



Type: Report

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Published: Provo, UT; FARMS, 1981

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Preliminary Report
Book of Mormon, Archaeology

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Wheeled Figurines in the Ancient World

John L. Sorenson

August 1981

There was a time not many decades ago when scholars could and did, with no more than minor qualification, assert that the wheel was unknown in the New World before the arrival of European explorers in the early sixteenth century. Such blanket statements were toned down slightly after 1940 when formal discovery of "wheeled toys" in Mexico made it apparent to scholars that at least the concept of the wheel had existed in the Americas. Still more recent finds have complicated the assumption that these were mere "toys." A new survey and interpretation of the evidence on this point now seems called for.

The Mesoamerican Wheeled Figurines

Charnay (1888) first reported a wheeled object from Mexico, but not until Stirling and Drucker excavated at Tres Zapotes, Veracruz, did the wheeled animal figure become established in the eyes of archaeologists as worthy of note in the inventory of Mesoamerican culture. Ekholm's article entitled "Wheeled Toys in Mexico" (1946) was the first work in English to survey the extant material and make observations on its possible significance. A Spanish-language roundtable the same year presented similar information (Cuadernos Americanos, 1946). The next summary of the growing corpus of "toys" was Von Winning's 1960 article in which he described four interesting new examples. Lopez Valdés (1966) showed new examples and plowed some of the same ground in his discussion. Borhegyi (1970) once more reviewed the data and included additional interpretive suggestions. Boggs (1973) again recapped the earlier material while providing information on sixteen further examples from El Salvador. Marschall (1972; 1979, 127-34) placed the material in the context of his argument for cultural diffusion from East Asia.

These figures are most often dogs (Boggs 1973, 11), although sometimes the features are vague enough that one cannot be sure. For example, the one illustrated in Coe (1977, 204), which is found in the American Museum of Natural History, could be either a dog or a deer. Other animals include felines (presumably jaguars), alligator, iguana, monkey, and peccary (or armadillo?). On one Salvadoran example a human in an animal-like position is shown (Boggs 1973, 7-9, Fig. 3).

Each figure has holes through legs (or in some cases through a horizontal, tube-like body) and through those holes an axle tube was usually inserted. Actually, however, a total of five methods for attaching wheels has been observed, suggesting that a considerable amount of experimenting was done with the devices. In a few cases wheels were found in position and in sets of four, but preservation being what it is, no excavated examples have been found with the original

axle and wheels intact. Most of the figures, and all the smaller ones, were solid ceramic, but larger examples are known which are hollow. Portions of a few figurines are moldmade, indicating that substantial numbers of the objects were produced and used and yet await discovery. In certain examples the animal's tail and body formed a whistle, with mouthpiece (sometimes the tail) and fingerhole(s) (Boggs 1973, 15). Most of the properly excavated figurines have come from tombs or burials, although so many appear only in private collections, we cannot know the contexts from which a majority were taken.

The map in Boggs (1973, 6) shows the geographical distribution of many of the wheeled figures. In brief, examples have come from the Mexican states of México, Puebla, Sinaloa, Michoacán, Nayarit, Guerrero, Oaxaca, Vera Cruz, and the Distrito Federal. Others are known from three areas of El Salvador and Coclé, Panama (wheels have not been found but figurines have holes in legs). It will be noted that no examples have yet been reported from the area between Tres Zapotes and the Valley of Oaxaca on the north and west and El Salvador. Thus the entire Mayan-speaking zone and Chiapas remains a blank in this respect. If the lack is not a mere failure of sampling, it raises an interesting question about function. Had these objects been simply toys for children, it seems unlikely that adults of that vast intermediate area in southern Mesoamerica would have kept their children from such an innocent pleasure, knowledge of which must surely have spread to them via travellers and merchants. Instead it seems likely that the objects bore more serious significance and that the absence somehow related to beliefs.

Most examples date between A.D. 500 and 900, but the tradition continued right up to the Spanish Conquest, and perhaps later, it is likely. It began before the time of Christ. Teotihuacán wheeled figures date to the Miccaotli period, which covers part of the first and second centuries A.D. (Müller 1978a, 82). Similar figurines are known from central Veracruz at about the same time. At Cholula, the major site in Puebla, the corresponding period (II) includes wheeled dogs, and one example of a dog figurine from Cholula I (around the time of Christ) looks just like those from period II except that the legs are broken off so that we cannot see whether wheels were attached (Müller 1978b, 134-5, 139). Yet still earlier are wheeled figurines from El Salvador which Borhegyi assigns to about 100 B.C., making these the earliest yet discovered in Mesoamerica (Borhegyi 1970, 24).

These artifacts once seemed rare, but now a large number are known. Cheesman (1969, 189) counted at least thirty examples. Boggs (1973, 3) knew of over sixty. Since then many more have appeared, especially in the materials excavated in Cholula, Teotihuacan, Tula (Diehl, n.d.) and central Veracruz. Besides, hundreds of individual wheels exist (e.g. Müller 1978b, 141, 158); the wheels are more easily preserved than the whole figures, of course. So these artifacts should now be reckoned a standard feature of the cultural assemblage in at least northern and western Mesoamerica for over a millennium and a half. This spatial and chronological extent alone suggests the importance they must have had and demands a systematic attempt to interpret their significance.

Function

These figurines were at first called toys for lack of a more obvious term, but there is little reason for that label. In most cases they would not have served well for children's play; many, when reconstructed, do not pull smoothly enough that children would have been likely to enjoy their motion. Furthermore most do not show significant wear on the wheel holes where wear could be expected. Most investigators now agree that the devices were of significance to adults, not to kids (Lopez Valdés 1966, 138; Von Winning 1960, 71; Borhegyi 1970, 24). Of course certain ones could have been toys, either by intent or following adult use and discard of the figures.

A number of suggestions have been made that such unusual devices would have had religious significance. In Mesoamerica that is usually a safe guess about any strange-looking artifact, because few aspects of life there were not infused with religious meaning. In any case some of these figurines are puzzling and yield no utilitarian meaning. One collected by Saville in the Valley of Oaxaca many decades ago (like any other collected object, it could conceivably be post-columbian, but everything about its material and construction indicates a pre-European age) has a human figure riding on the back of a wheeled animal whose identification is unclear (Ekholm, 1946, 222 thought it a dog). At the same time the superbly-preserved figure excavated at Tres Zapotes, Vera Cruz, appears to have been equipped with a bridle, and it is unmistakably a dog (Stirling 1940, 312).

This kind of odd business with the animals warns us that our knowledge of the zoological sector in Mesoamerican cultures is slight, but at least it would be unwarranted for us to suppose that the figures we are considering here are for children. Surely we need to seek their meaning in another domain. The obvious place to begin is ritual and myth.

Ceremonial significance is dramatically shown in two of the most unusual wheeled figures yet discovered, but rather than clarifying matters, they complicate things further. Von Winning (1960, 67) illustrates an enigmatic figure of a monkey (or perhaps only of its hide?) draped upon a triangular stand mounted on a wheeled platform. According to Von Winning, Medellín Zenil has excavated from the same Tierra Blanca, Vera Cruz, region of Mexico where this unique item is reported to have originated some half-meter long clay slabs which are decorated with similar triangular stands (but these are not equipped with wheels as the figurine is). On those stands he found representations of monkeys and other creatures "in a playful attitude." Unfortunately Medellín Z.'s material has not been published, so we are unable to learn details of this ritual complex.

Von Winning's other example of a wheeled platform (1970, 69) is still more surprising. It shows a human figure on top of a legged platform. Through the legs of the platform tubes protrude, while one male rides, seated, atop the platform with arms on knees. Nothing quite like this is known elsewhere, although a figurine from El Salvador shows

a man more or less clinging to the back of a headless four-legged animal (the human head is the head of the animal, if that is what is represented, it appears) (Boggs 1973, 8-9, Fig. 3). (A second figure shown by Boggs (Fig. 4) and one illustrated by Haberland (1965, Figs. 1, 2) also seem to show a human "rider" on a flute-like but incomplete animal body. The example from Oaxaca, also incomplete, seems to be of the same sort.) These specimens demonstrate that the significance of the figures goes beyond animals and involves some sort of human-going-somewhere notion.

Upon seeing the platform figure, the idea comes immediately to mind that the people who constructed this figure must have understood with clarity that wheels could be employed on a practical cart-like vehicle, whether they ever constructed a full-sized one or not. Previously commentators had raised the question of how the Mesoamericans could have had the "wheeled toys" before them for centuries without figuring out any utilitarian function for the mechanism. The answer obviously is that they had the understanding but did not care, or considered it inconvenient, to do anything about it.² The problem of why a people adopts or fails to adopt, or keeps or abandons, some cultural practice or concept turns out to be very complex (see discussions and examples in Jett 1971, 47-50, and Kroeber 1948, 446-9). Whatever factors may have been involved here, the wheeled figure pictured in Von Winning's article is concrete evidence that the fertile Mesoamerican brains which are acclaimed by scholars for having invented the concept of zero did not miss the point that the wheels on their miniature "toys" could serve to move man if need be.

Wheels and Movement in Mesoamerican Belief

Borhegyi (1970, 24) followed Von Winning (1960, 72) in suggesting that belief in the movement of "celestial deities" might lie behind the wheeled miniatures. He also pointed out the frequency with which they occur in burials. Pursuing these possibilities, we immediately note the important place of the dog in early Mexican beliefs about the dead. The dog was supposed to accompany, guide and protect the deceased. Dog skeletons found in burials, as well as ceramic effigies of dogs, show how widespread the belief--Kaminaljuyu, Teotihuacán, Tlatilco, Monte Albán, Chupícuaro, and elsewhere (Borhegyi 1965, 23)--and how long-lasting. The dog-accompanied burials at Tlatilco go back a minimum of two millennia before the Conquest and possibly three.

Art and tradition both show evidence of the dog's significance in pre-columbian Mesoamerica. A dedicatory dog burial had been placed at the western foot of Mound 20 at Mirador, Chiapas (Agrinier 1969, 82), of which the excavator notes: "The . . . dog interment . . . adds the Xolotl or night sun aspect of Quetzalcoatl involving the passage of the sun through the night and day cycles associated with death and rebirth that was so characteristic of much of Mesoamerican religion in later times." Thompson (1950, 172-3) explained: "Both the dog and the jaguar are intimately associated with the underworld, the former because he led the sun and the dead to the underworld." He continued, "In central Mexico the god Xolotl had the form of a dog . . . Xolotl is closely connected with the underworld, for according to the Mexican story of the

creation he descended thither to obtain from Mictlantecutli, lord of the abode of the dead, the bone from which the human race was made (another version attributes this journey to his twin brother Quetzalcoatl). He also became the sun. . . ." Norman supposes Stela 50 at Izapa shows a dog head protruding from the headdress of a skeletal figure, which identifies its bearer as both the sun and as an early Quetzalcoatl figure (1976, 147). On Stela 27 Norman (1976, 179) sees a little jaguar or dog apparently leading a human figure, probably along the path of the sun into the west and thus the underworld of the dead. The jaguar is, of course, commonly recognized as symbolic of the underworld and the sun in its night aspect.

Ethnographic data from surviving native peoples in Mesoamerica underline the persistence of these beliefs. The Chinantec of recent years think that the soul of the deceased is carried to the other side of the sea by a large black dog (Weitlaner and Cline 1969, 542). The Cuicatec hold that the soul of the deceased crosses a river or sea into another world on a dog (Weitlaner, 1969, 446). That other world is the underworld through which the sun transits at night. West is the direction associated with death, for the sun goes "down" there; it is the obvious direction, then, to which the deceased departs. So the Cuicatec construct tombs facing west. Furthermore they put "toys" in the tombs (not just as mementoes in children's graves, either). The western association with death and the underworld goes beyond humans however. The sun and other heavenly bodies were believed to "die" and descend to that world, or rather through it, to be reborn in the morning, thus providing a model for the transit of the soul of man to rebirth.

These fragmentary beliefs and myths concerning death, sun and dogs have only recently been integrated successfully (Klein 1975) into a picture of the exotic logic by which the native peoples of Mesoamerica made sense of this matter. Of particular concern is the goddess Tlaltecuhli, as she was known among the Aztecs. (Other peoples both before and contemporary with the Aztecs held similar beliefs but used different deity names.) "She was conceived of as a giant, reputedly amphibian, creature afloat in the center of a large ocean where her body formed the surface and bowels of the earth. Her upturned head, with wide open jaws, rested at the western horizon, her hind quarters presumably at the eastern horizon." All vegetation and thus all life and its nourishment sprang from her body. "But the Mesoamerican belief that the bowels of the earth contained the underworld and the souls of the dead associated the goddess with death as well. In Mexican cosmography the entrance to the underworld lay in the west; here the female earth monster with her wide open jaws was believed to devour the setting planets and stars as well as the souls of dead humans. The dead descended from here to the navel of the monster at which was located Mictlán, the Aztec land of the dead, also known as tlaxicco, 'the navel of the earth.' Those who were to be reborn at the eastern horizon--the sun and the planet Venus, for example--apparently passed on to the deity's womb in the east. Death was therefore clearly prerequisite for rebirth in such a system. . . ." Moreover, her sister variant, Coatlicue, "was regarded as the mother of the sun, the moon, and the stars." She was also patroness of the Cihuateteo, the souls of women who died in childbirth and who escorted the descending sun to its daily setting in the west.

The major Aztec rain god, Tlaloc, also ties into this complex scheme of belief. Klein observes that there is a close connection between Tlaloc and Tlaltecuhltli. (As in other belief systems in the archaic civilizations of the world, that in Mesoamerica handled all kinds of transitions which "logical" thought is unable to handle-- genders merge, attributes overlap, and time and space are of little consequence in these "theologies.") Tlaloc's name means "Path under the Earth." He is "god of the lower regions," where he stores the water in underground caves whence all rain originates. One of Tlaloc's most characteristic features in artistic representations is the prominent rings around his eyes; but Tlaltecuhltli too showed such rings. Klein shows that the famous disc, the Aztec Calendar Stone, represents the sun, while the ring around its edge formed by two serpents meeting "symbolized the daily course of the sun through the sky and underworld." She also argues in detail that the evening star, Venus, which was of immense significance in Mesoamerican belief (particularly as tied to Quetzalcoatl), is represented in its "dying" phase as it disappears in the west by double rings around the eyes of Venus-associated deities. Another god and goddess, Mictlantecuhltli and his consort Mictecacihuatl, are also portrayed with ringed eyes. So a whole group of overlapping or interrelated deities shared conceptual ties to death, the west, the passage of souls and heavenly bodies to the underworld beneath the horizon, and the artistic convention of signalling their presence by use of rings or discs. Thus several iconographic senses converge in this representation: the sun as disc in appearance, the circle as calendrical sign of completion, the return of the rains and thus life at the appropriate season, and death-followed-by-rebirth for the heavenly bodies and also humans. Clearly many of the most important philosophical considerations of human life appear in this complex. It would have been of intense significance to real people. No wonder the basic ideas can be seen to extend through thousands of years of Mesoamerican religious history.

Yet the scheme of belief was not so integral and foolproof that human effort was not required. For example, the famous Aztec New Fire ceremony which was conducted upon completion of each 52-year calendrical cycle was a breathless enactment of rites which it was hoped would be sufficiently powerful that the sun and the whole cosmic system would in fact be reborn on the crucial morning of the new cycle. All the supposed power of ritual was called for to ensure maintenance of the cosmic system. Surely any ritual devices available to the ancient Mexican believers would also be employed to ensure survival of a loved one. So if the burial offering of a dog to act as an escort to the land of death was necessary, it would be provided. Or if the figurine of a "moving," vivified animal would help, then such an image would be used, by true believers if not by everyone.

In summary, the wheels on a figurine connected it symbolically to the sun, the idea of cyclical completion, Tlaltecuhltli and rebirth through her, Tlaloc and his life-giving rain and fertility as these returned seasonally, personal resurrection or continuity, and so on.

Naturally there are loose ends. Exactly how the dog connects with Tlaltecuhltli is not yet clear, although this will probably become apparent

upon more detailed examination of the body of Mexican myth and ritual. Nor is it obvious why some animals other than the dog are sometimes represented. The jaguar is easiest, for it represents the underworld, death, the sun and so on in many ways like the dog but with some different emphases. So jaguar wheeled figurines can be seen as near variants of the dog figures which are the most common. Perhaps other animals represent regional or tribal variations on the more general pattern. For example, the Trique Indians consider the deer to be father of the sun and moon (Nader 1969, 412). That degree of association with the dying heavenly bodies might be enough to account for occurrence of wheeled deer in certain locations. One alligator figurine and another of an iguana could be connected to the so-called earth-monster, an aquatic deity or aspect more connoting the east (hence rebirth?) than the west/death significance of the dog.

Other connections of the wheeled figurine complex to aspects of the Mesoamerican cult deserve research also. Klein (1975, 73) points out, for example, that Xipe Totec, the flayed god who is usually represented by the skin of a sacrificial victim, was a variant of Tlaltecuhli and a god of the west and the evening sky. Perhaps the monkey in the artifact pictured by Von Winning is flayed, with the hide then draped over the triangular stand on its platform, and represents an association of an early Vera Cruz version of the Xipe Totec deity.

Another topic which calls for further study is the possible relationship between the wheel and other presumed solar representations. The rubber ball game in Mesoamerica is believed to represent the motion of the sun and/or moon and the opposition of day and night or life and death (Caso 1965, 926). The stone balls found in Vera Cruz and especially Costa Rica (one of these is displayed on the BYU campus) as well as the stone-ball-atop-pillar monuments found at Izapa (Norman 1976, 108) invite further comparison with solar beliefs. Moreover, the fact that some of the mobile figurines are whistles or flutes needs further research too, inasmuch as non-wheeled whistles, which are widespread in Mesoamerica, are often supposed to be part of cultic (probably burial) equipment. Borhegyi has also suggested that the concept of movement in figurines might unite the wheeled figures with jointed (or marionette) style figurines which appear in Mesoamerica in roughly the same areas as the wheeled figures (Borhegyi 1964).

The material presented so far helps us see the wheeled figurines in a broad perspective within the setting of major Mesoamerican beliefs about death, rebirth, the sun, completion of time periods, and so on. Yet none of what we have seen approaches being an "explanation" for the presence of wheels or wheeled cult objects. If one needed to represent the sun in connection with death symbolism, why not merely make stone balls, or paint circles or discs. And where might the rather far-fetched notion have come from of having a dog carrying the sun or a dead person to the underworld? Where, above all, did the mechanical concept of the wheeled vehicle come from? It makes reason stare to suppose that such a non-utilitarian "invention" would have come out of the blue. When we realize that probably all other wheeled cult objects in the world came from a single source which is ultimately the Near East about 5500 years ago (Porrer 1932; Littauer and Crowell 1979), we would be on

the absurd side to suppose that just once, about two millennia ago, such an odd notion would strike some Mesoamerican inventor. Considerations like these led Marschall (1979) and Lopez Valdés (1966, 143) each to look across the ocean for the source of these objects. Such an origin deserves a close look, since independent development in the Americas seems unlikely.

Wheeled Figurines in the Old World

Ekholm (1946), Heine-Geldern (1966), Sorenson (1971), and Marschall (1979) have given bits of information about Old World wheeled figurines, but it turns out that no near-adequate synthesis of that material has yet been published. Neither the functions nor symbolic associations nor even the time-space distributions of this type of cultic equipment is discussed anywhere in a serious manner. It will be necessary, therefore, to look at those matters now.

Wheeled figurines were constructed in an area from Southeast Asia to Italy and Scandinavia to Egypt over a range in time from at least 3500 B.C. until classical Rome and beyond through medieval times. So much variety is encompassed in this extensive distribution that it becomes difficult to distinguish cult objects from toys and mere artistic efforts. That there was a distinct, long-lasting tradition of constructing and dedicating wheeled figurines to various deities, particularly in connection with solar symbolism and death, is unquestionable. But the variety makes it impossible to summarize the forms and functions as readily as we can the far fewer and later Mesoamerican examples.

Just as the earliest evidence for operational wheeled vehicles in the world comes from Mesopotamia (Littauer and Crowel 1979, 11, 13), so do the first traces of models. These come from Tepe Gawra in northern Mesopotamia where University of Pennsylvania archaeologists fifty years ago produced numerous wheeled ceramic vehicles from Stratum VIII (now dated to 2800-3100 B.C. or earlier). Three discs found in Strata XIX and XIII may have been wheels of these carts; if so they would push the date back more centuries into the Late Ubaid era (3500 B.C. or before) (Tobler 1950, 167). Partial confirmation of such an early date is provided by a miniature painted wheel picked up on the surface of Yorgan Tapa near Nuzi which is said to be "stylistically Ubaidian" in its decoration. (A similar specimen comes from the first level at Chagar Bazar.) (Starr 1939, 361). Whatever the precise date, these examples push the time of development of the miniatures back near to or before the first evidence for actual use of practical vehicles, which Littauer and Crowel (1979, 13) give as Uruk IVA in the Mesopotamian sequence (no later than 3100 B.C.) After 2500 B.C. model wheeled vehicles are numerous (Littauer and Crowel 1979, 16, 20ff). Not only vehicles but animals themselves bear wheels, for example three animal figures from Tepe Gawra VI (about 2400-2500 B.C. or earlier) whose legs had been pierced as "axle holes" (Speiser 1935, 68). Forrer (1932) illustrates numerous other animals on wheels with and without accompanying vehicles. Also illustrated in that source are a variety of other mountings in which animals and even vehicles themselves are mounted on a platform which itself rides on axles passing through tubes. At Nuzi a miniature

ceramic yoke was found showing that animal figurines were hitched to the tiny vehicles (Starr 1939, 416). By the later third millennium (2375-2000 B.C., Littauer and Crowel 1979, 37ff) ceramic models came not only from southern Mesopotamia but also from the north and from Elam and Syria.

The earliest evidence for religious use of the miniatures is not too clear, but even from one of the first model vehicles yet recovered we are probably faced with a non-utilitarian representation; Speiser (1935, 68) observed that the animal seems to be a dog bearing a halter device! Wagons drawn by bovids (oxen?) were used as hearses, probably, in burials of Early Dynastic date from Kish and Ur (Littauer and Crowel 1979, 31). Cylinder seals show E.D. vehicles being driven by deities and the animals are sometimes mythical hybrids (e.g., winged felids on Akkadian seals, Littauer and Crowel 1979, Figure 17). In fact, these authors conclude that by the late third millennium the traditional four-wheeler "battle-wagon" may have been used largely in the religious cult (page 44ff). Texts now give us more detail about the significance of the models. One, "The Descent of Urnammu to the Netherworld," the extant version of which we know from a text of the Isin-Larsa period (about 2100 B.C.), describes the king arriving in the underworld in a vehicle, his horses and offering of a vehicle to the deity having been buried with his corpse (Littauer and Crowel 1979, 45, citing Kramer). Civil (1968) has dealt with the chariot as an implement in cult and in mythology. (Those of the Sumerians would have been "wagons," actually; the true chariot did not appear until the early second millennium.) The oldest sacred chariot according to the Išme-Dagan text was Ningirsu's. His coach house had been built by Entemena and again by Urakagina (kings dating around 2400-2500 B.C.). Archives of the dynasty at Lagash often mention food offerings made to the sacred chariots or at the "chariot's place" or house. "The bridge between the real chariot and the mythical one is the model chariot, which may be a humble piece of clay or a piece of jewelry, kept in a sacred place" (Civil 1968, 3).

Funerary/cultic practices involving the vehicles and wheeled animals continued for millenia. Actual vehicles used as hearses and ceramic models of them (a good deal cheaper) have been found in tombs on Cyprus dating to the sixth to seventh centuries B.C. (Littauer and Crowel 1979, 99, 154; compare Bossert 1951, Plate 57). Now as well as far earlier one type of representation of the "chariots" shows a seated figure, either the dead or his image or a deity image, being carried on a vehicle.

The geographical distribution continued expanding at least to classical times. They probably did not reach Egypt until the chariot did, in the second millennium B. C., but they would have been in Palestine somewhat earlier. They have been found archaeologically there at Tell En-Nasbeh, Megiddo and Gerar among other places. In the Rig Veda the Indian god Varuna and his brother drive a chariot across the heavens with sun rays representing their arms. Surya, the sun itself in India, drove a chariot, sometimes with one horse or with seven or more. The Persian army of Xerxes was followed by a chariot of the sky-god. Helios or Apollos of the Greeks drove by day across the sky and rode by vessel at night through the waters of the underworld to reach the east for

sunrise (Hawkes 1962, 168-77). The connection with the dead is directly reflected in the practice on Rhodes in classical times of annually dedicating a chariot and four horses to the sun, then flinging them into the sea so the setting sun could use them. The Spartans sacrificed horses to the sun on top of Mt. Taygetus, behind which they normally saw it set each evening. The parallel at Rhodes was that for them the sun set into the sea (Frazer 1935, I:315-6).

Horses are the usual draft animals for the vehicles by the second millennium and later, yet a surprising variety of creatures appears harnessed to the vehicles. The dog at Tepe Gawra has already been mentioned. A generalized feline pulls a cart from Syria. Sheep pull one Greek chariot. A deer is the motive power of a 6th century B.C. chariot of Dionysus and Ariadne, while a century and one-half later a Greek vase shows a pair of leopards as the draft animals (Goodenough 1968, 7:74). In Mesopotamian art cylinder seals already mentioned early on picture a mythical winged cat-creature in draft. The Assyrians usually showed the cherub--a human-headed bull hybrid--or sometimes the lion pulling a sacred vehicle. Goodenough argues convincingly that what is intended in all these scenes is not literal representation but that the "harness shows that the animal's powers" were at the service of the god or goddess--attributes of the deity being shown by the animals. The art represents, he says, that "the tamed felines [or whatever] bring the god or his implements for our salvation" (Goodenough 1968, 7:75).

This concept is made clearer in the abundant Egyptian mythological material. (Of course the particular area or sub-civilization within the general oikoumene of the ancient Asiatic-Mediterranean world differed some, but not basically, in its overall pattern of cosmic beliefs and cultic practices.) The lion in Egypt was especially associated with deities connected with the sun. Lions were also guardians of the lower world and protector of the dead. The feline figure also signified royalty. The Book of the Dead identifies a pair of lions as Osiris, god of the sun at night, and Ra, god of the risen sun, while the lions Shu and Tefnet "carried the dead man in the cycle of the sun and satisfied his hunger and thirst." The blessed were privileged to ride on the lion, as much as upon the sun bark, to the future life; thus the lion was seen as "the hope of the future life" (Goodenough 1968, 7:46-9). The solar significance of the lion (as well as, in some cases, the Mesopotamian "cherubim") is shown by the use in art of the whorl, rosette or circle marking the animal's flank. Tracing an argument in the literature on this point, Goodenough concludes that the evidence is "overwhelming" that this decorative feature represents the creature's linkage to divinity, the sun and its powers (Goodenough 1968, 7:69-72).⁶

Not only the lion was involved in symbolism and ceremony connected with death and revival in Egypt. So was the dog. The dead were thought to be escorted to the underworld on "the roads of the West" by "the Dog Star" (Frankfort 1961, 111). The linkage of dog with lion in relation to the sun is evident at the Bronze Age Canaanite site of Beth Shan in Palestine. A carved stone at this important shrine center of the 14th century B.C. shows a lion (with whorl on its shoulder) locked in combat with a dog. H. O. Thompson (1967) shows that this and other symbolism (including the gazelle, crocodile and star) represent the cult of Nergal,

a Sumerian god. He was lord of the underworld, where the sun spent the night, hence he was both sun god and a source of revivifying fertility. Moreover, Nergal was in large measure interchangeable in certain of his aspects with Mekal, who was related to or identified with the Egyptian god Seth. On the carved panel at Beth Shan we see Nergal/ Mekal/Seth seen as the lion. Nergal here probably represents disease or any other destructive force. On a stela at the same site, however, he is shown in the form of Seth, god of the desert, storm, nature, the sea, sun, disease, and evil, as well as their converse. (Since he had power over those elements, he also had the power to allay them or exercise benevolence in the opposite aspect of any of them). This mixing of aspects of deity, or of various deities, we encounter often in the ancient world, as pointed out in connection with Mesoamerica.

Thompson interprets the dog on the Mekal panel as probably representing Gula, goddess of healing and defender of homes. As gate guardian and also physician, this personage is shown holding off Mekal's power of disease and evil. The dog in the Near East was both unclean and sacred; kennels were kept within or near temple precincts in various places. Incidentally, when the Assyrians resettled peoples from the east in the territory of the northern tribes of Israel after 721 B.C., these included Nergal worshippers, so that the beliefs and cult practices at Beth Shan, which had no doubt survived in part through the Israelite invasion and expansion, would have received new vigor with this population's arrival. In any case Nergal worship is evidenced at Elephantine in Egypt in the 4th century B.C. and Phoenicia in the 3rd (H. O. Thompson 1967, 119).

Being located at the crossroads of the Near East the Israelites too held many of these beliefs. A harnessed lion appears on the famous carved ivories from Samaria which the prophet Amos condemned as examples of debauched luxury (Amos 3:15). In Joel 3:16 the Lord roars as a lion showing his protective power over Israel (cf. Hos. 11:10). Judah, Dan and all Israel are represented at times by the lion, as is the king (see Ezek. 19:1-9). At Megiddo excavation revealed little lion figures, one of which had a solar rosette on its flank. Lions, along with cherubim and bulls, were put on laver stands in the temple of Solomon (I Ki. 7:27-39), while an incense altar at Taanach bore two lions, and an altar from Gezer had a lion on it with a star on its flank. In hellenized Judaism God himself was identified with Helios, the divine sun charioteer of the Greeks (Goodenough 1968, 7:73-81; 8:215), while a coin from Gaza dating around 400 B.C. shows Yahu, God of the Jews, depicted as solar Zeus in a winged chariot (Interpreter's Bible 1954, 3:323). Of course the prophet Elijah was carried up into heaven by a flaming chariot (2 Ki. 2:11), and the "interchangeability of throne and chariot is famous in Jewish mysticism" (Goodenough 1968, 2:182). The "horses" and "chariots" cleaned out of the temple area in the reform of Josiah shortly before 600 B.C. (2 Ki. 23:11) were immediate manifestations of this international cult of the day (May 1935, 23-4). Incidentally, it might not be coincidental that those objects were positioned on the west of the temple (Interpreter's Bible 1954, 3:323).

Surprisingly, given all the scholarly study done over generations on religion in the Near East, the cosmic or world view which would tie all these materials together is not as clear as it might be. It is apparent that the sun, and probably the stars, were thought to move

above the day-time earth then return at night via the underworld where the dead stayed. Chariots, wagons, carts and other vehicles were, in various times and places, connected with that movement and the movement of sun-associated deities. The two animals most frequently involved in symbolizing this motion and the power of the sun to give life and itself to be revived were the lion and the dog. Some hint of the overall scheme of thought about how the system operated is suggested in the Egyptian belief that the goddess Nut, whose body arched over the surface of the earth, swallowed the sun at setting in the west, then gave it birth each morning "from her thighs" in the east (Hawkes 1962, 93-4).

What all this meant to the individual worshipper can be grasped in part from the Egyptian material, where "the hope of salvation" was intimately tied up with the setting/death of the sun, passage of the soul to the underworld with the help of an animal protector (lion and/or dog), and the possibility of resurrection/rebirth on the model of the solar cycle. But it was in Mithraism, the cult from the East which flourished so in the Roman Empire, that the payoff for the individual worshipper becomes clearest to us. Having defeated the Prince of Darkness, Mithra's task on earth was supposed to have been completed. He ate a final feast with the sun god before being carried to heaven in a fiery chariot. Seven steps or grades were necessary for the initiate to receive the full order; the lion as the fiery symbol of the sun was crucial in the fourth step (Hawkes 1962, 182).

There are, if anything, more loose ends in interpreting the Old World occurrences of wheeled models than in the case of Mesoamerica. A good deal of research is needed to bring order out of a great mass of material which is only vaguely agglomerated like cosmic substance in a galaxy, awaiting its organizer. One would like to know, for example, whether the "ritual ball game" noted in Egyptian art is connected with the sun, a likely thing (DeVries 1969). Or whether the jointed figurines of the Mediterranean and Egyptian area which span millennia were connected to the sun or "motion" or what. (At least the dolls of Greek boys ended up being dedicated to Apollo at the end of childhood--Elderkin 1930, 455.) More needs to be found out also about the funerary connections of the wheeled vehicles, wheeled animals and associated deities. All this paper has done is to open the topic up for scrutiny; most of the digging (literal or figurative) remains to be done yet.

The New World and the Old

Does the information on Asiatic and European wheeled miniatures shed light on the origin of those in Mesoamerica? I am inclined to think that it does. The number of similarities and the quality of them seem far beyond what chance could account for. The notion of the "eating" and "birth" of the heavenly bodies by a giant goddess, the dog as protector of the dead, many features of the conceptions of the underworld, the link of wheel to sun, and more seem less likely to have been invented in only two areas in the world than that these two clusters are historically (or at the very least psychologically) linked. In light of the arguments presented in Harold Schneider's article (1977) and the data in mine

(1971), we appear to be dealing here with a phenomenon which goes very far beyond mere "wheeled toys" or even "wheeled cultic figurines." A sprawling set of data are now apparent which point, because of its internal consistency as well as its centrality to the belief systems of both hemispheres, to the absolute necessity of continued, serious scholarly research on the points raised here and many more.

NOTES

¹Other odd representations of animals might be related. A Late Classic scene from Belize shows a woman astride the neck of a deer, grasping its horns (Pendergast 1969, 44-5). The archaeologist who found it suggested that it might represent a "ceremonial hunt" of some kind, perhaps by a rain deity, although he offered no documentation for such an idea. Kidder (1954, 20 and Fig. 4c) pictured the cover of an incense burner from Poptun in lowland Guatemala where a man sits on the back of a deer figure holding its ears or horns. Snarskis (1976, 350) reported ceramic vessels from eastern Costa Rica depicting animals more like camelids (alpaca or llama?) than deer, with bound eyes and tied-down cargo. As far-fetched as that might seem, Williams (1852, 204) was told by villagers in the Isthmus of Tehuantepec 130 years ago that alpaca were then living in the mountains of the interior. Furthermore Termer illustrated a Post-Classic figurine of a "long-necked" animal (camelid?) bearing a basket on its back (1964, Fig. 8), and he had seen other figures in southern Mexico representing dogs and felines with receptacles (baskets?) on their backs (1957, 31, 36). But still stranger things are pictured in the codices where animals are seen doing all sorts of unusual things. For example a rabbit is pictured writing on a codex in one painted vase scene (Coe 1973, 91), so we must not take every representation literally.

Also in connection with this point note the Salvadorian figurines discussed later in this article.

²Anthropologists are aware of all sorts of parallels. For example, the potter's wheel was not adopted in most native communities in the Americas after the European conquerors made it known. Australian natives on the north coast taught pottery making over a century ago by Malayan fishermen who landed there ignored it, finding its brittle products of no utility in their pattern of living. The Greeks constructed a steam engine but never put it to practical use, in large part it seems because of certain cultural biases (Casson 1981, 38). A similar situation prevailed with regard to the true arch in early Mesoamerica. Satterthwaite (1944, 217) observed: "It has been usual to suppose that the principle of the true arch was unknown to the American Indian. . . . If the reader will turn to [certain cited figures in an archaeological report], I believe he will have no doubt that the Maya at La Muñeca roofed a long room with the true arch, and that they knew exactly what they were doing," although such use was extremely rare.

³Lack of roads has been suggested as making vehicles impractical for the native Americans, but that argument does not hold up. They actually had many roads and clearly could have constructed more if they had been deemed sufficiently valuable. The carefully-prepared sabes or lime-surfaced highways of the lowland Maya zone are famous. Bustillos Carrillo (1974) offers an introduction to those constructions and the literature on them, although a serious scholarly synthesis of the information discovered to date has yet to be made. Within recent years over 1200 kilometers of such routes have been identified in the Maya area by Mexican scholars (R. T. Matheny, personal communication). Roads were

built as far south as the Naco/Nito area on the Gulf of Honduras (J. E. S. Thompson, 1970, 74) and in increasingly-discovered locations throughout Mesoamerica as far north as Zacatecas state (Armillas 1964, 16-17). To be sure, in some areas roads were not easy to construct and the effort involved would not have been worth the effort in economic terms in many areas. But two reasons are probably crucial as explanations for the absence (so far) of traces of utilitarian vehicles: (1) lack of suitable draft animals (equids or bovids) which could be used consistently to pull a vehicle, and (2) lack of a sense of "machines." Mesoamerican technology was directed overwhelmingly toward decorative or ceremonial products rather than to devices which "did" things. For example such metallurgy as there was was only marginally "useful," but the techniques were highly valued because they yielded precious and beautiful things. (Compare the discussion in Casson 1981, 40-42). Besides, human backs served very well for transport (in cost-benefit terms), so much so that most loads were carried by that means rather than by the expensive-to-keep European animals among the native peoples of Mesoamerica right up until about World War II.

⁴"There was a single, unified body of thought in Mesoamerica . . . which we would call a Mesoamerican religion. This religion, which almost certainly goes back to the Olmec civilization of 3,000 years ago, has many features which it shares with the early mental systems of eastern Asia"--Coe 1973, 8, 12; compare Kelley 1981 for a demonstration of the essential "oneness of Mesoamerican theology." Nevertheless, within this "religion" there were regional and cultural variants, "churches" in a sense, as aptly noted by Bernal (Benson 1968, 75).

⁵Boggs also suggests the possibility that late "Cihuatan type" wheeled figurines from El Salvador might have stemmed from Mexican examples or ideas (1973, 12).

⁶I previously noted the presence of the same whorl on a feline figure from the Mexican site of Palenque (picked up on the surface many years ago--Gann 1926, 198-9). The piece may not be authentically Mesoamerican or ancient of course, yet at such a remote location its chance importation since European discovery is rather hard to account for (Sorenson 1971, 235). Palenque is the location of the famous under-the-pyramid burial chamber which discoverer Alberto Ruz L. and others noted as sharing many concepts with Egyptian burials. As Joyce Marcus has pointed out, Palenque was the western (thus the sunset-associated, necropolitan) center of a consciously-laid out geographical system of Mayan cities where directional or other symbolism surely would have colored use of the sites (Marcus 1973). This is not to say that Egyptians settled Palenque or any such simple-minded proposition. It does suggest that the clusters of concepts deserve further study to account for why they are tied in complexes which are similar in the Old World and at Palenque, and perhaps elsewhere in Mesoamerica.

⁷Of potential interest here in connection with the Seth/underworld connection at Beth Shan is the "baptism of Pharaoh" genre of representation to which Gardiner had drawn attention (1950). These scenes show the Pharaoh standing beneath crossed streams of ankh (life) symbols which have been poured from jars by figures standing on either side.

This is interpreted as related to death, health and revival, although the details are unclear. The Codex Borgia from Mexico shows a strikingly similar scene (Seler 1906, 2:31) in which again life symbols (here water) are being poured in crossed streams over a figure. The figures doing the pouring in the Mexican case are Mictlantecuhtli and Mictlancihuatl from the region of death. The center figure is Ixtlilton, a god of healing among the Aztecs. Those pouring the streams in the Egyptian representations are Horus and either Seth or Thoth. Thoth was associated with the west, the way to the underworld and land of the dead. Seth was, as we have seen, often associated with the underworld, illness, and evil. Nephtys, wife of Seth, was sometimes queen of the night and of the dead, like Mictlancihuatl (Sorenson 1971, 233). William F. Albright (personal communication, 1954) was of the opinion that had the Mexican scene come from an area nearer to Egypt, no one would have any question that these two representations were conceptually and historically related to each other.

⁸The wheel in relation to the Book of Mormon is a subject of interest to some readers who will obtain this paper from the publisher, the Foundation for Ancient Research and Mormon Studies. A word needs to be said about the subject.

No statement in the book directly mentions a wheel (with the exception of a quotation from Isaiah), let alone a model vehicle. On two occasions "chariot" is mentioned. Most readers have assumed that a wheeled vehicle is indicated by such references, particularly since "horses" are mentioned in connection with the "chariots." Still the references are not clear enough for anyone to glean any useful information about what "vehicles" might be intended in these references. Since only two locations (the land of Ishmael and nearby in the greater land of Nephi--Alma 18:9, 12; 20:6--and in the northern part of the land of Zarahemla--3 Ne. 3:22) are given as scenes for these "chariots," even by Nephite standards they were scarce and probably insignificant. Moreover, throughout the several thousand year history sketched in the scriptural record only two moments in time only decades apart bear mentioning when these devices played a noticeable role.

The implication of the statements cited combine with the fact of a Near Eastern origin of the Book of Mormon peoples to indicate that they were probably well-acquainted with the idea of the wheel. Knowledge of a device does not lead to use, however, as pointed out in this paper. The connection of the "wheel" with the Book of Mormon became an issue years ago when critics of the authenticity of the LDS scripture adduced the apparent lack of wheels in the Americas as an "evidence" that the volume was not historically accurate. In return Latter-day Saint writers have avidly sought "evidence" for the wheel concept, at least, in order to counter the critics. A number of LDS people have used information about the "wheeled toys" to blunt the impact of the criticism, for at least those devices demonstrated the presence of the concept of the wheel in the New World.

On the basis of the data presented in this paper, it seems fair to me to state that while we cannot cope with the "chariot" of the Book of Mormon text in terms of identified cultural materials in Mesoamerica,

the degree of similarity between the Mesoamerican and Asiatic-Mediterranean complexes involving wheeled miniatures has added new dimensions to the question. What had been a "problem" for apologists has turned round in the direction of providing "evidence" of a possible connection by diffusion such as is indicated in the scriptural account. From the Mormon point of view there surely should be much more research on this subject before definitive statements about it are attempted (if ever).

Meanwhile, students of the scriptures can gain a moral lesson of sorts from this case. Interpretations of culture based on a tiny sample of ancient material (and both the Book of Mormon and the results of archaeology both constitute only miniscule fractions of the totality of information) ought to be considered openings toward continued vigorous study, not as closed doors barring movement toward "proving" one's favorite wishful interpretation. The ignorance of the best experts continues to exceed by far their knowledge. The remedy for that ignorance is hard work; perspiration must precede illumination.

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