

The Investigation of Fort Defiance: Verifications of the Site

DONALD H. MITCHELL

On December 9, 1966, the Lieutenant-Governor of the Province of British Columbia approved an order-in-council which declared in part "that the remains of Fort Defiance, the winter quarters of Robert Gray in the years 1791-1792, have been located on lands situated on the west coast of Vancouver Island in the vicinity of Lemmens Inlet." Protection for the fort was established under the Archaeological and Historic Sites Protection Act, and by this action the lengthy but sporadic search for Adventure Cove was for practical purposes brought to a close.

This order-in-council was not the first assertion that Gray's wintering spot had been found. Samuel Eliot Morison (1938:3), almost three decades earlier, had claimed that "on a cruise in the ketch *Seaway* of Portland in July, 1937, her owner, Mr. Edmund Hayes, Mrs. Hayes and myself located the winter quarters of the *Columbia* in 1791-92: the place where Fort Defiance was raised and the sloop *Adventure* built. . . ." The site Morison and the Hayes proposed was located on Meares Island at the entrance to Disappointment (or Lemmens) Inlet, almost due east of Tofino. It lay behind Morpheus Island, and while not all features of the location were in agreement with the contemporary accounts or drawings of the cove, Morison felt reasonably sure of the location:

It was quite a thrill for a Bostonian like myself, who has followed the history of the northwest fur trade, to visit the site of the lively scene depicted by the brush of Davidson and described in the *Columbia's* logs. We all wished that we had time to search among the salal bushes and the fir and cedar that have grown up since 1792 for bricks from Fort Defiance's chimney and other relics of that busy winter. When we visited the place no vestige of human life was visible; the place had reverted to its original wilderness state . . . (Morison 1938:7).

The Morpheus Island location held until a search initiated by Kenneth Gibson of Tofino uncovered in 1966 an alternative spot about three

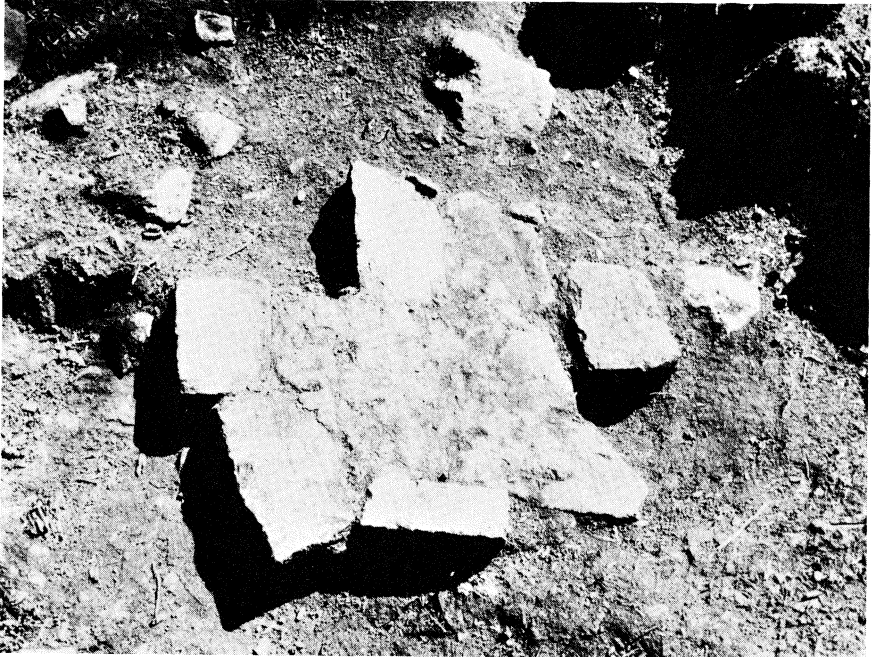


FIG. 1. The chimney pad discovered by William Folan in 1966. Clay mortar holds the bricks in place.

miles to the north. It approximated more closely the written descriptions and sketches of the site; more important, there were hand-made bricks, forged nails, and other apparently old materials scattered over the beach and in the adjacent woods. At the request of Willard Ireland, British Columbia's provincial archivist, William Folan of the National Historic Sites Service visited the site briefly and in the course of his examination uncovered what appeared to be the base of a chimney (fig. 1) located about where the painting by Davidson indicated one should lie. Folan's evidence, coupled with that found by Gibson, led to the 1966 order-in-council.

There seemed agreement that this was now the true location of Gray's winter quarters. Several popular articles proclaimed the discovery (Fry 1967; McPhee 1967; Nicholson 1966; *Time* 1966); even Hayes (1967), after reviewing the evidence available from surface examination of the new candidate, now concluded the real Adventure Cove had been found. Despite the acceptance, there was still a need to examine the site systematically, both to check the identification (in the light of earlier experience, caution was urged by all involved) and to determine what kinds of

material had survived the intervening years. In response to a suggestion by Willard Ireland, the Vancouver Men's Canadian Club undertook the financing of a first investigation, and as a result the writer and a crew of four were able to spend the month of July 1968 at the site.

The main purpose of this preliminary investigation was, as has already been mentioned, to confirm whether or not the site was Adventure Cove. (A supplementary objective was to lay the groundwork for future excavations at the site.) To this end there seemed to be four possible tests that could be made, all involving the "fit" of geographical or archaeological data and the historical record. These are most conveniently stated as expectations or propositions based on the hypothesis that this site was the fort:

1. Gross features of the setting of the cove under examination should be in reasonable agreement with descriptions provided by the available documents. In a sense, the proffered site had already passed this test (Hayes 1967). Within the bounds of artistic and literary license, the several descriptions of Adventure Cove seemed to coincide well with the characteristics of the location found by Gibson, so it did not seem likely that further surface examination would reveal significant additional information. However, in the interest of thoroughness, an intensive examination of the cove region was made — if only to enable us to elaborate precisely the agreement and disagreement between sources and observations.

2. There should be general agreement between archaeological features discovered during excavation and the major parts of the site as outlined by contemporary descriptions. We should, in other words, discover that whatever evidence there was for the existence of the house, boat stocks, saw pits, etc., should lie in the same relative positions suggested by the paintings and journals. Similarly, the outline of the house should conform to the recorded dimensions.

3. Artifacts recovered should date to the right period. Although it was recognized that we might find material from an unsuspected subsequent occupation, we could expect many of the materials to be consistent with a late eighteenth-century occupation of the cove.

4. There should be some measure of agreement between the materials found and those known, or expected, to have been present on the *Columbia*. A copy of the list of expenditures was available, and there should be overlap between this and our list of items recovered. We had, moreover, knowledge that a boat was built on the spot and could expect to find some items related to this specialized kind of construction.

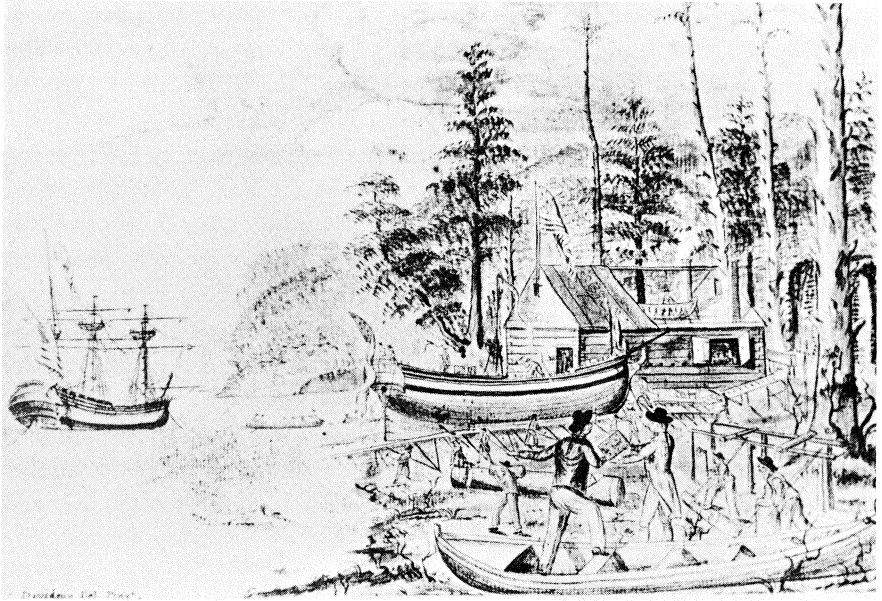


FIG. 2. The contemporary sketch by Davidson showing the *Adventure* stuck part way during the launching. Two chimneys show clearly in the fort, a whipsaw frame stands in the right foreground, and off the sloop's stern is the natural wharf where the *Columbia* was unloaded.

The historical accounts available for this investigation were mainly to be found in a single volume: F. W. Howay's *Voyages of the Columbia* (1941). Included were the diaries kept by Robert Haswell, chief mate and the man in charge of the small party that wintered ashore; John Hoskins, ship's clerk; and John Boit, the fifth mate. The list of expenditures incurred in outfitting and loading the *Columbia* is also included in the Howay volume. In addition, the ship's painter, George Davidson, has left a sketch of the cove on the day the first, unsuccessful launching of the new sloop *Adventure* was attempted (fig. 2). There is also a small unsigned painting differing in detail from the first but apparently of the same scene; this, too, has been attributed to Davidson (Morison 1938:5).

An initial check of the appearance of the cove was followed by collecting systematically all cultural material on the beach in front of the site. Most of the area supposedly occupied by the fort and ship's stocks had already been cleared of brush by Gibson; we removed all remaining shrubbery and fallen trees within the area (fig. 3) and, taking care not to disturb any bricks or stones, raked away the loose layer of accumulated twigs, dead leaves, and needles. This exposed a considerable number of

bricks and large water-worn rocks scattered over much of the cleared area. Locations of all of these were recorded on a plan of the site's surface features, and a contour map with 10 cm intervals was produced, because our next step required removal of some rocks, bricks, and parts of the original surface. After laying out a grid of two-metre squares, excavation began in units adjacent to the one bearing the earlier discovered chimney

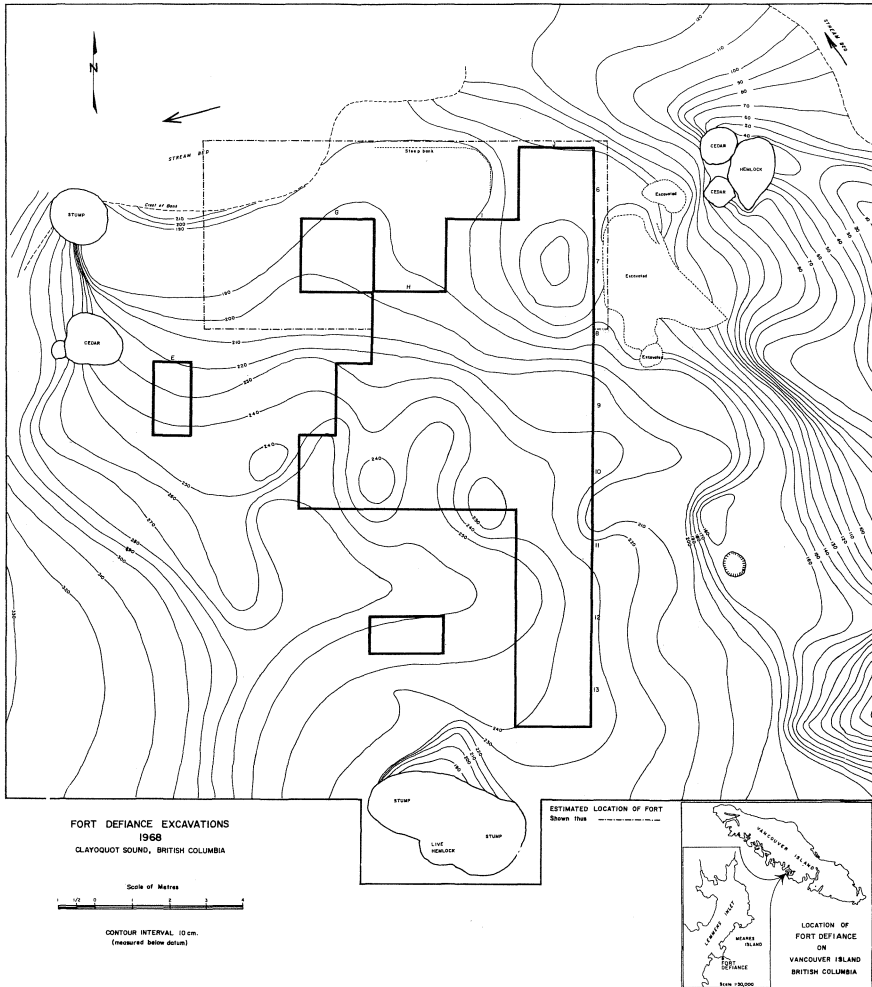


FIG. 3. Location of the excavated portions superimposed on a 10 cm interval contour map of the site examined. The dotted rectangle in the northern part of the site indicates the assumed location of the fort. A row of low mounds south of this marks the stocks for the *Adventure*.

base. Digging was eventually extended to include the squares indicated on the map.

Most artifacts were removed after their provenience had been recorded. However, bricks, large chunks of clinker, and rocks were left until all of the squares to be investigated had been opened. Their positions were then plotted on a map, and after removal of the objects three of the squares were excavated further to determine what underlay the shallow cultural deposit. At the close of the project, all units were filled in as a protective measure.

No attempt is made here to describe all the material recovered or to report all features uncovered because only an estimated 10 per cent of the site has been excavated; such information will be fully reported after another season's fieldwork and the recovery of a much larger sample. But for this preliminary statement of the results, the propositions outlined earlier provide a convenient organization.

Hayes has outlined the major points of agreement between the location and appearance of the new site and the contemporary accounts of Adventure Cove. The distance from the anchorage at Tofino to Adventure Cove was assumed by Boit to be 12 miles (4 leagues) and by Hoskins 8 miles. "The most significant estimate is that of Haswell" who mentions "a cove about 3 miles from Opitseta [Opitsat, the Indian village opposite Tofino]. This is almost exactly the distance on a modern chart" (Hayes 1967: 106).

The view from the southern end looking up the shoreline corresponds very closely with the Davidson painting. The northern point (entrance) has a sheer rock formation with deep water directly in front and on the side. Lone Cone Mountain and the lower hills to the north are very similar to the background of the painting. The beach, with fresh water streams running across it, is almost identical. The passage in was approximately 100 feet as referred to in John Boit's log. To quote the log: "This Cove was form'd by an Isle and the SE shore Clioquot sound, so small that when the ship was moor'd you might throw a stone upon the beach in any direction" (Hayes 1967: 103).

The historical descriptions of Adventure Cove and the site discovered by Gibson agree on some major features: the distance from Opistat is very close to that specified by Haswell (but much less than estimates by Boit and Hoskins); the sheltered basin is formed by an islet and is of dimensions allowing one to "throw a stone upon the beach in any direction" (Howay 1941:381); there is a gently sloping beach with fresh water streams and some flat land at the back of the beach; a steep-faced "natural wharf" lies in the northern part of the cove, hidden from the

view of those occupying the fort (this was a point of considerable concern to Gray who feared Indian attack during unloading of the *Columbia's* guns for graving of the ship) (Howay 1941:273); the harbour had adequate depth of water for a ship of the *Columbia's* draught; a treed area to the south of the anchorage is sufficiently high to block out the winter sun, as described by Haswell (Howay 1941:308).

Not all aspects of the cove fit the contemporary descriptions, the most notable discrepancies being with respect to details of the Davidson sketch and painting. Both sketch and painting fail to show a prominent rocky islet which should have been pictured off the starboard bow of the *Columbia* (about where a small boat is shown in the sketch). The ship cannot have hidden the rock from view as she would then have been in water too shallow for her draught. The sketch shows a line running from the starboard quarter to a rock in the foreground. No such rock can be found in this location today, although there is a reef further out and closer to where the ship should have lain. The three hills of the painting conform reasonably well to Lone Cone and its flanking eminences, as Hayes (1967:103) suggests, but the cone lies almost due west and not in the quarter shown by the painting. The hills that should have formed the background are not exactly of the conformation shown. It is possible that artistic license or the artist's memory may be the reason for this discrepancy. If Davidson did the sketch on the spot and later produced the painting then he would have had to fill in the background from memory, for in the sketch the area behind the *Columbia's* rigging was simply left blank. As only the sketch is signed, there is also the possibility that the oil painting was done later by someone who was not even at the cove.

Both sketch and painting show the major site features to be a squared log and plank house (Fort Defiance) and the stocks and ways for construction and launching of the sloop *Adventure*. From the pictures and narratives we also know that there were two saw pits (above-ground frames for whipsawing planks), a bough-covered shelter for storing lumber, and an outdoor fire area where some cooking was done. According to Hoskins (Howay 1941:247), the house was 18 by 36 feet, and the sketch and painting show that it was placed so that an end of the structure faced the beach. At the opposite end in both corners were brick chimneys, one of which was for the cooking fire and the other for a forge. Dimensions of the *Adventure* are not given in any of the accounts, but the sketch indicates the craft was about 35 or 40 feet in length and was built alongside the southern wall of the fort.

Features discovered at the site indicate an arrangement of structures

much like that described above. Loosely-piled bricks and a small flat pad of clay and bricks (discovered by Gibson and Folan, respectively) lie at the southeast corner of a relatively flat area of about 16 by 40 feet. The northwest corner of this rectangle has been cut away by an adjacent stream and the northern edge is defined by a ridge of fairly recent stream deposit. Within the rectangle was a concentration of clinker, coal, and iron fragments situated at the end with the chimney base in what would have been the location of the forge.

South from and parallel to the long dimension of the platform is a row 40 feet in length of five low mounds of gravel and rock. These features may have supported the *Adventure's* keel timber. They lie about 10 to 12 feet from the edge of the platform, and we know from Hoskins' account that the sloop and house lay close enough to one another that the vessel could be shored up to the roof of the fort (Howay 1941:275).

In this general way, the features uncovered during excavation of the site fall into the pattern indicated by contemporary documents; some details, however, are not in agreement. The remains of only one chimney seem to have been recovered, although excavations were sufficiently extensive to have included the other. In the partial dismantling of the fort that took place on its abandonment, one chimney may have been pulled down for use in ballasting the *Adventure*, or the stream that at present passes just to the north of the site may have swept away and scattered the bricks from one chimney. Many bricks were found on the beach in front of the site, and there is some sign that the stream has wandered over a part of the site at least once in the past.

A close examination of the sketch reveals no sign of earth or gravel mounds as a part of the stocks. These could have been simply overlooked by the artist, because at the time the sketch was made the *Adventure* was off the stocks and well along the ways. From the scarcity of detail at the bow of the boat, the artist seems to have been paying little attention to the area where the stocks were situated.

In the absence of any systematic study of the rates of decomposition of various materials in the Clayoquot Sound forest, it is not possible to determine the age of artifacts from the degree of deterioration alone. However, it can be said that with one exception all artifacts show every evidence of considerable age. Most iron objects are so encrusted with rust that in many cases the original form of the object is disguised. Lead items are covered with a thick white "bloom," and copper is heavily coated with green.

The one exception is an iron knife blade recovered prior to the

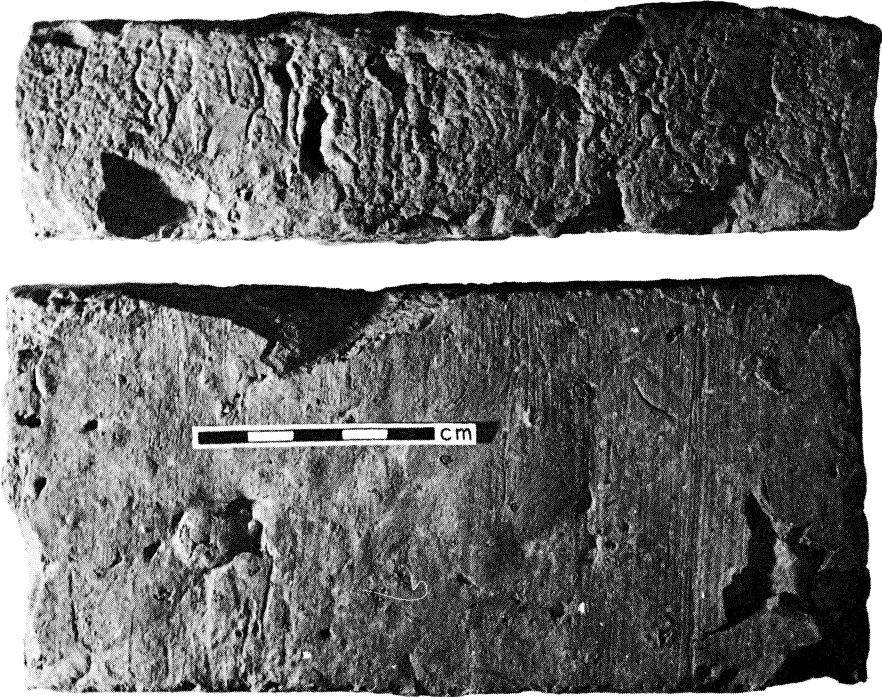


FIG. 4. Side and top view of two different hand-made bricks from the site.

controlled excavation from a depth of about 20 cm in the swampy southeastern part of the site. The specimen is in an excellent state of preservation and of a form (bowie style) that was first produced in the early nineteenth century (Russel 1957:194). Threads on the end of the tang suggest that it is a relatively modern hunting knife and so out of keeping with the condition and style of the other artifacts that it should be considered a late intrusion.

More specific estimates of age can be offered for the two most abundant classes of artifacts recovered from the site — bricks and iron nails. The 1968 expedition collected just over one thousand whole or fragmentary bricks from the site (table 1; fig. 4), and it is known that at least a hundred more were collected from the cove by earlier visitors. Two bricks were forwarded by Edmund Hayes to the Society for the Preservation of New England Antiquities, which replied: “In the matter of size and general finish character, it is, in [our] opinion, a brick which can be dated to the late 18th or early 19th century. In other words, it has all the surface attributes of similar bricks in our architectural museum which can be dated to that period” (Hayes 1967:108).

Dating of approximately the same precision seems to be possible from analysis of the nails. At the time of the *Columbia's* trading voyage to the northwest coast, the processes of nail manufacture were changing, the earlier hand-forging technique giving way to machine-cutting methods. Between 1791 and 1815, about ninety persons recorded nail machines with the United States Patent Office (Nelson 1968:5). "The rapid development and sale of these machines made it possible to manufacture nails on a wide scale in the early nineteenth century. Thomas Jefferson for example, purchased a machine in 1796 and produced nails (for sale) until 1823. Prior to that time (1794-1796) Jefferson manufactured nails that were wrought by hand" (Nelson 1968:5). Although "references to the making, sale, and use of cut nails are numerous after the late 1790's" (Nelson 1968:8), and "cut nails everywhere superseded the ancient wrought nail at the end of the eighteenth century, namely, not long after 1797, when two cut nail factories had been established in Philadelphia" (Mercer 1924:173), Nelson (1968:9) has also noted that wrought nails continued to compete with cut nails until at least 1820. Single specimens cannot therefore be dated accurately, but clearly the relative numbers of hand-wrought and machine manufactured nails from a site should help to determine the age of the assemblage.

The supplies of Gray's ship, which left Boston in the fall of 1790, should have included a high proportion of hand-forged nails. If the assemblage of artifacts present at the site was that of a ship which had left even five or ten years later, then we could expect a relatively high percentage of machine cut nails. After 1820, there would likely be very few hand-wrought nails. A representative collection of nine specimens was sent to Nelson for identification. He reported that beyond doubt all were hand-wrought nails which in their manufacture and style supported a late eighteenth-century dating for the site. The gunflints, musket balls, small gunshot, and sprue (fig. 5) which were recovered are consistent with an early historic dating, although this is less easily verified. The rest of the artifacts presented in table 1 have so far proven of very little use in determining age.

With the exception of some fragments of worked wood, all artifacts recovered from the site are listed in table 1, along with possibly relevant references to items listed among expenditures for the *Columbia's* outfit and cargo (Howay 1941:448-64).

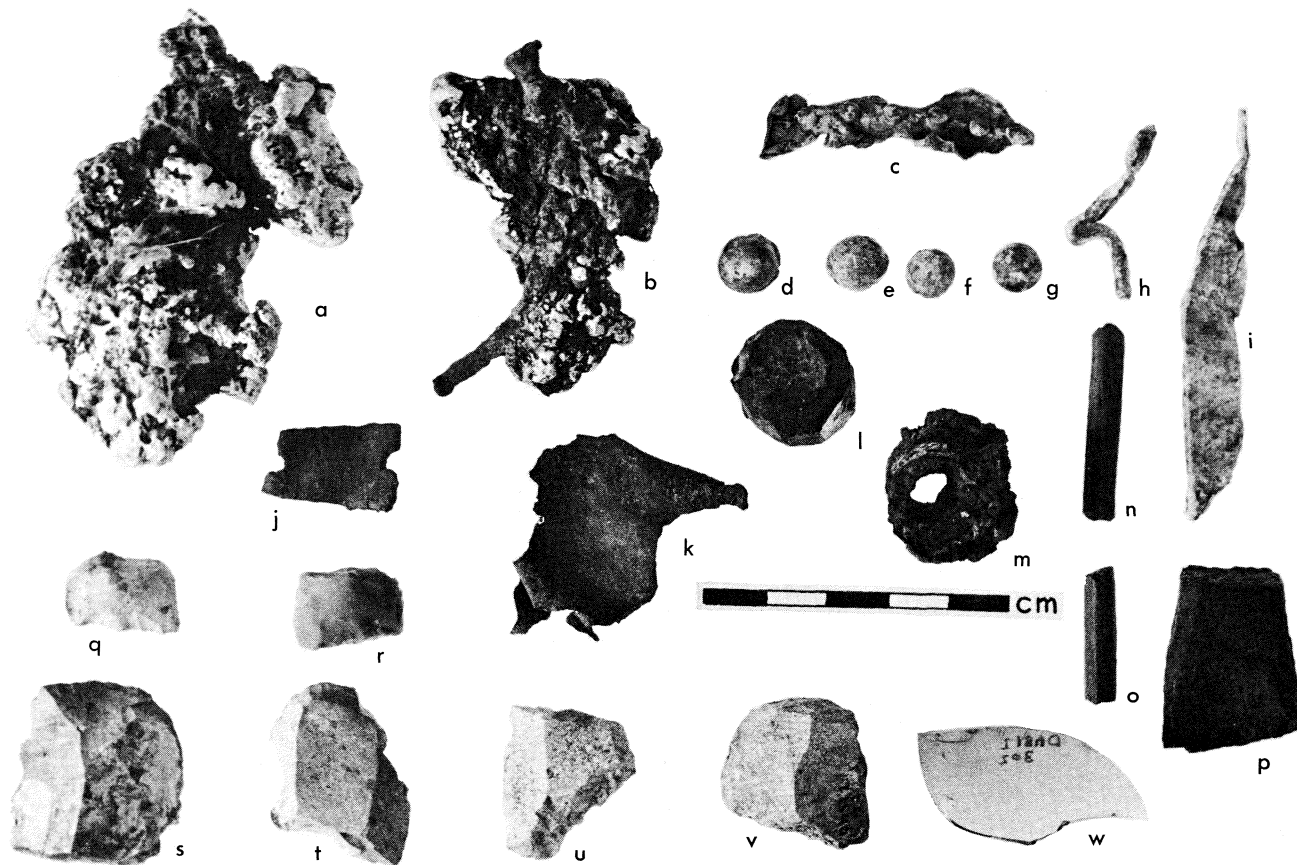


FIG. 5. Miscellaneous artifacts recovered in 1968: *a*, lead spill with feathers embedded; *b*, lead spill with enclosed nail; *c*, lead sprue from bullet mould; *d-g*, musket balls; *h*, *i*, trimmings from sheet lead; *j*, fragment of iron strap; *k*, fragment of sheet copper; *l*, cutting from iron rod; *m*, section of iron pipe or ferrule; *n*, *o*, siltstone rods; *p*, iron object, possible piece of gouge; *q-v*, gunflints; *w*, bottle glass.

TABLE I : COMPARISON OF EXCAVATED ARTIFACTS AND ITEMS FROM
THE OUTFIT AND CARGO LIST FOR THE COLUMBIA

<i>Artifact Class</i>	<i>Number of Specimens</i>	<i>Items from outfit and cargo list</i>	<i>Source (Howay 1941)</i>
Nails	94	"500 10d nails"	p. 450
		"250 6d nails"	450
		"500 2d ditto"	450
		"6 lb of 24d nails"	450
		"2 lb 10d nails"	450
		"500 3d and 500 4d nails"	450
		"100 clout nails"	450
		"1 M 10d nails 500 3d"	450
		"500 4d Brads 500 3d"	450
		"3M Brads assorted"	450
		"200 2d head nails"	450
		"200 round head nails"	450
		"100 6d nails"	451
		"500 10d nails"	457
		"500 20d nails"	457
		"1M pump and 1M clapper nails"	458
		" $\frac{1}{2}$ M 4d nails"	459
		"30M 4d nails"	461
		"14M of 20d nails"	462
		"1 cask 10d nails"	463
Miscellaneous worked iron objects	62	"1011 of Barr Iron"	460
		"19325 of Barr Iron"	460
		"31000 of Barr Iron"	460
		"113 lb steel"	460
Copper sheet fragments	3	"2 $\frac{1}{2}$ lb Sheet Brass"	459
		"143 sheets copper 2293 $\frac{1}{4}$ lb"	460
		"124 sheets of copper 1202 lb"	460
Lead sheet fragments	3	"108 lb of milld sheet lead"	450
		"26 $\frac{1}{2}$ lb milld sheet lead"	450
		"6 lb sheet lead"	451
Musket balls	4	"135 lb Shot"	450
		"88 lb Shott"	452
Small shot and casting sprue*	6	"31 bullet moulds"	453
		"1 bullet mould"	462
		"2 Shott moulds"	462
Miscellaneous lead spill	84	"2001 Lead"	461
Gunflints	6	"3M Flynts"	462
Bottle glass fragment	1	—	

<i>Artifact Class</i>	<i>Number of Specimens</i>	<i>Items from outfit and cargo list</i>	<i>Source (Howay 1941)</i>
Bricks	1009	"5470 Bricks"	452
Clinker	315	"6 chaldrons of Sea Coal"	453
Coal	1		
Siltstone rods	2	—	
Clay	present†	"4 Hhdds of Clay"	450
Total	1590 plus		

*Sprue is lead from the mould channels and ports.

†Clay concentrations were not tallied.

The cargo list indicates that nails carried by the *Columbia* were of several sizes and styles. Examination of the excavated specimens also shows that many kinds of nails are represented, but the advanced state of deterioration makes identification of most of these artifacts very difficult. As mentioned earlier, nine reasonably well-preserved and largely entire specimens were sent to Nelson for examination, and he responded with the following information (fig. 6):

ARTIFACTS 49, 75, 107, 112: all appear to be hand-wrought "spikes" with a "broad deck" head. Only no. 112 appears to be complete with its "flat point," *ca.* 4½ inches long. Although no. 49 appears to have a "sharp point," it is likely that the end of the nail has rusted away. Based on the head and shank configuration, all the specimens were probably the same size originally. This type of nail was almost always made with a "flat point" (chisel shaped, but rounded on the end). This type of spike was generally used for rough framing.

ARTIFACT 222: a hand-wrought, "round head," round shank nail, probably a "dog" nail. These nails were made with "flat" or "sharp" points, and they were intended to go through a round hole in any iron device to secure the iron to wood. It is similar to a "clout" nail except for the shape of the head. This is possibly one of the "round head" nails listed on p. 450 of the published manifest. This one is *ca.* 2½ inches long.

ARTIFACT 20, 23: hand-wrought "rose head" nails. No. 20 has a "flat point" and appears to be complete as to length, *ca.* 2½ inches long (7d or 8d). No. 23 shank is incomplete. This type of nail was for general use rather than finish work.

ARTIFACT 27: hand-wrought, "rose head, sharp point" nail, *ca.* 1 inch long (2d), most often used for lathing in usual building construction.



FIG. 6. Nails that were sent to Boston for identification: *a*, 49; *b*, 75; *c*, 107; *d*, 112; *e*, 222; *f*, 20; *g*, 23; *h*, 27; *i*, 168.

ARTIFACT 168: hand-wrought, "T-headed brad" with "sharp point," ca. 3 inches long (10d), most commonly used for finish work. This specimen has a heavy shank for its length and appears to be crudely made. This is possibly one of the "brads assorted" listed on p. 450 of the published manifest.

An obvious comparison to be made is that between the sizes of nails recovered and those listed as carried on the *Columbia*. However, the lengths of nails produced in the eighteenth and nineteenth centuries varied so much within a classification from one manufacturer to another that the correspondences or lack of correspondences probably mean little. Using the table of equivalents offered by Knight (1872:1505), for the specimens sent to Nelson there are the following resemblances and discrepancies between the lists of excavated and of documented nails:

ARTIFACTS 49, 75, 107, 112: at 4½ inches, these would be 30d nails and the *Columbia* carried nothing larger than 24d (about 4½ inches).

ARTIFACT 222: this 2½ inch specimen would be an 8d nail, a size not listed as carried, although as Nelson observes (see above) in form it is a round head nail and the size of these is not given on the cargo list (see table 1).

ARTIFACTS 20, 23: one of these is complete. It measures 2½ inches and would therefore be an 8d nail. No 8d nails were listed among the supplies or cargo.

ARTIFACT 27: a 1 inch nail, this would be classified as 2d of which the *Columbia* shipped 700.

ARTIFACT 168: Nelson identifies this 3-inch specimen as a T-headed brad of 10d size. It may be one of the "Brads assorted" or one of the many 10d nails listed.

It is worth noting that of the fourteen classes of artifacts found (see table 1) involving some 1590 items, only two classes (with 3 items) are not listed among the expenditures for the voyage. Of these — a piece of bottle glass and two small siltstone rods — it can safely be assumed that bottles would have been present. The use of the siltstone objects cannot yet be identified. Many durable items which the documents show were on the ship were not represented in the 1968 archaeological collection. In part their absence can be attributed to the small size of the sample and in part to the fact that many may not have been used on shore at the *Columbia's* winter quarters. The 6755½ pounds of "chisells" (Howay 1941:460), for example, are not known to be represented, unless the "miscellaneous worked iron" category includes some. However, "chisells" were commonly shipped as trade items and, as almost all trading seems to

have been done on the *Columbia*, it is perhaps not surprising that none was recovered.

Some special activities of the *Columbia's* crew during the winter of 1791-92 should be reflected in the archaeological remains of Fort Defiance. The blacksmith's work can be expected to have left distinctive evidence and the special tasks involved in construction of a boat must have left a characteristic assemblage of lost tools and materials. Among the artifacts recovered from the site are some which seem to relate to these operations.

METAL-WORKING: clinkers, coal, and fragments of worked iron are items which would be used by a blacksmith or would be byproducts of his trade.

BOAT-BUILDING: sheet copper, sheet lead, and the many kinds of nails are easily identified with construction of a vessel. In addition, the quantities of miscellaneous worked iron may be seen as waste from the production of such fastenings and boat parts as drift bolts, chain plates, spar bands, etc.

Four propositions have been examined as a means of testing the hypothesis that the Lemmens Inlet site discovered by Kenneth Gibson is Robert Gray's Fort Defiance. For each test, some details run counter to expectations, but the points of agreement seem to outweigh by far the relatively minor discrepancies.

1. Gross features of the cove setting are substantially like those reported by the *Columbia's* crew members Hoskins, Haswell, and Boit and the details shown in Davidson's contemporary illustrations.

2. Although only a small portion of the site has been excavated, the location of features discovered is in agreement with what Davidson's illustrations show to be the position and orientation of the major units at the winter quarters.

3. Insofar as the artifacts recovered can be dated, they are consistent with a late eighteenth-century occupation for the site.

4. Between the list of objects recovered and the list of items known to have been shipped on the *Columbia*, there is a very considerable overlap. There seem, as well, to be remains related to the metal-working and boat-building known to have taken place at Adventure Cove.

After one season of excavation the burden of the evidence seems to be that the site investigated was the location of Robert Gray's wintering place. As the 1966 order-in-council already proclaims, Fort Defiance has now been located.

Acknowledgments

The writer, and this province, are greatly indebted to the Vancouver Men's Canadian Club for their enthusiastic sponsorship of the exploratory excavations. Part of the investigation cost was also borne by the Archaeological Sites Advisory Board of the Province of British Columbia and a part by the University of Victoria. Of the many considerate persons of Tofino who helped make the field task easier, the Kenneth Gibsons should be singled out for special mention. The important information on nail identification and the use of these fastenings in dating structures and many other details of eighteenth-century technology were uncovered by Robert Knox in the course of preparing a comprehensive report on the Fort Defiance project (Knox 1968). Knox also initiated the correspondence with Lee H. Nelson of the United States National Park Service. Mr. Nelson's useful and enlightening contributions are gratefully acknowledged. Figure 3 is based on a contour map drawn by Ray Shergold; the Davidson sketch is reproduced by the courtesy of its owner, Dr. Gray Twombly; and the photographs of artifacts were done by Les Laronde. A general debt is also owed to Willard Ireland, who, as provincial archivist, has played an important part in all stages of the investigation — from the reopening of the search, through official protection of the site, and arranging finances for the excavation. Finally, I owe a great deal to a persevering field crew who endured an exceptionally wet month in an exceptionally wet part of the coast — Tony Brown, Judy Eggleton, Alan Hoover, and Sharon Keen.

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