhetoric, a series of efforts to persuade relevant social actors that one's manufactured knowledge is a route to a desired form of very objective power” (1988, 578). Barry and Oelschlaeger (1996) argue that “a self-reflective account of the human factors and cultural circumstances that frame science place it on a realistic footing. So framed, we can acknowledge conservation biology as a social enterprise to conserve life on earth” (Barry and Oelschlaeger 1996, 908). Knowledge production through scientific processes, including jaguar conservation discourses, must be understood as an inherently political project, bound to human motivations and located within a web of larger social, cultural, political and economic systems.

Academic or conservation professionals can attest to the complexities embedded within the circulations of capital (funding) and knowledge (publication) within contemporary systems. While the age of imperial research expeditions has passed, these global flows of capital and knowledge remain inherent to the project of science. Today, universities, government agencies, private granting institutions, and supranational non-governmental organizations contribute to intricate, intertwined circulations of funding and knowledge. These systems actively invest in the dynamic production of scientific knowledge, but also enforce their own agendas and goals, creating systems within which individual scientists must navigate to protect their own projects, careers, and reputations. It remains as important as it was in the age of Empire to locate these projects in terms of

sponsorship and publication in order to contextualize the ways in which their results locate and value species, landscapes, human communities, and the policy recommendations derived from these results.

A number of social, cultural, political, and economic factors intersect and intertwine to form “justified” reasons for (or against) the protection of an animal species. Operating on a number of scales from the individual to society-at-large, these deeply human senses of value and priority are very much specific to place and time (Creswell 1996; Lynn 1998; Whatmore 2002; Isenberg 2002). The fluid conceptions may not necessarily reflect the status or needs of these animals at a given time, but instead are influenced by notions regarding the place of nature and wildlife, as well as through a bombardment of discursive representations of wildlife. The importance of these representations should not be overlooked, as Andrew Isenberg argues, “our representations of wildlife are inescapably expressions of human values” (2002, 60). These discourses of animality pervade human society, shaping the ways in which humans structure their perceptions of wildlife species.

The place and value assigned to species (and even individuals within a species) are dynamic constructions that are deeply enmeshed in and informed by scientific, economic, political, cultural, and social contexts. Value may be identified in terms of anthropocentric needs and services (material, economic, social, cultural, political, aesthetic), it may be intrinsic (the value of the species itself and for itself, also biological contributions of genetic material to the species), or it may lie on a continuum where it benefits humans, landscapes and/or the species itself (for instance, the ecological value).

These are deeply contingent, and the perception of value is notoriously temporally and spatially variable.

Constructions of value form complex reciprocal relationships with constructions of place. Complex and multifaceted, place is laden not only with physical location but also conceptual position and it is deeply imbued with tropes of legitimacy and belonging. Consider the contested discourses surrounding the place of animals in evolution, the place of animals in human society, the place of wild animals, the place of charismatic species, or the place of predators. Outside of a social context, but still inherently bound to social constructs are understandings of the place of the species on a given landscape, within ecosystems, and within science and conservation.

Perhaps the most obvious, but most difficult lesson history teaches us is that we must find places for jaguars on the landscape and within our circle of concern for the survival of the species. On the landscape, a series of habitat protection measures emphasizing the creation of trans-boundary corridors connecting population cores holds promise for the future of jaguar populations, protecting individuals and ensuring the flow of genetic material between core areas. In order to secure this interconnected matrix of public and private lands, participation from local governments, citizens, and local businesses is essential. Securing this support throughout the range necessitates the continued evolution of an ethic that is inclusive of jaguars.

William Lynn's Geoethics provides a useful framework for examining the ways in which human constructs of ethics, morals, and values inform notions of species importance and "worth." It is through moral discourse, Lynn argues, that human

societies develop norms to serve as guidelines for evaluating and directing conduct toward animals and people, nature and society (1998). These ethical considerations resonate within a number of themes already touched upon in this paper, as Lynn asserts:

Geographic context is important, if implicit to recognizing and naming moral value. Moral values depend on the natural, social, spatial, and temporal circumstances of a particular case. The moral values identified by human valuers may therefore differ from place to place and time to time (even in the same place) (1998, 281).

Within the intersections of space and time, a number of factors (ecological, social, cultural, economic, and political) overlay one another to form larger geographical contexts within which individuals and groups locate their own interests, morals and values relative to an animal. Ethical answers to moral problems are not always evident or easily arrived at, particularly between human interests and those of nonhuman animals. Leopold (1949) and Lynn (1998) both sought to find ways to center the animal *alongside* the human. Through a sense of interwoven community, they hypothesize, humans are better positioned to identify common ground placing their interests alongside those of animals and the environment.

While the creation of a biocentric ethic creates conceptual space for these jaguars, ultimately, we must cultivate compassion to bring the species fully into the circle of concern. This compassion cannot indulge in hyper-sentimentalization. Rather, it is the internal, individual act of expanding the circle of concern. The cultivation of compassion is not easy, and the hardest to win over can be the scientific community. Emotional affect and sentiment run counter to the objective distance scientists attempt to cultivate.

Although science can never be truly objective, the project and processes of production do cultivate an air of abstracted distance. If anthropocentrism is a bad, anthropomorphism is even worse. I was deeply inculcated in this viewpoint, and I remain obviously critical and cautious of anthropomorphism in this dissertation. Certainly, the attribution of human emotions, intentions, and purposes to nonhuman animals is problematic, and can lead to deeply misinformed interpretations of animal action and animal life, which in turn can inform the ways in which animals are interacted with on the landscape.

However, it is evident that compassion is a necessary part of the future of conservation. It cannot be just cold science, because ultimately, these are humans and animals, sentient beings, with their own internal lives. One way of cultivating this compassion is through a new anthropomorphism. Certainly, this dissertation has demonstrated the problems associated with anthropomorphism: these representations obscured animals and their behaviors behind a guise of human motivation, leading to broad and troubling misinterpretations and misunderstandings. However, we cannot discredit anthropomorphism altogether, as this is the frame of reference most people in the Western world use to frame their experiences with animals. It is worth exploring what Chris Philo and Chris Wilbert have termed “the theoretical, political, and ethical gains which may result from permitting a *guarded* anthropomorphism.” Randall Lockwood (1989) and Marc Bekoff (2002) have advocated for a “constructive anthropomorphism,” as a way of “knowing” an animal that can promote perceived bonds and connections with animals that can garner sympathy to their plight and by extension, Bekoff argues, promote better management and stewardship practices. Constructive

anthropomorphism centers on human experience and imagination, as a person uses their own perspectives and subjectivities as a living, sentient being to suggest ideas about what it is “like” to be another being, grounding these observations within a context of biology, ecology, and evolutionary history of an animal, as well as its individual life history (Lockwood 1989, 49-50). This idea of context is central to human perspectives into animality, and Bekoff cautions about the danger of representation in divorcing animal from natural setting and nature, and consequently its animal-ness, in many anthropomorphic representations in popular culture (2002, 43). Bekoff expands upon this, “Using anthropomorphic language does not force us to discount the animal’s point of view. Anthropomorphism allows other animals’ behavior and emotions to be accessible to us” (2002, 48). Here, Bekoff argues for anthropomorphism as a self-reflexive method of inquiry that focuses attention where it might otherwise be ignored in the study of animal behavior. “It is essential that we instead try as hard as we can to answer the question, ‘What is it like to be a _____?’” (2002, 55). Rather than avoiding anthropomorphism, he argues it can be used as a tool in order to attempting to “mind animals” through human imagination. Seen in this manner, anthropomorphism characterizes the conceptual human-animal borderlands as liminal space, an in-between place where contexts overlap and new ways of thinking about and acting alongside animals may emerge.

Perhaps it should not be a surprise that the past is relevant and contains important lessons for the future. As I have detailed here, many of the problems that have challenged knowing jaguars continue to challenge us today. Production of new scientific

knowledge is important, but so is the need to recognize the broader impacts of that science on society, political policy, and ultimately, the landscape and individual jaguar lives. Contextualizing science as a human project opens it up, demystifies it, and allows for corrections of course. A parallel rhetoric of constructive anthropomorphism, and the cultivation of a new ethic of compassion can work alongside this, informing policy and the deployment of policies on human and jaguar occupied landscapes.

I end my tale here on a hopeful note. In 2011 and 2013, two different jaguars were photographed roaming through Macho B's old haunts in Arizona (Image 8.3 and 8.4). Subsequently, in March of 2014, the U.S. Fish and Wildlife Service also formally designated critical habitat for the jaguar in Arizona, noting:

We have determined that the essential physical or biological feature and the associated PCEs [primary constituent elements] essential for jaguar conservation are present in the United States. Critical habitat in the United States contributes to the jaguar's persistence and recovery across the species' entire range by providing small patches of habitat (perhaps in some cases with a few resident jaguars), and as areas for cyclic expansion and contraction of the nearest core area and breeding population in the proposed Northwestern Recovery Unit (USFW 2014, 12605).

The jaguar, it would seem, is not quite ready to leave the United States, and it appears that the United States might not quite ready to give up on the jaguar. These jaguar repatriations, coupled with the positive movement in endangered species policy, foster a moment of opportunity for these rare cats with potential benefit to the entire species throughout its range.

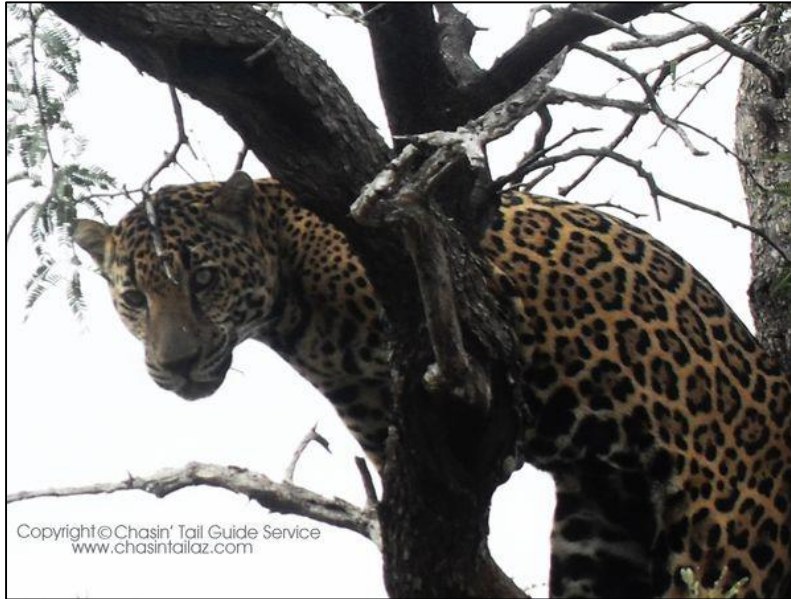


Image 8.3: Jaguar sighted in Arizona in 2011. Image: Chasin' Tail Guide Service.



Image 8.4: Jaguar captured on remote camera trap in Arizona in 2013. Image: United States Fish and Wildlife Service.

There are no impartial truths in nature, no undisputed right action. Our perspectives, morals and values are situated within our own social, cultural, political and economic contexts. With limited economic resources, polarized political climates and encroaching human populations, many challenges face these jaguars on the margin of survival. A more pragmatic approach inspires some to argue for allocation of limited resources to more “deserving,” core jaguar areas. For other people, it is a moral imperative to conserve each of these cats purely for their intrinsic value as individual sentient beings, regardless of their population size or political status. Still others recognize extrinsic values in the population that intersect with their own larger ethical concerns, such as the “services” fringe species provide the environment and continued biodiversity in the future. The ways in which senses of “right action” and moral obligation intersect with issues of political, economic, and social importance will ultimately determine the way and to what extent these jaguars are afforded consideration and protection.

Appendix: The Origins of Feline Nomenclature

Across the colonial European languages the terminologies for felids share common origins and remain markedly similar to one another:

Lion: English: lion; Spanish: león; Portuguese: leão; French: lion; Dutch: leeuw. From Latin *leō*, *leōn-*, from Greek λέων (*leōn*, *leōnt-*). An ancient word connected to older Coptic (*labai*), Semitic, Akkadian (*labbu*), and Egyptian words. Lions were native to Africa, Asia, and Europe in ancient times (verified by Aristotle as well as by numerous statuary and paintings throughout the region), and it is not possible to accurately determine which word is loaned from which early language.

Tiger: English: tiger; Spanish: tigre; Portuguese: tigre; French: tigre; Dutch: tijger. From the Latin *tigris*, from Greek τίγρις (*tigris*), in turn a loan word introduced when the animal became known to the Greeks, after the Indian campaigns of Alexander the Great in the early 300s BC. Speculated to be derived from middle Persian رگیس *Tigr* (arrow) or *tighra* (sharp); with origins in the Avestan *tighri* (arrow), (Oxford English Dictionary 1989B). However, Aegean archaeologist Judith Weingarten has speculated that this etymology is misattributed, pointing out that an unrelated term was used for tiger in Middle Persian: *Babr* (or *Bebr*). Instead Weingarten locates the source of the Greek encounter, and word, to the Greek roads to Bactria and Afghanistan: potentially the *vagr* in Armenian and *vigr* in Georgian (2007). This is further supported by Virgil, who writes of *Armeniae tigres* in a passage of *Eclogues* (V, 29, 30; see Toynbee 1973).

Panther: English: panther; Spanish: pantera; Portuguese: pantera, French: panthère; Dutch: panter. From the Latin *panthēra*, from the ancient Greek πάνθηρ (*panthēr*). Within the translation of the Greek: πάν (*pan*: “all”) and θήρ (*thēr*: “wild animal”), there is debate as to whether this refers to “all beasts of prey” or perhaps “any (all) animal” with reference to their wide prey base, as in “predator of all animals” (Oxford English Dictionary 2005). In ancient Greece this term was often used to describe a lion. In modern period, this term was used to describe an African spotted cat (likely the cheetah or the leopard), although there is significant confusion with regards to identification of these cat species in both the ancient Greek and Latin texts. This provides context for continued confusion related to the term today.

Pard: English: pard; Spanish: pardo; Portuguese: pardo; French: pard; Dutch: paard. From the Latin *pardus*, from the Greek πάρδος (*párdos*- masculine), derivative of πάρδαλις (*párdalis*- feminine). Likely a loan word introduced with either leopards or cheetahs from Sanskrit *prḍakuh* (a term used for tigers, panthers, leopards, as well as tigers), from the older *parḥ*. An archaic word, in the past it was used interchangeably with “panther.” In medieval Europe, the pard of the bestiaries had a spotted coat and was known for being extremely swift (likely the cheetah.) More generally, the term was synonymous with panther, used to describe a leopard.

Leopard: English: leopard; Spanish: leopardo; Portuguese: leopardo; French: léopard; Dutch: luipaard. From the Latin *leopardus*, from Greek *λεόπαρδος*, also *λεοντόπαρδος* (*leopardos*). A compound of *λεοντ-*, or *λέων* (lion) and *πάρδος* (*párdos*), the origins of this word are found in Pliny the Elder's *Naturalis Historiæ* (77-79 AD) "Leones quos pardi generavere" ("Lions and pards had begotten") reflecting the belief that this species was a hybrid between leo (lion) and pard (also frequently translated as panther) (Pliny, viii: xvii). Cheetahs were commonly referred to as "Hunting Leopards" in Europe until the twentieth century based largely on the idea that cheetahs had been tamed and trained to hunt with humans as far back as ancient Egypt (Allsen 2006). The common term for a cheetah in French (guépard) and German (gepard) shares common roots with the word leopard.

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Vita

A native of the Washington, D.C. area, Sharon E. Wilcox received her Bachelor of Arts in Geography from the University of Mary Washington in 2001. After graduating, Sharon spent three years in Washington, D.C. working as the Senior Program Coordinator for the Species Conservation Division of Defenders of Wildlife. In 2004, she entered the graduate program in the Department of Geography and the Environment at the University of Texas at Austin, completing her Master of Arts in 2006. Her Master's thesis addressed the construction, representation and performance of race and ethnicity within the Afro-indigenous communities in Belize, culminating with her thesis, *Reconstructing Identity: Representational Strategies in the Garifuna Community of Dangriga, Belize*. Immediately following her Masters, Sharon continued into the Doctoral program in Geography at the University of Texas at Austin. In 2010, she completed her Certificate in Nonprofit Studies from the RGK Center for Philanthropy and Community Service in the Lyndon B. Johnson School of Public Affairs at the University of Texas at Austin. Her dissertation *Encountering El Tigre: Jaguar, Knowledge, and Discourse in the Western World, 1492-1945*, reflects her broad interests in the field of Animal Geographies, as well as her involvement in jaguar conservation dating back to her time with Defenders of Wildlife. Sharon has also taught as a Lecturer in the Department of Political Science and Geography at the University of Texas at San Antonio.

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