

A Biface from Bob's Beach: Memoir, Mystery and Material Culture

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There is no place more perfectly made for a mystery than an island—so says Stephen King in the afterword to *The Colorado Kid*, his meditation on the meaning of mystery.

One late Spring morning I received an excited phone call from Bob Bosien, a friend and avocational archaeologist from Deer Island, New Brunswick. A year earlier Bob had found the tip (distal end) of a largish biface¹ on the eroding margin of an archaeological site (BfDr5)² at Deer Island Point, where he often collected stone tools from the intertidal zone. Now Bob had found the base (proximal end) of the same biface eroding out near where he found the tip. Because neither piece had been water-rolled in the intertidal zone, both were well-preserved, and they fit together perfectly to form a complete artifact (Figure 1).³

I first met Bob Bosien when he was skipper of the *Mary O*, the University of New Brunswick's research vessel. During the 1990s and early 2000s, he ferried crew and equipment back and forth for UNB archaeological excavations on islands in the Quoddy Region⁴ and took my students and me out for annual daytrips to examine and surface-collect coastal archaeological sites. Bob was a life-long resident of the Quoddy Region and a long-time resident of Deer Island. He spent much of his life in and on the water, working as a diver, in fisheries research and development and, later, facilitating UNB research projects.⁵ An accomplished raconteur, Bob shared his vast knowledge of the Quoddy Region and his wealth of stories about boating its waters with my students and me. We, in turn, introduced Bob to the possibility of finding

Pre-Contact⁶ Indigenous artifacts that had eroded into the intertidal zones of the region. I remember his delight, the first time he came with us to surface-collect the Rum Beach site (BgDq24), when he

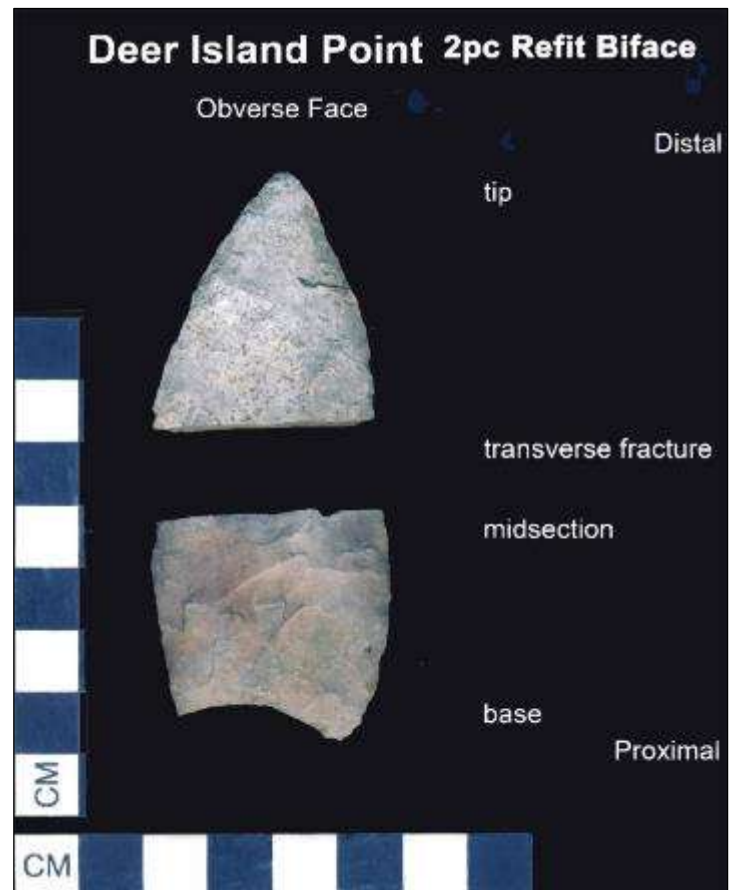


Figure 1: The biface from Bob's Beach (obverse face).

¹ In archaeological terminology, a “biface” is a flaked stone tool that has been worked on both surfaces. Typically, the term is applied to flaked projectile points, knife blades, and the preforms produced during their manufacture.

² This is the site designation in the Borden System, the national system for recording and tracking Canadian archaeological sites and artifacts.

³ All images were created by me except where otherwise noted.

⁴ The Quoddy Region, located on both sides of the New Brunswick–Maine border at the mouth of the Saint Croix River, is part of the traditional territory of the Peskotomuhkatiyik (the Passamaquoddy people).

⁵ MacKay and Bosien's (1978–79) marine resource inventories were among the first documents I consulted when I came to work in the Quoddy Region.

⁶ “Pre-Contact” refers to the time before sustained interaction between Indigenous people and Europeans, which began ca. 420 years ago in the Quoddy Region (Sanger 2012:263-264).

found a flaked-stone drill bit in the creek bed there (Black 2023:18).

After he retired, Bob became an avid artifact collector, an avocational archaeologist with a substantial library of history- and archaeology-related books and papers, and a committed steward of past material culture. He rapidly retrieved an extensive assemblage of stone tools from the intertidal zones around Deer Island Point, evidence of the human past that would otherwise have been lost to the encroaching sea.⁷ Bob generously loaned his collection to UNB's Department of Anthropology, where it became the focus of a master's thesis by graduate student Drew Gilbert. When Drew tested the remaining land-based archaeological deposits at the Deer Island Point site, Bob participated in the excavations (Black 2023:56, 63; Gilbert 2011:79).⁸

Some years later, when my colleagues and I spent several days on Deer Island recording privately held artifact collections, Bob let us use his garage as a base of operations. He contributed to displays of stone tools I organized for the Greens Point Light Station Museum (Figure 2). He gave Chad Abbott permission to include photographs of part of his collection in a book (Abbott 2020), and he gave me permission to include some artifacts he found in my monograph on intertidal archaeological assemblages (Black 2023).

Bob realized that the two-piece refit biface he had found was different from other complete bifacial tools recovered from the Deer Island Point intertidal zones and excavations. His excitement, however, stemmed largely from his perception that the biface might be Paleo-American in age—that is, 10,000 or more years old.⁹ Like many avocational archaeologists, he had the preconception that older artifacts are more important or at least more interesting, in part

because they are rarer than more recent ones. He couldn't be faulted for this because many professional archaeologists, consciously or unconsciously, share a similar bias.¹⁰

Bob knew that Paleo-American artifacts had been found on the Charlotte County mainland near Deer Island (Dignam et al. 2024) and he was keen to find a stone tool that was “really old.” When he described the biface to me, I understood why he thought it might be Paleo-American in age. I was skeptical... but I was intrigued. Bob was old school technology-wise; I could expect no digital photographs attached to emails from him. So, soon I



Figure 2: Bob Bosien at Greens Point helping to set up a stone tool display in 2015 (photo credit: D.S. Milley).

⁷ Coincidentally, Deer Island Point (BfDr5) is the first archaeological site I examined in New Brunswick (Black 2023:56).

⁸ Gilbert (2011) showed that the Deer Island Point site has been a locus of Indigenous activity for at least four millennia; he hypothesized that the archaeological site once functioned as an anchorage for a short portage route across the point, allowing canoeists to circumvent *Mocinkosk* (the “Old Sow”

marine whirlpool between Deer Island Point and Moose Island, Maine).

⁹ “Paleo-American” (equivalent to “Paleo-Indian” or “Paleoindian”) is a term used by archaeologists to designate the earliest people and cultures inhabiting northeastern North America during the final stages of the most recent continental glaciation.

¹⁰ I’ve always struggled to resist it.



Figure 3: Bob's Beach; the inset shows the sign (photo credits: C.D. Gilbert, J.A. Cummings).

was off to Deer Island to see the source of his excitement firsthand.

Once we were seated at the table on his deck, Bob set the two pieces of flaked stone in front of me with the finesse of a cardsharp playing a pair of aces, then leaned back to observe my reaction. Sure enough, some attributes of the biface are consistent with the morphology of some Paleo-American projectile points; for example, it is lanceolate in overall shape and has a concave base. However, several details undermine an interpretation of great age for this artifact. As I told Bob why I thought his find is not a Paleo-American artifact, I did my best to cushion that interpretation by emphasizing that it is, none-the-less, unusual and interesting. Still, Bob was dissatisfied. That's how things stood for a while.

One day, as I was leafing through Jeff Boudreau's (2016) typology of New England projectile points, I was struck by similarities in shape between some of the bifaces Boudreau illustrated, and the biface that Bob had found. Boudreau (2016:8) proposed that a series of bifacial projectile point types with slightly to moderately concave bases was made and used by Indigenous people in southern New England beginning late in the Paleo-American period and continuing through to European Contact.¹¹ I realized that I needed to consider archaeological assemblages from south of the Maritimes in trying to understand Bob's biface, as I had done to interpret artifacts from the Terminal Archaic period (ca. 4000–3000 years ago) found

¹¹ Note that *early* Paleo-American projectile points found in the Maine–Maritimes area generally exhibit *deeply* indented

bases and fluting flake-scars on one or both faces (e.g., Betts and Hrynck 2021:58; Boudreau 2016:16-24).

eroding into Quoddy Region intertidal zones (Black 2023).¹²

Then I received another phone call. Bob told me that he had been diagnosed with cancer. A few weeks later he was gone—before I was able to share my recent thoughts about the biface. Soon after his death, one of his neighbors made the sign shown in Figure 3, and his family and friends attached it to a tree overlooking the shore where Bob had spent so many hours collecting artifacts. So, just as their sign is a visual homage to Bob’s passion for collecting stone tools, this essay is my tribute to his contributions to New Brunswick’s archaeological history and an exploration of one of the mysteries he left with me.

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Bob’s two-piece refit biface measures 7.4 cm in length, 3.5 cm in width, but only 0.6 cm in thickness. The cross-section is flattened, and the width/thickness (w:t) ratio is relatively high at 5.8:1, indicating that the artifact is thin for its breadth.<sup>13</sup> The convex blade margins expand from base to midsection, then taper to a somewhat blunt tip. The concave base is asymmetrically indented about half a centimetre and is aggressively thinned; the basal corners are pointed. The margins and flake scars remain sharp and salient; there are only a few tiny recent fractures at the basal corners (Figures 1 and 4).

The biface is made from a relatively drab, grey-brown, fine-grained felsic volcanic material with a few small vesicles but without macroscopic phenocrysts;<sup>14</sup> similar volcanics are commonly available from outcrops and as beach cobbles in the Quoddy Region. The biface has an unusual

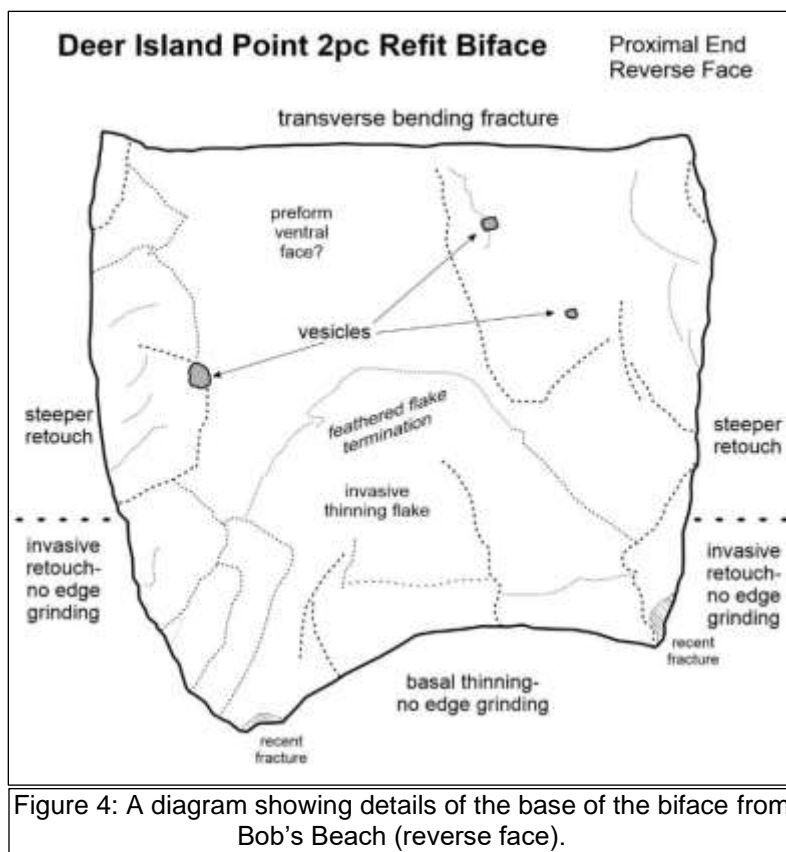


Figure 4: A diagram showing details of the base of the biface from Bob’s Beach (reverse face).

morphology as compared to Terminal Archaic and Maritime Woodland period bifaces found at Deer Island Point (Gilbert 2011:149). Also, it exhibits an interesting taphonomic history (Figure 5).<sup>15</sup>

The biface has broken into two pieces through a transverse fracture initiated at a flaw in the stone. The obverse face is more weathered and bleached<sup>16</sup> than the reverse face, and the distal end, including the surface of the transverse fracture, is more strongly bleached than the proximal end. This suggests that the biface entered the archaeological record intact and remained in situ and undisturbed long enough for the obverse face—presumably

<sup>12</sup> Here and below, age ranges are approximations based on radiocarbon dating. Culture-history terminology and dating of the coastal archaeological sequence are complex and contested issues (see, e.g., footnote 25, below).

<sup>13</sup> For comparison, the most extreme biface illustrated by Boudreau (2016:12) has a w:t ratio of 17.2:1—extremely broad given how thin it is. Based on Boudreau’s examples (2016:28-29, 103-104, 115-117), the w:t ratios of New England Middle–Late Paleo-American bifaces range from 7.0:1 to 5.0:1, while large Terminal Archaic bifaces have w:t ratios ranging from 6.0:1 to 4.5:1 and Middle Woodland bifaces from 4.0:1 to 2.5:1.

<sup>14</sup> “Felsic” refers to volcanic rocks made of light-coloured minerals. A “vesicle” is a small, unfilled cavity in a rock (see Figure 4). “Phenocrysts” are larger mineral crystals embedded in a microcrystalline groundmass. “Macroscopic” means visible to the naked eye.

<sup>15</sup> In archaeology, “taphonomy” is the study of how items become altered after they are incorporated into the archaeological record.

<sup>16</sup> Many felsic volcanics are unstable at normal surface conditions; their groundmass colours and structures become degraded progressively to greyish and chalky through exposure to sunlight or to acidic soil and groundwater.

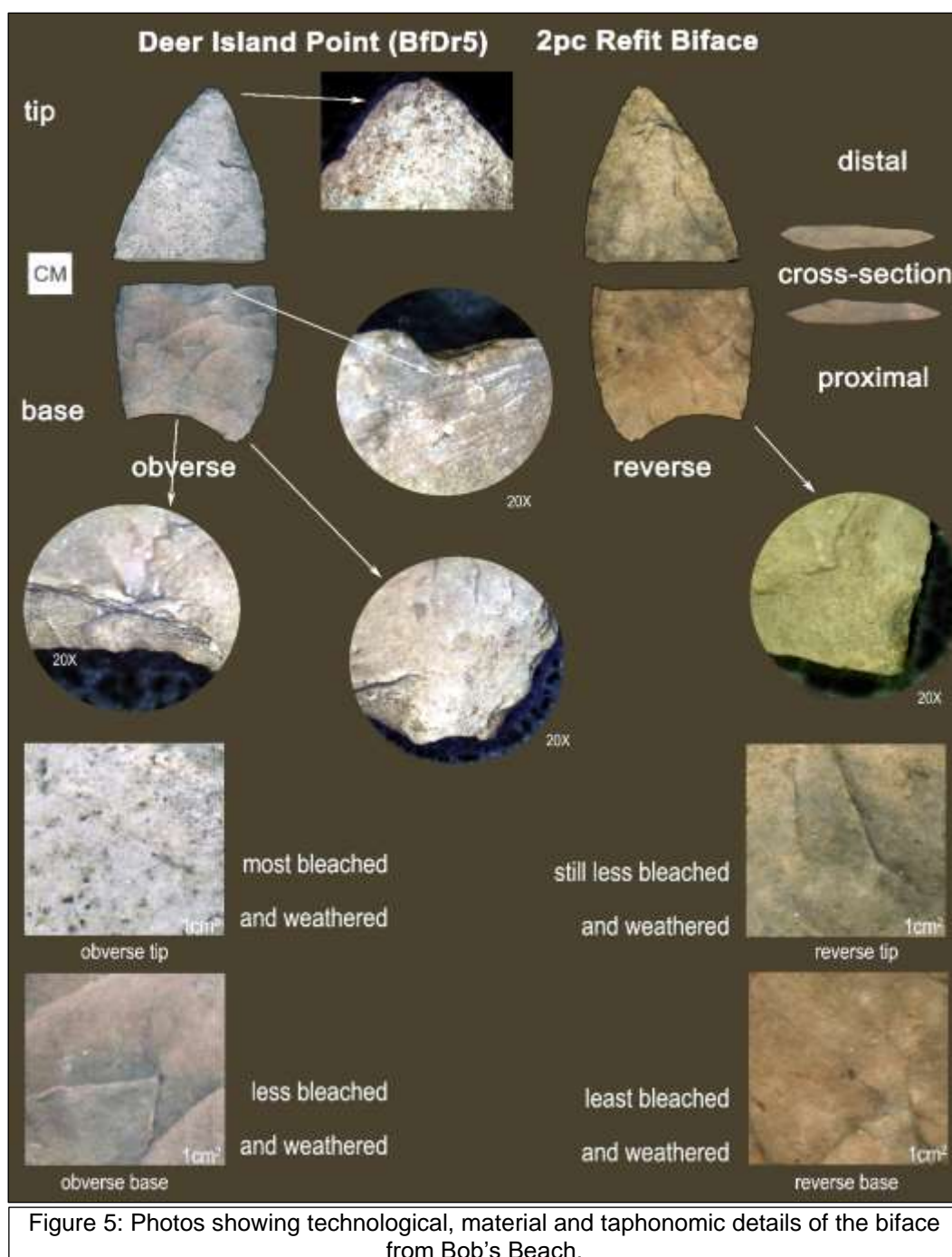


Figure 5: Photos showing technological, material and taphonomic details of the biface from Bob's Beach.

facing upward—to become more bleached than the reverse face. At some point the biface was fractured, perhaps by frost or by pressure. Subsequently, the two pieces became separated, perhaps by bioturbation,<sup>17</sup> into somewhat different contexts, where the distal end continued to weather with the obverse face upward, while the proximal

end was more protected from weathering, perhaps by being in proximity to shell.<sup>18</sup>

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The age and cultural affiliation of Bob's two-piece refit biface remain obscure. I have seen no directly comparable bifaces from the Quoddy Region or elsewhere in the Maritimes. It could be a

¹⁷ “Bioturbation” refers to the mixing of soil layers by plant growth and animal activity.

¹⁸ The Deer Island Point site contains several small patches of clam shells deposited by people in the past (Gilbert 2011:104).

lanceolate projectile point of a type not usually found or recognised in New Brunswick. It could be an unfinished preform for a stemmed or notched projectile point. Or it could be an idiosyncratic biface made for an unknown (and now unknowable) purpose.

Many of the southern New England concave-based projectile point types illustrated by Jeff Boudreau are substantially smaller and more triangular in overall shape than Bob's biface. The larger types that are more lanceolate in shape include the Late Paleo-American projectile point types called Holcombe/Cormier (Figure 6A) and Dalton/Carson Lanceolate (Boudreau 2016:29, 33; Lothrop et al. 2016:205, 208; PPIG; SOPP). As noted above, Bob's biface is made of volcanic stone, probably from a local source. Paleo-American toolmakers preferred brightly coloured, variegated cherts with waxy to glassy textures for making bifacial implements; these lithic materials were often exotic to the places where the tools were used.¹⁹ The asymmetrical basal corners and blade margins of Bob's biface are inconsistent; Paleo-Americans apparently invested considerable effort into making symmetrical bifacial implements. The overall flaking pattern of Bob's biface is random, and none of the lateral thinning flakes cross the longitudinal axis of the biface; Paleo-Americans usually used patterned horizontal or oblique collateral flaking to thin their bifaces, producing flake scars that often cross more than half the width of a biface. While the most invasive basal-thinning flake scar on the reverse face (Figure 4) is intriguing, it is not consistent with the fluting flake removals seen on many early Paleo-American projectile points. Finally, there is no evidence for grinding on the basal margins (basal-lateral edge-grinding to facilitate hafting is common on Paleo-American bifacial tools).

David Keenlyside (1991, 2011) proposed that some projectile points with concave bases found on

Prince Edward Island and elsewhere around the Gulf of St. Lawrence date to the Late Paleo-American period (Figure 6B). This interpretation remains controversial (Betts and Hrynck 2021:59). At any rate, most of the artifacts illustrated by Keenlyside (2011:149) are smaller than Bob's biface, are more triangular, and their bases are more deeply indented.²⁰

Thus, it seems unlikely that Bob's biface is Paleo-American in age. Still, since most Late Paleo-American projectile points are not fluted, many have moderate basal concavity, and some are made of volcanic lithic materials, the possibility cannot be dismissed out of hand.

Many bifacial artifacts dating to the Terminal Archaic and Early Maritime Woodland periods have been recovered from Quoddy Region intertidal zones (Abbott 2020; Black 2023), but none closely resemble the two-piece refit biface from Deer Island Point. Bob's biface does resemble the blade portions of some Early Woodland period (ca. 3000–2200 years ago) stemmed projectile points (e.g., the Adena type; see Boudreau 2016:111; PPIG). Such artifacts have been found in New Brunswick (Blair and Rooney 2022:148-149), but unstemmed variants and preforms have not been reported. David Sanger (2012:258, Figure A2.3, lower left) illustrated a large biface (length = ca. 10.4 cm), from a Saint Croix Island assemblage apparently dating to the Terminal Archaic–Early Maritime Woodland transition (ca. 3200–2800 years ago), with an overall shape like that of Bob's biface. However, the straight base of the Saint Croix Island biface is not thinned, and it retains the striking platform of the flake blank from which it was made. The biface illustrated by Boudreau (2016:144) that most resembles Bob's biface in shape (Figure 6C) is identified as a “Webb Complex blade,”²¹ recovered from Seaver Farm, a large, multi-component²²

¹⁹ “Exotic lithic materials” are those transported over considerable distances from the places where they were quarried to the places where they were used.

²⁰ The example shown in Figure 6B is among the least extreme in these respects.

²¹ The term “blade” is sometimes used by archaeologists to refer to unusually large and elaborate bifacial artifacts made

for ceremonial purposes and/or for inclusion in mortuary features (e.g., Boudreau 2016:97-103, 147-148).

²² A “component” is the manifestation of a particular archaeological culture at a particular site; “multi-component” refers to sites occupied by more than one distinct archaeological culture.

archaeological site in Massachusetts,²³ and made of Kineo–Traveler Mountain Porphyry from central Maine.²⁴ Most sources date such artifacts to the period between 1500 and 1000 years ago (e.g., Snow 2001; Stewart 1995; PPIG).²⁵ Webb Complex blades are rare and distinctive; although variable in size and shape,²⁶ all those reported in the

archaeological literature are impressively large and were recovered from mortuary/ceremonial features in southern New England and the Central Atlantic states (Custer 1984:140; Custer et al. 1990:159-160; Taylor 1970:7-8). The morphology of Bob’s biface closely approximates only a couple of them;²⁷ the most similar one is ca. 16.0 cm in length, ca. 6.2 cm

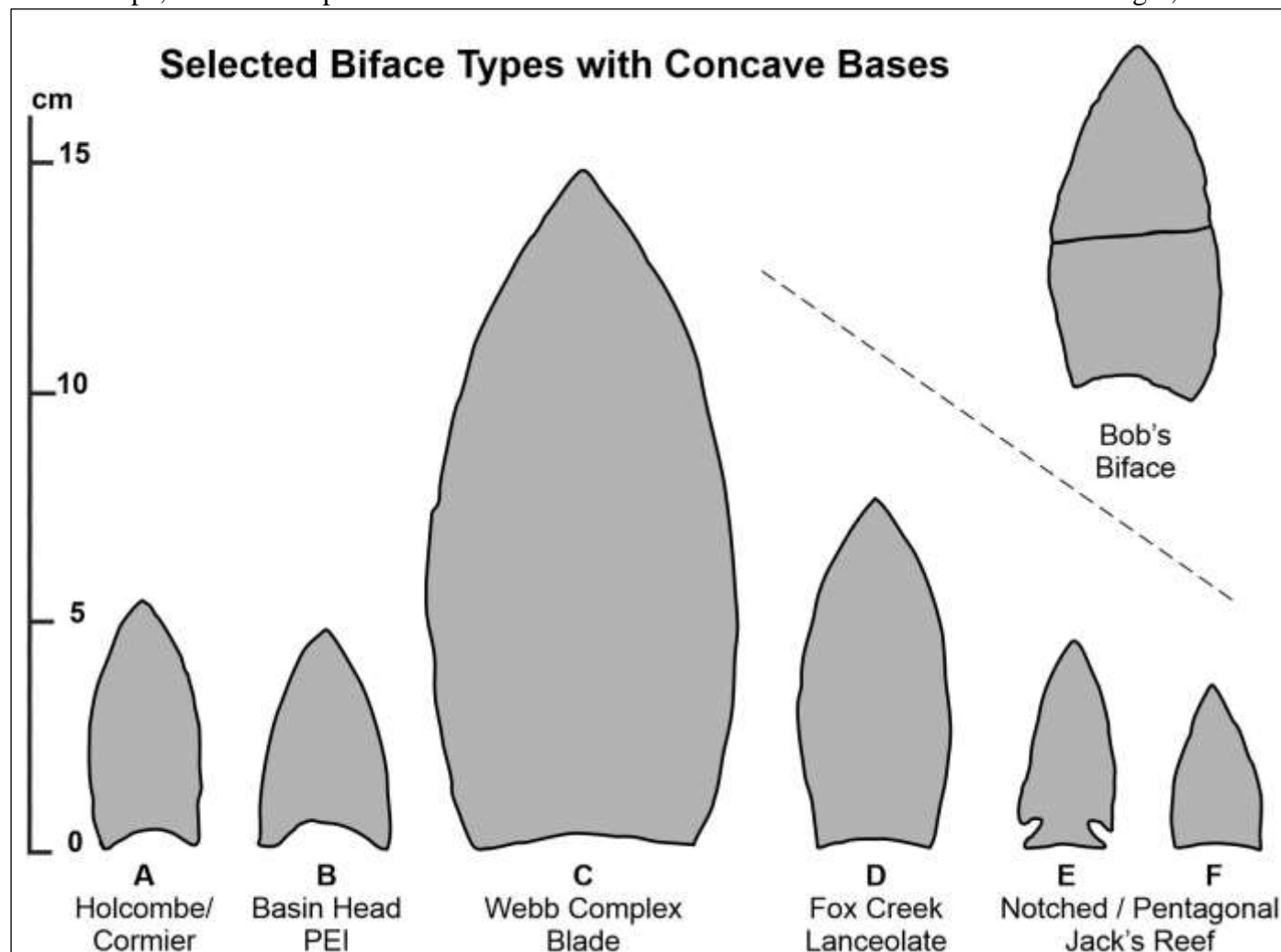


Figure 6: Shape and size comparison of some projectile point types with concave bases.

²³ Seaver Farm is a site containing both habitation and mortuary features, part of an extensive Pre-Contact site complex located on the Taunton River at Bridgewater, Massachusetts (Boudreau 2016:142-144; Taylor 1970, 1972, 2007).

²⁴ See Doyle (1995:304) and Black (2023:45) for descriptions of this lithic material.

²⁵ This time is referred to in the Central Atlantic states as the later part of “Woodland I” (Custer 1984:136-143), in southern New England as the “Middle Woodland period” (Boudreau 2016:8), and in Maine as the later part of the “Middle Ceramic period” and the earlier part of the “Late Ceramic period” (Cox

2021:9). Here, I refer to this time span using terminology developed for the Maritime Provinces: “Middle–Late Maritime Woodland transition” and “earlier Late Maritime Woodland period” (Betts and Hrynck 2021:199; Black 2002:304, 2022:85).

²⁶ Custer (1984; Custer et al. 1990:200) described them as “pentagonal,” but only some of them are precisely five-sided in shape, and none are comparable to Terminal Archaic pentagonal bifaces (compare, e.g., Custer 1984:140 to Boudreau 2016:97-99).

²⁷ See Custer et al. (1990:159-160, Figure 12, right, and Figure 13, right).

in width, with a basal indent of ca. 0.6 cm. Bob's biface is considerably smaller and less symmetrical; thus, it is unlikely to be a Webb Complex blade.

There are several other projectile point types dating to the period between 1500 and 1000 years ago, including Fox Creek Lanceolate (Figure 6D) and Jack's Reef Pentagonal (Figure 6F), that sometimes exhibit concave bases (Boudreau 2016:116, 121). These types were first defined in New York State (e.g., Ritchie 1971). They also have been identified in archaeological assemblages from southern New England, the Central Atlantic states and further south (e.g., NEPT, PPIG, PSAS, VDHR), but are not routinely associated with Middle–Late Maritime Woodland transition and the earlier Late Maritime Woodland components in the Maritime Provinces of Canada. I consider them here because Steven Cox (2021:36–43) recently reported both types from the Goddard site (ME 30.42)²⁸ at Blue Hill Bay, on the central coast of Maine about 150 km southwest of Deer Island Point.

Fox Creek Lanceolate projectile points date to the time of the Middle–Late Maritime Woodland transition (ca. 1600–1300 years ago). They range from 2.5 cm to 8.0 cm in length and have w:t ratios of ca. 3.0:1. The flaking pattern is random; edge grinding is rare. They exhibit slightly concave bases and slightly convex blade margins. Basal concavities are sometimes asymmetrical and result in pointed basal corners.

Jack's Reef Pentagonal points date to the time of the Middle–Late Maritime Woodland transition and the earlier part of the Late Maritime Woodland period (ca. 1400–1000 years ago). They generally are smaller and more angular than Bob's biface (Boudreau 2016:120–121). However, Jack's Reef Corner-Notched projectile points (Figure 6E) are frequently larger and usually exhibit concave bases. Moreover, Custer et al. (1990:162) illustrated several Jack's Reef pentagonal and triangular bifaces—some of which may be preforms for Jack's Reef Corner-Notched points—that are similar in shape and size to the two-piece refit biface from Deer Island Point.

Cox (2021:42) inferred a small Jack's Reef component at the Goddard site, based on the presence of 14 Jack's Reef notched and pentagonal projectile points. The bases of these artifacts range from slightly concave to slightly convex; no basal grinding is present. Several are made of a possibly exotic black chert. None of the apparently contemporaneous bifaces appear to be preforms for Jack's Reef points and none closely resemble Bob's biface.

The Goddard site includes a more substantial component with Fox Creek stemmed and notched projectile points and associated bifaces. Most of them are made of distinctive exotic argillitic or rhyolitic lithic materials; the argillite is thought to come from a source in southern New England (Cox 2021:36). Cox (2021: 37) described these bifaces as follows:

...biconvex and generally thin in cross section... generally have broad blades with relatively constricted bases... Basal edges tend to be slightly convex to slightly concave. Both well-flaked finished specimens and probable late-stage preforms are included...

Several of the biface bases illustrated by Cox (2021:37, Figure 33 H, I and J) bear some resemblance to Bob's biface, although none of the bases is as deeply indented or as asymmetrical. Moreover, none of the projectile points from Deer Island Point reported by Gilbert (2011) closely resembles the Fox Creek points from the Goddard site, so it is difficult to make a case for Bob's biface being a preform for that type.

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I began this essay with a reference to Stephen King because, in several of his stories, King evokes the ambience of insularity, mystery and prospect that my colleagues and I often sense when we conduct archaeological research on islands. Islands are closely circumscribed by that fabled interface where sea meets land, land meets sea, and those two domains interdigitate. Pre-Contact artifacts on that

<sup>28</sup> This is the site designation in the Maine Historic Preservation Commission's system for recording and tracking Maine archaeological sites and artifacts.



threshold are time travellers from the underland of the past to the littoral of the present. When a professional archaeologist, an avocational archaeologist, an artifact collector or a member of the public picks them up, those artifacts become time travellers with a future (indeed, in a sense, they become ambassadors from the past to the future)—and if they are curated, their future is open-ended.

The story of the two-piece refit biface Bob Bosien found at Deer Island Point bears similarities to Stephen King's story of the Colorado Kid: both take place on islands, and both involve things found on shorelines. But more dramatically, both are mysteries with several potential solutions—but without resolutions. There are lines of evidence, but the lines vary from bold to vague, deviate from straight to curved, shift from solid to dashed, then peter out without intersecting.

Bob was disappointed that I thought he hadn't found a Paleo-American projectile point. I doubt he would have appreciated the alternative of an enduring mystery, had I presented it to him. He would have been impatient with my scholarly reticence, my unwillingness to go beyond the material evidence. Instead, Bob would have conjured a story to account for his find, one that satisfied his own sense of rightness. I wish he'd had the opportunity.

### Acknowledgements

This essay is dedicated to the memory of my friend and colleague, Robert K. Bosien. It was inspired, in part, by Robert Macfarlane's (2019) book, *Underland: A Deep Time Journey* (Penguin UK). Bob and I, with my colleagues and students, went on a deep time journey together. I thank Emelie Hubert, David Milley, Josh Cummings, Gabe Hryn timer, Ken Holyoke, Susan Blair, Matt Betts, Drew Gilbert and Cora Woolsey for their contributions and encouragement. All responsibility for opinions and interpretations remains with me.

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