Chapter 8
Conclusion and Future Research Steps

Out of the Earth
I sing for them
A Horse Nation
I sing for them
Out of the Earth
I sing for them,
The animals
I sing for them.

English translation of a song sung by Lone Man (Teton Sioux) 502

8.1 Conclusion

Yes, it has been said that the “conquerors write the history.” 503 However, in order for a “conqueror” to exist and “history” to be finalized, the battle must be over. Indigenous Peoples across the Americas – and indeed, throughout the world – are rising to support the validity of the cosmology, axiology, ontology, and epistemology of their Ancestors, as well as to advocate for the capacity of traditional knowledge systems to create sustainable cultures for the next seven generations. This movement is proof that the outcome of the battle has yet to be decided. As has been shown in this research project, the latest technologies being utilized by Western science may hold the key to unlocking the truth about the history of the horse in the Americas in a way that the dominant Western culture can understand.

The original teachings of many of the Indigenous Peoples of the Americas do not show that the horse was introduced to the Native Peoples by the Spanish or by other European explorers. In fact, the TK collected in this investigation describes the horse not as a “beast of burden” or a “living tool” introduced to the Indigenous Peoples by foreigners, but as a holy relative gifted to them for caretaking by the Creator long ago. 504 505 506 507 In such a way of

502 National Museum of the American Indian, A Song for the Horse Nation, back cover.
503 Fixico, “Ethics in Writing American Indian History,” 86.
504 Afraid of Bear Cook, personal communication, September 9, 2016.
505 Werito, personal communication, August 19, 2016.
being, “horse,” “man,” “woman,” and “child” stood by one another in times of celebration and in times of great need. Indeed, they were truly relatives.

Although the genocide of the Native People and their ponies was a standing policy of the United States government until the mid-1800s, 508 509 public outcry eventually caused a shift. 510 As a result, policies of genocide would give way to assimilation. While the remaining Indigenous Peoples of the Americas were systematically stripped of their languages, societal structures, sacred places, and ceremonies, and torn apart from their own Peoples and families, the dominant Western culture also simultaneously tore the Native ponies away from everything that helped to make them who and what they were. These four legged relatives were turned into “beasts of burden,” purposefully “mixed” with other types of horses to “be improved,” 511 shipped by the hundreds of thousands to fight wars and lose their lives in faraway countries, 512 and doomed to be labeled as something other than what they are. Yet, despite all of this, both the Native Peoples of the Americas and their Indigenous ponies still stand. And if brought together once again as who and what they truly are, this sacred hoop can be mended.

With regard to this topic, the foundation upon which Western Academia currently lies was created out of fear, prejudice, greed, desperation, and misunderstanding. Naturally, this cannot stand as long as people are sincerely seeking knowledge and understanding. If Western Academia and the TK of Indigenous Peoples can be utilized on an equal academic footing to offer a more complete and accurate history of “what was” for the Native Peoples, flora, and fauna of the Americas at the time of first contact, then the end of the battle in this portion of the world can be glorious for “both sides.” Indeed, had more of the initial and early conquistadors admitted to the Spanish crown and other authorities that the Native Peoples of the Americas

506 Soop, personal communication, June 24, 2016.
507 Braveheart, personal communication, September 10, 2016.
510 Greene and Scott, Finding Sand Creek, 4.
already had highly developed horse cultures at the time of “First Contact,” it is likely that the legal “criteria for colonization” that the Spanish had could not have been met. As the horse was so closely entwined with the concept of civilization for the Spanish peoples, the sophistication and advanced nature of the Indigenous cultures throughout the Americas would not have been as easy to overlook. We have arrived at an era in which the latest technology, combined with guidance from the TK of our Indigenous Peoples, has the power to open new avenues of possibility for our collective communities. It is time that Western academia allow the evidence to guide its scholars, and not continue to expect them to defer to authority regarding “history’s” preconceived notions of what is acceptable, possible, or comfortable. The time has come for a paradigm shift.

In his book titled *The Structure of Scientific Revolutions*, Thomas Kuhn explains the process and structure of something he calls “scientific revolution” — when an old paradigm is finally, and often quite painfully, replaced with a new one. He includes quotes from renowned scientists such as Einstein who described their feelings regarding the paradigm shifts of their time as follows: “It was as if the ground had been pulled out from under one, with no firm foundation to be seen anywhere upon which one could have built.”

This book “ends with the disconcerting thought that progress in science is not a simple line leading to the truth. It is more progress away from less adequate conceptions of, and interactions with, the world.” However, perhaps comfortingly, Kuhn describes the very common process of internal resistance to paradigm shifts within Western science in his book as follows:

Still, to say that resistance is inevitable and legitimate, that paradigm change cannot be justified by proof, is not to say that no arguments are relevant or that scientists cannot be persuaded to change their minds. Though a generation is sometimes required to effect the change, scientific communities have again and again been converted to new paradigms. Furthermore, these conversions occur not despite the fact that scientists are human but because they are. Though some scientists, particularly the older and more experienced ones, may resist indefinitely, most of them can be reached in one way or another.

518 Ibid., xi.
Conversions will occur a few at a time until, after the last holdouts have died, the whole profession will again be practicing under a single, but now a different, paradigm. 519

8.2 Future Steps

Clearly, there is much work remaining to be done to fully reconstruct the history of the horse in the Americas and its original relationship with many of the Native Peoples. This section will outline potential “next steps” for future research. Such steps include a thorough examination of Spanish records detailing the number, gender, and physical characteristics of the horses that were brought aboard ships to the Americas and a charting of where they went upon their arrival to the Americas; further genome sequencing for the Ancient North and South American horses; genetic testing to identify specific markers to help locate any remaining survivors of the Indigenous horse of the Americas; creation of a database preserving this genetic information and identifying remaining herds for preservation; a careful cataloguing and scientific dating of any horse petroglyphs, pictographs, geoglyphs, effigies, and figurines of horses that are located in and amongst pre-Columbian sites or pre-Columbian artifacts; scientific dating of horse fossils and/or remains found in pre-Columbian sites or in levels of earth that are noted as being “pre-Columbian”; further interviewing of Indigenous knowledge keepers who wish to contribute TK regarding the horse including physical description of “their horses” versus the “European horses”; a revision of the current elementary and high school curriculum across the country to reflect this corrected version of history; inclusion of this research in Tribal College curriculums and libraries; begin a campaign to protect any remaining Indigenous horses utilizing the Wildlife Protection Act and/or the Endangered Species Act; create relationships with research institutions within Central and South America who would collaborate with this project by helping to collect genetic samples of “Ganado Caballar” and other Native horses; conduct a broader survey of other Indigenous cultures outside of the Americas to ascertain if such colonizing tactics were also used against them; and finally, a focus on the development of a solid theory regarding the migratory pattern of these horses during and after the Ice Age period, which will be determined utilizing a methodology that respects Indigenous protocols regarding the exchange and passing forward of TK, as well as findings from the latest technology.

519 Ibid., 151.
1.) Examination of Spanish Records Regarding Equine Shipments:

Many early explorers reported sighting "vast herd of horses" upon their first journeys into the mainland of North and South America or horses already with Native Peoples upon first contact. Indeed, by 1598, Oñate reported losing 300 horses during his exploratory journey up into the current New Mexico territory due to his "inability to contain animals while wild horses were roaming nearby." In addition to this, many reported that early on, the "entire [Native] culture[s] seemed to depend upon the horse, and the horse-culture complex" was at such a high "stage of development" that it rivaled thousands’ year-old horse cultures. Such observations of "vast herds of horses" in a "country so immense and full of wild mares" whose original inhabitants had established horse cultures would not be possible with the number of horses reported having been brought by the Spanish, the dates they were brought over, the very low number having been reported lost, and the genders of those reported lost (as it takes a stallion and a mare to make a baby.)

As so many researchers throughout the history of this subject have been confused by this, a project that focuses on the formal establishment of the following is in order: the number, genders, and dates of horses loaded onto Spanish ships heading for the Americas; the number and gender of horses that passed away during the journey; the areas of the Americas or Caribbean that the horses landed; the exploratory journeys upon which these horses were taken, tracking these horses as much as possible; an inventory of numbers of horses and size of Spanish herds where possible; and the recording of any laws that forbade Native Peoples from having or riding horses. Once such a study has been completed, it can be used as a reference work upon which the accuracy and conclusions of previous scholarly works can be measured.

520 Burrrage, Original Narratives of Early American History.
522 Hockensmith, Spanish Mustangs, 38.
524 Burrrage, Original Narratives of Early American History.
525 Hockensmith, Spanish Mustangs, 38.
2.) *Genome Sequencing for Ancient North and South American horses:* The genome sequencing has been completed for many domesticated horse breeds, as well as the Prezwalski horse.\textsuperscript{526} \textsuperscript{527} Recently, the genome sequencing was completed for an early Middle Pleistocene horse that lived in the Yukon area between 560,000 – 780,000 years ago.\textsuperscript{528} \textsuperscript{529} Future archeological and genetic research needs to focus on collecting fossilized fragments of Equine remains in North and South America that have been dated as pre-Columbian, and then working to extract DNA so that further genome sequencing can be performed. As traditional knowledge bearers within North America have explained there were a number of types of Indigenous horse in the Americas. Therefore, securing and sequencing multiple samples, and carefully cataloguing where they were found, is paramount.

3.) *Genetic Testing to Identify Remaining Survivors:* For centuries, the wild horse herds in North America and the specific herds of horses that were caretaken by Native Peoples have been targeted and treated by the dominant Western culture as if they were “feral,” and therefore somehow “disposable.” This treatment continues today. During the “Indian Wars” of the 1800s, the U.S government ordered the native ponies to be “rounded up and destroyed to prevent Indians from leaving the newly-created reservations.”\textsuperscript{530} During World War I, it is estimated that nearly 8 million horses were killed in the European war efforts.\textsuperscript{531} As there were “not a million horses to spare in Great Britain at the time … a lot of the horses were taken from the North American plains … and shipped off to be trained for modern war.”\textsuperscript{532} Other sources claim the number of American “wild horses” to have been shipped to be closer to 500,000.\textsuperscript{533}

\textsuperscript{526} Bailey and Brooks, *Horse Genetics.*  
\textsuperscript{527} Cossins, “Horse Genome.”  
\textsuperscript{528} Ibid.  
\textsuperscript{530} Henderson, *The Aboriginal North American Horse.*  
\textsuperscript{532} Upton, “The Horses of World War I.”  
\textsuperscript{533} Erickson, “During World War I, Newport News Port Was Biggest Supplier of War Horses for British Army.”
Before the Wild Free-Roaming Horse and Burros Act of 1971 was passed, the mass slaughter of America’s wild horse population caused the numbers to dwindle so low that even the government agreed that protection of the horses was in order. However, the responsibility to “manage” these herds was given to the Bureau of Land Management (BLM), whose mentality and perspective is aligned with a colonizing approach. As recently as September 2016, the BLM’s Wild Horse and Burro Advisory Board voted to “sell or euthanize the unadoptable animals among the 45,000 wild horses in government holding corrals.” As to date the desires of cattle farmers and special interest groups have taken precedence, the U.S government is likely systematically exterminating much of what may be left of the Indigenous Horse of the Americas with their current “wild horse management policies.” The genetic testing that has been done to date on these herds simply tries to match for Spanish markers. Such testing does not qualify these horses for protection under the Endangered Species Act of 1973. Although it had been “convenient” not to look and conduct proper genetic testing to date, it is no longer acceptable to press forward with the “status quo,” as such surviving animals and their natural habitats should be being actively protected by the Endangered Species Act.

4.) Cataloguing and Scientific Dating of Equine “Rock Art,” Geoglyphs, Effigies and Figurines: As has been demonstrated, ancient petroglyphs, pictographs, geoglyphs, effigies and figurines of horses are often automatically put into the “post-Columbian” category by Western scientists. Indeed, this categorization without scientifically dating is part of the methodology handed down from teacher to student. In order to reconstruct an accurate picture of the history of the horse in the Americas, the horse petroglyphs, pictographs, geoglyphs, effigies, and figurines need to be

535 Farley, In Plain Sight.
539 Martin, Twilight of the Mammoths.
cataloged and the latest scientific dating technologies applied. A database should be compiled and made available to be utilized by scholars across academic disciplines.

5.) Scientific Dating of Horse Fossils and/or Remains found in Pre-Columbian Sites: The majority of the horse fossils and/or remains that have been scientifically dated and found to have been post "Ice Age" and pre-Columbian were done so as part of larger and more broad studies. 540 541 Research that focuses primarily on locating and scientifically dating fossils and remains that fall within the proposed extinction period are necessary in order to reconstruct a more accurate history of the horse in the Americas. As the interior of caves are cool and dark, it is likely that remains that have been preserved inside of caves will have enough DNA to allow for further genetic study. Indeed, the horse remains and skeletons that are buried within the deep layers of the creeks and rivers in the Southeast will also likely lead to the location of adequately preserved samples. Permission needs to be granted by the Federal Government to allow people to come forward with such "finds," as it is paramount to the advancement of science in this area.

6.) Further Interviewing of Traditional Knowledge Bearers and Cataloging of the TK They Deem Appropriate for Dissemination:

The TK that was collected as part of this research project simply touches the "tip of the iceberg" regarding the full history of the horse in the Americas. As there were thousands upon thousands of Native Nations prior to "first contact" with the European cultures who came to colonize, it may not be possible — or desirable to certain Native Nations - to recover and record all of the knowledge surrounding this topic. However, knowledge bearers from each surviving Native Nation should be approached to see if they are interested in contributing to further research. As TK surrounding the horse is in the realm of "sacred knowledge," cultural protocols regarding the collection and protection of this data will need to be respected. As has

540 Graham and Lundelius, Jr., FAUNMAP.
been recorded, many Nations have claimed that they had the horse prior to the arrival of the Spanish. Yet to date, this has not been categorized as “proof” of their pre-Columbian presence as the Western academic establishment has exhibited a bias against oral history and tradition. Projects such as these will help to eradicate such bias, as it will be shown that TK and the latest technology can be utilized quite harmoniously in tandem to create balanced and complete research results.

7.) Revision of Elementary and Secondary School Curriculum: The current grade school and secondary school curriculum within the United States is outdated, and, therefore, incorrect regarding this topic. As textbooks and history standards can be revised as deemed necessary, adequate pressure needs to be applied to textbook companies so the importance of such revisions is noted. Indeed, revisions to reflect a more truthful and accurate portrayal of the history of the horse in the Americas will serve to lift the self-esteem of Native Peoples, as well as help to correct harmful bias that still permeates American educational institutions.

8.) Inclusion of Research in Tribal College Curriculum and Libraries: The present research project, as well as other future research in this area should be announced and presented to Tribal Colleges and their libraries. When possible, those conducting the research should make presentations to their faculty and students. If Native students and faculty understand that there is a “safe place” for their culture and ideas within Western academia, such introductions and presentations may stimulate a surge in Native participation within academia. This has the potential to enhance many

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544 Hockensmith, Spanish Mustangs.
545 Cruikshank, Reading Voices.
scholarly fields, as Indigenous TK holds the key to help solve many of Western Academia’s greatest “mysteries.”

9.) *Campaign to Protect any Remaining Indigenous American Horses:* Until the genome sequencing has been done on the Ancient North and South American horses and the wild horses within all government holding pens have been tested, all plans to euthanize “unadoptable” horses and cull “excess” wild horses should be halted. Any of the horses that contain Indigenous American genetic markers should no longer be “protected” by the Wild Horse and Burro Act, but instead fall under the protection of the Endangered Species Act of 1973. This Act protects not just their physical bodies, but their habitats. As soon as such herds are identified, automatic protection should be provided for them and for their natural environment. At this juncture, the United States must make a choice to protect special interests or abide by its own laws.

10.) *Collaborate with Central and South American Research Institutions:* As Dr. Marco Oviedo indicated in his August 20, 2016 interview, his experience has shown him that Indigenous American horses currently survive in the Copper Canyon region, located in Northern Mexico. Collaborative relationships should be cultivated with research institutions throughout the Americas to collect genetic samples of both living horses and ancient remains. If Western science truly strives to be based upon an earnest quest for truth and knowledge, such a collaboration should not frighten them. Rather it should prove exciting and potentially liberating.

11.) *Conduct Global Survey of Other Indigenous Peoples:*

In May 2014 at the World Indigenous Peoples Conference on Education (WIPCE) in Honolulu, Hawaii, a Maori woman from New Zealand expressed that she could relate to this research. She explained that after viewing a presentation about this project, she came to realize that the “same thing” had been done to her people regarding the pig. She explained that in her experience, the pig is considered sacred to the Maori and it is an integral part of their ceremonial life. However, the dominant Western culture credits Captain Cook with bringing the pig to New Zealand, even
though many Maori Elders state that they “always had the pig” and that they “brought their pig with them in the canoes” when they came over from Tahiti. She finished her explanation with the following question: “Why are [the colonizers] always trying to take credit for our sacred things?”

Based upon this conversation, more research should be done globally to determine whether or not such techniques were universally utilized by the dominant cultures as a tactic of colonization. Therefore, conducting interviews with other Indigenous Peoples around the world to see if such colonizing tactics – claiming ownership of the sacred in the form of animals and/or plants – were also used against them could be of import in creating a more complete understanding of the techniques and effects of colonization.

12.) *Development of a Theory Regarding Migratory Patterns of the Ancient North and South American Horses During and After the “Ice Age”:* Although the majority of Western academic articles and books state that the horse was among the animals that became extinct in the Americas during the late Wisconsin and early Holocene, most agree that “why they died out is unclear, particularly since they have flourished in the wild since the Spaniards reintroduced them into North America five centuries ago.” 549

Indeed, this research project has not unveiled any proof as to why extinction would have occurred at all, especially since the following are true: horses are migratory animals, expansion of the glaciers [during the Ice Age period took] thousands of thousands of years … and the same with the retreat of the glaciers, 550 the glacier did not “extend further south than the Ohio River and Long Island, New York; 551 there is evidence of the presence of refugia, or “special environmental circumstances that would have enabled a species or a community of species to survive after extinction in other areas” throughout the Americas during that time period; 552 and there is substantial evidence today that the wild horses or Native

550 Groves, personal communication, October 17, 2016.
551 Russell et al., “A Warm Thermal Enclave,” 175.
552 Rowell, personal communication, October 18, 2016.
ponies are resilient and able to survive in a variety of extreme weather and environmental conditions. Indeed, some of these Native-line horse groups have even developed an immunity to diseases that plague domestic horse populations, suggesting that their history and genetic make-up differ significantly from domestic horses. Understanding what actually occurred during this Ice Age period and the migratory patterns of the horse may shed light on some of the other inconsistencies and "unanswered questions" that plague modern Western science and academia.

554 O’ Hyde, personal communication, March 27, 2016.
555 Shoemaker, personal communication, June 24, 2016.