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The Influence of Butterflies and Bees on Old Bering Sea Visual Art

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ABSTRACT. Insects are a common sight across much of the circumpolar region during the summer season and have a multi-faceted cultural significance to Indigenous peoples across North America's Arctic and the Bering Strait region. Historians and ethnologists in the 19th and 20th centuries documented contemporary Indigenous interactions and beliefs involving insects, notably butterflies, moths, and bees. However, these investigations inferred comparatively little about the understanding among ancient Arctic peoples and the influence of insects in their lives. By examining a select group of Old Bering Sea (OBS) ivory artifacts, I identify insect-related designs on OBS hunting implements and investigate the correlation between these designs and the potential implications of their inclusion on these objects. I attempt to challenge the vertebrate bias present in the study of Arctic prehistory and relational ecology and suggest that insects have a deeper cultural influence than has been previously acknowledged.

Keywords: Old Bering Sea; art history; Arctic; insects; ivories; Inuit graphics; relational ecology; zooarchaeology

RÉSUMÉ. Il est très fréquent de voir des insectes dans une grande partie de la région circumpolaire pendant la saison estivale. Aux yeux des peuples autochtones de l'Arctique nord-américain et de la région du détroit de Béring, les insectes comportent une importance culturelle à bien des égards. Aux 19e et 20e siècles, les historiens et les ethnologues ont documenté les interactions et les croyances contemporaines des Autochtones par rapport aux insectes, notamment les papillons, les papillons nocturnes et les abeilles. Cependant, leurs enquêtes ont permis d'aboutir à peu de conclusions quant à la compréhension de l'influence des insectes sur la vie des anciens peuples de l'Arctique. Grâce à l'examen d'un groupement choisi d'artefacts en ivoire de la culture du Vieux Béring, j'identifie les motifs d'insectes sur des instruments de chasse de cette culture et j'étudie la corrélation entre ces motifs et la signification possible de leur inclusion sur ces objets. Je tente de contester la « partialité envers les vertébrés » présente dans l'étude de l'écologie préhistorique et relationnelle de l'Arctique et je suggère que les insectes ont une influence culturelle plus profonde que préalablement reconnue.

Mots-clés : Vieux Béring; histoire de l'art; Arctique; insectes; ivoire; motifs inuits; écologie relationnelle; zooarchéologie

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INTRODUCTION

Old Bering Sea (OBS) (ca. 100–800 CE) culture developed at the end of the first millennium BCE or the beginning of the first millennium CE in the coastal region of Chukotka and on St. Lawrence, Punuk, and Diomede Islands in the Bering Strait (Qu, 2014). One of the most abundant types of archaeological remains from this culture consists of ivory and bone implements decorated with a visually arresting repertoire of commonly incised designs and motifs that, alongside stratigraphy and related contexts that might contain relevant materials, differentiate this culture from preceding and later ones in the Bering Strait region (Jenness, 1925; Collins, 1929). OBS ivories, which include a wide variety of objects, like domestic items and hunting implements, are frequently covered with shallow incised decorations that some art historians and archaeologists describe as geometric, abstract, and zoomorphic or theriomorphic. Theriomorphic design refers to semi-human or semi-animal faces that are used to decorate OBS artifacts, also designated as artifacts of Okvik/OBS culture to refer to distinct cultural groups that flourished in overlapping periods (Okvik ca. 200–400 CE and OBS ca. 100–800 CE) in the Bering Strait region (Qu, 2014). These interpretations of the designs are largely based upon archaeological excavations and contextual analysis. This paper proposes a complementary interpretation of a select group of OBS harpoon and hunting paraphernalia that are engraved with designs appearing to represent the wings of insects, notably butterflies and bees. Such insect designs represent an aspect of prehistoric culture that has yet to be fully examined.

In an attempt to understand the role insects might have played within prehistoric cultures in the Bering Strait region, I will draw comparisons between the cultures of that period and histories and ethnographies of Inuit,

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Inuvialuit, and Native Alaskan cultures in the historic era (period of the colonization of North America in the late 17th century). While the span of time between the prehistoric and historic period is large, I take an open approach that considers, based on archaeological evidence and historic ethnographies, the possibilities of cultural continuities between the peoples who historically inhabited the same areas.

Archaeologists and anthropologists have long discussed the vital connection between sea and land mammals and prehistoric and historic peoples in the Arctic region. Conversely, the connection between Inuit and the various insects that inhabit the Arctic is rarely explored in archaeological literature related to the region, despite this relationship being well documented in ethnographies of the early 20th century. (Rasmussen, 1929; Black, 1987; Laugrand and Oosten, 2010; Laugrand, 2017). Insects are a common feature of the Arctic landscape in the spring and summer. While it is hard to pinpoint exactly why, ethnographic documentation from the late 19th and 20th centuries reveals that these small creatures held a curious position in Arctic culture and were even feared by Indigenous Arctic peoples. One theory contends that these small animals were viewed historically within Arctic culture as masters of life and death and as wielding control over the transformations from life to death in other species.

Contemporary Inuit ethnographical perspectives show that there is also power in the diminutive size of insects, as miniatures play an important role within Inuit cosmology (Laugrand and Oosten, 2010). The role of miniaturization is best observed through the idea of *inua* and the positive and negative functions that these miniature helpers can have. Insects are thought to exist on the same small scale as the *inua* of other larger animals, which gives the insects a liminal quality of existing between two worlds: the spiritual and the mundane. Insects also played an important role in historic Inuit cosmology because they were seen as beings connected to revival and rejuvenation. These connections were related to the common perception that insects would freeze to death in the winter and come back to life each spring. The unique role of insects as liminal creatures may explain why early 20th century ethnographers described the common use of insects as amulets. The important role of insects in historic and contemporary Inuit cosmology should persuade us to imagine the possibility that insects also played more significant cultural roles within OBS culture than is currently recognized.

INDENTIFYING OBS VISUAL CULTURE

Between 1928 and 1931, Henry Collins and his collaborators excavated the earliest and most abundant OBS sites on St. Lawrence, Punuk, and Diomede Islands. Collins conducted a stylistic study of these excavated materials from collections he bought from local residents and others purchased by anthropologist Diamond Jenness on Little Diomede Island and at Cape Prince of Wales, on the Seward Peninsula, according to Collins' 1928 publication. Collins first identified three OBS styles that he thought represented three separate chronologies: OBS I, OBS II, and OBS III (Collins, 1937). The OBS I phase is dated between 100–400 CE, and OBS II and III are now identified as contemporaneous in the period between 400–800 CE (Dumond, 2009, Fitzhugh, 2009). For Collins (1932), the sudden appearance of OBS culture in the Bering Strait region and its reach suggested that OBS possibly represented the arrival of a new cosmology and people into the area. This view remains widely accepted. The relatively sudden appearance of the OBS culture in the Bering Strait region could account for the break from the artistic style that was present in the region before OBS culture developed. It should be noted, however, that the sudden appearance of OBS could be due to a lack of archaeological evidence and sites that are currently unknown or lost. The main economy in OBS culture was based on hunting marine mammals, which was supplemented with fishing, bird hunting, and the gathering of wild plants. Key technologies in OBS culture were skin-covered kayaks and the toggling harpoon complex, which facilitated successful hunting of marine mammals (Fitzhugh and Crowell, 2009). For the purposes of this paper, one of the most distinctive features of OBS culture is the proliferation of complex decorative designs on ivory and bone, which were applied to a range of functional objects, from hunting instruments to other implements used in daily life.

The striking decoration and visual style of OBS ivory implements has understandably attracted much attention by archaeologists over the decades (Bronshtein, 2009; Dumond, 2009; Mason, 2009; Qu, 2014). OBS culture produced a curvilinear graphic art style that consists of engraved circles, dots, straight and radiating lines, broken lines, spurred lines, and other abstract designs, the application and organization of which follows a clear stylistic program across the culture. Bilateral symmetry, visual punning, and a play in figure-ground relationships (the natural, cognitive ability to separate elements based on contrast) have prompted scholars to observe affinities with the Indigenous Northwest Coast formline artform, as well as to ancient Chinese visual patterns (Fitzhugh and Crowell, 1988). Bronshtein and Plumet (1995) divided decorative imagery found on prehistoric Beringian implements into five style types that further distinguish the artistic style of the contemporary prehistoric cultures in the Bering Strait. Art historians describe engraved OBS pieces as objects bearing recurrent geometric or theriomorphic motifs, including a frequent pattern of two engraved circles over a pointed v-shape, representing a beak (Fitzhugh, 2009). Indeed, avian symbolism frequently recurs. This symbolism is especially common on harpoon counterweights, which have wing-like appendages. Before early scholars understood their functionality as counterweights, they described these items as "winged objects."

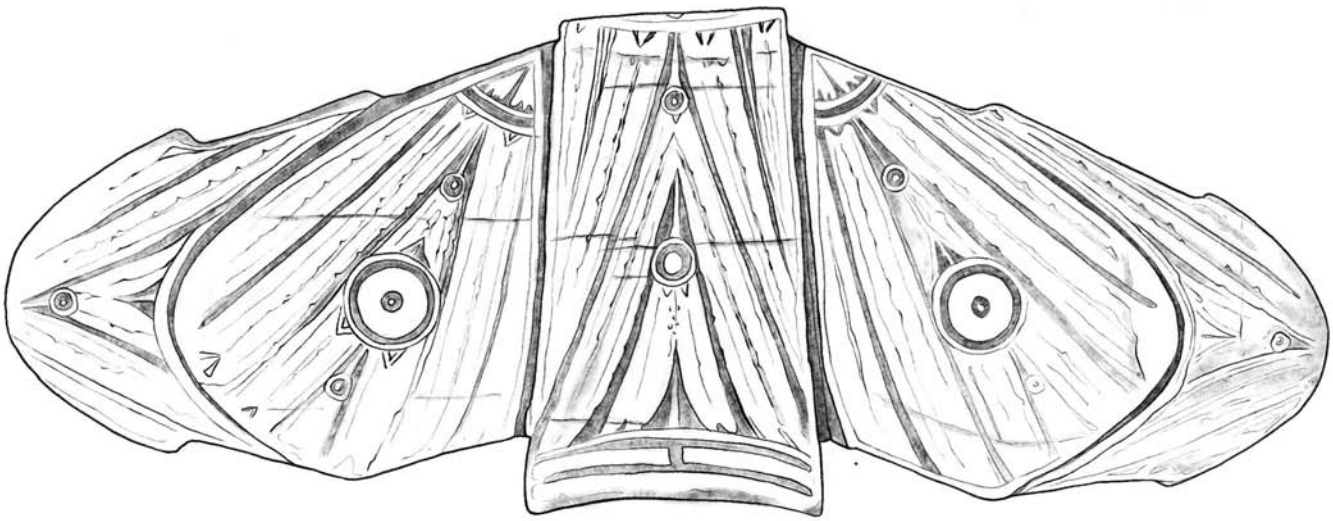

FIG. 1. Okvik/OBS I counterweight. From Burial 255, Ekven cemetery, Chukotka. Walrus ivory (length, 12.4 cm). State Museum of Oriental Arts, Moscow (132). Illustration credit: Sofia Economou.

The aforementioned stylistic analyses conducted by Collins (1929), particularly at large sites on St. Lawrence Island, combined with his work to correlate these analyses with information on objects' stratigraphic and spatial positions, established the presence of ancient OBS culture. Collins originally thought that the Okvik culture dated to around 300 BCE and preceded OBS. However, Swiss excavations at the Hillside Okvik site later challenged this, returning calibrated dates of about 200–400 CE. Few objects found in Alaska from the OBS II and III periods are viable for carbon dating, and most of the dates produced by the University of Pennsylvania in a study on carbon dating in the Arctic returned dates centuries too early to establish the objects as OBS (Rainey and Ralph, 1959; Mason and Rasic, 2020). More recent research by Blumer (2002) places the date range for OBS II as the same time as Hillside Okvik site, but the OBS extended later than the Hillside Okvik component, dating to 200 and 900 CE.

A handful of scholars have briefly mentioned a parallel between OBS winged objects and butterflies or moths. In musing about the shape of these winged objects, Bronshtein (2009:145) suggested that "perhaps nature inspired the creators to craft it [the winged object] in the form of a butterfly…" Bronshtein made a few more allusions to OBS harpoon counterweights and butterflies, but he does not go into further detail about the specific characteristics or parallels that led him to this conclusion. Fitzhugh (2009:184) also mentioned that the similarity of a counterweight (Fig. 1) to that "… of a winged creature like a bird, a moth, or a butterfly is reinforced by the plugs and an abstract beaked face on the rear panel." Though these authors fleetingly point out a possible similarity between winged objects and birds, moths, or butterflies, their suggestions call for greater scrutiny.

INUA AND INSECTS

The representation of insects on items from different Arctic cultures and the role of *inua* may help us understand insect symbolism in OBS visual culture. For modern Inuit of the Eastern and Central Arctic, *inua* (plural *inue*) is a force that dwells in, and imparts individual character to a physical phenomenon, object, or a person (Ryan and Young, 2013). *Inua* is the force that gives an object its form and is always miniature in size. While some historians liken it to the spirit of a being, this definition is not entirely correct; its nature is hard to capture in Western terms. An example of i*nua* could be related to a dog: the dog's *inua* would be exactly the same as the dog, but on a miniature scale. The same principle follows for the *inua* of objects or beings. Most *inua* are classified as *tuurngait* (singular *tuurngaq),* which are *inue* that are helping spirits. An important aspect of a *tuurngait*'s power is that it is accessible to an individual if it is bound to an amulet (*aarnguaq*). Normally this binding work would be performed by a shaman, as only shamans could see and control the *tuurngait*. The amulet could then be used to control and direct the *tuurngaq* to do what the user wanted. *Tuurngait* could be derived from animals, stones, and ghosts to benefit a shaman or someone close to the shaman. The concept of *tuurngait* driven or influenced by amulets is common within modern Inuit oral histories and stories, and offers a very productive way to interpret the system of visual signs in OBS art. Many physical amulets commonly depict only a portion of the animal, but through a type of visual metonymy, the whole *inua* or *tuurngaq* is still tied to this partial representation. With these ideas in mind, I hypothesize that partial or whole representations of *tuurngait* on OBS hunting weapons were used in a similar fashion to amulets used by historic Inuit. The possibility of invoking the power of the *tuurngait* of a bumblebee or a butterfly on OBS hunting implements like a harpoon counterweight may have summoned, for the hunting weapon, the quiet flight of

a butterfly, the tenacious quality of the Arctic bumblebee, or the transformational power or regenerative symbolism of these insects upon a hunting weapon.

Arctic ethnographies of the 20th century document many stories and legends, which were shared across the Arctic, of the various roles that insects could play within daily and spiritual life. Some insects, like bumblebees, flies, and caterpillars, played roles within Inuit cosmology that normally resulted in helpful outcomes for people but could also have unpleasant or negative outcomes. There are many instances (Laugrand and Oosten, 2010) where the bodies of insects would be sewn into clothing to prolong the life of the wearer, or where, in the event that an individual wearing the amulet was killed, it would bring them back to life. Oosten and Laugrand (2002:180) recount the words of Felix Pisuk, an Elder from Rankin Inlet, who described how butterflies were traditionally used by his people as a means of helping the wearer return home. "Butterflies were commonly wiped on the back of the parka of a young girl or boy to help them return home, with yellow butterflies being the most effective." Pisuk described this use of butterflies as amulets as belonging to older times, prior to the arrival of Father Guy Mary-Rousselière in 1938, and as no longer practiced. Laugrand (2017:139) also cites the recollection of Peter Kunilusie, from Clyde River, who told Rebecca Hainu that he remembered several important butterfly species: "There are yellow butterflies, and there are those with the dots. Those with dots on their wings are called *kakiattut*. Those who do not have yellow are called *tuurngaviat* while those with yellow or blue are called *tarralikisaat*." The yellow butterflies River mentioned could possibly be from the genus *Colias*, of the Pieridae family. Laugrand (2017) further comments on the close parallel between the word *tuurngaviat* (butterfly) and the word *tuurngait* (the helper spirit, *inua*, of shamans). Given the evidence emerging from ethnographies about the important roles of butterflies in the OBS culture, this parallell does not seem to me to be a coincidence.

In the Western Arctic, the anthropologist Lydia Black (1987) explored the role of bumblebees during her fieldwork on the Aleutian Islands. Black's Aleut companions warned her, in jest, of large man-eating bumblebees that would leave nothing behind but bleached bones. She concluded that "the bumblebee is apparently a symbol for the power to kill, associated with the image of the killer whale" (Black, 1987:23). This symbolic power on the part of bumblebees to kill, could be directly related to their use on hunting amulets as a means of imbuing these items with the ferocity of the killer whale. Rasmussen also noted the presence of bee amulets in other areas of the Arctic. He wrote about them as follows: "A bee with all its progeny sewn into a piece of skin and fastened to the hood gives a strong head" and "a bee and its young sewn into skin and used as a brow band gives a strong head, especially in fisticuffs" (Rasmussen, 1931:43). The use of bees as amulets is common for more than just a strong head, as Rasmussen (1929:170) was told that, "a live bee must be rolled over the back of a pregnant woman and afterwards kept; when she gives birth to the child, this bee will become an effective amulet; fastened on top of the head in a hairband, gives long life." Bees were also used as amulets for dogs. Jenness (1922:169) recorded an Inuinnait story in which, "Higilak once wrapped the body of a live bumblebee in a shred of cloth and tied it around the neck of a young pup to make the animal fierce and bold like the bee." With these recountings, we begin to see the peculiar role that insects have played over the last 100–200 years across the Arctic.

Historic designs by craftsmen of the Yup'ik people, who still live in the Bering Strait region, include single-line engraving styles punctuated by small circles, ringed circles, and circle dot motifs. Yup'ik Elders refer to the circle dot motif as *ellam iinga* (eye of awareness), which is connected to magical vision and the passage of spirits between worlds (Fitzhugh, 2009). When the eye of awareness is included on a harpoon, it becomes all-seeing and able to guide the harpoon to its prey. But this eye of awareness motif also relates to butterflies and moths that have false eye patterns on their wings, which could be a connection to the power held by these insects. There is also the concept among the Ainu, Nanai, and many other Indigenous Asian groups (and most likely their ancestors) that an overall art pattern, like the decorations on clothing or body tattoos, function as personal protective armor (Fitzhugh, 2009). These ideas are highly suggestive of an interpretive framework for understanding the flowing OBS art style that tends to cover the entire object. This design style could reflect a similar belief that specific designs act as protective armor on items they are applied to, including hunting implements.

INSECT ANATOMY AND OBS DESIGN

The main class of objects I examine in this paper are connected to hunting harpoons. Harpoons were one of the main hunting technologies used by both OBS and Okvik cultures in securing marine mammals, and they also served as a frequent surface upon which elaborate avian or insect designs were carved. The origins of the toggling harpoon used in the North Pacific are not clearly known, but Fitzhugh (2009) identifies a connection to early Jōmon culture, which flourished from 14,500–300BCE in present day Japan, as a potential source. Since harpoons were normally used from a seated position (from a kayak), spear throwers, or atlatls, were habitually used to provide greater leverage. Atlatls were normally made of wood, with ivory and bone also being used. When the toggling harpoon first appeared at OBS and Okvik sites about 2000 years ago, the hunting system was already fully developed and highly specialized, to the degree that evidence points to different harpoons for summer and winter use, along with specialized harpoon heads for different types of prey and different levels of penetration through the skin. Adequate weight distribution of the heavy ivory socket piece on the front of the harpoon was obtained through the use of a counterweight on the other end to provide balance. Joints and lashings with fixed or flexible foreshafts provided a coupling

between the socket and the detachable harpoon head, while the spear-thrower hook was inserted into a slot at the back end of the counterweight. Besides Fitzhugh's hypothesis, scant archaeological evidence points to the origins of this type of harpoon technology in the Bering Strait, or the style of art that accompanies it, and thus we are compelled to look elsewhere for this.

Since my comparisons will use terminology specific to butterflies, moths, and bumblebees and apply it to describe specific areas of OBS/Okvik artistic design, I will now outline some relevant entomological terms specific to these insects. Butterflies and moths belong to the order Lepidoptera, which combines the Greek words *lepis* (scales) and *ptera* (wings). There are approximately 32 species of tundra-adapted butterflies. Seven of these can survive on High Arctic islands, ranging from parts of Greenland to Baffin Island. Today, the Arctic has just over 100 species of moths, and the High Arctic has at least 12 species (Mallory, 2012). The bodies of butterflies and moths are divided into three parts: the head, thorax, and abdomen. Butterflies and moths have four wings: two forewings and two hindwings. The costal margin is the area along the leading edge of the forewings, and the outer margin is along the outer edges of the forewings and hindwings. Within each wing are areas called cells that are surrounded by veins pumped full of air and fluids to help maintain the structure and shape of the wing during flight (Mallory, 2012).

Bumblebees belong to the order Hymenoptera, a name derived from the Greek *hymen*, (membrane) and *ptera* (wings). Two common species of bumblebees present in the Arctic are the *Bombus polaris* and *Bombus hyperboreus* (Goulson, 2010). *B. polaris* plays an important role as one of the principal pollinators of Arctic flowers (Namin et al., 2021). The body of a bumblebee is also divided into a head, thorax, and abdomen. They also have two pairs of membranous wings, forewings, and slightly smaller hindwings on each side. The wings of the bees found in the Arctic tend to have fewer veins present than species in other areas (Mallory, 2012). The wider area along the top of the forewing is called the stigma. The larger cell in the wing is called the marginal cell, and the smaller two below it are called submarginal cells. Many of the bees and wasps found on the Arctic tundra make their nests underground. The queen mates before the winter, then overwinters in a location separate from her previous nest (Mallory, 2012). Once it is spring, the queen starts a new colony and cares for her larvae until they become adults. The species *B. polaris* is one of the first insects to come out of hibernation in the spring and can be found flying to early spring vegetation in near freezing conditions.

COMPARISONS

Example 1

This ivory counterweight (Fig. 1) from Burial 225 at Ekven cemetery in Chukotka and dated to the OBS I period is the object that inspired the writing of this paper, as it draws the most striking comparison to a butterfly or moth. The overall shape of the counterweight is very similar to a butterfly with its wings open and held slightly downwards. Within each wing of the counterweight, secondary engraved lines begin at the upper corner, where the wing meets the central body, and radiate out from this point to fill the entire space of the wing, mimicking the wing venation that begins from the same point in the wings of a butterfly. Fitzhugh (2009), among others, has hypothesized that these engraved lines would have been filled with soot or red ocher. This would have created a very strong parallel visual effect akin to the frequently black veins present in the wings of a butterfly. Further discussion on micro-elements of design of the prehistoric Bering Strait can be found in Bronshtein's (2006) article, "Variability in ancient Eskimo graphic designs: On the problem of the ethnic and cultural history of the Bering Sea from the 1st millennium B.C. to the 1st millennium A.D." Along the top of each wing of the counterweight is a thin raised section with a lightly incised line on either side, analogous to the costal margin on the wing of a butterfly. The two circular holes on each wing of the counterweight were most likely originally plugged with a darker wood or fossilized ivory. These holes appear to mimic the markings of false eyes present on some butterflies and moths. Many believe that the adaptation of false eyes is type of warning colouration used by butterflies and moths to startle predators, or possibly an aspect of mate recognition and sexual selection (Kleisner, 2008).

In addition to the venation and ocular similarities, there are also structural analogues. The central portion of the counterweight has been sectioned into three parts, which correlate to the three body parts of a butterfly. The superior, semi-circular section is similar to the head of a butterfly, the medial is analogous to the thorax, and the lower section would be the abdomen of the butterfly. The sections that represent the thorax and abdomen have engraved lines that curve vertically around the body, which resemble hair that can be found on certain types of Arctic butterflies and moths, such as the small Apollo (*Parnassius corybas*) (Fig. 2), an Arctic species that has long hair covering the majority of its body. Indeed, the large circular holes on each wing of the counterweight parallel the false eyes present on the hindwing of the small Apollo. Both sets of false eyes have a larger inner circle and are ringed by another thinner circle. Smaller carved circles on the counterweight that break up the straight venation on the wings also directly parallel black patches on the forewing of the small Apollo. If, as described above, the larger holes on both wings of the counterweight were originally plugged with darker material, they would have looked even more like a butterflies' false eyes. The shape of the counterweight also draws a comparison to the moth species *Odonestis pruni* (Fig. 3), a species of moth present in areas of China and Japan. This moth is common in temperate, but rare in northern climates. People who made

FIG. 2. Small Apollo (*Parnassius corybas*). Photo credit: Norbert Kondla, iNaturalist Canada.

FIG. 3. *Odonestis pruni* moth. Photo credit: with permission from Gernot Kunz, iNaturalist.

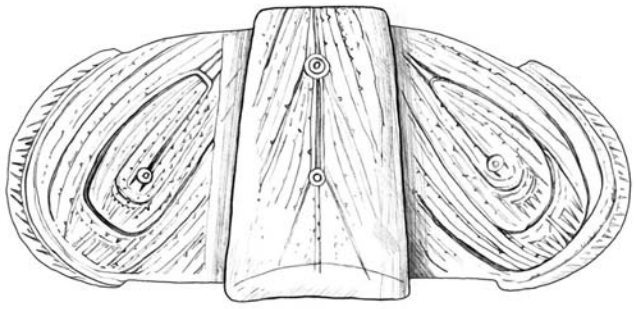

FIG. 4. Okvik/OBS I counterweight. From Burial 274, Ekven cemetery, Chukotka. Walrus ivory (length, 11.1 cm). State Museum of Oriental Arts, Moscow (139). Illustration credit: Sofia Economou.

these objects in the Bering Strait might have originally migrated from these warmer southern climates and used a memory of these insects, or even a preserved insect, to guide in art making. There is an obvious morphological similarity between the wing shape of *O. pruni* and the counterweight under consideration. When at rest, *O. pruni* holds its wings in a slightly triangular shape that is paralleled in the counterweight, and, as discussed above, the body of the *O. pruni* is separated into three sections, which is again reflected in the counterweight. Similar to the previous comparison, the body of the species *O. pruni* is covered in thick hair that mimics the lines on the body of the counterweight. The last point of interest is the white dots on both of the forewings of the *O. pruni*, which act as possible false eyes, much like those present on the wings of the counterweight.

Example 2

This harpoon counterweight (Fig. 4) is dated to OBS I and is from burial 274 at the Ekven Cemetery in Chukotka. The sloping shape of the counterweight bears a striking resemblance to the wings of the butterfly genus *Pieris*. Each side of the counterweight resembles the wings of the butterfly when they are held in an open, but slightly downward, manner. The engraved lines on the counterweight are similar to the venation of the butterfly wings and, if the engraved lines were originally filled with soot, would have mimicked very closely the black veins in the *Pieris* sp. (Fig. 5). The inclusion of engraved lines on the counterweight have no known functional purpose, and they are believed to be a stylistic addition or decoration that creates a parallel to an Arctic butterfly or moth (Fitzhugh, 2009). The oblong shape present in the wing of the counterweight appears similar to the discal cell in the forewing of lepidopteran. The central portion of the counterweight has some similarity to the body of the butterfly, but appears to be more abstract in nature than the previous example. The colour similarities of the ivory (a creamy white when the artifact would have been originally made) to the creamy white of the *Pieris* sp. butterflies furthers the connection. Not many materials would have been present in the Arctic from which to make hunting counterweights—wood, ivory, and bone were the most common—but the probable conscious choice of ivory along, with the inclusion of black soot into engraved lines, increases the visual parallels between the counterweight and the *Pieris* sp. butterflies. The *Pieris* sp. butterfly is currently found throughout the Bering Strait region, and it is possible

FIG. 5. *Pieris angelika* butterfly. Photo credit: Norbert Kondla, iNaturalist Canada.

FIG. 6. OBS harpoon foreshaft, period unknown. Photo credit: Canadian Museum of History, Gatineau (IX-F:6671, CD1995-0605-058).

FIG. 7. Detail of OBS harpoon foreshaft (image cropped by author), period unknown. Photo credit: Canadian Museum of History, Gatineau (IX-F:6671, CD1995-0605-058).

that this species could have been present in the prehistoric period and known by OBS peoples.

Example 3

This harpoon foreshaft depicted in Figure 6 is attributed to OBS culture. Diamond Jenness purchased it for the Canadian Museum of History from local Inuit of the Bering Sea region at some point in the early 20th century. I call attention to the teardrop-like shapes that vertically decorate the foreshaft (Fig. 7). The area is entirely enclosed by primary incision lines that create a border around it. Within this oblong, wing-like shape are secondary engraved lines resembling venation; these curve into the centre of the wing shape. These shapes closely resemble the forewing of a bumblebee of the genus *Bombus* (Fig. 8) or Arctic bumblebee, one of many species of bumblebee found throughout the Arctic, including the Bering Strait region. The species *B. polaris* is a miraculous insect. The queen bee freezes solid each winter and is one of the first insects to awaken each spring. The queen shivers her flight muscles to raise her body temperature to a flight temperature of 30˚C (Statman-Weil and Wojcik, 2023). The queen also basks in the sun to raise her body temperature, while the thick hair on her body helps to trap heat. With these adaptations, *B. polaris* is able to become active just after the snow melts and prior to any flowers even blooming. Due to this early emergence each spring, this species would most likely have been a well-known insect. The potential connection between the wings of a bumblebee and the placement of their likeness onto the foreshaft of a harpoon, an object that "stings" into an animal, is a correlation that should not be overlooked in the analysis of this object. Imbuing a harpoon with a bee's sting and its superb flight would have been desirable in an effort to get it to fly straight and hit its target. Ethnographic accounts of bees in the Aleutian Islands record oral histories of bees being able to kill humans and leave behind their bleached bones, which suggests the possibility of a tradition that sought to bolster itself with the ferocity of bees (Black, 1983).

Example 4

The harpoon foreshaft shown in Figure 9 is from the Ekven cemetery and is located at the State Museum for

FIG. 8. *Bombus frigidus.* Photo credit: Alexandria Wenninger, iNaturalist.

Oriental Arts in Moscow. The foreshaft was recovered from burial 320 and has been dated to the OBS II period. I focus on the design that begins above the pointed tip on the front of the foreshaft that then wraps around the side of the shaft. It is similar to a pair of wings of the bumblebee of the genus *Bombus* (Fig. 8) at rest with its wings held closed. Much like the foreshaft described earlier (Fig. 7), there is an oblong teardrop shape with a raised primary line enclosing the secondary engravings. Secondary engraved lines within the primary shape seem to originate in the top of the pointed corner of the teardrop and move down towards the rounded edge of the bottom. These secondary engraved lines may correlate with the venation in the wings of a bee. The presence of another example of a OBS foreshaft with a pattern resembling the bees' wings points to the importance of the placement of a bee wing on the foreshaft of a hunting harpoon versus the pattern resembling butterflies or moths on the counterweight. This placement could have to do with how the foreshaft strikes the prey, while designs on other parts of the harpoon, such as the counterweight, could have a different meaning altogether. This could explain why we see different insects being represented in both locations. The importance of the representation of the bee wing aligns with the insights drawn from the earlier examples: hunters wanted to imbue the harpoon foreshaft with the power of the bee or some of its fearsome qualities.

Example 5

This counterweight (Fig. 10) is dated to the transitional period between OBS I and II. As we move to the later periods (OBS II and OBS III), a shift seems to have occurred in the style of the possible representation of insects on counterweights. We no longer find complete, striking comparisons to full butterflies or moths, but rather, an echo of the earlier possible full-body designs of butterflies. What we see instead is a partial representation on the counterweight of the forewing and hindwing of a butterfly, in particular the

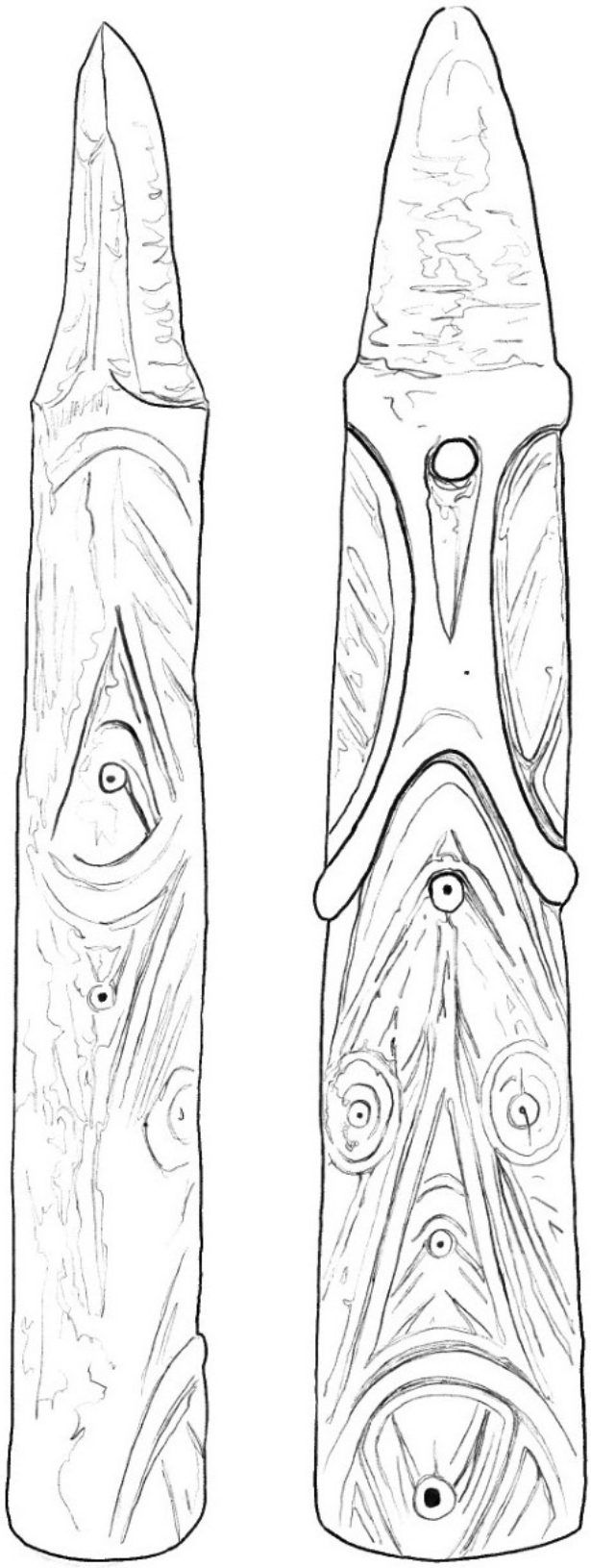

FIG. 9. OBS II Harpoon foreshaft. From Burial 320, Ekven Cemetery, Chukotka. State Museum of Oriental Arts, Moscow (51947). Illustration credit: Sofia Economou.

FIG. 10. Transitional OBS I/II winged object, ca. 300, walrus ivory. Photo credit: Detroit Institute of Arts Museum, Founders Society Purchase, Mr. and Mrs. Peter W. Stroh and the Stroh Brewery Foundation Fund (1983.7).

FIG. 11. Detail of transitional OBS I/II winged object (image cropped by author), ca. 300, walrus ivory. Photo credit: Detroit Institute of Arts Museum, Founders Society Purchase, Mr. and Mrs. Peter W. Stroh and the Stroh Brewery Foundation Fund (1983.7).

exterior margins of the wing (Fig. 11). The outer tip of the wing area has a very defined primary incision that displays the pronounced shape of a forewing and hindwing of a butterfly. Within the two primary teardrop-shaped areas are secondary engraved lines that make up the main decorative elements of the butterfly wing, and within the wing shape a circular area appears similar to a false eye. The duplication of the false eye on both the forewing and hindwing is similar to the pattern on the small Apollo's wings (Fig. 2). The false eye of the small Apollo has a larger central yellow circle surrounded by a thin black outer margin; this correlates to the false eye on the counterweight. A continuous line of dashes runs from the base of the wing shape up and around the false eye and connects back to the base on the other side. This dashed line could be an abstract representation of the black cells that decorate the small Apollo's wing. It is notable that dashed lines are one of the hallmarks of OBS art, and their inclusion on this object appears to coincide with a shift away from the earlier, more obvious depiction to a butterfly, to a more abstract representation. The false eye is then duplicated on the hindwing. Along the apex of the forewing a secondary crescent-shaped engraving separates the forewing decoration. This crescent shape parallels the black shading on the apex of the small Apollo's forewing. This shape is not present on the hindwing depicted in the counterweight design, and there is also no shading along the outer margin of the hindwing on the small Apollo. Since we know from recent ethnographies that only a portion of an insect was needed for amulets, this could represent a shift towards an artistic desire for only partial representation instead of depictions of whole insects, and for achieving greater visual balance between forewing and hindwing.

Example 6

This ivory counterweight (Fig. 12) is from the Ekven Cemetery in Chukotka and is dated to the OBS III period. Dated even later, it appears to depict a further abstraction of a butterfly or moth. The overall shape of this counterweight resembles a butterfly and has a clearly defined larger forewing and small area correlating to the hindwing, which is undecorated, while the decoration of the forewing and body appear more abstract. The body of the counterweight is triangular. This appears to be a simplification of the three body parts of a butterfly. The designs of the body flow across the surface in a primarily circular motif. These designs do not closely resemble the wing pattern on any butterfly or moth that I could find and could simply reveal an artistic decision to lean toward abstract designs.

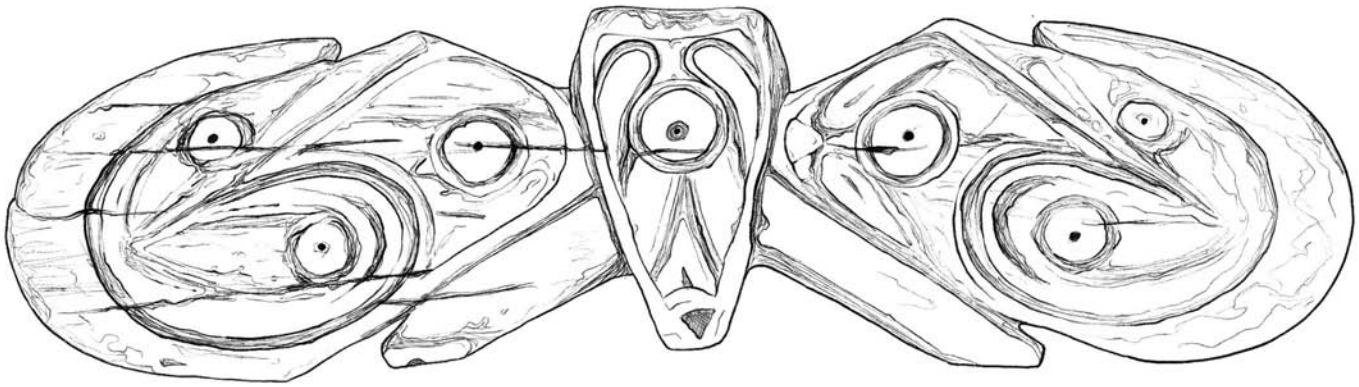

FIG. 12. OBS III counterweight. From Ekven cemetery, Chukotka. Walrus ivory (length, 21.2cm. Collection of Peter the Great Museum of Anthropology and Ethnography (the Kunstkamera), Russian Academy of Sciences, St. Petersburg (6508 – 885). Illustration credit: Sofia Economou.

The area I believe to be similar to the previous, transitional counterweight (Fig. 10) is located at the edge of each end of the counterweight's wings. When this area is inverted (Fig. 13), it has the appearance of a butterfly's forewing and hindwing. Primary lines enclose the area of both wings, and secondary lines are the wings' decoration. The large area of the forewing appears to be broken up into a large main cell with a false eye at the end. This later representation of a butterfly appears to deviate even further into the realm of abstraction and simplification: there are fewer decorative lines present, and the hindwing appears to end in a point at the outermost corner. This simplification could show a change in style preference or be due to external factors, as there is a highly visible difference between the style of the transitional counterweight and this example (Figs. 10 and 12). The two objects do share a similarity: the later counterweight has semi-circular lines near the outer margin of the forewing that echo the crescent-shaped design element on the transitional counterweight, and both resemble shading on the outer margin of the small Apollo forewing (Fig. 2). However, the later object's semi-circular lines are a further simplification of these; while the design elements are continuous, only a glimmer of the earlier, realistic versions remains. This counterweight is the latest example of design elements that have some features that were similar to those of an insect and even though the design elements are present, they are simplified, with just a glimmer of the earlier realistic design elements.

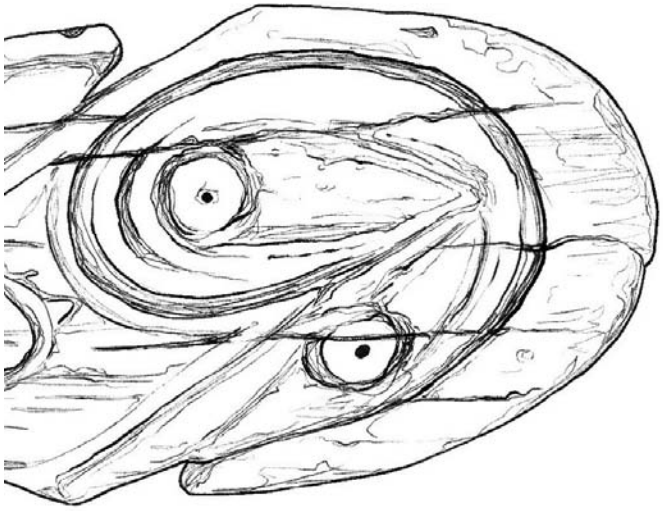

FIG.13. Detail of OBS III counterweight (image cropped and inverted by the author). From Ekven cemetery, Chukotka. Walrus ivory (length, 21.2 cm. Collection of Peter the Great Museum of Anthropology and Ethnography (Kunstkamera), Russian Academy of Sciences, St. Petersburg (6508–885). Illustration credit: Sofia Economou.

DISCUSSION

Theories

Many interpretations of designs on these objects are possible, as there are many reasons why insects would have been used as amulets. I will now offer my hypotheses.

Many ethnographies note the importance in OBS culture of butterflies or caterpillars in aiding lost individuals on their journey back home (Laugrand and Oosten, 2002; Laugrand, 2017). The wings of butterflies were commonly used as amulets and attached to the parkas of individuals to make sure that the wearer would be able to find their way. A hunter would always want to ensure that their counterweight, and harpoon as a whole, would return to them. Evidently, a lot of time and skill would go into the production of a counterweight, from sourcing this precious material, to its carving. This would automatically deem it an important object, and it is understandable that hunters would call upon every advantage, be it technical or spiritual, to hold onto it. There is also the possibility of channeling the camouflage and mimicry of a butterfly. Many types of butterflies, especially those in the Arctic, are known for their camouflage. Some species of butterflies are known to drop suddenly out of the air when flying and then blend into the Arctic vegetation, which would be a useful trait for a hunter. Since, as discussed earlier, a popular hypothesis to explain the evolution of false eyes on butterfly and moth

wings is that these scare away predators, we can surmise that this intimidating feature is another attribute that could have been helpful to hunters, due to the dangerous nature of their occupation. The specific use of butterfly wings could also be linked to the way butterflies fly silently through the air. Silent flight would be a very beneficial attribute for a hunting harpoon.

The depiction of bumblebee wings on hunting implements could correspond to the ferocious quality of the bumblebee. Ethnographies record the use of amulets with images or physical bodies of bumblebees in OBS culture to confer ferociousness to dogs and give people long life, and capture the idea that similar designs on harpoon foreshafts would "sting" prey animals. These designs would also imbue the harpoon with a long life so it would not break unexpectedly while hunting. The concept of flight in general should not be overlooked, as getting help from a hunting implement to ensure it flies straight and successfully hits a target could be a matter of life and death. In such a harsh environment, it is not difficult to understand a hunters' desire to bind the spiritual world to themselves and their objects.

As mentioned previously, brief reference is made in the literature of the similarities between these counterweights and butterflies (Bronshtein, 2009; Fitzhugh, 2009). However, no further analysis has been conducted on these objects. The similarities are easily seen once the counterweights and insects that inhabit the Arctic are placed next to each other. These links are made more evident when we consider the role that insects played in the lives of people living in the Bering Strait. Art historians have divided the graphic design and sculptural elements of OBS counterweights into two categories: early, more realistic desgins, and later, more abstract ones (Bronshtein, 2009). This categorization of OBS counterweights fits well with the representation of insects on these objects. The earlier counterweights seem to be direct references to the shape and, in some cases, designs of whole butterflies. But as we begin to look at later (OBS II and OBS III) examples, we see just an echo of the earlier inclusion of insect wings. The later examples are no longer full replicas of insects but have shifted towards the inclusion of the butterfly wing as a design element, which could be a cultural memory of the earlier design being expressed in a different but still meaningful way.

Evidence of engraved lines being filled with soot creates a direct parallel to the black veins present in the wings of many species of butterflies. The conscious choice to fill in these lines with soot seems to be an additional design element that creates an even closer parallel to the insects that are being represented on these objects. The use of fossilized ivory or darker wood to plug the holes in the first counterweight example is another conscious design element that appears to link the object even closer to the depiction of a butterfly. These additional elements, which in no way change the performance of the hunting harpoon, are more likely to be design elements that enhance the objects from a spiritual perspective.

A final comparison that is worth mentioning is the well-known Ipiutak burial mask associated with Burial 64 recovered in Point Hope, Alaska (Bronshtein, 2006; Mason, 2009). This mask originally baffled archaeologists and art historians, as the decoration covering the mask was unlike anything that had previously been recovered in this region. The area of interest on the mask related to the theme of this paper is the labrets, or lip ornaments, positioned on either side of the mouth area. In labrets, tooth ornaments protrude through holes that pierce through the lip. They have a long history in the Bering Strait region. The first evidence of these lip ornaments was found in western Alaska with the Choris culture at some point in the first millennium BCE, while at the same time labrets were no longer being used in northeastern Asia (Dumond, 2009). The use of labrets in western Alaska and the absence of them in northeastern Asia appears to have been a defining factor until 800–900 CE with the collapse of the Ipiutak culture. The labrets on the Ipiutak burial mask were carved into the shape of a botfly and then attached onto either side of the mask's mouth plates. Some scholars suggest that botfly larvae allude to shamanic possession. Mason (2014:54) wrote: "larvae often gestate within a single caribou nasal passage and induce a lunacy in the animal that suggests shamanic possession, recalling that like shamans, botflies are so incredibly fast as to prevent human sight." This connection to a botfly, and the importance of its role within Ipiutak culture opens the possibility that there were other insects within the Bering Strait region that could have played an important spiritual role within other cultures in the region. The diminutive size of insects is a vital aspect of this importance, connecting them to shamans, who are among the only people that can interact with, and enter, the world of miniatures. Inclusion of insects in hunting implement designs most likely by shamans or shaman familiars confirms the importance of insects and the role that they could play within their culture.

Links to Asian Peoples

Further links to Asian peoples and the impact they had on the art produced in the Bering Strait region can be better understood by examining the use of iron. Dumond (2009) discusses the idea that engravings produced by OBS carvers would have been made with iron-tipped engraving tools, a theory supported by the recovery of these engraving tools by Russian archaeologists on the Chukchi Peninsula. The introduction of iron into the Bering Strait before 500 CE could have followed a few different pathways. Iron was being smelted in China during this period, in Korea by the seventh century CE, and in the Lena Valley of Siberia (Mason, 2009). The exact pathway that the iron took to get to the Bering Strait is unknown. Mason (2009) has argued that the iron is most likely to have originated from either Korea or Siberia, as China had strict control over their iron ingots. The connection to coastal and interior Asian groups is also confirmed by ivory copies of cast bronze work that are found in OBS and Ipiutak graves (Fitzhugh,

2009). This clear contact with Asian cultures as sources of new technology, religious ideas, and art forms challenges the long-held idea that the OBS region was remote and inaccessible and home to secluded cultural groups. There are many theories as to where the ancestors of the OBS could have originated, with many scholars looking to the Sea of Okhotsk, Kamchatka, and the Chukotkan interior (Fitzhugh, 2009). As archaeological excavations continue, and as material is re-examined, the picture of the Bering Strait region is becoming less mysterious, and evidence points to a well-connected area with far-reaching trade connections.

Since we know from archaeological excavations that the Bering Strait and OBS were somehow connected to coastal and interior Asian groups, it is highly appropriate to examine the importance of butterflies and other insects in these cultures. Within Chinese cultures, butterflies are commonly seen as a symbol of immortality and conjugal bliss. In Japanese cultures, butterflies have many different meanings but are commonly a symbol of metamorphosis and transformation and especially of the cycle of life and death. A form of the Russian language refers to a butterfly as *dushichka*, derived from *dusha*, meaning soul. Thus, we see the representation of butterflies as important insects that relate to the soul, immortality, and the cycle of life. All of these are examples appear to have a similar root in the idea that butterflies are more than just pretty insects; they have a connection to a greater spiritual world.

CONCLUSIONS

OBS art has been explored from many different angles, but the importance of marine and land mammals has always been a focal point, while the importance of other creatures, like insects, has yet to be fully explored. Ongoing study of the role of marine and terrestrial animals in the lives of the people of OBS culture reproduce what I describe as a "vertebrate bias" that has left little room for the insects that are abundant in the Arctic region. We can find a parallel to the relationship between insects and their representations in OBS art in the Dorset Paleo-Inuit sites. There, excavations have located carvings representing polar bears. Betts et al. (2015) investigated the connection between the Dorset peoples and polar bears through relational ecology to create an integrated framework. The authors proposed that, to the Dorset, these carvings were simultaneously tools and mnemonics (symbols) to access the nature and spirit of the bear; they also used the carvings to teach and serve as a reminder for the correct way to hunt seals. Betts et al. (2015) argue that the Dorset used the symbolic value of these objects to conceptualize themselves and their place in the universe. By stepping outside of the vertebral biases in zooarchaeology, we can possibly lay similar foundations used by other scholars to examine the possibilities of insects within cultures in the Arctic region.

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