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Anachronisms: The Wrong Things at the Wrong Time

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Anachronisms: The Wrong Things at the Wrong Time

An *anachronism* is something that does not fit the timeframe for which it is claimed. For example, a tale of King Henry VIII watching television would be anachronistic. The Book of Mormon has frequently been charged with containing numerous anachronistic items including certain animals, plants, metals, textiles, and weapons. In all instances, however, there is the possibility that (a) such things were once in the Americas but the evidence has either disappeared or has not yet been found, or (b) Book of Mormon labels are based on the re-labeling of New World items with familiar Old World labels.

To claim that things did not exist because they have not been found is to commit the logical fallacy of arguing from ignorance or silence. According to a famous and generally accepted archaeological dictum, the absence of evidence is not evidence of absence (see, for example, the discussion on the limits of archaeology in Chapter 6). Until the middle of the twentieth century, for example, the best archaeologists were convinced that the camel was unknown in Egypt until Greek and Roman times despite the mention of camels in the biblical account of Abraham (Genesis 12:16). Today, however, scholars realize that the camel continued to be used in Egypt from prehistoric to present times.¹

Similarly, despite several biblical and sixteenth-century references to lions in Israel (some of these references mentioned lions over a thousand years after the Book of Mormon mentions horses) scholars had been perplexed by the absence of lion bones. As late as 1981, Dr. Joseph Heller, chairman of the Department of Zoology, Hebrew University, Jerusalem, told one researcher that there were no archaeological remains of lions in Israel.² Despite the fact that archaeologists have been digging in Israel since 1864, it was not until 1983 that the remains of two lions were discovered in Israel. As far as I am aware, no other remains have been discovered since. As LDS scholar John Tvedtnes also notes,

Similarly lions were frequently depicted in ancient Egyptian wall reliefs and papyri and were hunted and even raised as pets by the royal family, but no lion remains were found until 2001, when ... a mummified lion from the first century B.C. [was discovered] in an Egyptian tomb. This was more than a century and a half after archaeological work began in Egypt.³

Most scholars believe that in the fourth and fifth centuries A.D., the Huns of Central Asia had so many horses that estimates suggest that each warrior may have had up to ten horses. While total estimates for horse populations for the Western Huns vary from 20,000 up to hundreds of thousands, horses were the basis of their wealth and military power. Although surviving artwork and riding accouterments verify the existence of horse populations in Central Asia during the Hun dynasty, as late as 1974 a non-LDS leading authority on the zoological record for central Asia claimed that we knew very little of the Huns' horses and, at that time, he was unaware of a single usable horse bone that had been found in the territory of the whole empire of the Huns.⁴ While horse bones have finally been discovered in that region over the past few decades it would have been premature and absurd in 1974 to claim that the Huns horses never really existed because of the lack of supporting horse bones at that time.

Records also tell us that elephants roamed the temperate lands of Syria and the upper Euphrates well into the Middle Ages and that the Pharaohs used to hunt them for sport. Yet, now, they have disappeared with virtually no trace.⁵

If we look at the relatively few Israel/lion bones, Hun/horse bones, and Syria/elephant bones that have been unearthed compared to the number of such animals that lived anciently in those locations, we can see that animals can disappear and leave very little if any trace. It is not unreasonable to suggest that the same thing might have happened with the Nephite "horse" or other Book of Mormon animals.

Horse

Scientists believe that the horse originated in the Americas and spread across land bridges to Asia, eventually migrating into Africa and Europe. Over the course of millions of years the horse evolved from a smaller breed to the larger horses of today. About 10,000 years ago several large American mammals—including mammoths, camels, and the smaller horses—became extinct due, in part, to over-hunting as well as environmental changes brought on by climate changes. When the Spaniards came to the New World in the early sixteenth century, they brought the new larger horses. Some horses eventually escaped and multiplied in the wild. Since horses were supposedly extinct in the Americas during Book of Mormon times, the mention of horses is seen to be anachronistic.

Before we get into an examination of why horses might be mentioned in the Book of Mormon it is interesting to note that in Joseph Smith's day it was already

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known that American horses were first introduced by the Spaniards. The most prevalent anti-LDS theories for the Book of Mormon theorize that Joseph Smith (and possibly his cohorts) sponged information from his environment (see Chapter 12). According to the logic of most critics the entire Book of Mormon is a mish-mash of information that can be found in the minds or books of nineteenth-century Americans. Names, doctrines, practices, theologies, and even geographies, they argue, have antecedents in Joseph Smith's own environment. If anything is mentioned in any book that was even remotely available to Joseph—even isolated things in obscure books—it fuels the critics who claim that Joseph Smith borrowed the ideas for the Book of Mormon from those obscure sources—either directly, or indirectly from his cohorts, local ministers, or others in his environment. Critics need not show, they argue, that Joseph had access to such writings or thoughts, the very fact that they existed somewhere in his environment is proof enough that he utilized such sources in his writings.

The funny thing is that in Joseph's day, it was believed that horses did not exist in Book of Mormon lands and times. In 1838, for instance, H. Stevenson delivered "A Lecture on Mormonism," in Alston England where LDS missionaries were gaining converts.⁶ A year later Stevenson published his lecture which was "intended to show that the Book of Mormon is not an inspired volume, but a foolish and wicked forgery; and that Mormonism is a system of absurdities." In his lecture Stevenson argues that among the evidences for the fraudulence of the Book of Mormon is its claim that horses (and goats, cows, etc.) were not on the American continent until they were introduced by the Europeans.⁷

If Joseph was the sponge (or brilliant reader) as critics paint the young prophet, it is most curious that he would claim that the Nephites had horses when such information ran counter to popular theory. This is another example of the "idiot-savant paradox" which Dr. Hamblin ascribes to the positions of some critics.⁸ According to this paradox, Joseph was so clever as to include the common theories about the origin of the Native Americas, but thought that Jesus was born in Jerusalem instead of Bethlehem (which every child in America has known for centuries). Joseph was so clever that he included plagiarized Book of Mormon city names from the names of cities he had heard from whalers, but did not know that the Spaniards introduced the first horses to America. Such a paradox presents a real dilemma for those who suggest that the Book of Mormon was sponged from Joseph's environment.

When most of us recontextualize Book of Mormon horses, we tend to envision Nephites riding traditional horses into battle or using them to pull chariots. The Book of Mormon, however, never says horses were ridden (a curious thing if Joseph was the author of the Book of Mormon) or that they pulled chariots. In fact, Book of Mormon horses are never mentioned in a combat narrative. Book of Mormon horses do not function anything like nineteenth-century farm or field horses, nor are they utilized by either the Nephites or Lamanites as were the horses belonging to the farmers, explorers, or Native Americans in Joseph Smith's *milieu*. Understanding

these differences is a clue to helping us realize that Book of Mormon horses refers to something different than what we intuitively envision.

There are at least two possible resolutions to the “horse” problem in the Book of Mormon: (1) definitions were expanded to include new meanings and (2) horses were present but their remains have not been found.

Expansion of Definitions

As pointed out in Chapter 5, words do not have “plain” meanings; they only have meaning in context of a language, culture, timeframe, and in relation to other words. When the Miami Indians, for example (who were familiar with cows) first encountered the unfamiliar buffalo they simply called them “wild cows.” Likewise the explorer DeSoto called the buffalo *vaca* which is Spanish for “cow.” The Delaware Indians named the cow “deer,” and a group of Miami Indians labeled the unfamiliar sheep “looks-like-a-cow.”⁹ Also, as noted in Chapter 5, the Hebrew word *parash* can mean *horse* as well as a human *horseman*, depending on context.¹⁰ In the Bible, the Hebrew word for *horse* is *sus* and means *leaping*, but it can also refer to the rapid flight of swallows and cranes. Typically our English-language Bibles translate the word *sus* as *horse*, but twice it is translated as *crane*, and twice as *horseback*—referring to a rider.¹¹

The Book of Mormon authors tell us that reformed Egyptian (their written language) was different than their spoken language. The Nephites would have liked to write in Hebrew but they used reformed Egyptian instead because it took up less space on the plates (Mormon 9:32–33). Reformed Egyptian was probably a more compact script than Hebrew and possibly consisted of a more limited vocabulary. Moroni tells us that if they could have written in Hebrew instead of reformed Egyptian there would have been fewer mistakes. Maybe he understood that at least some reformed Egyptian characters only approximated a concept or that some words had expanded meanings.

As we examine the Book of Mormon text we discover that, indeed, reformed Egyptian appears to have had a very limited vocabulary. LDS researcher Benjamin McGuire notes that while the Book of Mormon is roughly 270,000 words long, it has a vocabulary of only about 5,500 words. If we compare this to contemporary books of Joseph Smith’s day we find that Warren Ramsey’s *The Rise, Progress and Termination of the American Revolution* had roughly as many words as the Book of Mormon but had a vocabulary 2.5 times greater than the Book of Mormon. Jules Verne’s *Around the World in 80 Days* has only one third as many words as the Book of Mormon, but has a vocabulary nearly 25% larger. Solomon Spalding wrote a novel that some critics claim was the original source for the Book of Mormon. That claim has been soundly refuted (see Chapter 12), but it is interesting that Spalding’s manuscript, which is just under 15% the length of the Book of Mormon, has about the same size vocabulary. The limited Book of Mormon vocabulary becomes even smaller when we remove the unique Book of Mormon names.¹²

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Some might suggest that the Book of Mormon's vocabulary was limited because Joseph Smith's vocabulary was limited. The evidence, however, contradicts such a theory. In the Book of Mormon, for example, we find a single word for a moving body of water—a "river." In the Doctrine and Covenants, however, Joseph Smith uses "river," "stream," "rill," and "brook." Critics frequently claim that Joseph copied the language of the Bible when translating the Book of Mormon. The Bible, however, contains not only "river," but descriptors such as "stream," "creek," and "brook"—none of which are in the Book of Mormon.

Likewise, the Book of Mormon uses only one word for large bodies of water—"sea." Other than the figurative lakes of fire and brimstone, we do not read of "lakes," "ponds," "oceans," "pools," etc. There is little doubt that Joseph incorporated terms of his environment to describe or convey some translations of Book of Mormon text (see Chapter 5), but it seems that at least in some instances such borrowed terminology was used in metaphorical ways rather than in describing physical specimens.

Some LDS scholars have suggested that, in at least some instances, the "seas" of the Book of Mormon may have been large lakes or other bodies of water (like the Dead Sea). The Bible uses not only "sea" but unlike the Book of Mormon it also uses "pond," "pool," and "lake." In the Doctrine and Covenants we find "sea," "ocean," and "pool."

Other than wheat, barley, corn, and the generic term "tree," we find few terms for flora in the Book of Mormon text. In contrast, the Bible mentions the poplar, pine, pomegranate, palm, almond, fig, gopher, chestnut, and olive.¹³ Of the animals listed in the New World portions of the Book of Mormon, thirteen are physical creatures, whereas the remaining animals are figurative and may have been borrowed from Joseph's language to express common ideas. Two of the thirteen physical creatures are *cumoms* and *cureloms* from Jaredite times (for which we have no Nephite or modern translation). Of the eleven remaining physical creatures we find cow, ox, ass, horse, goat, wild goat, dog, sheep, swine, serpents, and elephant.

In the Bible we find the same animals as listed in the Book of Mormon (with the exception of the "elephant") along with the lion, bear, ape, ostrich, hare, bat, badger, greyhound, ram, ferret, lizard, chameleon, snail, mole, spider, stork, mouse, weasel, tortoise, vulture, frog, crow, camel, and many more. While "fowl" are said to exist in Book of Mormon lands, no specific bird (nor even the word "bird") is ever mentioned other than figuratively. In the Bible, however, we read not only of birds and fowls but we find the hawk, dove, quail, owl, pigeon, partridge, swan, swallow, and crane. It quickly becomes apparent that reformed Egyptian had a small vocabulary. What does one do with a small vocabulary when there is a need to include a variety of new and unfamiliar items? The solution is to intuitively expand the definition of existing words.

When translators run into the problem of untranslatable words, they resolve the issue by way of several options—such as adaptation, paraphrasing, borrowing, and other options.¹⁴ The same thing happens when people find it necessary to label new and unfamiliar items, they often instinctively "loanshift" words or expand fa-

miliar terms to include unfamiliar items.¹⁵ Cross-cultural *onomastica*¹⁶ (onomastica refers to the names we use for people, animals, or things) occurs throughout the world. Anthropologists and historians who have studied cross-cultural contact, for instance, refer to this well-known practice as *loanshift* or *loan-extension*. When the Greeks first encountered a large unfamiliar animal in the Nile River, for example, they named it *hippopotamus* or “river horse.”¹⁷ Umberto Eco, a world-renowned (non-LDS) linguist (semiotics), explains:

Often, when faced with an unknown phenomenon, we react by approximation: we seek that scrap of content, already present in our encyclopedia, which for better or worse seems to account for the new fact. A classic example of this process is to be found in Marco Polo, who saw what we now realize were rhinoceroses on Java. Although he had never seen such animals before, by analogy with other known animals he was able to distinguish the body, the four feet, and the horn. Since his culture provided him with the notion of a unicorn—a quadruped with a horn on its forehead, to be precise—he designated those animals as unicorns.¹⁸

Marco Polo recorded that the rhinoceros did not precisely match descriptions he had previously heard about unicorns but he nevertheless simply expanded his understanding of what a unicorn might be to include the rhinoceros. Non-LDS linguist Dr. Joel Hoffman likewise explains, “Words can mean more than one thing, ... the meaning of a word can be extended... [and]... words change meaning when they travel (‘get borrowed’) from one language to another.”¹⁹

While the Nephites may have used familiar names for unfamiliar flora, fauna, or weapons, Joseph Smith may have struggled to translate foreign items by using words from his vocabulary that approximated concepts or ideas.

It is an indisputable fact that loan-shifting can happen during the translation of one language to another²⁰ and two languages need not resemble each other phonetically in order for loan-shifting to occur.²¹ Instead of creating entirely new words for unfamiliar things, sometimes people tend to “translate” new things into their own language by expanding their current words to include the new item.

This problem is not limited to ancient societies. The American “buffalo,” for example, is actually a bison and is only distantly related to the water buffalo and African buffalo (the two true buffalos).²² North American “moose” are known as “elk” in other parts of the world, while North American “elk” are closer to red deer. North American “antelopes” are not true antelopes but are actually “pronghorns.”²³

In similar fashion it is possible that the Nephites used the term “horse” for some different—yet functions-like-a-horse—animal. Figurines, for example, of the pack-bearing South American alpacas—which are related to the camel—have been unearthed as far north as Costa Rica.²⁴ Perhaps more importantly the Quiché languages of highland Guatemala have expressions like *keh*, which means both *deer* and *horse*, and the cognitive *keheh*, which means *mount* or *ride*.²⁵ An early pre-Spanish incense

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burner discovered in Guatemala shows a man riding on the back of a deer, and a stone monument dating to 700 A.D. shows a woman riding a deer. Until recently, many people in Siberia rode on the backs of deer. In such cases the deer served as horses.²⁶

When the conquistadors arrived in the New World both the natives and the Spaniards had problems classifying new animals. The lowland Maya called the European goat a “short-horned deer”²⁷ and some of the Amerindians referred to the newly introduced horse simply as “deer.”²⁸

One Aztec messenger reported to Montezuma, “Their deer carry them on their backs wherever they wish to go. These deer, our lord, are as tall as the roof of a house.”²⁹ The Aztecs did not suddenly forget what a deer was; they, instead, expanded the meaning of the word to include this new animal. Dr. Eco also comments on the Aztec’s expansion of the word deer to include the horse.

Oriented therefore by a system of previous knowledge but trying to coordinate it with what they were seeing, they must have soon worked out a perceptual judgment. *An animal appeared before us that seems like a deer but isn’t.* Likewise they must not have thought that each Spaniard was riding an animal of different species, even though the horse brought by the men of Cortes had diverse coats. They must therefore have got a certain idea of that animal, which at first they called *macatl*, which is the word they used not only for deer but for all quadrupeds in general.³⁰

If early Native Americans had no problem expanding their definition of “deer” to include horses, why could not the Nephites expand their definition of “horse” to include deer if the American genus of deer in some ways acted like horses? It is not only possible, but virtually mandatory that the same phenomenon would be found in the Book of Mormon if it really derived from an ancient culture that intermingled with another foreign culture.

But, some will ask, didn’t the Nephites know real “deer” from their Old World experiences? Maybe; maybe not. Deer may have been extinct in Egypt long before Lehi’s day. “Deer” are never mentioned in the Book of Mormon—not even in the Old World setting where the Lehitites frequently hunted during their travels through the Arabian Peninsula. For the sake of argument, we will assume that the Lehitites were familiar with deer and the Egyptian or Hebrew words for deer. Why, then, would the Nephites use the term *horse* for *deer*? As previously noted, the Hebrew words for *deer* included several non-deer animals such as “ram,” “ibex,” and “mountain goat.” The Lehitites may also have associated the Hebrew term “deer” with “gazelle” or “hartebeest.” As noted in the *International Standard Bible Encyclopedia*, ancient Near Eastern cultures, such as the Hebrews and Arabs, had “looseness of nomenclature” when it came to categorizing animals.³¹ For the Lehitites the Hebrew words for both *horse* and *deer* were loose enough that the demands of a new environment, new

animals, and a new written language may have caused an expansion of one word to include non-traditional animals into one category.

While the Lehighites might have had a Hebrew word for deer, the question is whether the Nephites had a written reformed Egyptian word for deer considering the limited vocabulary of their written language. In the absence of a reformed Egyptian word for deer Nephi could have chosen some other word that represented a characteristic of deer or a way they interacted with people. The terms for *horse*, which had already been expanded in Hebrew to refer to *horseman* (or *riders*) as well as leaping animals (or even cranes), could easily be expanded to include New World “deer.” The Nephites would have had no problem expanding the definition of “horse” to include New World animals that may have behaved in a similar fashion or were used in a similar way.

In my opinion, a more likely candidate for the Nephite loan-shift “horse” would have been the Central American tapir. The Spaniards called the native tapir (which is related to the horse) an “ass,”³² and some of the Maya called the European horses and donkeys “tapirs” because, at least according to one observer, they looked so similar.³³ Tapirs are one of only a few odd-toed ungulates—a family that includes the horse, zebra, donkey, onager, and the rhinoceros. These large grazing animals have common traits, including an odd number of toes on each hoof, a large middle toe, and a relatively simple stomach (as compared to other grazing animals like cows who regurgitate their cud for digestion).³⁴

Israelites often distinguished animals based on the type of foot as well as what the animal ate. This generally played a role in determining if an animal was “clean” or “unclean.” If we use the Law of Moses as a guide, tapirs and horses are very closely related—and in a significant way. While there is no clear consensus as to what dietary rules were known and/or applied in the land of Israel just prior to Lehi’s departure, it is possible that the Nephites were obligated to live—or were at least familiar with—some of the dietary restrictions and may therefore have included tapirs in the horse family. And while they may have categorized the tapir in the same family as the horse, it is possible that they might not have had dietary restrictions on eating animals in this family.

While some species of tapir are rather small and look like pigs, the Mesoamerican variety—Baird’s Tapir—can grow to be nearly six and a half feet in length and can weigh more than six hundred pounds. A modern government report indicates that,

The tapir is docile toward man and hence management of the animal is relatively easy. An indigenous person describes the tapir as follows: “The animal is very sociable. Taken as a pup, one can easily tame it; it knows how to behave near the house; it goes to eat in the mountain and then returns to sleep near the house.”³⁵

Tapirs were frequently eaten³⁶ and, because of their strength, they may have been used as beasts of burden on a small scale. Charles Darwin wrote that tapirs

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were kept tame in the Americas, though they did not tend to breed in captivity. This fact might explain the relatively infrequent mention of “horses” in the Book of Mormon.³⁷ Researcher Robert Bennett quotes zoologist Hans Krieg:

“Whenever I saw a tapir... it reminded me of an animal similar to a horse or a donkey. The movements as well as the shape of the animal, especially the high neck with the small brush mane, even the expression on the face, are much more like a horse’s than a pig’s.... When watching a tapir on the alert . . . as he picks himself up when recognizing danger, taking off in a gallop, almost nothing remains of the similarity to a pig.”³⁸

Non-LDS archaeologist Michael Coe, in his book *Breaking the Maya Code*, claims that in the Mayan Yucatec language the term *tzimin* would classify either a *horse* or a *tapir*.³⁹ *Tzimin* originally meant “tapir” but was expanded to include the “horse” when the Yucatec-speaking natives discovered a need to label the horse. Once again we ask how the Book of Mormon can be rejected for suggesting that the Nephites did the exact thing we find in the history of Yucatec-speaking Mayans.

While we know that, in at least a few instances, deer were ridden, we do not have the same information concerning tapirs (other than accounts of children riding tapirs). The problem, once again, is of recontextualization. The Book of Mormon never says that Nephite “horses” were ridden. Book of Mormon horses are never used to hasten a journey and they are never used in a combat narrative.

This is most curious and requires an explanation for those critics who claim that Joseph Smith created a fictional Book of Mormon. According to what was known during Joseph’s day, people rode horses. Nineteenth-century horses were also used to plow fields, but there is no mention of this in the Book of Mormon. If Joseph had created a fictional story, why doesn’t the Book of Mormon reflect horses in ways that were familiar to nineteenth-century Americans?

Mesoamerica was a maize-based agriculture. Real “horses” in such an agricultural society would not have been very helpful in food production and may actually have been an economic drain. Maize-based agriculture produces four times as much food as did the wheat and oat agriculture of Europe. Large cities could be easily supported on a much smaller agricultural land base, where human porters were far more efficient than a horse would be.⁴⁰

Instead, we read in the Book of Mormon that the “people of Nephi did till the land, and raise all manner of grain, and of fruit, and flocks of herds, and flocks of all manner of cattle of every kind, and goats, and wild goats, and also many horses” (Enos 1:21). Later we read that while the Nephites fought with the Gadianton robbers, they reserved provisions for themselves. What kinds of provisions?

...horses and cattle, and flocks of every kind, that they might subsist for the space of seven years, in the which time they did hope to destroy the robbers from off the face of the land.... (3 Nephi 4:4).

After defeating the Gadianton Robbers the Nephites returned to their homes—every man with his “flocks and his herds, his horses and his cattle” (3 Nephi 6:1). It seems that Book of Mormon horses may have been considered to be something like cattle. As noted above, tapirs were frequently eaten in ancient America.

Pockets of Ancient Horses

In prehistoric times miniature horses lived in the Americas. Current studies suggest that these animals (which were generally under five feet high at the shoulder) were hunted for their meat. In fact, they may have become extinct in some parts of the New World due to over hunting.⁴¹ Some scholars believe that small pockets of these diminutive horses survived until Book of Mormon times⁴² and ongoing research on several ancient American horse bones may support such a theory.⁴³

At least a few non-Mormon scholars believe that real horses (of a stature smaller than modern horses) may have survived New World extinction. The late British anthropologist, M.F. Ashley Montague, a non-LDS scholar who taught at Harvard, suggested that the horse never became extinct in America. According to Montague, the size of post-Columbian horses provides evidence that the European horses bred with early American horses.⁴⁴

Non-LDS Canadian researcher, Yuri Kuchinsky, also believes that there were pre-Columbian horses. Kuchinsky, however, believes that horses (smaller than our modern horses) were reintroduced to the west coast of the Americas about 2,000 years ago by Asians who came on boats. Among Kuchinsky’s evidences for pre-Columbian horses are (1) horse traditions among the Indians that may pre-date the arrival of the Spaniards, (2) supposedly pre-Columbian petroglyphs that appear to depict horses, and (3) noticeable differences between the typical Spanish horse and the much smaller Indian ponies.⁴⁵

Unfortunately, however, such theories are typically seen as fringe among mainstream scholars. Due to the dearth of archaeological support, most scholars continue to believe that horses became extinct at the end of the Pleistocene period. Is it possible that real horses lived in the Americas during Book of Mormon times? And if so, why does there seem to be no archaeological support?

First, it is important to recognize that the Book of Mormon never states or implies that horses roamed the New World in large numbers—in fact, horses are mentioned very infrequently. If small pockets of horses lived in pre-Columbian America, it is possible that they would have left little if any trace in the archaeological record. We know, for example, that the Norsemen probably introduced horses, cows, sheep, goats, and pigs into Eastern North America in the eleventh century A.D., yet these animals did not spread throughout the continent and they left no archeological remains.⁴⁶ According to one non-LDS authority on ancient American, the Olmecs had domesticated dogs and turkeys but the damp acidic Mesoamerican soil would have destroyed any remains and any archaeological evidence of such animal domestication.⁴⁷

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The fact is, however, that there does appear to be archaeological support that horses existed in pre-Columbian Mesoamerica. In 1957, for instance, at Mayapan (a site corresponding to Book of Mormon lands/times) horse remains were discovered at a depth considered to be pre-Columbian. Likewise, in southwest Yucatan, a non-Mormon archaeologist found what may likely be pre-Columbian horse remains in three caves. Excavations in a cave in the Mayan lowlands in 1978 also turned up horse remains.⁴⁸

Why haven't pre-Columbian horse remains received greater attention from other scientists? As an article for the Academy of Natural Science explains, such discoveries are typically "either dismissed or ignored by the European scientific community."⁴⁹ The problem may be one of pre-conceived paradigms. Dr. Sorenson relates the story of a non-LDS archaeologist colleague who was digging at an archaeological dig in Tula and discovered a horse tooth. He took it to his supervisor—the chief archaeologist—who said, "Oh, that's a modern horse, throw it away" (which he did). It was never dated.⁵⁰

Dr. John Clark, director of the New World Archaeological Foundation has expressed similar concerns:

The problem is archaeologists get in the same hole that everybody else gets in. If you find a horse—if I'm digging a site and I find a horse bone—if I actually know enough to know that it is a horse bone, because that takes some expertise—my assumption would be that there's something wrong with my site. And so archaeologists who find a horse bone and say, "Ah! Somebody's screwing around with my archaeology." So we would never date it. Why am I going to throw away \$600 to date the horse bone when I already know [that it's modern]? ...I think that hole's screwed up. If I dig a hole and I find plastic in the bottom, I'm not going to run the [radio]carbon, that's all there is to it. Because ...I don't want to waste the money.⁵¹

A few years ago FARMS began a project to date the horse remains discovered at digs that date to pre-Columbian times. Acquiring the remains was an extensive job in itself. Some of the reported remains had disappeared, and some of the owners of the remains did not want FARMS taking them for dating purposes. Of the remains that FARMS was able to acquire it appears that at least a few date to pre-Columbian times. Retired professor of geology and paleontology Dr. Wade Miller did some preliminary work on dating some of the horse remains. He notes:

Some of the unpublished dates run on horse fossils that appear to be valid are: 5,890 B.C. (Pratt Cave in Texas); 830 B.C. southern Saskatchewan, Canada); 815 A.D. (Ontario Canada); 1,260–1,400 A.D. (Wolf Spider Cave, Colorado). A date of about 1,120 B.C. was

determined using a thermoluminescence method on a horse bone from Horsethief Cave in Wyoming.⁵²

The standard scientific view is that New World horses became extinct about 10,000 years ago. Any horse bones dated after this time demonstrate that at least some pockets of horses survived the mass extinction and that small pockets could have survived to Book of Mormon times. Although the work is not yet complete, the prospects look promising.

Elephant

The elephant is mentioned only once in the Book of Mormon (Ether 9:19) and need not have survived in the Americas past about 2,400 B.C. While the jury is still out, there are a number of North American Indian traditions which recount legends of giant stiff-legged beasts which would never lie down, had a big head and large leaf-like ears, round footprints, forward-bending knees, and had a fifth appendage coming out of its head.

Scientists agree that mammoths and mastodons once inhabited the Americas, and an article in *Scientific Monthly* entitled “Men and Elephants in America” suggests that these proboscidean animals (elephants, mammoths, or mastodons) may have survived in the Americas until 1000 B.C. —well within the timeframe demanded by the Book of Mormon.⁵³ According to Dr. Sorenson,

Mastodon remains have been dated by radiocarbon to around 5000 BC in Florida, around the Great Lakes to 4000 BC, in the Mississippi Valley to near 3300 BC, perhaps to near 100 BC near St. Petersburg, Florida (“low terminal [C-14] dates for the mastodon indicate . . . lingering survival in isolated areas”), and at sites in Alaska and Utah dating around 5000 BC.⁵⁴

As with the discovery of post-Pleistocene horse bones, mastodon bones which can be dated after the Pleistocene period (about 10,000 years ago) demonstrate that small pockets of these animals survived the mass extinction and may have survived to Jaredite times.

Barley and Wheat

Until recently the critics were sure that barley and wheat were unknown in the ancient New World. An article in *Science* 83, however, revealed that pre-Columbian domesticated barley had been discovered by archaeologists at an ancient Hohokam Indian site in Arizona.⁵⁵ The non-LDS author of this article suggested that the barley might have been imported from Mexico at a very early date. It is interesting that Alma 63:6–10 describes various Nephite migrations to the North. It is possible that

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such migrations (and other similar ancient Mesoamerican migrations) might have influenced North American cultures and crops.

To the surprise of many, the find at the Hohokam site in Arizona was a first only because it yielded cultivated or domesticated barley. Biologist Howard Stutz explains, “three types of wild barley have long been known to be native to the Americas.” Furthermore, scholars now report that other examples of what may be domesticated barley have been found in eastern Oklahoma and southern Illinois, dating from 1 to 900 A.D.⁵⁶

It is also possible that real wheat was present during Book of Mormon times but has since disappeared. When the Spanish arrived in the New World in the sixteenth century, for example, Bishop Landa wrote that they helped the Indians to raise European millet, which grew remarkably well in the area. Four centuries later, however, botanists were unable to find even a trace of the millet about which Landa had written.

Perhaps Book of Mormon wheat referred to something similar but different than what we know as wheat. In America, for instance, “corn” refers to maize, but in England it once meant wheat, and in Scotland oats. A recent study of amaranth, an Old World grain which was used like wheat in pre-Columbian America, has led some scholars to conclude that the grain was brought to the New World by ship in ancient times. Amaranth, which is not unlike wheat, could have been the “wheat” mentioned in the Book of Mormon.⁵⁷

Silk and Linen

Although the type of silk with which we are familiar has not been found, other types of silk were known in the ancient New World. The Spanish reported several kinds of silk. One kind of silk was spun from the hair of rabbit’s bellies, another may have come from a wild silkworm, and yet a third came from the pod of the ceiba tree. Spanish chronicles report that types of silk were spun and woven in Mesoamerica before their arrival. Since the arrival of the Spanish, however, these fabrics have disappeared—deteriorated with time.

As with wheat and silk, it is possible that Book of Mormon linen refers to linen-like items rather than the linen with which we are familiar. Bernal Diaz, for instance, who served with Cortez, described Native American garments made of henequen, which is like linen. Likewise, sixteenth-century Bishop Landa recorded that the Mayan priests used linen garb in their ritual ceremonies.⁵⁸ The native garments were enough like “linen” to warrant the use of the same label. Henequen is made from the fiber of the maguey plant and closely resembles the flax fiber used to make European linen.

Metallurgy

For many years the best evidence suggested that metallurgy was unknown in the Americas until about A.D. 900. The problem with ancient metal artifacts, however, is that left untreated or exposed to the elements, they tend to corrode and deteriorate—especially in the humid and wet jungles of Mesoamerica.

At least a dozen pieces of metal have been found in Mesoamerica dating to before 900 A.D., however, and studies suggest that the most advanced metallurgy was being practiced as early as 1000 B.C. in Colombia⁵⁹ and as early as 2000 B.C. in Peru. Because it is generally accepted that Peru and Mesoamerica were in contact by way of trade, it is likely that this knowledge was passed on to Mesoamerican peoples.

Brass

Modern brass—an alloy of copper and zinc—is believed to have been invented in the sixteenth century. The Bible, however, uses the word “brass” and biblical scholars explain that this actually refers to bronze or copper. It is possible that Joseph also used “brass” to refer to bronze or copper. Other recent findings indicate that actual brass (containing zinc) was used by the Etruscans as early as Lehi’s day, suggesting that the brass plates may have actually been made of brass.

Iron

In 1996 a non-LDS Olmec specialist reported that several tons of iron had been excavated from ancient New World sites. Prior to this discovery, only a few pieces of iron were known.⁶⁰

Steel

When Nephi slew Laban to obtain the plates of brass, he used Laban’s own sword made of “precious steel” (1 Nephi 4:9). James H. Hunt, a critic writing in 1844, listed “steel” as one proof that the Book of Mormon was fraudulent. Hunt—who lived in the same time and general vicinity as Joseph Smith (and would likely have had access to the same resources)—claimed that Alexander the Great, who lived three hundred years after Nephi, employed iron weapons because steel was unknown. “...a coarse kind of steel, or iron carbonated,” claims Hunt, came on the scene about five hundred years after Laban and Nephi.⁶¹ Even as late as 1920 some critics were claiming that Joseph Smith got it wrong and that steel was unknown in Lehi’s day.⁶²

Steel is typically an alloy of iron and traces of carbon that have been hardened by a process of heating and quenching. We now know, however, that deliberate “steeling” of iron was well-known in the Near Eastern world centuries before Nephi was even born. Recent discoveries, for example, include a twelfth-century B.C. carburized knife that shows evidence of quenching. An iron pick, likely dated to the same period, was discovered in northern Israel and has a hardness value characteristic with modern hardened steel.⁶³ Non-LDS archaeologist Amihai Mazar, claims that

this pick “is the earliest known iron implement made of real steel produced by carbonizing, quenching, and tempering.”⁶⁴ Other non-LDS scholars claim that blacksmiths in the Mediterranean had mastered the process of quenching iron into weapons at least a hundred years before Nephi.

Steel was likely an uncommon metal in Nephi’s world—which is probably why Nephi referred to Laban’s sword as “most precious steel”—but archaeology shows that it was not the unknown.

The King James Version of the Bible often uses the word “steel” to refer to what we know today as bronze. Early societies often conflated metals. To early Egyptians, for example, copper was a type of iron.⁶⁵ Likewise, one early New World chronicler wrote that the Tarascans (Mesoamerica’s most noted metallurgists at the time of the Spanish conquest) wore “steel” helmets. How can the Book of Mormon be faulted for using the label “steel” to refer to non-traditional steel objects if Spanish conquistadors and the Bible used the same terminology? It should also be noted that in Joseph Smith’s day the word “steel” meant “hard” or to “make hard,” and did not necessarily refer to the specific metal.

The “Golden” Plates

According to Joseph Smith, the Book of Mormon was engraved on a stack of metal plates, six inches wide, six inches thick, eight inches long, and had the “appearance of gold.”⁶⁶ Critics claim that gold plates of that dimension would weigh about 200 pounds—too heavy for Joseph to carry while running from his enemies.⁶⁷ Those who handled the Book of Mormon, however, claim that the plates only weighed around 50 to 60 pounds.⁶⁸

While a solid block of gold of the specified dimensions might weigh 200 pounds, unevenly hammered sheets of gold within the volume described by Joseph might only weigh 100 pounds—still heavier, however, than the weight given by Book of Mormon witnesses. Turning to the New World we find that the ancient inhabitants did indeed make engravings on a metal which was lighter than gold but had the appearance of gold.

A 1984 article in *Scientific American* addressed the South American discovery of several large metal objects made out of hammered sheet copper. When these copper sheets were first unearthed they were covered with a green corrosion. Once the corrosion was removed, however, it was discovered that the copper had originally been covered with a thin layer of silver or gold so that these sheets appeared to be made entirely out of silver or gold.

The most important alloy discovered at these sites (and also discovered in Mesoamerica) was a mixture of copper and gold known as tumbaga.⁶⁹ When copper and gold (the only two colored metals) are melted together they mix and stay mixed after they cool and solidify. Tumbaga ranged from 97% gold to 97% copper with traces of up to 18% of other metals or impurities. Once the gold finish was applied it would appear that the tumbaga object was made of solid gold. While tumbaga can be cast, drawn, hammered, gilded, soldered, welded, plated, hardened, annealed, polished,

engraved, embossed, and inlaid it would destroy itself if not stored properly. It is therefore interesting to note that the Book of Mormon plates were laid atop two stones positioned across the bottom of the stone box so that the plates would not be exposed to water or dirt.

Too little gold in the Book of Mormon plates would have made them brittle and too much gold would have made them too heavy as well as increasing the danger of distortion during engraving. If the Book of Mormon plates were made of tumbaga, they were probably between 8 and 12 carat gold and thus would have weighed between 53 and 86 pounds.⁷⁰ When tumbaga (which is red) is treated with any simple acid—such as citric acid—the copper in the alloy is removed from its surface leaving a brilliant .0006 inch twenty-three karat gilt coating which is easier to engrave. This process was used in ancient America. To the eye, the object would have the appearance of pure gold.⁷¹

Writings on Metal Plates

While some of Joseph Smith's contemporaries believed that ancient people wrote on metal plates, for most of early LDS history, Latter-day Saints have been ridiculed for claiming that ancient societies wrote on metal plates. As early as 1838 we find outrage at the claim that Jews would have kept records on brass plates or that brass could be written upon. Fewer than fifty years later critics were still claiming that no records were ever engraved on metal plates in antiquity.⁷²

Today we have hundreds of examples of ancient writings on metal plates. The oldest Hebrew example is a small engraved gold plate dating to approximately 1000 B.C.⁷³ Ancient engraved metal plates have been found in gold, silver, and bronze (possibly the brass in the Book of Mormon). One bronze plate in particular has been dated to the sixth century B.C.—the same period the Book of Mormon states that Lehi took the plates of Laban.⁷⁴ Some ancient Old World metal plates have been buried in stone boxes⁷⁵ and some early American traditions include tales of records being kept on metal plates and of ancestors who kept hieroglyphic records on thin gold plates.

Warfare

For many years, critics claimed that warfare was almost unknown in the Americas during Book of Mormon times.⁷⁶ Current studies, however, suggest otherwise. As one *National Geographic* author explains,

Gone forever is the image of the Maya as peaceful, [and] rather primitive.... What emerges is a portrait of a vivid, warlike race, numerous beyond any previous estimate, employing sophisticated agricultural techniques. ...they traded and raided with zest.

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...The Maya—so long portrayed as a peaceful, devout people—were involved in warfare from very early times.⁷⁷

Armor

When modern readers hear the word “armor” they usually envision late medieval European armor. Armor, however, has been constructed of many materials. Mayan warriors, for instance, had elaborately carved pectoral breastplates of wood, bone, stone, jade, or shell. Headplates were made of similar materials or even something as simple as leather. These early Americans fought with various types of shields including large fabric shields⁷⁸ and they commonly wore armor of thick clothing and animal skins. Some Mayan warriors wore a basic armor that consisted of thick, sleeveless jackets made of cotton or other woven material and occasionally covered with animal skins. Sometimes these jackets would be doubly quilted and could withstand a direct arrow impact. The garment was so light and cheap that the Spaniards adopted it as well.⁷⁹

Weapons

A handful of verses in the Book of Mormon have caused the typical reader to assume that the Nephites and Jaredites had metal swords. In Ether, for example, we read that Shule (a Jaredite) “did molten out of the hill, and made swords out of steel” (Ether 7:9). We also read that Limhi’s (Nephite) expedition discovered Jaredite swords with “blades... cankered with rust” (Mosiah 8:11). Nephi likewise tells us that he patterned new swords “after the manner” of Laban’s steel sword (see 1 Nephi 4:9 and 2 Nephi 5:14). It should be remembered (as noted previously) that the term “steel” in Joseph Smith’s day may have actually referred to bronze or something that was made hard.⁸⁰

Thus far, however, no metal swords have been unearthed from ancient America. Understanding some of the related issues helps us make sense of this quandary. The only Book of Mormon reference to a New World “steel” sword comes from Ether 7:9 (Laban’s steel sword was of Old World origin). It is possible that when Mosiah translated Ether, he (like Joseph Smith) used social and linguistical concepts with which he was familiar. Mosiah, as king, possessed Laban’s steel sword (an actual metal Old World sword), which was passed down from one generation to another as an insignia of royalty. In his translation, Mosiah may have given the Jaredite kings swords of steel because in Mosiah’s society a king was expected to have a royal steel sword.

Even if, however, the Jaredites had actual metal swords, it would be erroneous to automatically assume that metal swords were ubiquitous among Book of Mormon warriors. “Steel” swords are not mentioned after Ether so they may have been unique. In a second millennium B.C. Turkish gravesite, for example, we have the discovery of a nine-inch iron dagger with a gold handle. We also have an iron dagger discovered in King Tut’s tomb (fourteenth century B.C.). Using the same faulty

assumptions that some insist for the Book of Mormon, we would think that virtually all Near Eastern soldiers from 2,300 B.C. to 1,300 B.C. had iron daggers. The fact is, however, that these two daggers are unique before the eighth century B.C.—all other soldiers had weapons of bronze or flint (as far as we can determine from the few ancient weapons that have been uncovered). If the iron daggers had not been discovered, there would be no archaeological evidence for iron weapons prior to the eighth century B.C.⁸¹ The same might have been the case in the Book of Mormon. Steel swords—mentioned once in Ether— could have been unique or rare.

But what about the swords made by Nephi and patterned after Laban's steel sword? Decades after Nephi made new swords he continued to call Laban's steel sword the "most precious" (1 Nephi 4:9). This implies that their New World swords somehow fell short of Laban's sword. Could it be that making metal swords was too difficult and was given up after a few tries?

Perhaps Nephi's steel-making technology (which he might have learned in the Old World) died out after Nephi was gone. We have seen technology disappear numerous times in ancient societies. As one example, we know that limited artisans in some early North American woodland cultures had the technology to produce copper pan pipes. When their culture was disrupted, the technology was lost to future generations.⁸²

It is also significant to note that what we generally know about weapons from antiquity comes from art. For instance, while archaeological digs in the Near East vastly outnumber the archaeological digs in Mesoamerica, discoveries of ancient Near Eastern weapons—of any kind—are relatively rare. Archaeologists do not, usually, excavate battlefields in either the Old or New Worlds. Instead, they generally excavate temples, elite houses, public buildings, etc.—the kinds of places where weapons were generally not kept or left behind. In principle, there would be little or no reason to intentionally leave a perfectly good weapon anywhere. Instead, it would be passed on to another warrior. If left unintentionally, it would be salvaged by whoever found it. If archaeologists do not generally dig in battlefields, and weapons are not usually left behind in the types of places where archaeologists do excavate, it is rather difficult to know, with any certainty, the precise inventory or types of weapons from any given ancient culture.⁸³

We know, however, that other Book of Mormon peoples fought with swords. If they were not metal then of what were they constructed? The most likely New World candidate would be a weapon known to the Aztecs as the *macuahuitl*. This sword had a long wooden shaft with large pieces of obsidian flakes fixed into its edges. Although used by the later Aztecs and Mayans, the *macuahuitl* dates back to Book of Mormon times. According to the Book of Mormon their swords were so sharp they could sever limbs with one stroke (Alma 17:37). Indeed, obsidian can be sharper than surgical steel.⁸⁴ During the Spanish conquest a Native American warrior cut the head off a Spaniard's horse with one stroke of his *macuahuitl*—or what the Spanish called his "sword."

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A scimitar (Book of Mormon “cimeter”) usually refers to a blade that is curved. The Book of Mormon tells of warriors fighting with both swords and cimeters. One recently discovered Mesoamerican sculpture depicts a warrior with a macuahuitl (sword) in one hand and a curved weapon (cimeter) in his other hand. There is enough Mesoamerican artwork and artifacts that display the basic characteristics of a scimitar that the Book of Mormon is vindicated for its usage.⁸⁵

Other native swords might have had bits of metal rather than obsidian in their shafts and could thus be described as having a metal blade that could rust (Mosiah 8:11). Obsidian, however, would probably have been the preferred cutting tool because volcanic glass was more abundant and easier to make into a weapon.

It is also possible that Nephi never manufactured steel swords at all. Nephi may have followed the general pattern (“after the manner”) of Laban’s sword—a double-edged, hand-held, long blade (easily the macuahuitl)—rather than making all subsequent swords from metal. Nephi never says that the swords of his generation (or future generations) were made of metal, only that he made swords “after the manner” of Laban’s sword. Many of the things we own today are manufactured after the manner of earlier products. As an example, film cameras of the not-too-distant past were of metal construction. Today’s digital cameras, however, are mostly made of lighter-weight polycarbonates—yet nobody disputes that they are still cameras.

While it is possible the Book of Mormon soldiers had metal weapons that have not, as yet, been discovered, it seems more likely that if they had any metal swords they would have been rare. More plausibly, Book of Mormon warriors utilized the same types of weapons we see in ancient American art—such as the macuahuitl. If we assume that Book of Mormon peoples lived and behaved like the ancient Americans known to archaeologists, then some passages in the Book of Mormon make more sense. In Alma 24:11–13, for example, we read that the Anti-Nephi-Lehis described how the atonement of Christ had miraculously made their swords “bright” again after being “stained” with the blood of murder. While metal blades do not stain, wooden ones do. And while metal blades certainly reflect light, obsidian fragments can be very bright. Obsidian, for instance, was polished by ancient Americans and used as mirrors.

Wheel

Because the Book of Mormon mentions chariots, most people immediately imagine that such a device was wheeled. The wheel, however, is not mentioned in the Book of Mormon other than figuratively in the Isaiah passages (see 2 Nephi 15:28). Two different questions are at issue: (1) could the ancient Americans have known about the wheel but lost the knowledge? (2) must a chariot have wheels?

Could the Wheel be Lost?

When the Spaniards arrived, the Native Americans seemed unfamiliar with the wheel. Archaeologists, however, have found over one hundred examples of wheeled artifacts in the Americas, most of which are pre-Columbian wheeled toys from Central America.⁸⁶ Many of these wheels were attached to the toys in different ways. This would suggest that the early Mesoamericans had some experience with axles and wheels.⁸⁷ If small toy-like objects had been fitted with wheels, it is impossible to think that the early Americans would not have understood the benefit of larger wheeled items such as carts. In all cultures toys are models of larger objects that work on the same principles.

For instance, one recently discovered wheeled figure from the Americas is that of a man astride a platform with wheels. This implies that the Mesoamericans understood that wheels could be used to move a person.⁸⁸ Dr. Sorenson notes that “when the Spaniards invaded Guatemala, they reported that the Quiché Indians used ‘military machines’ consisting of wooden platforms mounted on ‘little rollers’ to haul weapons around one battlefield to resupply their soldiers.”⁸⁹

But if the wheel was known in ancient American (and it may not have been) why would its utilization disappear? After the Spanish introduced (or re-introduced) the wheel to Native Americans, some groups refused to use the wheel because it was not practical in the Mesoamerican jungle terrain.⁹⁰ Many of the Mayas of Guatemala still walk today with loads on their backs, centuries after the Europeans exposed them to the wheel. Frances Gibson, who lived among the Maya and studied their ways, also found that the Mayas did not wish to use the wheel due to religious beliefs.⁹¹

The wheeled figurines have been called “toys” for lack of a better description. Generally, however, these toys were not used for children (as is evidenced by minimal wheel wear and their lack of smooth motion) but rather they had religious significance for adults.⁹² Not only did the wheel represent the sun, but the commonly portrayed dog, often carried on wheels, was also a symbol of the sun and was intimately associated with the underworld. The wheel was linked to the Mesoamerican belief that the sun died each night when setting and was reborn through an Aztec goddess the following morning. Thus the wheels on a figurine connected it symbolically to the sun. This same connection between a wheeled dog and the concept of death and rebirth is found in the Old World and in Old World burials.⁹³ The use of the wheel among early Americans may have disappeared due to changes in religious beliefs.

Unfortunately, larger vehicles would most likely have been constructed of wood, and wood deteriorates with time. Such disappearances are not unusual. According to the Bible, the Philistines in Saul’s time had 30,000 chariots (1 Samuel 13:5), yet as far as I know not a single fragment of a chariot has ever been uncovered in the Holy Land.⁹⁴ In the humid Mesoamerican climate, would we really expect the survival of two-thousand year-old wooden wheels (the last mention of Nephite chariots dates to about 20 A.D.)?

Must a Chariot have Wheels?

In the ancient Near East early horses were too small to ride and so they were sometimes used to pull things such as chariots. By about 1000 B.C., the Egyptians had bred horses large enough for soldiers to ride bareback. With this adaptation, the war chariot began to die out.⁹⁵ Large horses are ridden; small horses were used to pull things. Ancient New World horses would have been small horses.

In the seven Book of Mormon instances that mention horses and chariots together, one draws on Isaiah and has no real-world relation to Book of Mormon lands (2 Nephi 12:7) and one relies on prophetic poetry for the last days (3 Nephi 21:14). It has already been explained (see Chapter 3) that when Joseph translated the plates he most assuredly drew upon the phraseology of his day to express the thoughts in the Nephite record. Therefore, neither of these two verses need represent anything more than modern idioms for ancient ideas—even if there were no literal chariots or horses.

The third verse in our list suggests both real horses and chariots but as part of Nephite provisions. When the Nephites went to war with the Gadianton robbers they took “horses, and their chariots, and their cattle, and all their flocks, and their herds, and their grain, and all their substance” and gathered to Zarahemla to defend themselves (3 Nephi 3:22). Notice that the verse does not say that the horses or chariots were ridden, or that the horses pulled the chariots. To assume such scenarios is to impose our modern thinking on the translation of a foreign and ancient text.

It is possible that Nephite horses, like other animals in their provisions, were used for protein, and that the chariots were used to cart supplies. While horse meat sounds unappealing to many modern people, horses were hunted for food throughout most of man’s early existence and nearly five million horses a year are still consumed throughout the world today.⁹⁶ As already pointed out, however, the term *horse* in the Nephite record could refer to a different animal or animals. Under this theory the animal being eaten would not be a “horse” in the modern sense, but could refer to deer or tapirs. We know that both were eaten by the early Americans and there is evidence that both were “likely tamed, penned, or tethered.”⁹⁷

The remaining four verses that mention horses and chariots all come from Alma Chapter 18 and 20 and deal with Ammon and King Lamoni. Lamoni was king of the Lamanite territory known as the land of Ishmael (Alma 17:21). After the Nephite Ammon saved the king’s “flocks” he was brought before King Lamoni who was preparing his “horses and chariots” for a trip to see Lamoni’s father, the head king of all the Lamanites in the land of Nephi (Alma 18:9–12). Then, in Chapter 20, Lamoni and Ammon prepare to travel to the land of Middoni to ask King Lamoni’s friend, King Antiomno, to release Ammon’s brothers from prison. In preparation, King Lamoni asks his servants to “make ready his horses and chariots” (Alma 20:6). The initial “plain” reading seems to suggest that horse-drawn chariots transported King Lamoni to various destinations.

Our first inclination would be to agree that the term “chariot” suggests wheels, but upon further investigation we must conclude that this interpretation is not man-

datory. Since the Book of Mormon never hints at riding or mounting a chariot we cannot confidently conclude what a “chariot” designates. Like Book of Mormon horses, chariots are never mentioned in a combat or military narrative. If Joseph was sponging information from his nineteenth century environment or from the Bible, why do we not see chariots used in battle? Why do Book of Mormon chariots not take on the characteristics of the feared biblical chariots utilized by the Egyptians?

In the Bible we find that the term “chariot” does not always reflect what we would envision. There are five Hebrew words that translate as *chariot* in the KJV Bible. Some of these Hebrew words have other definitions such as a team, mill-stone, riders, troop of riders, pair of horseman, men riding, camel-riders, place to ride, riding seat, seat of a litter, saddle, portable couch, and human-born sedan chair. The Talmud even uses a version to mean “nuptial bed” and one word used for chariot has an uncertain definition of “amour” or “weapons” and comes from an unused root meaning to be strong or sharp.⁹⁸ The Arabic cognate of one of the Hebrew terms for chariot refers not to any kind of wheeled vehicle, but can refer to a ship or a boat.⁹⁹ In most instances, the word refers to a device that can move a person or object, but not necessarily a wheeled device.

...the Welsh cognate to the English chariot, signifies, among other things, a “dray”—which Webster’s defines as “any of several wheel-less land vehicles used for haulage,” and for which it gives as a synonym nothing less than *travois*; dray is obviously cognate with the verb to drag—or a “sledge” (which term is, itself, related to words like sleigh and sled—which also plainly denote wheelless vehicles).¹⁰⁰

The English word “chariot” comes from Latin *carrus*, *car*, and is etymologically related to the verb *to carry*. The primary definition for chariot seems to be a device to carry some sort of load. We should not automatically assume that the Nephites understood chariots as wheeled war machines.¹⁰¹

But if Nephite chariots were not wheeled (and perhaps they were), why are chariots mentioned in conjunction with Nephite horses? First, Nephite chariots (wheeled or not) may have been pulled by an animal that fits the expanded definition of the Nephite word *horse*. Several ancient Eastern and Near Eastern pieces of art and petroglyphs depict chariots drawn by deer. Some early Hindu chariots were pulled by deer. We find deer-pulling chariots in Asian art and the Greek goddess Artemis supposedly rode a chariot pulled by deer.¹⁰²

Perhaps a Nephite “horse” pulled *wheelless* chariots. We know, for instance, that the American Indian *travois* (a kind of sled) was pulled, not only by horses, but also by dogs. Maybe King Lamoni used a “horse”-drawn-*travois* to cart his supplies while traveling. The mass Nephite movement to Zarahemla certainly suggests that chariots were used to carry supplies rather than soldiers. If Nephite horses were deer, tapirs, or diminutive early American horses, they could have dragged a *travois*, or

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they could have been among the provisions that were “prepared” for King Lamoni and were carted on the “chariot.”

Another possibility is that King Lamoni’s chariot was a palanquin and that his horses were symbolic battle beasts. Native American kings, for example, were often carried into war or to ceremonial events on litters or *palanquins*. These sedans or portable thrones¹⁰³ were carried on the shoulders of other men.¹⁰⁴ Palanquins certainly fit the Hebrew description for a “chariot.”

One possible relationship between a Nephite “horse” and “chariot” could include effigies of Mesoamerican gods. As Mesoamerican ethnohistorian Brant Gardner has written, “the capture of the king’s litter [palanquin] is tantamount to the capture of the gods of that king.” The animal alter-ego of a god accompanied the king and conceptually represented the king and litter. “Thus,” writes Gardner, “there were three important elements of this complex which went into battle: king, litter, and battle beast.”¹⁰⁵

Typically a battle beast statue accompanied the king atop the palanquin. The most common battle beast was the jaguar, which was a symbol of war, but other creatures, monsters, or gods were also associated with the battle beast and war palanquins. Among the ancient Zapotec gods, for instance, was Xolotl, the “lightning beast.” Perhaps coincidentally, his image was often associated with the setting sun being devoured by the earth (reminiscent of what we find in religious wheel symbolism). He is also associated with war. While most scholars believe that he is symbolized by a dog (and it is typically the dog which we find on the religious wheeled figures), the eminent non-LDS scholar, Eduard Seler, believes that Xolotl is more closely associated with the tapir.¹⁰⁶

According to the Spanish chronicler Sahagun this animal-god, Xolotl, is described as having a “large snout, large teeth, hoofs like an ox, a thick hide, and reddish hair”—a pretty good description of a tapir. Dr. Seler explains that along with the dog, Xolotl’s role of lightning beast is shared by two other creatures in the codices: the tapir and the jaguar. These animals appear with the hieroglyphs jaguar and *kan*, meaning corn or yellow. The root *xolo*, yellow in Zapotec, occurs in both the words for dog and tapir, and according to Seler, it is repeated in Aztec in the name of the god Xolotl.¹⁰⁷

So while the jaguar is the most common battle-beast associated with Mayan war palanquins, we see that the warlike god Xolotl is associated with the jaguar, the tapir, the dog (which we find in religious symbolism on wheels), and the devouring of the sun (which is also associated with wheels). The interconnectivity with the battle beasts and palanquins suggest possible (albeit tentative) connections between the Book of Mormon’s statements of preparing horses and chariots.

The astute reader will note, however, that King Lamoni was not going into battle with his chariot—which would seem to negate any theory that included a “battle beast” or war palanquin. Tiffany M. Lindley, a non-LDS anthropologist (MA, University of Alabama) notes that the battle beasts were part of what she calls “protector gods” for the early Americans. The Maya constructed effigies of some of their pro-

lector gods that were carried along with the king's palanquin. As Lindley explains, however,

Various sacred forces, such as patron deities, were invoked to protect and guide the ahau [king], warriors, and commoners during significant events. Patron deities belonged to the city and the polity for which a warrior fought, but were not limited to war.¹⁰⁸

Just as protector gods were “not restricted to war appearances. Palanquins were more than likely used during a variety of official activities and not only in relation to warfare.”¹⁰⁹ Some of these other instances would have included “political activities and celebrations...”¹¹⁰

If a real Mesoamerican king was going to travel to his father's feast—a father who was a chief king—or to visit another king with a request to release foreign prisoners, it is likely that he would have prepared a protector god and ceremonial palanquin for the trips.

Lastly, it is interesting to note that the word “prepare” in our English Old Testaments comes from a variety of Hebrew words. One of those Hebrew words is *'asah*. This word is translated in the King James Version of the Bible as various forms of “make,” “do,” “yield,” “prepare,” “offer,” and more. Among the word's many definitions we can include “to do,” “to work,” “to make,” “to deal,” as well as to “make an offering” or “to appoint” or “to ordain.” In the King James Version of the Old Testament the word is translated forty-nine times as some form of “offer” and thirty-seven times as some form of “prepare.” In virtually every instance these words are used in the context of a ritual offering—often sacrificial meat or burnt offering.¹¹¹

Because we know that there is at least some connection with the Book of Mormon text and ancient Hebrew it is interesting to cite the late esteemed New World scholar Hubert Howe Bancroft who pointed out that the Quiché (a Mayan people of Guatemala) “always made a sacrifice before commencing any work of importance.”¹¹² The Maya sacrificed many animals, including deer and tapirs¹¹³—both, or either, of which may have qualified as a Nephite horse. So it is possible that when we read that King Lamoni's horses and chariots were “prepared” for his departure, that this preparing involved the offering, or ritual Mayan sacrifice, of a deer or tapir prior to the commencement of his visitation with another king.

Anachronisms from a Real-World Perspective

If real Israelites had lived anciently in the Americas and had left records in Hebrew about their lives, the tapir would easily—perhaps likely—have been included into the word “horse.” If sixth-century B.C. Egyptians, or people who wrote with an Egyptian script, had lived in the Americas and had left records, they easily could have included the deer, tapir, and perhaps other animals into their expanded defini-

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tion of “horse.” Both peoples would also likely have referred to Mayan palanquins or travois-type devices as “chariots.”

Critics claim that in order to validate the Book of Mormon, apologists desperately reinterpret “plain” Book of Mormon words and change their blatant anachronistic meanings to something more palatable for the Mesoamerican geographic theory. Thus swords become clubs, horses become tapirs, North becomes West, and chariots become palanquins. This contra-LDS argument is specious, however, because LDS apologists do not just randomly reinterpret Book of Mormon anachronistic words in *ad hoc* fashion. Apologists apply the conclusions of non-LDS studies that show historical precedent in the same manner as employed in Book of Mormon studies. The Spaniards called the Aztec clubs “swords,” Native Americans called the Spaniard horses “tapirs,” early American geographical directions were delineated in ways that match what we find in the Book of Mormon (see Chapter 14), and historical “chariots” sometimes referred to non-wheeled thrones, couches, or other wheelless carts.

To claim that LDS apologists reinterpret the “plain” meaning of Book of Mormon texts in willy-nilly fashion, in order to save it, is to disregard the volumes of research by non-LDS scholars whose studies actually support the arguments of apologists in real-world settings. While we are not certain as to the exact nature of all Book of Mormon items, there are logical explanations—with historical antecedents—for all the supposed anachronisms in the Book of Mormon.

Primary Sources

- Brant A. Gardner, “Behind the Mask, Behind the Curtain; Uncovering the Illusion,” *FARMS Review* (2005) 17:2, 145–195.
- William J. Hamblin, “Basic Methodological Problems with the Anti-Mormon Approach to the Geography and Archaeology of the Book of Mormon,” *Journal of Book of Mormon Studies* (1993), 2:1, 161–197.
- William J. Hamblin and A. Brent Merrill, “Swords in the Book of Mormon,” *Warfare in the Book of Mormon*, eds., Stephen D. Ricks and William J. Hamblin (Salt Lake City and Provo: Deseret Book and FARMS, 1990), 329–351.
- Hugh Nibley, *Lehi in the Desert and The World of the Jaredites* (Salt Lake City: Bookcraft, 1980).
- Matthew Roper, “Swords and ‘Cimeters’ in the Book of Mormon,” *Journal of Book of Mormon Studies* (1999), 8:1, 34–43.
- John L. Sorenson, *An Ancient American Setting for the Book of Mormon* (Salt Lake City: Deseret Book and FARMS, 1994).

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- John L. Sorenson, “Digging into the Book of Mormon: Our Changing Understanding of Ancient America and Its Scripture,” *Ensign* (September 1984), 27–37 and (October 1984), 12–23.
- John L. Sorenson, *Images of Ancient America: Visualizing Book of Mormon Life* (Provo: FARMS, 1998).
- John A. Tvedtnes, “Review of New Approaches to the Book of Mormon: Explorations in Critical Methodology,” *FARMS Review of Books* (1994) 6:1, 8–49.
- Diane E. Wirth, *A Challenge to the Critics* (Bountiful, Utah: Horizon Publishing, 1986).