

From Weapon to Prey: Symbolic Transformation in the Early Development of Ball Sports

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Abstract

This study develops a theoretical rationale of ball sports from the perspective of a symbolic hunt in which the athletes symbolize hunters and the ball represents their prey. One problem for the theory is that the earliest human-made spheres of record, stone spheroids, which date back to Homo habilis, approximately 1.5 million years ago, have been hypothesized to have served as weapons. How did the weapons of the hunter-gatherers become the symbolic prey in the pastimes of the agriculturalists? This report addresses this question by positing a symbolic transformation of human-made spheres from weapon to prey that occurred in Neolithic and ancient times. An interdisciplinary approach is employed that integrates anthropological research into a historical analysis. The study concludes that the symbolic transformation is due to social factors related to the construction and use of human-made spheres.

Key Words: sport history, hunting, ball sports, symbolism

1. Introduction

As a thread in the fabric of culture, sport rates as one of those uniquely human activities, like language and religion, whose social influence is evidenced from the commencement of history. Historians have yet to agree on the nature of sport's beginnings, which may be shrouded in the veil of prehistory. The origins of ball sport are particularly vague due to the predilection of ancients to sports like wrestling, boxing and footraces. Paradox runs deep in sport, which could be described as hard work in the context of play, and no single theory is likely to adequately address all concerns. Nonetheless, this report interprets sport as an atavism for subsistent hunting. The purpose of the report is to account for a transformation of the symbolic meaning of human-made spheres from weapon to prey.

To approach an answer to the question, this study presents a historical analysis of the symbolism in ball sport. Due to prehistorical factors related to ball play, the study integrates anthropological evidence into the historical record. The interdisciplinary approach poses all the challenges of mixing humanities and social scientific research. Not only are methodologies and writing styles different but the burden of proof varies as well with the much larger body of evidence available to historians. As messy as it is, the interdisciplinary approach becomes a matter of necessity when attempting to explicate the most essential nature of ball sport.

Symbolic theories have been most extensively studied in the field of social psychology. Theories employing symbolic interactionism found significant development in the early 20th century, particularly with the work of George Herbert Mead. The theories stand in opposition to scientific positivism with their emphases on subjective interpretations and the social structure of meaning. From the interactionist perspective, the highly symbolic nature of language and art places a premium on shared communication in depicting the human condition. Indeed, this propensity for communication forms a fundamental distinction between humans and other animals. As a form of primarily non-verbal communication between competing players and fans alike, sport also possesses a symbolic nature. The social aspect of sport, especially team ball sports, provides a comfortable fit with major tenets of symbolic interactionism. Ultimately, this social context facilitates the use of symbolic analyses in historical research.

Symbolism in ball sport has been expressed in a variety of ways. The return of spring, honoring the sun, good versus evil, and fertility rituals have all been advanced in efforts to describe the phenomenon of ball sports.

Much may be gleaned by examining these perspectives although none could offer more than a generalized overview. Other symbolic interpretations, such as sport as a religious ritual or as a symbolic war, doubtlessly have merit. However, symbols or symbolic events are never univocal or unambiguous in their representations or interpretations. The power of any symbolic interpretation of ball sport depends not only its ability to address a variety of issues but also on its expression of the sport's essential character. Due to the long tradition and complex historical development, ball play and ball sport present challenges in determining satisfying symbolic interpretations. The theory presented in this report interprets ball sport as a symbolic hunt in which ball players assume the roles of hunters and the ball represents the hunters' prey. This interpretation is not intended as a singularity as other approaches may also illuminate important aspects of ball sport. Instead, the study seeks to delineate specific practices in the history of ball sport as related to hunting practices and that hunting is the primary factor in understanding the symbolic nature of ball sport. This fundamental nature of ball sport provides a basis for the symbolic transformation of balls from weapon to prey.

2. Competition in Hunting and Ball Sport

Any theory of sport must account for competition, which many would regard as the true essence of sport. Competition is inherent in hunting. Since hunting and gathering times, the hunter and prey have been engaged in a life and death competition in which one will win and the other lose. As unwilling as the prey may be in this contest, the predatory nature of the animal kingdom cannot be denied. The prize for the prey if capable of avoiding the advances of the hunter is immediate preservation of life. Although typically not immediately at risk of relinquishing life, subsistent hunters must win the contest at some point in order to survive. For the hunter or the prey, winning the contest postpones death. The contest of hunter versus prey is the primary predatory competition, a life and death struggle that precedes the existence of humans. (Figure 1)

Despite the high level of competition between hunter and prey, another level of competition emerged for prehistoric hunters and gatherers. Due to nomadic and semi-nomadic lifestyles of these bands of hunters following migratory herds, chance encounters with rival hunters presented the secondary predatory competition, hunter versus hunter. (Figure 2) In this scenario, rival bands of nomadic hunters crossed paths in contested hunting grounds. Armed and ready to kill, neither band was willing to back down and miss the opportunity to pursue the prey. The victor of the ensuing battle acquired the right to hunt in the contested grounds. An extension of the clash between rival hunters may be seen in the age of agriculture in the form of cattle raiding myths common to many ancient cultures. The origins of these myths may be rooted in prehistory during the first few thousand years of transition from hunting and gathering to agriculture when some cultures had converted to the agricultural lifestyle and other cultures were retaining their hunting and gathering traditions. In these cattle raiding myths, farmers claimed the rights to animals domesticated in territory under their control. Nomadic hunters did not recognize those rights and assumed that they have the right to kill any animal. This conflict of competing claims, made by chance encounters between rival bands of nomadic hunters or its extension as a conflict between hunter and farmer, becomes the primary symbolism in most ball sports. From this perspective, the home and visiting teams form the basic antagonistic setting. The home team is duty bound to defend the home territory and the visitors perform the role of marauding nomadic hunters who will take what they can.

On another level, offensive and defensive squads in ball sports perform this symbolic function as well. The defense attempts to control their territory while the offense attempts to capture the prey, or score with the ball, despite being in the territory of their rivals. In those ball games, the sides are switched after scores in order to perpetuate the conflict. This secondary predatory competition reaches a greater intensity than the primary predatory competition because a clash between rival hunters results in a battle, possibly one to the death. From the perspective of the theory presented in this report, ball sports symbolically represent one of the most dangerous and exciting situations for early humans—a battle between rival hunters. This powerful scenario with its exciting, innate conflict and resolution provides a potent model for the invention of ball sports. One band of hunters, or a team, attempts to control the prey, or the ball, in the territory of a rival band. The outcome of the ensuing battle is decided by which band demonstrates superior control of the prey.

The secondary level of predatory competition finds an analogy in ball sports where the attempts by the offense to control the prey, by holding, kicking, throwing, or striking it, are confounded by the defense to the best of their ability. Even the primary competition level of hunter versus prey finds a corollary in the difficulty that players encounter in developing the skills of ball handling, kicking, throwing, and striking.

The hunting analysis of ball sport also addresses unethical practices that are commonly witnessed in ball sports throughout history and even today. Violence is inherent in successful hunting where the object is to kill the prey. Delivering a *coup de grace*, the hunters' goal, brings satisfaction and pleasure to the predator. The numerous acts of violence that occur on and off the field of ball play may be traced back to this predatory instinct. Tribalism has been cited as a factor in fan violence in studies of European soccer. The forming of a band among early hunters was necessary for survival in the quest of faster, larger, and stronger prey. A tribe of hunters becomes a strong symbol of sports teams and groups of fans. In prehistoric times, the creation of a hunting party, primarily among males, was perhaps the dominant rationale in male-to-male bonding.

Women and girls have faced a long history of exclusion in ball sports. Across many cultures, females have often been considered too frail to be allowed to participate in ball sports. Sexist ideology among males regarding women's rights in ball sports may well be rooted in prehistoric hunting practices. Although the man-the-hunter and woman-the-gatherer paradigm had exceptions, as women did some hunting and men did some gathering, few would argue that males in hunting and gathering cultures primarily performed hunting. The in-group tendencies of a band of male hunters appear to have carried over into the realm of ball sports. Racism that has been evident historically in which members of a particular race are excluded from competing in ball sports may ultimately be traced back to in-group tendencies exhibited by bands of hunters. Although many factors may be discerned as causes for the unethical practices of violence, sexism, and racism in ball sports, a strong connection of these practices to hunting practices may be drawn.

3. Sport as a Religious Ritual

Support for theories of sport as a religious ritual may be seen in many cultures. The overt religious symbolism expressed in the ancient Olympics, for example, cannot be denied. But the fact that sports like footraces and wrestling are not autochthonous but observed across many cultures and remain long after (and indeed before) the worship of Zeus, begs the question, which is truly epiphenomenal, the sport or the religion? Sport has an inherent ability to attract an audience and religious institutions historically have occupied a position that allowed them to organize athletic events. The association of athletics and religion in the ancient world seem to be more for convenience. From this perspective, the appropriation of sport by religious institutions served a useful purpose by attracting an audience. The organization provided by the religious institutions formed a foundation for which the sport to grow. Religious symbolism in sport can be observed in many instances other than the Olympics, such as ball games of the Maya and Aztecs, and even today with team prayers and players performing religious gestures before, during and after games. However, religious ritual theories have difficulty in providing a convincing interpretation of competition in sport. The essence of ball sport lies in the physical competition that comprises the game itself, not in religious observances that ornament the game. Hunting was a cultural practice for early humans long before the invention of religion. From the perspective of the hunting theory, religion is epiphenomenal in relation to sport and at its heart, sport is a secular activity.

Equally difficult for theories of sport as a religious ritual is the element of play in sport. Religious rituals are characterized by seriousness, opposite the nature of play. A degree of spontaneity is associated with play and sport but religious rituals are "ritualized" by definition. The ritualism associated with a football game, for example, does constitute an important element of the sport but it is not the essential element. Rather, the active, competitive sports play, which more closely resembles the chase and a clash of rival hunters, constitutes the sport's true essence. Much can be learned from the study of sport as a religious ritual and the association is highly evidenced. But in the final analysis, ritualism might be observed in virtually any repetitive human behavior, diminishing the construct's heuristic power. Religious ritual in particular seems heterotelic, contrary to the autotelic nature of play. From this analysis, the elements of play and competition are not easily accounted for in such theories. The symbolism of sport as a religious ritual is stronger in the organization of athletic contests but is not satisfying in addressing the essential nature of sports play. The hunting symbolism in sport addresses more fundamental concerns, those involving the physical actions themselves and the nature of competition.

4. Sport as a Symbolic War

Theories that regard sport as a symbolic war are very good when addressing the fundamental element of competition in sport. War is a life and death struggle and the defenders and aggressors in battle find some congruence in teams competing in ball sports.

Some strong evidence supports portraying other forms of sport as a symbolic war as well. Egyptian monarchs completed ceremonial jubilee runs in the Festival of Sed to demonstrate invincibility as warriors. The armored footrace in the Olympics and cease-fire declared in real Greek wars makes connections between sport and war. Gladiatorial games, medieval tournaments, and less brutal sports like boxing and wrestling display elements that resemble battles. Even today fighter jet flyovers and ceremonies involving military personnel frequently accompany a variety of sporting events. The symbolic life and death struggle of sport makes a potent metaphor for that actual contest in war. Thus the competitive component of sport is well accounted for by theories of sport as a symbolic war.

However, the fundamental characteristic of play in sport finds little explanation in such theories. The tragedy of war and the frolic of play seem to be entirely at odds. The pleasurable and recreational aspects of sport would be better explained in terms of hunting. Galen (ca. 180 AD) wrote, "the men who invented hunting were wise and well acquainted with the nature of man, for they mixed its exertions with pleasure, delight, and rivalry," (Galen in Miller, 1991, p. 116). Similarly, Lao Tzu described the thrill of the chase in the *Tao Te Ching*, (dated as far back as the 6th century BC), "Riding and hunting make his mind go wild with excitement," (Tzu, 1963, p. 147). Toynbee (1964) in *A Study of History, Volume 12: Reconsiderations*, stated, "hunting, for instance, which was one of Paleolithic Man's two staple ways of winning his livelihood, has survived into the age of civilization as a highly appreciated form of 'sport'.." (p. 151). The joy of hunting and the thrill of the chase, although foreign to most moderns, have been stated throughout history and make strong arguments in favor of the symbolic hunting theory in regard to addressing play in sport. Even war itself could be traced to clashes of rival hunters due to chance encounters of early nomadic and semi-nomadic tribes. Overall, the hunting theory provides more salience in describing sport's fundamental symbolism.

5. Prehistoric Balls

The earliest human-made balls of record come from rounded stone spheroids, which have been discovered in numerous sites inhabited by *Homo habilis* and *Homo erectus* from approximately one and a half million years ago. Most noteworthy is Olduvai Gorge in Tanzania excavated by archaeologist Louis Leakey (Leakey, L. S. B., 1967, p. 3). More than a thousand spheroids, some of which are almost perfectly round, and less rounded subspheroids have been identified. These rounded stones have an average weight and diameter roughly that of a baseball (Leakey, M. D. and Roe, 1994, p. 282). Any use assigned to these early tools is speculative but they are likely to have been used as projectiles. Other theories of their use include pounders for vegetable processing and hammer stones for tool manufacture. Louis Leakey hypothesized they may have been used as bolas in hunting (Leakey, M. D., 1971, p. 266). The most recent stone spheroids have been found in prehistoric sites dating back to 40,000 years ago (Potts, 1988, p. 129). Although evidence is lacking, early hominid hunters are likely to have hurled stone spheroids at prey in order to wound or kill it. Additionally, spheroids may have also been thrown in driving game toward a trap or hidden hunters. A group of hunters releasing a cued volley of spheroids could drive a herd in particular directions. A Cro Magnon painting from the Pech-Merle cave (23,000 BC) has been titled *Dotted Horses and Human Hands*. The painting shows prehistoric horses apparently being pelted with round objects, presumably spheroids. A type of "hunting magic," where the artist-hunter gained some advantage over the prey by creating the painting has been suggested as an interpretation for this extraordinary art (Stokstad, 1995, p. 41).

From Catal Huyuk, a Neolithic site in Anatolia, human made clay balls have been discovered. Catal Huyuk had a population of about 6,000 in 6,000 BC and thousands of clay balls of varying sizes have been identified there. This community performed subsistent farming, animal domestication, and supplemental subsistent hunting (Martin, 1996, pp. 11-12). The precise function or functions of these balls is difficult to determine from current available evidence. However, Mellaart hypothesized the smaller mini balls were used as sling stones. Other theories have suggested the balls served the function of warming stones (Mellaart, 1966, p. 188).

Consideration of projectile technology merits attention when attempting to assign a function to these early human-made spheres. Developing these balls as projectile technology for early hunters provided potent tools that aided survival. Shaping a rounded projectile, whether with chipped stone or molded clay, yielded a weapon capable of being hand thrown or slung with a more predictable flight and increased potency. Hunting and self-defense improved with early hunters developing hand thrown spherical projectile technology.

Throwing spheroids and slinging clay balls in an effort to control animals is a natural, simple, yet effective means of survival. Sling stones used in shepherding in the Neolithic, whether to guide goats and sheep or discourage approaching wolves, serve a similar weapon function, although not hunting specifically. The overall impetus for control of animals, whether by hunting or domestication, remains the central principle and the “mastery of animals” has always been a defining characteristic of humans. The assessments of principle researchers like Louis Leakey and Mellaart provide additional support for the theory that these prehistoric hard balls served weapon functions.

However, the theory presented in this report states that the symbolism of balls changes as their function in society does. The development of the throwing spear in Cro Magnon times rendered hand thrown spheroid technology obsolete. The greater velocity, distance, accuracy, and potency of the spear thrower made hunting more efficient and safer. The subsequent development of the bow and arrow, estimated as far back as 13,000 BC (Brooke, 1957, p. 10), trended even further from hand thrown spheroid technology. Although the shepherd’s sling persisted throughout antiquity, and even today, its function has not primarily been to hunt. Not only had stone spheroids lost their usefulness in hunting, but other functions they may have served, vegetable pounders or hammer stones, were replaced by better technology in the transition from Paleolithic hunting and gathering to agriculture in the Neolithic. The development of textiles during this period provided the means for the next generation of balls. This radical cultural change of hunter to farmer establishes the larger social context in which the symbolic transformation of balls occurs.

6. Textile Technologies and Childcare

Often overlooked in analyses of the origin of ball sport is the rise of textile technology, one of the principle technologies developed over thousands of years that facilitated the transition to agricultural economies. Some of the earliest balls were made of linen, wool and string and information garnered from the history of textiles may offer important clues in tracing the beginning of ball play. The history of textiles begins with the use of string. Made of animal gut or sinew or from twisted natural fibers by Upper Paleolithic cultures in a period known as the Gravettian (26,000 to 20,000 BC), string provided a useful tool to these hunter-gatherers. Although no actual fiber string has survived from this period, a bone carving shows a female “Venus” figure from Lespugue, France (ca. 20,000 BC) wearing a twisted string skirt. String could be used for snares and fishing lines, tethers, leashes, carrying nets, handles and packages (Barber, 1994, pp. 43-45). The earliest surviving twisted string is a heavy cord found fossilized in the caves of Lascaux, France from about 15,000 BC (pp. 51-53). Fashioning objects of and with string and fibers was an important task that was not dangerous to children. Although there is no direct record indicating the division of textile labor in the Neolithic, the most adaptive situation would have involved women in performing these tasks while they tended toddlers allowing men to perform more dangerous tasks of carving and chipping stone (p. 54). Friezes from tombs of Baqt and Kheti at Beni Hasan show primarily women spinning thread and weaving, although some men also shown. One frieze depicts a young girl and boy spinning. Women are also pictured as musicians and tossing balls (pp. 196-205). Although it is impossible to state with complete certainty what the paintings mean, the association of women, children, spinning, music, and ball play provides some evidence for the position promulgated in this report.

Barber (1991) described spindle shafts and whorls that date back to the early Bronze Age (51-54) and woven thread has been discovered at Catal Huyuk (6,000 BC) (p. 73). Use of a spindle and whorl naturally creates balls of thread and yarn. Depictions and artifacts have been found from many Egyptian sources originating in the Middle Kingdom late in the 3rd millennium BC. Some depictions show primarily female spinners working two or more balls on a single spindle at once (p. 46). Egyptian wall paintings depict women winding yarn made from flax fibers into a ball (p. 73). Homer described Circe and Calypso as singing as they wove (p. 292). Aristophanes wrote that Lysistrata will weave a cloth from a ball of wool (p. 262). A design on a Hallstatt urn from Sopron, Hungary (early first millennium BC) depicts women weaving, spinning, dancing, and playing music (pp. 294-295). Spherical designs that appear to be balls of yarn decorate the scene. This evidence is important in that it positions women spinning and creating balls of yarn and thread.

The accompanying imagery of playing, dancing and making music indicates recreational activities may be associated with spinning. Additionally the presence of children suggests that many of the roots of ball play may have originated in such activities—women and children playing with soft balls of wool and thread.

Brown's (1970) ethnographic study investigated the division of labor by gender among subsistence cultures and states that women's contributions to subsistence activities vary from society to society. However, despite the variability, pre-industrial subsistence strategies by women were by necessity, those that were compatible to childcare. There is no record of any culture in which men were the primary givers of childcare.

Breastfeeding, which typically lasts two or three years, positions women as primarily performing the important social task of childcare. If women's economic roles are to be maximized, those economic activities must be congruent with the primary responsibility of childcare. Herding, hunting, fishing, and plow agriculture fell more into the domain of men's work due to inherent dangers they imposed for young children. Productive labor activities by women had conditions. The activities necessitated being near or at home; not being dangerous to the child; monotonous activities not requiring raft attention; and activities that were interruptible and easily resumed if interrupted. These included crafts like sewing, spinning and weaving. In general, women prepared food and made clothing while taking care of the children (pp. 1073-1078). Spears (1984) wrote in "A Perspective of the History of Women's Sport in Ancient Greece," that "wives were expected to bear children, excel in tasks such as spinning and weaving, and to manage the household," (p. 33).

7. Balls in Antiquity

Historians have noted that ancient ball games resided more in the realm of play as opposed to the celebrated sportive traditions of the times. "Ball games were mostly played by women and children for fun," stated Fox (2012) in regard to ancient Egyptians (p. 38). Concerning ancient Greeks, Baker (1982) reported that, "ball games were considered child's play" and "they were played by women, children and old men, but not by serious athletes" (p. 21). In a story attributed to Callisthenes, King Darius of Persia gave Alexander the Great the gift of a ball in order to remind Alexander that he was still a child (Gillmeister, 2002). From Book VI of *The Odyssey*, Homer stated that Nausicaa and her handmaidens took a break from their laundry work to play a game of ball in which Nausicaa also sang (Homer, 2003, p. 99).

One note of interest regarding ancient female ball play is that in every instance known to this researcher, it is a toss and catch game. Paintings from Egypt's Beni Hasan tombs from the Middle Kingdom (2,134-1,650 BC) contain depictions of a variety of types ball play. One painting shows two pairs of women with one woman mounted piggyback on another in each pair. The pairs are faced off and the mounted woman of one pair appears to be tossing a ball to the mounted member of the other pair. Two other paintings depict three women engaged in a ball toss. In one painting two balls are visible while the other features three balls in play. Whether these paintings depict games or displays of juggling has not been determined.

The Nausicaa myth also involves a toss and catch ball game. Homer described Nausicaa as taller and more fair than the maidens and compares her to the hunting goddess, Artemis (Homer, 2003, p. 99). This comparison offers no contradiction to the theory presented in the study at hand. Nausicaa throws a ball the other maiden cannot catch. The ball falls into the deep water causing the maidens to shout loudly and awaken Odysseus from his sleep in the bushes. Details on the exact nature of this toss and catch game are lacking. Scant references also describe a toss and catch game played by young Spartan women. A poem by Propertius lavishes praise on Spartan women. He describes Spartan girls playing ball games and throwing the ball too fast to be caught (Guttman, 1990, p. 143). The Sicilian fresco from the first century AD known as the "Bikini Girls," shows young women exercising and engaged in tossing and catching balls. One of the girls is catching an oblong paganica and two others are tossing or hand-batting a smaller multi-colored ball.

Although Greek men and boys played a variety of toss and catch ball games, such as *episkyros*, *phaininda* and certain varieties of *harpastum*, they also played ball and stick games. Why did women and girls preponderantly play toss and catch games? The answer may lie in the simplicity of toss and catch games. In their simpler forms, they could even be played with a young child. Evidence is lacking here but the fact that women created soft balls of wool and string and simultaneously performed childcare does create an environment where a mother and child could engage in an elementary form of a toss and catch ball game. Such behavior is adaptive in that it satisfies Brown's criteria for women's work in subsistent cultures. It was at home, safe for the child, and a manageable interruption from spinning and weaving. The fact that primates naturally play, particularly among the young, increases the likelihood of mother and child engaging in elementary toss and catch ball play.

Two or more children playing toss and catch ball games among themselves would allow the mother more time to devote to the time-consuming tasks of spinning and weaving, not to mention the other countless tasks that she would be expected to complete. The symbolism inherent in tossing is that it gives life to the ball. A lifeless object becomes airborne and flies like a bird. The behavior of a tossed ball imitates the behavior of the prey, whether flying through the air as a bird or bouncing along the ground as an animal running. Catching the ball symbolically represents the capture of prey, the goal of every hunter. Was a Bronze Age mother soft-tossing a ball of yarn to a three-year old the beginning of ball play as we know it? Although firm evidence is lacking here, many pieces of this puzzle point to the feasibility of this type of scenario being the case. From the perspective of the hunting theory, the transformation of the symbolic meaning of balls from weapon to prey had strong beginnings in the Neolithic with mothers using spare balls of wool, linen and string as playthings for young children. This use of a ball hardly demonstrates a weapon function, rather it is an opportunity for the child to catch a smaller moving object, which excites a natural predatory instinct of a hunter catching prey. Over millennia, these practices contribute to transforming the symbolism of the ball from weapon to prey. In time, this simple distraction for children would develop into what could be described today as a mass global obsession.

References to ball and stick games in the ancient record are rare and obscure, (Miller, 2004, p. 175) but the available evidence indicates that only boys and men played ball and stick games. Sumero-Akkadian cuneiform inscriptions from clay tablets reveal a ball and stick game, *pukku-mekku*. The game was a rough competition played with a wooden ball and stick that accompanied wedding ceremonies about 2600 BC (Kilmer, 1982). In the *Epic of Gilgamesh*, young men participate in a type of piggyback polo and play with a ball in the public square. According to the tale, the hero Gilgamesh, ruler of Uruk, wants very much to win the game of ball while riding the hips of a group of widows' sons and takes the young men to task (Fox, 2012, pp. 36-37). A painting from the tomb of Kheti in Beni Hasan portrays two young men holding sticks with curved ends contending over a large ball on the ground. Egyptian pharaohs played a ritualistic ball and stick game, *seker-hemat*. A sculpture from 1500 BC shows King Tuthmosis III striking balls with a bent stick of olive wood (Fox, p. 39). The inscription is translated, 'the enemies are struck before them,' (Baker, 1982, p. 8) indicating the weapon function of the stick. A relief on the marble base of Greek statue (ca. 510 BC) depicts two young men with curved sticks contending over a small ball on the ground. Although the contest resembles the one seen in the tomb of Kheti painting, Miller (2004) stated there is no known direct literary reference to this stick and ball game (p. 175). Gillmeister (2002) reported the origins of polo might be traced to ancient Byzantium during the reign of Emperor Theodosius (408-50 AD). He cited a specially designed pitch, *sphairodromion*, where polo was known to be played (p. 7).

Anthropologists agree that clubs easily fashioned from dead branches or tusks and horns from dead animals, along with stones, formed the first hunting tools and were used for millions of years of hominid evolution. The use of the club by hominid hunters was more likely a task for males. A club was a potent equalizer in the competition between the human hunter and the faster, larger, stronger, and more ferocious prey. It is safe to say that skillful wielding of a club, in hunting and/or fighting, contributed significantly to survival. With most hunting done by males, club use becomes a male activity. The use of a stick to strike the symbolic prey of the ball is a strong allegory for the club used in prehistoric hunting. Additionally, the male dominance is observed in each case.

The composition of ancient balls warrants special attention in the search for the origin of ball sports. Aside from the balls of wool, string, and linen created in the age of agriculture, balls were created from a variety of other sources. Early Egyptian balls composed of straw, reeds, hair, or yarn, covered with stitched leather, have been discovered. Other balls made from papyrus, palm leaves, linen wrapped around a pottery core have been found (Fox, 2012, p. 39). Decorative glass and stone balls along with an assortment of marbles have also been found from early sources. From Book VIII of *The Odyssey*, Homer described a purple ball that skilled Polybus made (p. 97). Plato thought a multi-colored ball would be more attractive to children. Galen wrote that Greek children blew up a pig's bladder whose valves had been tied. They warmed it in the ashes of a fire in an effort to improve its shape and then repeat the process (Harris, 1972, p.79). A number of early Roman balls have been identified. *Harpastum* was a small ball stuffed with hair, *pila* or *paginica* were stuffed with feathers and the *folliis* was a large ball inflated with air (Baker, 1982, p. 29) and found usage in a number of games.

Ancient Chinese balls from the 3rd century BC were also made of leather and stuffed with hair. Evidence for the practice of inflating balls may be seen in texts from the 5th century AD (Gardiner, 15-16). A traditional African ball game of the San used a ball made from the thickest portion of a hippopotamus hide.

This ball was cut from the neck and hammered into a near perfect sphere (Baker and Mangan, 1987, pp. 8-9). The Yaghan hunters and gatherers from Tierra del Fuego used a ball made from an albatross web, blown up, stuffed with goose feathers, and sewn together. Another variation of the Yaghan ball game involved the use of an inflated dried seal stomach (Blanchard, 1995, 152-154). Ancient Mayans and Aztecs used a solid rubber ball that may have originally come from the Olmec or "People of the Rubber Country." It was 6-8 inches in diameter and weighed up to 10 pounds (Cohodas, 1978, pp. 31-32). In the Cherokee version of rackets (lacrosse), *anetsâ*, the original ball was deer hair covered with deerskin (Culin, 1902-1903, p. 575). The Ogala Sioux used a ball made of buffalo hair covered with buffalo hide (Oxendine, pp. 24-25).

Although humans have fashioned balls from a wide variety of materials for a number of purposes, balls used in play and sport have frequently been made of the body parts of animals once hunted as prey. The common use of leather, bladders, feathers, and hair, along with other body parts, makes the most direct connection to ball and prey. Ball play represents a revivification where the lifeless ball is brought back to life when put into play. The inflation of bladders most vividly illustrates the point as air is breathed back into the lifeless body and it begins to move around.

Shot-put and bowling are two sports where the ball does not represent prey. Here, the balls retain their original function as weapons. However, in these two sports, and related activities, the balls are stone-like and more closely resemble prehistoric stone spheroids used as weapons. They do not reflect the symbolic transformation of balls made from the body parts of animals once hunted as prey. The "beanball" in baseball where the pitcher intentionally throws the ball at the batter also exemplifies a weapon function but this is a foul and could result in a pitcher being ejected from the game.

8. Summary and Conclusion

The purpose of this report has been to account for the transformation of symbolism from weapon to prey in human-made spheres. A rationale for symbolic analyses and other competing symbolic theories were presented. Anthropological evidence for the use of stone spheroids and clay balls was discussed. Textile production in the Neolithic and ancient periods was shown to create balls of wool, linen, and string, which were softer than prehistoric balls. Evidence showed that women primarily performed these duties while simultaneously caring for children. The feasibility of women creating toss and catch ball play with the use of balls of wool, linen, or string as playthings for children was advanced. This social activity against a backdrop of the transition from hunting and gathering to agriculture was viewed as a primary factor in the transformation from weapon to prey. The presence of ancient ball and stick games played by males was described as an allegory for the club used in male-dominated prehistoric hunting. Additionally, evidence that many ancient balls were made from the body parts of animals once hunted as prey was shown to make a direct connection to the ball as prey symbolism. Unethical practices such as violence, sexism, and racism in ball sport were also examined in relation to prehistoric hunting. The analysis presented in this report of sport as a symbolic hunt has offered a systematic and unified approach to understanding fundamental elements in the history of ball sport.

More abstract symbolisms of spheres, admittedly, even go beyond hunting. A sphere is fundamentally a symbol of unity, wholeness or a cycle. The fact that we live on a giant sphere and depend on giant spheres in the sky for life places spherical symbolism at the core of our existence. However, the five millennia of human history could also be read as the successive marginalization of hunting. Life expectancy and human potential have risen with civilization but something has been lost as well in abandoning the hunting and gathering lifestyle. The glory of the chase has gradually faded since our hunter-gatherer past. Part of the allure of ball sport is that it efficiently and vividly re-enacts the most exciting parts of hunting--the chase and a clash with rival hunters. As the popularity of ball sport has grown, hunting has diminished. Does the greater distance from a biobehavioral practice that contributed to our evolution for millions of years make us crave its symbolic form even more? The ubiquity of today's ball sports suggests this may be the case. Ball sport now rivals religion itself in the number of devoted souls and millions of deeply held dreams of sweet victory live or die in the dust around home plate. After all, who has not marveled at a ball in flight?

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