

THE FORTS OF MAINE, 1607-1945: *An Archaeological and Historical Survey*

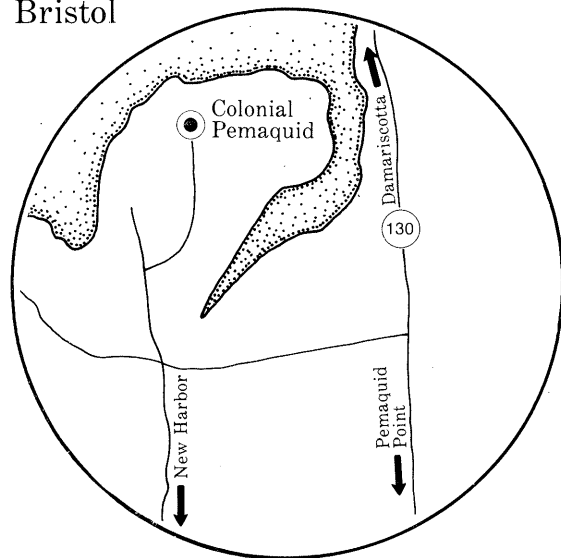
Robert L. Bradley, Ph.D.
Maine Historic Preservation Commission

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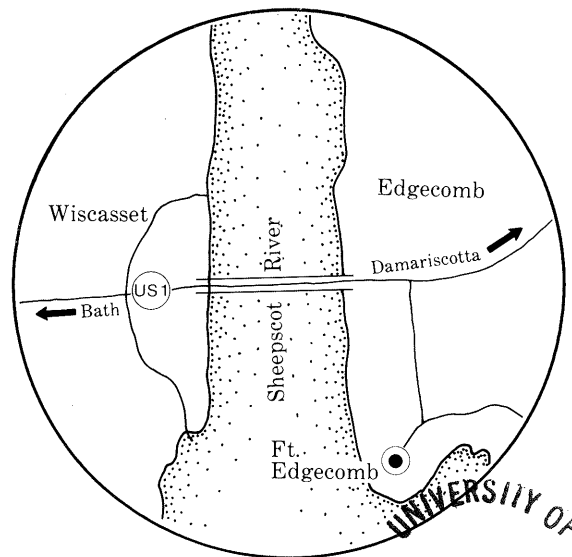
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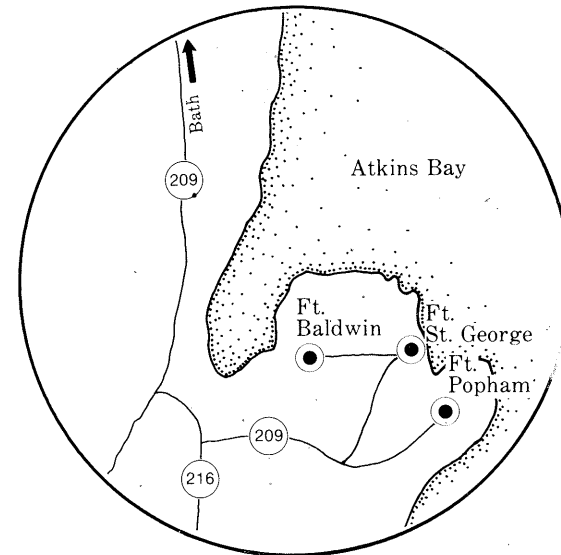
Forts Charles, William Henry,
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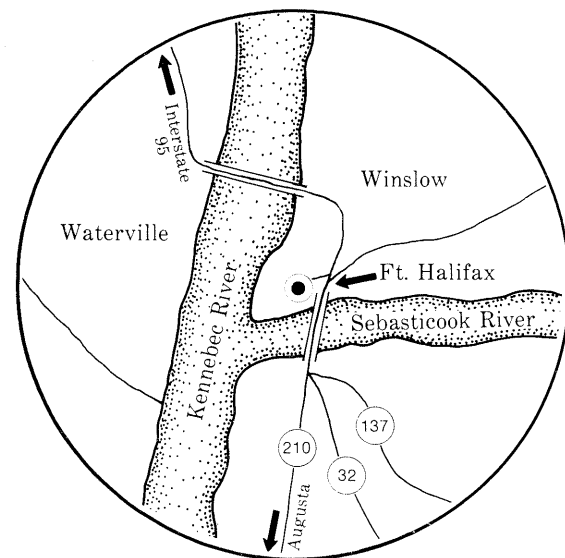
Fort Edgecomb
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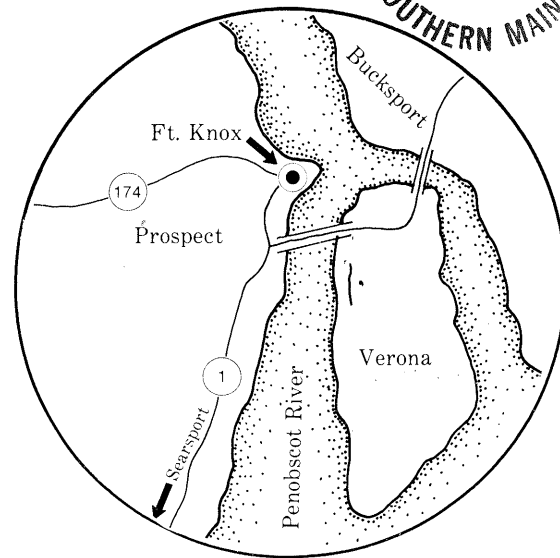
Forts St. George, Popham, & Baldwin
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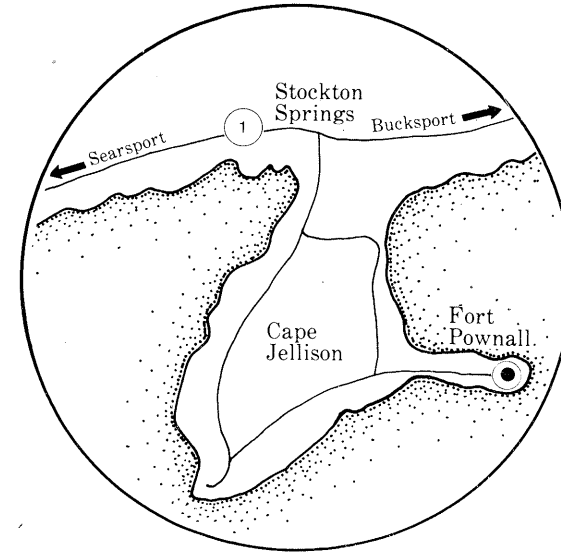
Fort Halifax
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Fort Pownall
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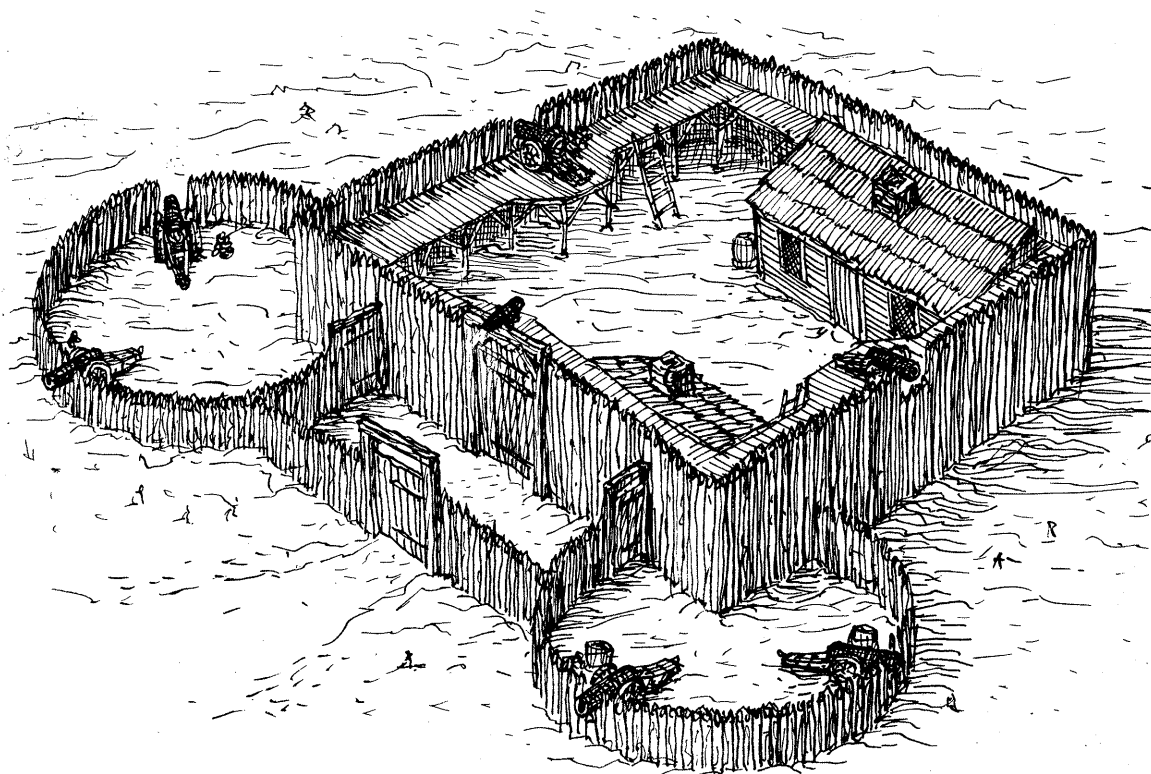


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Robert L. Bradley, Ph.D.
Maine Historic Preservation Commission



DEDICATION

This publication is dedicated to Colonel Wolfgang William Romer, military engineer in the service of England, who surveyed the Maine coast in 1699 and designed our first scientific fortifications.

ACKNOWLEDGEMENTS

There is hardly a publication—no matter how brief—that is produced singlehandedly. This booklet is no exception. Recognition is due to my colleagues Earle G. Shettleworth, Jr. and Frank A. Beard for advice and assistance whenever it was needed. Credit should be given to Admiral William Royall for providing French documentary sources on Forts Charles and William Henry, and to Virginia Inness-Brown for translating them. My colleague at Pemaquid, Helen B. Camp, is irreplaceable. Others who have aided in this project are Emerson W. Baker, Arthur Gerrier, John B. Green, William B. Hilbish, Nelson H. Lawry, Donna L. McKinnon, and Perlestone Pert. Above all, special thanks are due to John W. Briggs, Historian, Maine State Bureau of Parks and Recreation, whose knowledge and files were utterly invaluable; he is all but co-author of this publication.

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EARLE G. SHETTLEWORTH, JR.

STATE HISTORIC PRESERVATION OFFICER

THE MAINE HISTORIC PRESERVATION COMMISSION was created by the 105th Legislature in 1971 to administer the National Register of Historic Places in Maine. The Commission is responsible for conducting a statewide survey of historic, architectural, and archaeological resources and the nomination of properties to the National Register of Historic Places. In addition the Commission has played a major role in the past decade in the excavation of archaeological sites and the restoration of historic buildings through its 50% matching Federal Grants-in-Aid Program.

The origin of Maine state park system lies in the legislation passed in 1935 which established the State Park Commission. The Commission was reorganized as the Department of Parks and Recreation in 1971 and in 1973 it became the BUREAU OF PARKS AND RECREATION as one of five bureaus within the Department of Conservation. The legislation of 1935 authorized the acquisition and development of parks and historic sites. In recent years several related programs have been legislatively added to the parent law. The additions include authorization to accept and administer Federal recreation funds, a snowmobile program, the boat facilities and lake buoying program, the Keep Maine Scenic program, the Allagash Wilderness Waterway, and the State Trails and Community Recreation Programs.

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Introduction

In the late 4th century A.D. the Roman historian Ammianus Marcellinus quoted a Visigoth who was at that time ravaging the countryside of Gaul, but who in the process was carefully avoiding the heavily fortified towns of the province. Fritigern's philosophy was simple: "I am at peace with walls." In saying this he voiced the kind of sentiments which have been music to the ears of military architects and engineers throughout history.

This booklet is intended to be a brief but detailed survey of Maine's military architecture from the

beginning of European settlement to World War II, with particular emphasis on the remarkable fort sites administered for the public by the Maine State Bureau of Parks and Recreation.

Military construction has dominated the human landscape throughout history. Over the past several millennia it has constantly evolved as the technology of defense has responded to the challenge of offense. Understanding this relationship of defense to offense is fundamental to understanding the design of forts in any period. If your most formidable enemy can do no more than throw small rocks, you have no need of a Maginot Line, and you will not build one. With these factors in mind, a brief survey of military archi-



1. Housesteads Roman fort, artist's conception

ecture in Europe prior to the 18th century will set the scene.

* * * * *

Fortification design was highly developed in the ancient world, and at no time more highly than under the Roman Empire. In a world state as centralized as that of Rome, it is hardly surprising that Roman forts became standardized in form from an early date, and remained so. This form is easily recognized from the air. The fort was a self-contained community with carefully surveyed streets and blocks. The most distinctive feature was the outline of the outer walls which formed a rectangle with rounded corners, best compared to the shape of a playing card.

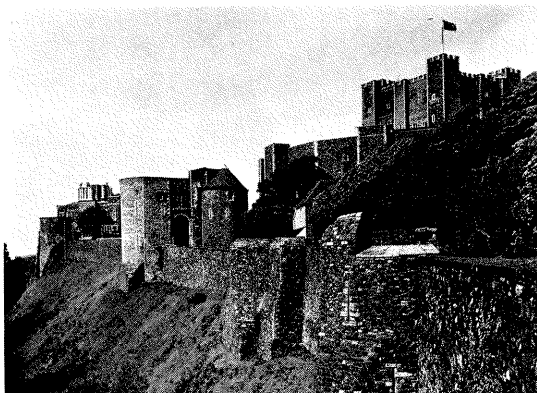
Because the Roman fort was organized around a legion or smaller sized unit, and its dimensions and details were carefully prescribed by tradition, a fort in Britain was identical to one in Syria. The point here is that a form was developed which successfully served a function, and as long as it worked there was no need for it to evolve in any substantial way. For centuries Rome's enemies were generally inferior in technology and organization, and the type of fort shown here was wholly adequate as a deterrent to uprisings in a potentially hostile area.

Late in the Empire forts and towns became much more heavily defended with substantial stone walls and projecting bastions for mounting artillery, a response to increasing pressure from barbarian migrations. As the frontiers collapsed in the 5th century, the last of the great Roman villas, set in an increasingly feudal society, began to feature high turreted walls. The medieval castle is but an extension of this phenomenon.

* * * * *

What we think of as a castle—a tall central keep and concentric perimeter walls surrounded by a moat (or more properly a “wet ditch”)—gradually became more and more massive from the early Middle Ages onward. Early castles were simple affairs, consisting of a wooden house atop a high earthen mound, beyond which was a palisaded area enclosed by a ditch. Such fortified dwellings were built by local or regional strongmen in Northern Europe not only to enforce loyalty in an area, but also to deter potential rivals in neighboring areas.

The development of nation-states in the early Medieval period, led by strong monarchies supported by equally strong nobility, created more centralized authority and fostered increasingly more ambitious construction. The remarkable series of massive stone castles built by King Edward I in north Wales from the 1270's on are a classic example of defense serving as offense. These impregnable strongholds, domin-



2. *Dover Castle*

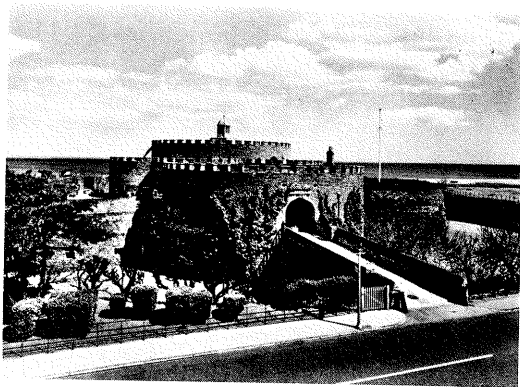
ating strategic points in a hostile region, effectively discouraged or reduced the severity of native Welsh uprisings.

Dover Castle on the Kentish coast of the English Channel is a large and complex example of the Medieval castle at its height. The first stone construction on the site began in 1168 and was completed in 1190, with much additional work effected in the first half of the following century. The dominant feature is a large, square keep protected by a wall enclosing an inner bailey, in turn protected by an outer wall with outworks and deep ditch beyond. Although slightly modified and strengthened in the 18th and 19th centuries, Dover Castle to this day stands as an outstanding example of Medieval military architecture.

* * * * *

The discovery of gunpowder and the invention of cannon in the mid-14th century was to force drastic, if gradual, changes in the design of fortifications. From that time to the present day the increase in effectiveness of firearms has been reflected step by step in the evolution of military defenses. While Dover Castle, conceived and built before the appearance of gunpowder, rises high above the surrounding countryside with its lofty turreted walls, forts from the later Medieval period onward presented lower and lower profiles. The ultimate stage of this evolution saw the almost completely subterranean bunkers and pill-boxes of World War II.

By the mid-16th century siege artillery had been developed to such a degree that the Medieval castle had been rendered well nigh impotent. Deal Castle, built a few miles north of Dover in 1539-40 by Henry VIII, presents a vivid contrast to its older



3. Deal Castle

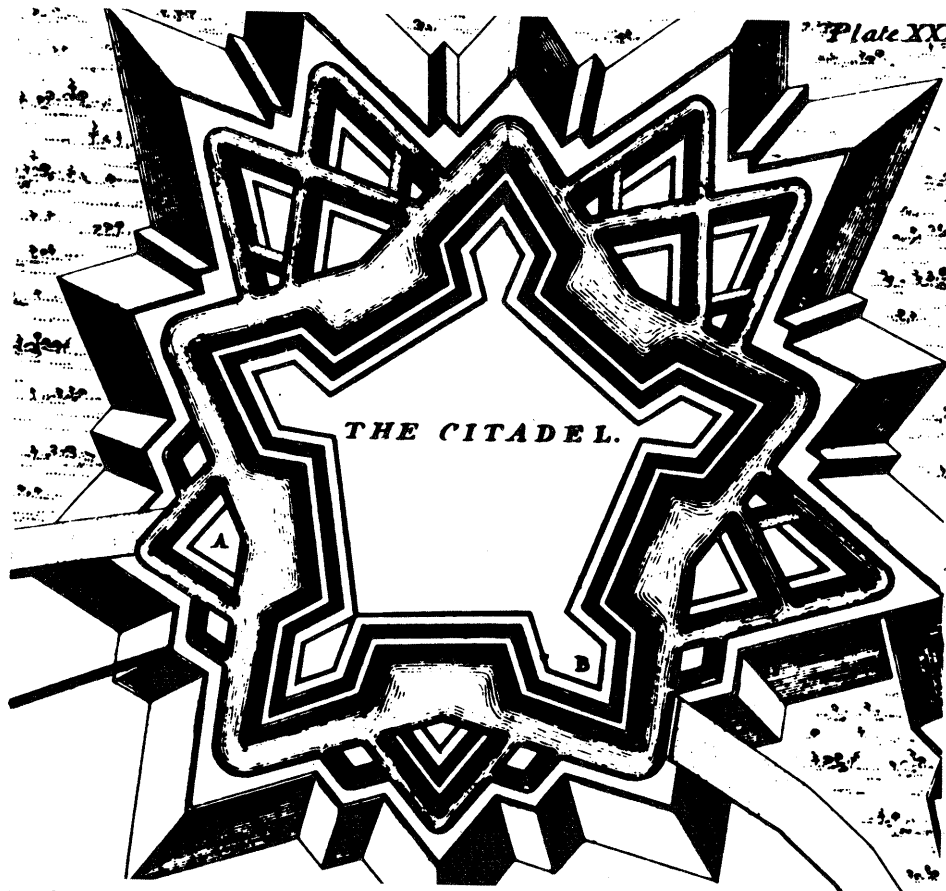
neighbor. Here the heart of the fortification lies below ground level, with fifty-four gun-ports in the curtain facing the outer wall of the moat. The keep rises only slightly in two stages behind the curtain, presenting a very low profile. Another striking difference between Dover and Deal Castles is that the latter's curtain and keep each feature six semi-circular bastions. Gone are long stretches of straight walls.

* * * * *

The development of the bastion and related outer works is a complex subject, but broadly speaking these projections became the salient feature of fortification design to deflect cannonballs, as well as to provide additional space for gun emplacements and increased angles of fire to flank attackers. The bastion and related works, planned with geometric precision, were fully developed by the French military architect, Sebastien de Vauban (1633-1707). The Citadel of Tournai, Belgium, will suffice to show how complex such defenses became in 17th-

century Europe and why, when we think of a "star fort," we think of Vauban.

The history of Maine's forts begins on the eve of Vauban's birth, at a time when the designs he perfected had already long been in use.



4. The Citadel, Tournai, Belgium

17th Century

Maine was not settled overnight. A full century after John Cabot sailed across the outer Gulf of Maine in 1498 and established the basis for England's claim to the North Atlantic seaboard, both England and France were still dispatching expeditions to explore what is now New England and the Maritime Provinces of Canada. These voyages sought in vain to find precious metals or a northwest passage to the Orient, but in the process they identified natural wealth in fish and timber as well as economic wealth in fur trade with the aborigines. By the early 17th century Northern Europe was poised to settle Maine.

In the summer of 1604 France made the first move, founding a settlement under the Sieur de Monts and Samuel de Champlain on St. Croix Island, off the modern City of Calais in Washington County. Summer visitors to Maine have often been unsuccessful in selecting a location for year-round living, and so it was with the first wave of Europeans. St. Croix Island, delightful in July, was disastrous in January, being swept by winter winds and lacking a source of drinking water. Champlain sadly noted in his diary, "... There are six months of winter in this country." Decimated by scurvy, exposure, and low morale, the St. Croix Colony lasted barely a year and moved to Nova Scotia in 1605. The French were not to attempt settlement in Maine for another eight years.

As the survivors of St. Croix quickly dismantled their settlement and sailed away, one of the last voyages of exploration for England inspected the St. George River area. This expedition, captained by George Waymouth in his ship, the "Archangel," was

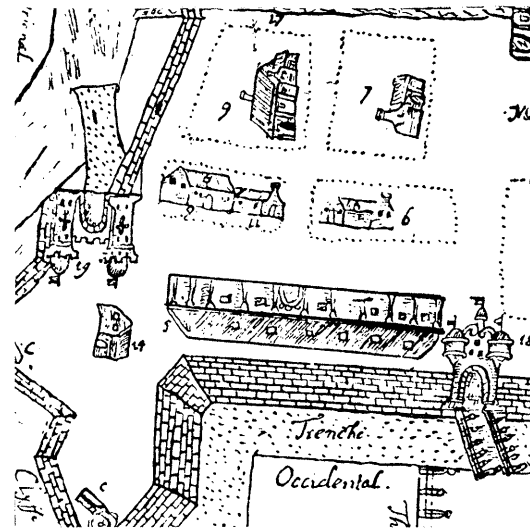
charged with recording the geography of the region and identifying suitable sites for settlements. A crew member, Abraham (?) King, perhaps related to Waymouth's boatswain, Thomas King, has left his name and date as a memory of this voyage, carved in a bedrock ledge in Cushing. Inscriptions, however, are not colonies, and England's first attempt at permanent settlement in Maine had to wait until 1607.

* * * * *

Selecting a site near the mouth of the Kennebec River, then known as the Sagadahoc on its southern reaches and reconnoitered by Thomas Hanham and Martin Pring the previous summer, George Popham and Raleigh Gilbert began building what was to become known as the Popham Colony on August 19, 1607. This venture in "Northern Virginia" complemented a simultaneous colonial effort at Jamestown in "Southern Virginia." James Davies, a participant, described the site as being "at the very mouth or entry of the Ryver of Sagadehocke on the West Syd of the Ryver beinge almoste an Illand of a good bygness." This and other evidence points to Sabino Head which overlooks Atkins Bay in the Town of Phippsburg.

Within a day work began on trenching for a fort designed to enclose the settlement. According to William Strachey, not an eyewitness but privy to now lost sources, by October the colonists had "fully finished the fort, trencht and fortified yt with twelve pieces of ordinaunce, and built fifty howses, therein, besides a church and a storehowse." The number of houses must be incorrect, as the hundred or so settlers (all male) could not and would not have built a village of that size in so short an interval. The number of cannon, however, may be accurate.

In the 1880's a remarkable plan of the Popham Colony's Fort St. George was discovered in the Spanish archives at Simancas. Inscribed on the plan are the following words: "The Draught of St. Georges fort Erected by Captayne George Popham Esquier one the entry of the famous Riuer Sagadahock, in virginia taken out by John Hunt the viii day of october in the yeare of our Lorde 1607." Hunt recorded the fort in close detail, but in so doing greatly exaggerated and elaborated on the fort's components. For it is most unlikely that a fortification of this class could have been built on a part time basis in seven weeks by a few dozen men far from home.



5. Fort St. George, detail of plan

Hunt depicts a sub-rectangular fort crouching on cliffs overlooking the water. High masonry walls, fronted by a ditch facing landward, carry four-sided bastions, larger and more complex than those facing

the sea. Nine cannon of four different calibers are emplaced on the bastions. Two entrances are present, water and land gates, of which the latter is equipped with a drawbridge for crossing the ditch. The gateways themselves are very elaborate and are strangely Medieval in design. Hunt's plan, though suspect in detail, probably depicts the fort in general terms as it was built, with earthen ramparts supported by timber revetments and wooden gateways.

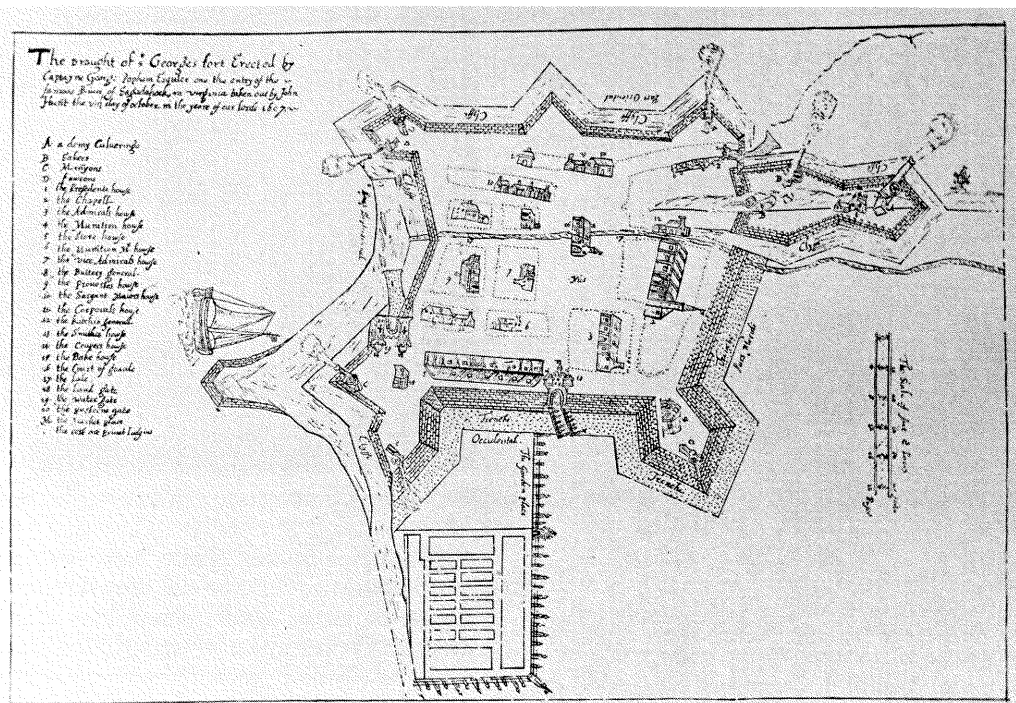
In an effort to locate positively the site of Fort St. George and to determine its precise nature, the Maine State Bureau of Parks & Recreation conducted archaeological excavations on Sabino Head in 1962 and 1964. No structural remains were uncovered, and very few artifacts of 17th century date. It is clear that further field work in the area is called for in completing the study of Maine's first documented European fortification.

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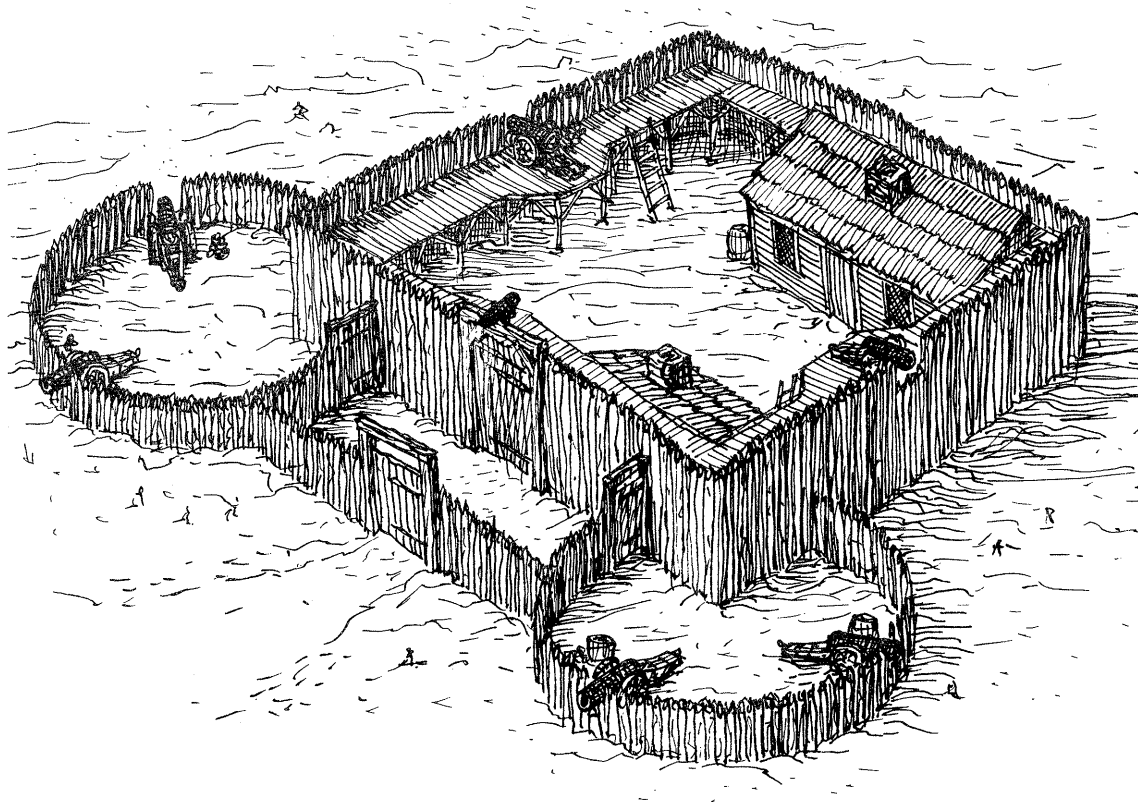
Although the Popham Colony was a failure and was abandoned within a year, a more impromptu but highly successful English settlement thrived in the mid-coast region from about 1625. This was Pemaquid, in what is now the town of Bristol, which began its life as a small fishing village and ended as the burnt ruins of England's northeasternmost military outpost of the Thirteen Colonies. Much has been written of four forts at Pemaquid, but in fact the first, dating from c. 1630, was nothing more than a fortified warehouse—a sort of bank vault for the community's valuables. It was raided by pirates in 1632 and destroyed in the first of the Indian Wars in 1676, its humble stone cellar-hole to remain forgotten until archaeology permanently exposed it for display in 1965.

The devastation of 1676 led to prompt measures, and Fort Charles, Pemaquid's first true fort, was built the next year. No contemporary illustrations of this defensive work have survived, but a description of the time indicates its general construction: "a wooden Redoutt with two gunns aloft and an outworke with two Bastions in each of wch two greatt guns, and one att ye Gate." A French description of the fort when it fell to an Indian siege in 1689 is less useful: "The fort, even though only of picket, was quite regular . . ." Until the archaeologist excavates the site of Fort Charles, we shall have to be satisfied with this. What seems to have been constructed was an inner stronghold (redoubt) with an outer palisade (outwork), the latter strengthened with two bastions, the whole of timber.

Fort Charles fell, not because it was poorly built, but because its attackers achieved complete surprise and because New England politics had led to the desertion of all but a handful of the garrison. Almost any



6. Fort St. George, plan



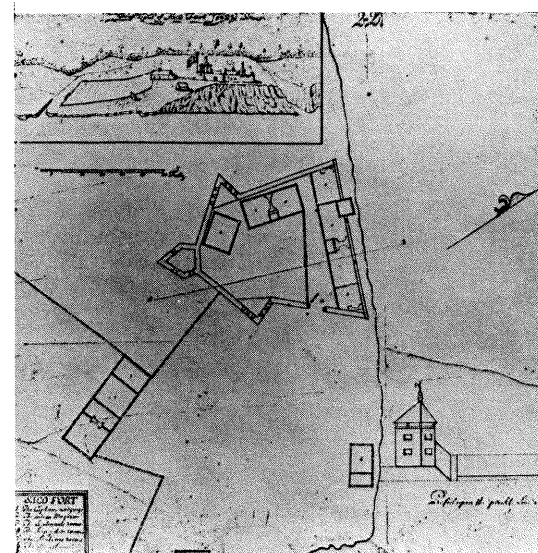
7. Fort Charles, artist's conception

kind of fortification at Pemaquid could have repulsed the Penobscot Indians in 1689, given a proper garrison with adequate equipment and provisions. The authorities in due course failed to realize this and simply built a bigger and better fort at Pemaquid with scant regard for its long-term support. This was a disastrous error, as will be seen.

* * * * *

The historian must always be wary of his sources. In 1693 a stone fortification was built at the falls in what is now Biddeford, Called Fort Saco, it was garrisoned until 1708 when it was dismantled and replaced by Fort Mary at Biddeford Pool. Built by

Major James Converse, it was never attacked, and it is noted here because of a detailed plan of 1699 preserved in London. Two descriptions of the fort in 1700 survive which hardly agree on a single point: "... a strong stone fort and a tower in the form of an irregular Pentagon," and "... a small fort, ill seated and worse built; it was made of clay and sand, and the most considerable part of it, a small tower, ready to fall." The latter description was written by



8. Saco Fort, plan

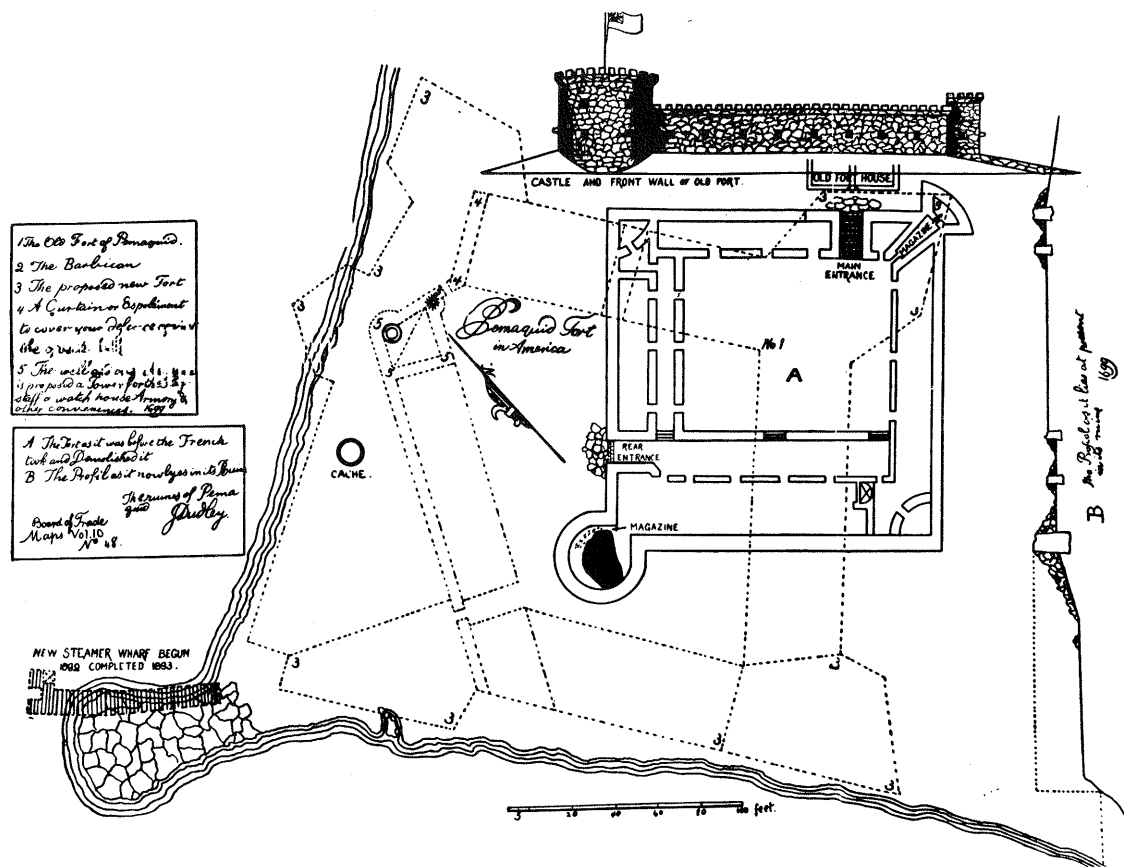
Col. Wolfgang William Romer, a military engineer in the English service, who also drew the plan. Unfortunately, factory construction in 1843 effectively destroyed the remaining footings of Saco Fort, so we shall probably never know how well, or poorly, it was built.

* * * * *

"I have caused a large stone fort, called Fort William Henry, to be built at Pemaquid ... The fort is strong enough to resist all the Indians in America." So wrote Massachusetts Royal Governor Sir William Phips to the Earl of Nottingham on September 11, 1693. Nearly everyone makes rash statements from time to time, but none rasher than that of Sir William.

Probably the first stone fort built in New England, Fort William Henry was constructed at a cost to Massachusetts of £20,000 in 1692. In refortifying Pemaquid after the disasters of 1676 and 1689, Sir William underlined the site's continued strategic significance as the key bulwark against French Acadia down east.

In the summer of 1692 a large work force under the direction of Captains Wing, Bancroft, and March began the construction of Fort William Henry. Because the Indian assault on Fort Charles in 1689 had made effective use of a large bedrock outcrop as cover nearby, this prominent feature was incorporated within the new fortification. When finished in the early spring of 1693, Fort William Henry, as described by Cotton Mather, was indeed impressive, with a six-foot-thick curtain ranging in height from ten to twenty-two feet encompassing a quadrangle some 108 feet on each side internally. The outer wall was fitted with twenty-eight gun-ports and eighteen cannon, of which six were 18-pounders. Facing the entrance to the Inner Harbor, to the west, was a great corner tower twenty-nine feet high. The opposite corner was fitted with a fan-shaped bastion, while the north and south corners carried internal circular towers. The main entrance faced northeast and a secondary entrance, next to the large flanker, faced northwest.



9. Fort William Henry, plan, after Romer

Entering Fort William Henry through the main entrance, one walked through a covered passage and directly entered the open parade-ground, on all four sides of which were doors providing access to the flat-roofed or shed-roofed buildings attached to the curtain. Entering via the rear entrance, one could walk straight down a long, stone-paved corridor, ultimately turning left to reach the parade-ground or right to enter the enlisted men's quarters; turning immediately to the left upon passing through the rear entrance, one walked down a short set of steps which led to a covered passage, to the left of which were officers' quarters ranged along the north-west wall of the fort.

It was all very impressive. Indeed, before the harbor side of the fort was completed in the fall of 1692, three French men-of-war and a force of Indians considered taking the stronghold by a *coup de main*, but thought better of it. They might well have succeeded, for Fort William Henry had serious design faults. In the first place the masonry work was of very poor quality. Colonel Romer, writing in 1699: "The Fort of Pemaquid . . . seems to have been extremely ill-built and not defensible. There was no order observed in building it; its walls were made of clay mixed with sand brought from the sea-shore, instead of lime . . ." The mortar was so poor, in fact, that during the fort's first and last test one of the towers shuddered and cracked when two cannon were fired. Worse yet, the well for drinking water lay outside of the north-west wall. A thirsty garrison is useless.

Early in August, 1696, just four years after the start of the fort's construction, three French warships, about 100 French soldiers, and some 500 Indians under the command of Pierre Le Moyne D'Iberville descended upon Fort William Henry. The fort



10. Fort William Henry, great bastion

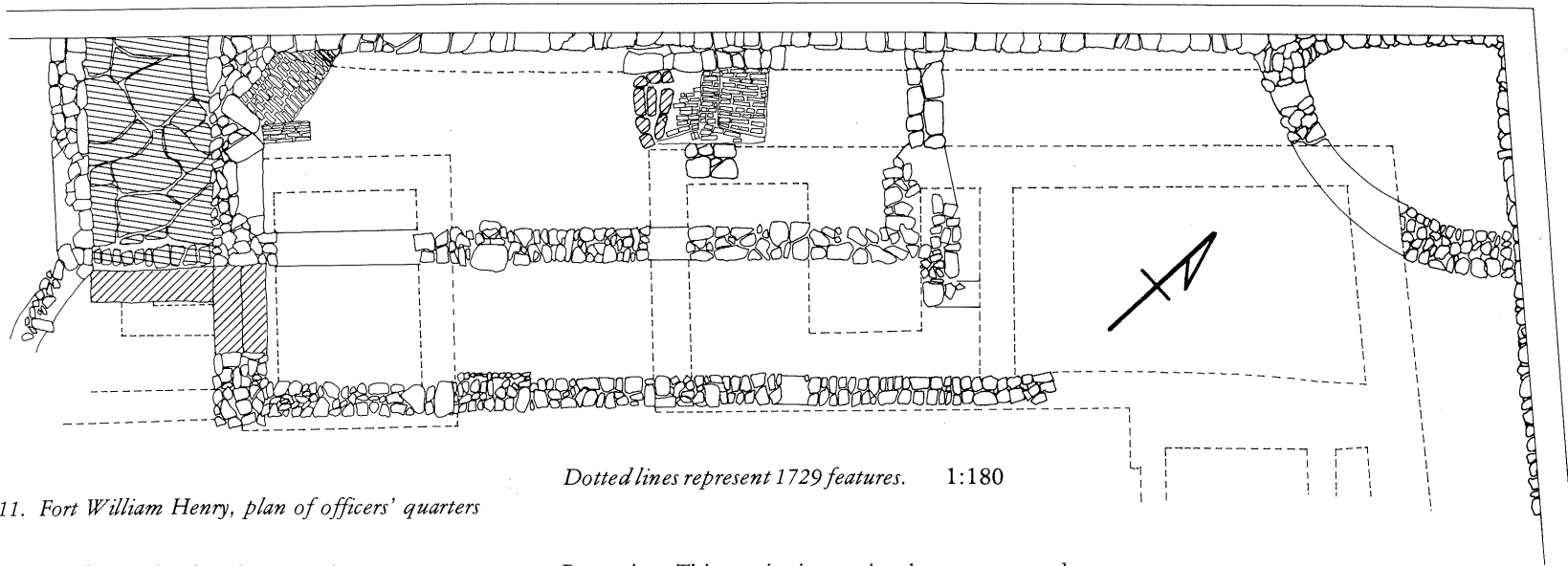
capable of repulsing all of the Indians in America was about to be tested. Many French and English accounts of what happened survive, and for once they are in substantial agreement. A French participant, one de Champigny, reported on the action as follows:

"M. D'Iberville prepared a feast for approximately 300 savages, the others having already left for war. He distributed presents from the King, and told them he was going to attack Pemaquid. They replied that they would participate in this with pleasure . . . Two mortars, two cannons, bombs and shells were landed a half league from the fort. The fort was commanded to immediately surrender. They replied that they would fight." The next day D'Iberville "ordered the French and savages to cart the mortars, the bombs, the cannon, and cannon balls to within half range of the cannon from the fort, there to be emplaced and well strengthened with fascines before midday."

Early in the afternoon, after another call for surrender which was refused, "five bombs were fired which took the enemy by surprise." A last offer of quarter was followed by the surrender of the fort late in the afternoon. Not wishing to devalue their victory, the French described Fort William Henry as being "very well constructed of good stone." D'Iberville himself characterized the construction as being of "sound stonework."

Eleven members of the English garrison wrote to Lieutenant-Governor Stoughton to explain themselves: "[French messengers] said that they would fire three or four bombs and then send to us again to see how we liked them, saying that they had a bomb-ketch and another man-of-war coming." The next day "they began to heave their bombs over the fort . . . We had but one gun that we could bring to bear, and after four or five times firing, the flanker, on which it was mounted and which had been propped up all winter, began to tumble down." The commander of the fort, Captain Pascho Chubb, "then advised with his men what he should do, and they being assured that they would be left to the mercy of the heathen, and since we could get no water by reason of the enemy, they unanimously agreed to surrender . . ." The garrison was given safe passage to Boston, and in the words of D'Iberville, " . . . the fort being completely demolished to the base of the foundations, we all set sail." Throughout the settlement's troubled history, this was Pemaquid's worst disaster, and the English would not return for more than three decades.

In 1902 the State of Maine was willed the site of Fort William Henry, and six years later, armed with Colonel Romer's detailed drawings of the ruins in 1699, as well as original stone footings exposed by excava-



11. Fort William Henry, plan of officers' quarters

Dotted lines represent 1729 features. 1:180

tions under the local antiquary, John Henry Cartland, an accurate replica of the great western tower of the fort was rebuilt by George E. Little of New Harbor at a cost of \$3,875.00, using designs by the architect Austin W. Pease of Portland. At the same time the footings of the curtain were uncovered and a narrower wall built atop them to mark the outlines of the fort. During the summer of 1923 Warren K. Moorehead of Andover's Peabody Museum attacked the fort with pick and shovel as part of a vain effort to find Viking remains at Pemaquid.

It was not until 1974, however, that the fort site was subjected to controlled archaeological excavations which have continued under the direction of the author in association with Helen Camp and John Briggs of the Maine State Bureau of Parks and

Recreation. This continuing project has concentrated on excavating Fort William Henry's officers' quarters and permanently stabilizing *in situ* the exposed ruins with Federal funds from the National Park Service administered by the Maine Historic Preservation Commission, matched by State funds administered by the Bureau of Parks and Recreation.

As will be seen below, Fort William Henry was not Pemaquid's last fort. In 1729 a successor was built on the same site using much of the rubble of the 1692 structure. What survives of Fort William Henry is preserved because it was buried deeply enough by D'Iberville's 1696 demolition to be spared re-use in 1729.

The excavations have uncovered the base of the fort's northern internal tower, the paved rear entrance, and



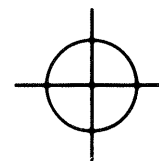
12. Rear Entrance, Fort William Henry



13. *Archaeological excavations on Pemaquid forts*

the stone footings of the officer's quarters and the corridor which serviced them. Both the officers' quarters and the corridor were at least 55 feet long, the widths being 15 and 10 feet, respectively. The quarters were serviced by three fireplaces, implying the existence of three rooms which Romer's plan corroborates by showing three doorways. The northern two rooms were heated by a pair of back-to-back fireplaces, while the fireplace for the southern room was fitted into its western corner. The northern room would have measured some 16 by 12 feet, and the other two, if symmetrical, would each have been about 19 by 12 feet. The rooms were well finished, with diamond-paned leaded casement windows and plastered walls. They were not bomb-proof, however, and the French mortars were an effective threat.

Among the burnt floor-boards and overturned walls have been found such items as silver teaspoons and fine glassware, testimony not only to a high standard of living for the stronghold's officers, but also to a hurried departure planned just minutes in advance. The scorched remains of Fort William Henry are symbolic of the wreckage of English Maine in the aftermath of the first wars with the French and Indians.



18th Century

The 18th century opened with the Indian Wars in full rage and closed with Maine a prosperous province of the State of Massachusetts within the young United States. Between these extremes the English frontier pressed up the river valleys as the French and Indian threat gradually receded. It was a period of Anglo-American resettlement and expansion which demanded relatively inexpensive and efficient forts which could be quickly constructed and lightly manned. The log stockade with blockhouses came into its own at this time to replace the cumbersome and costly stone forts of the earlier Indian wars.

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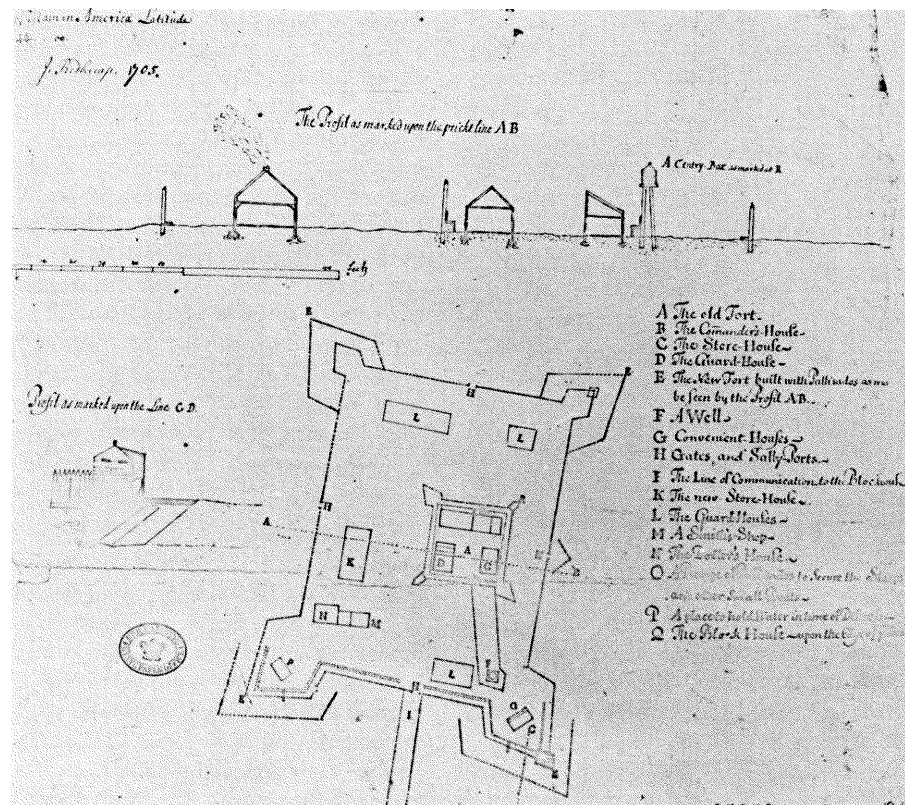
The settlement at Falmouth, now known as Portland, had been defended by Fort Loyall from 1680, but in 1690 this was attacked and destroyed by the French and Indians. Resettlement of the area was not attempted until 1700, when New Casco Fort was constructed near the mouth of the Presumpscot River in what is now Falmouth. Designed by Colonel Romer, this fort was a square palisade some 70 feet to the side with four-sided bastions on the northwest and southeast corners and elevated sentry-boxes on the other two corners. This curtain defended a commandant's house of three rooms, as well as a storehouse and guard-house covered respectively by shed and gabled roofs, all of post-and-beam construction. Significantly, a well to the south was protected by an extension of the palisade. Romer was a professional.

The fort nearly fell to a furious Indian assault in 1703 and two years later the engineer John Redknap, who drew the plan illustrated here, designed and built a much larger fort to enclose Romer's construc-

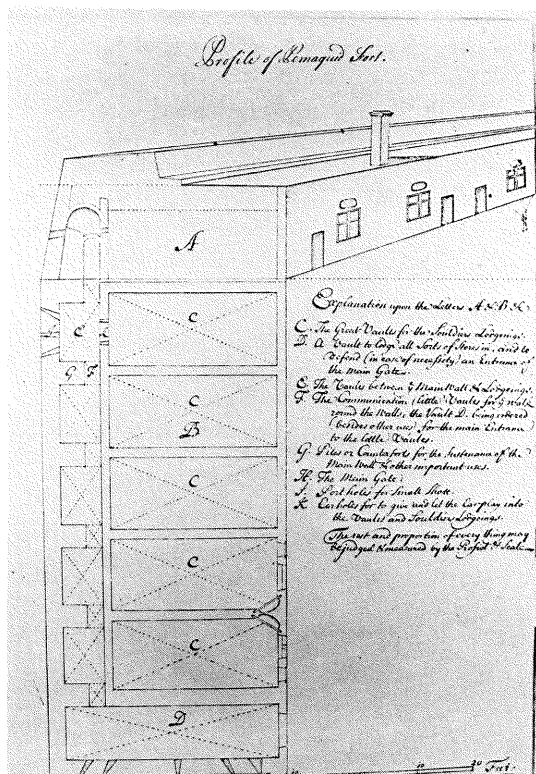
tion. The 1705 fortification was, in essence, a scaled-up version of its 1700 counterpart, but it was fully equipped with sally-ports, "convenient houses" (privies), a blacksmith shop, cistern, and doctor's offices. Never again attacked, Fort New Casco was dismantled in 1716 as part of a budget-cutting program and its two phases now await archaeological examination as early examples of the bastioned fort designed in wood.

* * * * *

The loss of Pemaquid's Fort William Henry in 1696 was a devastating military and psychological blow to English Maine, and for years afterward at the Crown's urging many proposals were made to rebuild Pemaquid's defenses yet again. Romer conceived of a new stone fort in 1699, superimposing it on his plan of Fort William Henry's ruins, and in 1705 Redknap



14. Fort New Casco, plan



15. Proposed Pemaquid barracks, plan and elevation

drew a new design for vaulted, bomb-proof barracks. With the well lying within the fort and French mortars rendered harmless, the lessons learned from 1696 were not to be forgotten. Unfortunately, the Massachusetts Assembly could not forget the £20,000 wasted on Fort William Henry and viewed Pemaquid as a perennially vulnerable target. Besides, since by now there were practically no Englishmen in the

mid-coastal region, why should another costly fort be built to protect a few transient fishermen? Queen Anne insisted and Massachusetts, displaying a stubbornness made famous in the 1770's, simply stalled. The delays outlived the Queen.

It was not until 1729 that Colonial Pemaquid entered its fourth and last reincarnation. In that year Colonel David Dunbar, Surveyor of His Majesty's Woods in America and an able and aggressive administrator, conceived of the resettlement of six townships east of the Kennebec River as a buffer against French and Indian pressures. Pemaquid was his focal point, and he imported two hundred Irish Protestants to the abandoned site. A key element in this venture was the rebuilding of Fort William Henry, which he renamed Fort Frederick, but it would be a mistake to think that the 1692 fort rose once again on the landscape. Although Dunbar submitted an account in 1738 for building a stone fort, and other sources speak of his "repairs" to the fort (how does one repair a razed structure?), still others refer to his simply hoisting a flag over the ruins. The truth lies somewhere in between, with evidence supplied by an impartial eyewitness and by the efforts of archaeology.

The eyewitness was Robert Hale of Beverly, Massachusetts, who has left us an account of a voyage he made to Nova Scotia in 1731. Stopping at Pemaquid, he observed that "the Fort stand[s] in the Same place where Sr Wm Phipp's did. The walls are about 8 or 10 feet high, 2 Bastions [sic], one S.W. the other on the N.E. corner of the Fort, which is Square & contains about an Acre . . . There are only 5 guns & those small. The Walls about 5 feet thick & built only of Stone without Lime, Brick, or Turf."

Of interior structures, Hale mentions "a large good new House building upon the south side of [the fort], one Story & ½ high about 50 feet long and 35 feet wide — another good house in the Fort one Story high, just by the former but nearer the Middle in which Coll^o Dunbar lives." This last statement, implying that Dunbar's house lay within the fort, is important because local tradition has identified the Fort House as belonging to Dunbar. In reality this latter building, now Colonial Pemaquid's archaeological laboratory and administrative center, was constructed late in the 18th century and thus had nothing to do with the fort.

Dunbar busily went his way re-establishing the settlement at Pemaquid. Hale observed that village streets and house lots had been precisely laid out, and Dunbar's own plan of the village survives, strongly suggesting that he was responsible for at least some of Pemaquid's paved streets which have traditionally been assigned to the 17th century. By 1731 at least twenty-three houses had been built for the new settlers, several of which have been excavated. But there were problems, and not this time from the French and Indians.

Dunbar was a man of action. Unfortunately, he did not receive approval for his activities from either the Crown or the Colony of Massachusetts. This and personality conflicts led to a legal struggle, made all the worse by the indignant descendants of Pemaquid's 17th-century community, who saw their titles to the land being usurped. Dunbar had built a barracks in Fort Frederick to accommodate 100 militia he had at his disposal, and another thirty regulars and two officers were dispatched from Nova Scotia on Royal orders. When the Crown adjudicated the case in favor of Massachusetts Bay, however, these latter

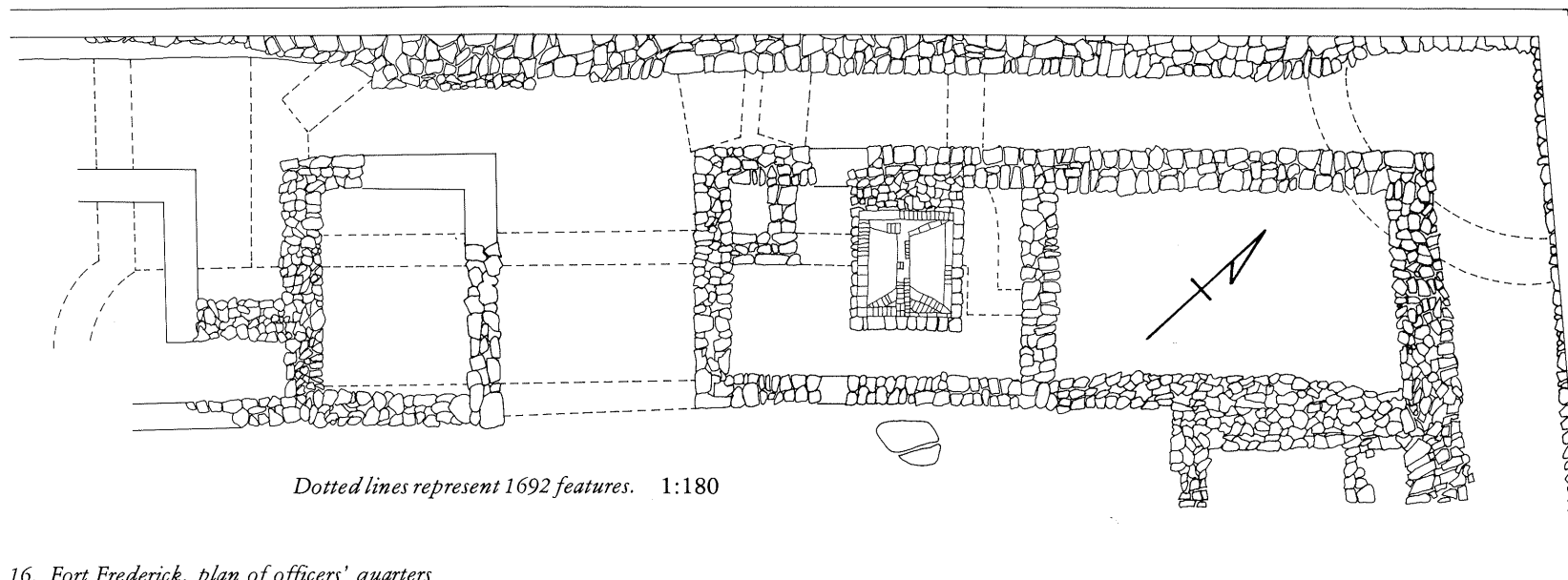
troops were recalled and Dunbar was forced to abandon the enterprise in 1733. It was not the end of the settlement or of the fort, but Pemaquid's last chance for sustained importance had passed.

In the ensuing years some of the Scotch-Irish acquired title to their lands and stayed on as the ancestors of many of today's Bristol area residents. The fort, such as it was, gradually deteriorated. In 1759 the fort's cannon were shipped to Boston, and on May 24, 1775 a Bristol town meeting passed the following motion: "Voted to pull down Pemaquid Foart [sic]. Voted that next Thursday May 30 be the day to pull down said Foart." Such was the ignominious end of Fort Frederick, Pemaquid's third and last fort. Seeing the impending Revolution, the

townspeople were determined to deny the British its use. Excavations suggest that someone was living among the ruins, perhaps in Dunbar's house, in the late 18th century and probably a bit later; but Pemaquid's forts had by then become only a memory, and the small peninsula was already becoming a pasture for sheep.

In 1923 Warren K. Moorehead partially exposed the footings of Fort Frederick's barracks along the southwest wall of the curtain (which need to be re-excavated), and in 1974 the State began the excavation of the officers' quarters of 1729 adjacent to the northwest wall of the fort. These excavations have verified Hale's observation that Fort Frederick had towers on only two corners. Fort William Henry's in-

ternal towers in the north and south corners were not rebuilt, and indeed the later quarters of 1729 partly overlapped the base of the north tower of 1692. Fort Frederick's officers' quarters, overlying those of Fort William Henry, were about 55 feet long and 18 feet wide. The entrance, marked by two large stepping-stones, faced the parade ground. Passing through the door one entered a small passage with a chimney servicing back-to-back fireplaces beyond. To the left was a small room measuring about 11 by 17 feet, while to the right was a large dormitory 35 feet long and 17 feet wide. Beneath most of the latter was a deep cellar for the frost-free storage of food in the winter. A cross wall just to the north of the fireplaces was originally built for structural reinforcement and does not mark the position of a partition.



16. Fort Frederick, plan of officers' quarters



17. Fort Frederick, Ruins Stabilization

Running from the northern end of this building along the northeast side of the parade ground was another building, of which only a small part attached to the officers' quarters has been excavated. This may have been a storehouse or additional sleeping quarters. Between the officers' quarters and the great western bastion were one or two other small buildings. True to Hale's observation, the masonry work for Fort Frederick was far inferior to that of Fort William Henry.

Although Hale noted puritanically that there were "no Pipes & Tobacco at Entertainments here," the excavations of Dunbar's fort have yielded hundreds of clay pipe fragments. The rules must have been relaxed in 1732 for the Nova Scotian regulars.

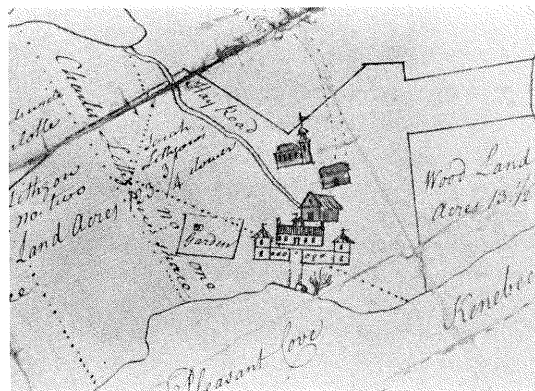
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As a large fort built in stone—however crudely—Fort Frederick was a hangover from the 17th century. No major masonry fort was to be built

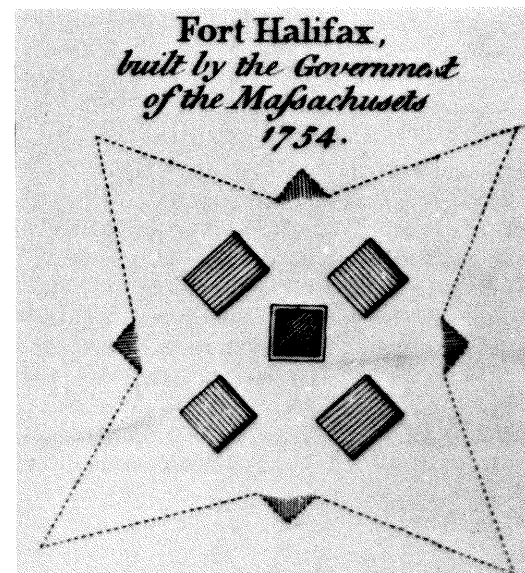
again in Maine until the mid-19th century. Much more typical of the period of the late Indian Wars was Fort Noble, built in Phippsburg by Colonel Arthur Noble in 1734. Noble, a lieutenant-colonel in the successful expedition against Louisbourg in 1745, erected his fort on private initiative as a refuge for area settlers.

A sketch drawn in 1743 depicts Fort Noble's major components. A square palisade with gun-ports enclosed a long one-story building with end-chimneys. Flanking the stockade's central gate were two-story corner blockhouses. Although subject to differences in detail, this type of fortification, whether built under government or private auspices, became the norm in 18th-century Maine. The continuing insecurity of the times and the economy of stockade construction are evidenced by the fact that Colonel Noble built his fort within a year of acquiring land in Phippsburg.

* * * * *



18. Fort Noble, sketch



19. Fort Halifax, first stage plan

Overlooking the junction of the Sebasticook and Kennebec Rivers in the Town of Winslow, the sole remaining component of Fort Halifax is the oldest surviving blockhouse in the United States. Built as an outpost in 1754-55 on the order of Royal Governor William Shirley of Massachusetts, the fort was constructed by Isaac Isley of Portland and Gershom Flagg of Boston. Its site was selected due to its strategic importance as a major French and Indian inland route of travel, and it was principally concerned with protecting new English settlements to the south.

As originally designed by Major General John Winslow, Fort Halifax was partially constructed as a large palisade in star form, measuring some 230 feet

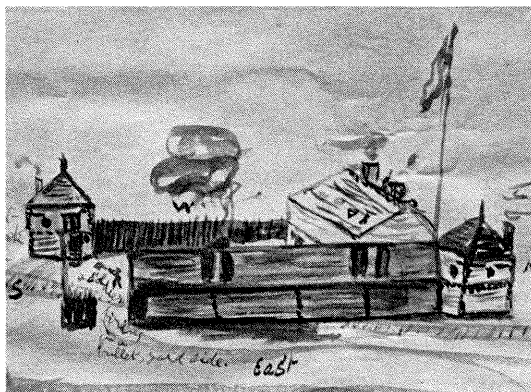


20. *Fort Halifax blockhouse*

from point to point along the sides. This four-pointed configuration enclosed a 120-foot square, possibly intended as an inner palisade. Within this there were to be four barracks, each twenty feet square, while the center of the fort was to contain a blockhouse of the same dimensions at ground level.

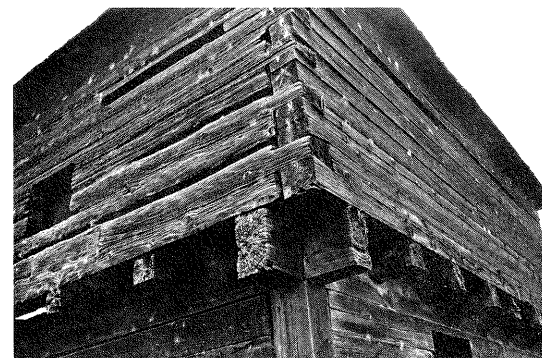
From late summer through the fall of 1754 construction of this large fortification proceeded, but by the beginning of winter the barracks were unfinished; no well had been dug, and the outer palisade had not been erected (although 1300 oaken pickets had been delivered for this purpose). It was at this stage that controversy descended upon Fort Halifax. One point of debate was the location of the fort, immediately adjacent to the river bank and overlooked by a com-

manding rise to the northeast. Although tactically a poor site, it was pointed out that the additional cost of building the fort high on the hill would have been prohibitive and that provision had been made to fortify the rise with the outlying blockhouses (two of these were built in the vicinity of the cemetery on the hill). Furthermore, it was stated that a French and Indian attack, originating from the north or east, could not have made use of heavy artillery, given transportation problems.



21. *Fort Halifax, sketch*

The other point of debate, however, was more serious. This concerned the size and configuration of Winslow's design. Governor Shirley proudly stated that the fort could accommodate 400 men, but this was its very weakness, as Massachusetts could never afford a permanent garrison of this size. Yet large forts require large garrisons: 10 men defending a perimeter designed for 100 are pathetically vulnerable. Thus Winslow's half-built design was rejected in favor of a fortification of more modest proportions.



22. *Fort Halifax blockhouse, detail*

In the spring of 1755 the fort's commander, Captain William Lithgow, designed and directed the construction of a much-changed Fort Halifax (Lithgow was Col. Arthur Noble's son-in-law—colonial Maine was a small world). A third structure was built on the hill, a redoubt thirty-four feet square, essentially a very large blockhouse. The size and shape of the fort itself were greatly reduced and simplified. The central blockhouse was retained in its original position, but it became a corner flanker, matched by another blockhouse on the river-bank (the latter is the one which survives). These were located on diagonally opposite corners of a square stockade of about 117 feet on each side. Another corner held a small square watch-box. Forming part of the curtain were two main buildings. The original four barracks were joined together to form a block 80 feet long and 20 wide. And a major new building to serve as officers' quarters and storehouse was constructed. This two-story structure was 80 feet long and 40 feet wide, with two internal brick chimneys and a gable roof fitted with a sentry's walkway.

As Fort Halifax became disused after the 1760's, and most of the physical plant was demolished by 1798, we are fortunate that the Reverend Timothy Otis Paine took an active interest in the site.

The November 6, 1852 issue of the *Waterville Mail* contained a detailed article by Rev. Paine which described his exhaustive archival and field research on the site. Considering the remarkably early date of this pioneering research, Paine's work was thorough and effective. And although his field technique would today be held in contempt by the practitioners of scientific archaeology, Paine *was* able to include in his research an element which is inaccessible to us today: he interviewed the last person who

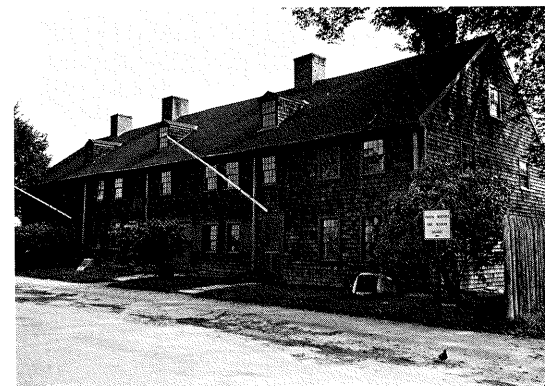
remembered the fort. As Elizabeth Pattee Freeman looked on, Paine drew the sketch reproduced here. When the sketch was finished, Mrs. Freeman exclaimed, "That is just it—that was all just so." It is the closest we will ever come to a photograph of a complex which failed to survive the 18th century.

* * * * *

Fort Halifax was the last and northernmost colonial fort built on the Kennebec River. It was not the first. We have seen how the Popham Colony chose the mouth of this strategic river for its fort in 1607, and we have noted Col. Noble's fort of 1734 just to the north. As English settlers penetrated northward during the later Indian wars, Fort Richmond was built in 1719 facing the head of Swan Island. There are detailed records of this installation, but no plans or sketches have survived. Enlarged in 1723 and extensively repaired in 1740, Fort Richmond protected the settlements of the lower Kennebec and Merrymeeting Bay until it was largely dismantled in 1755.

Fort Richmond was rendered obsolete in 1752 when Fort Frankfort (later renamed Fort Shirley) was built in what is now Dresden. This stockade fort was typical of its period and type, featuring the familiar twin blockhouses and stockade protecting quarters and storehouses. Test excavations by the author in 1975 located the site of Fort Shirley's western blockhouse, just to the west of Pownalborough Court House.

Fort Shirley in turn became obsolete with the establishment of Forts Halifax and Western in 1754. The latter, built on the eastern bank of the Kennebec in what is now Augusta, is again typical of its time and place. Owned by the City of Augusta as a

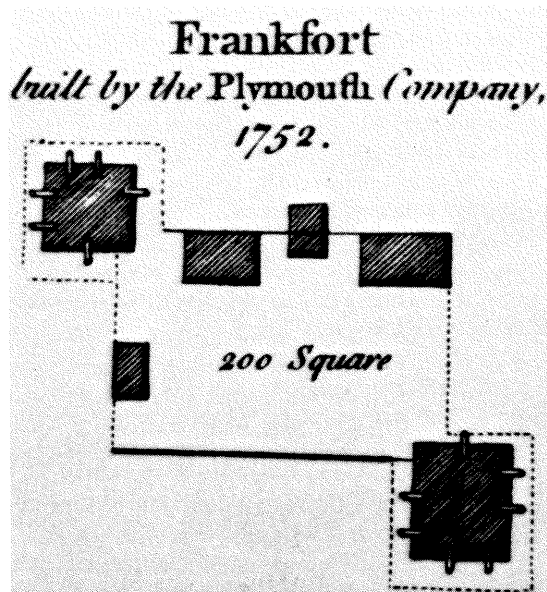


24. Fort Western, main building

museum, the officers' quarters/trading post of Fort Western survives, thanks to its adaptive re-use as a tenement in the 19th century. Excavations here by the author have indicated that despite two centuries of intensive industrial and commercial activity on the site, much of Fort Western's remains survive underground below several feet of more recent deposits.

The Kennebec Valley stockade forts defeated French and Indian attempts to throttle English settlement of the area by dominating key waterways and guarding fledgling villages against attack. Not long after their construction they saw the Colonial Period close abruptly, and they aided in the fight against an entirely new and ironic enemy—the English themselves.

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23. Fort Frankfort (Fort Shirley), plan

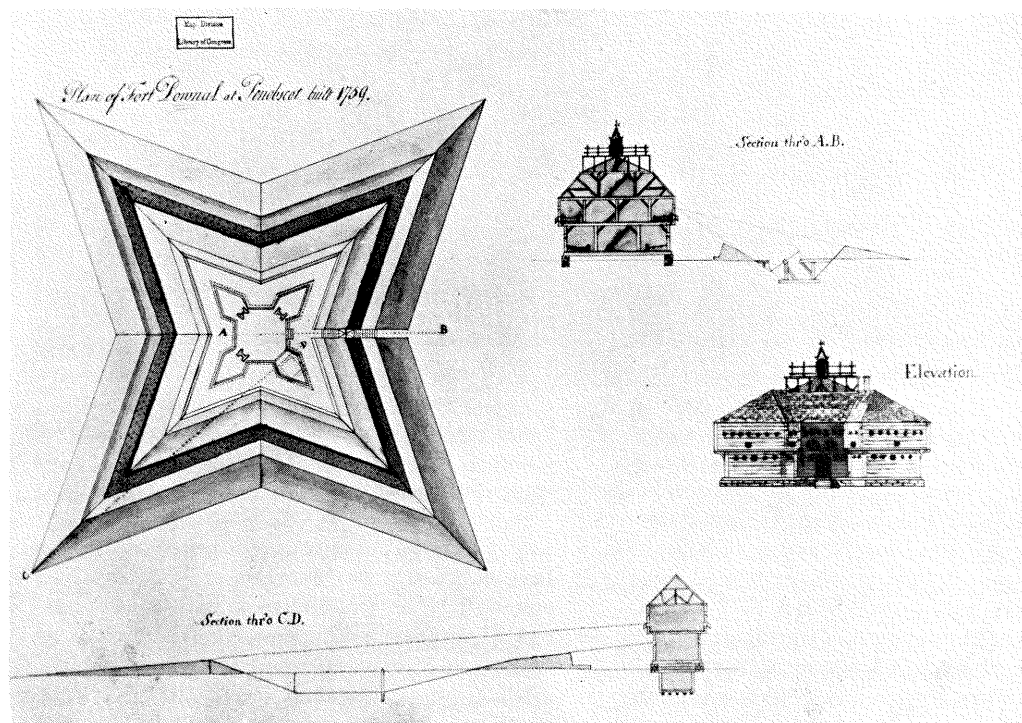
With the last of the French and Indian wars in full rage, the newly-appointed Governor of Massachusetts, Thomas Pownall, addressed the colonial legislature in August, 1757: "The times in which I meet you are critical and perilous. The war is no longer about a boundary, whether the French usurpations shall extend to this or that mountain, this or that river; but whether that people shall wrest from British hands the rights and power of trade, and drive us from the continent."

Pownall can be forgiven for this hyperbole, for although by this date the ultimate fate of New France was hardly in question, the English looked back on more than a century of strife and wanted to settle the issue in northeastern North America once and for all. The Governor asserted in March, 1758: "The enemy, in consequence of our unfortunate situation, is about the head of all our waters, ready to come down upon us even at our very doors." The point was that the English controlled the coastal regions of New England and most of the Atlantic Provinces of Canada, but the French with their Indian allies still held sway over the vast interior regions. Pownall feared French invasions southward via the Hudson, Penobscot, and St. John Rivers which could ultimately threaten even Boston. Far-fetched as these fears may have been, they were real.

While English offensives were launched against the principal bases of French power (Louisbourg fell to a siege for the second time in thirteen years in July, 1758), Pownall proposed to plug the mouths of the strategic rivers to keep the French and Indians well inland. In the case of the Penobscot the plug was to be Fort Pownall.

Pownall wrote to William Pitt, Prime Minister of England, in January, 1758: "A Fort at Penobscot River would be of utmost importance ... It would take possession of the very fine Country ... It would effectively drive off the Remains of the Noridgwoak and Penobscot Indians as it would break up their Hunting and Fishing. It would take possession of the finest Bay in North America for large shipping just at the mouth of the Bay of Fundy and would be Advancing the Frontiers of his Majesty's Dominions."

Budgetary problems delayed approval of the venture, but by May, 1759 Pownall was sailing downeast with 400 men to build his fort. By July it was completed. Although journals of the expedition by Pownall himself and an enlisted man survive, neither contain any detail of the fort's construction. The sole early description of the fort available was made by a Joseph P. Martin in 1828 or 1829. Martin, apparently a veteran of the Revolution, had never himself seen Fort Pownall, but it had been described to him by one who had lived there briefly:



25. Fort Pownall, plan, elevation, sections



26. *Fort Pownall, aerial view*

“It was a regular fortification, four square flankers, with a block house in the centre. It was surrounded by a ditch 15 feet wide at the top and five feet at the bottom, and probably 8 feet deep. The outer side of the ditch was 240 feet, and the brestword [sic] within the ditch 90 feet. A block-house was erected within the Fort 44 feet square with flankers 33 feet on the side ... The block-house was of square timber, dovetailed at the corners. It was of two very high stories—the lower story used as a barrakds [sic]; the upper story jutted over the lower 2 ½ or three feet ... In this room were 10 or 12 cannon. The roof was

hipped, with a centry [sic] box on the top. The houses of the officers were situated between the fort and the bank of the river.”

The other archival source of information on Fort Pownall is a plan with elevation and sections, reproduced here. Unfortunately, there is no record on the document of who drew it or when, although internal evidence and the type of paper suggest a date contemporaneous with the fort. In any case Martin’s description, the early plan, and aerial photographs are all in substantial agreement. And

archaeological excavations by Wendell Hadlock between 1962 and 1965 provided no contrary evidence.

Fort Pownall’s design was exceptional for its time and place. Instead of the familiar stockade with diagonally-opposed blockhouses, one giant blockhouse with its own bastions was built on substantial fieldstone footings. Surrounding this was a palisade, ditch, and glacis of four-pointed star form, all precisely laid out. Within two months of the fort’s construction Quebec fell to General Wolfe, and the end of the French empire in North America was in sight. Although Fort Pownall never fired a shot in anger, it encouraged the first major settlement of the Penobscot region by Anglo-Americans. In March, 1775 the British seized all of the fort’s guns and ammunition and shortly thereafter, in July, a Continental regiment demolished the blockhouse and partially filled in the ditch system. As with Fort Frederick at Pemaquid the Americans ensured that the British would never make use of this remarkable fortification.



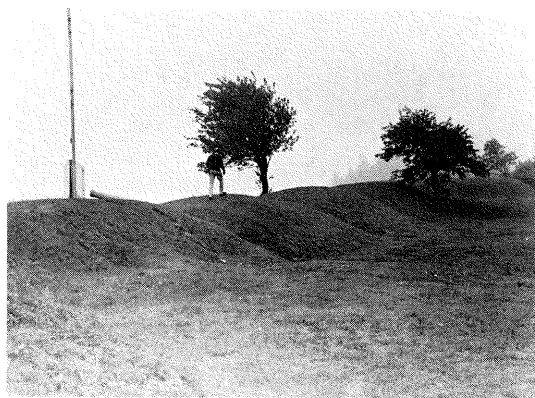
27. *Fort Pownall, blockhouse footings*

The Machias River saw early settlement. In 1633 and again in 1643 English trading posts were established in the vicinity, and a small French settlement thrived for a few years from the 1680's. By the time of the American Revolution Machias was becoming a center for Anglo-American logging operations, and it was this frontier community which was to precipitate the first naval engagement of the war in which the British ship "Margaretta" was captured on June 12, 1775. Anticipating retaliation, the townspeople hastened to build a breastwork on the river under the direction of one Jeremiah O'Brien. The British response was not long in coming when Sir George Collier with four vessels drove the defenders away.

In 1777 the "Eastern Department" was re-organized and Machias became its military headquarters. Fort Machias (or Fort O'Brien, as it has become known) was upgraded by Massachusetts and placed under the command of Col. John Allan of Nova Scotia. Allan was directed to enlist 100 men, a figure increased to 300 later in the year after a damaging English raid. Armament consisted of new muskets for the troops as well as two 9-pounders and one 6-pounder cannon. The fort itself was repaired and strengthened, and barracks were constructed. It was to see no further action during the Revolution, thus succeeding in protection Machias from further English depredations.

Practically nothing is known of Fort O'Brien's construction details, but a survey map drawn in 1864 shows the "site of Old Battery" just to the north of a Civil War battery. This was a crescent-shaped earthwork, clearly visible in the 19th century, which was some 90 feet long and 14 or 15 feet thick.

In 1781 Congress took control of Fort O'Brien: "It is ... RESOLVED, That the Governor and Council of



28. Fort O'Brien, Civil War battery

Massachusetts be, and they hereby are empowered, to complete the company of artillery at the post of Machias, to a number not exceeding sixty-five ... the said company to be under the command of Col. John Allan, and to be raised, clothed, paid and subsisted, as Continental soldiers, at the expense of the United States."

During the British naval offensive of 1814 Fort O'Brien fared less well. In September five men-of-war carrying some 900 regulars descended upon the Machias River and Fort O'Brien, defended by about 100 men, had to be hastily abandoned. Staying a couple of days, the British burned the barracks and removed the guns.

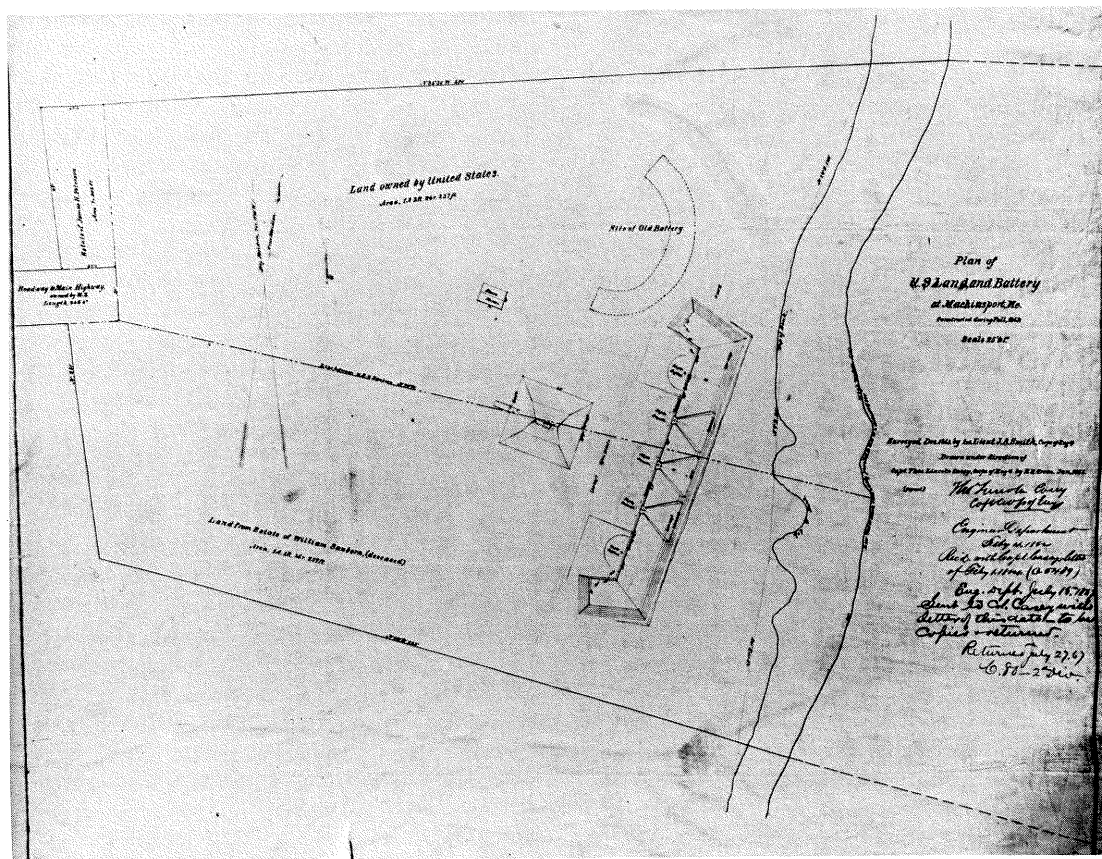
The next (and last) time that Fort O'Brien was activated was in the fall of 1863 when an entirely new battery was constructed, just to the south of the 18th-century fortification. The Civil War was at its height, and there were genuine fears that a Con-

federate raider, such as the notorious "Alabama," might sail up the Machias River and devastate one of eastern Maine's most important towns. Accordingly, a new Fort O'Brien was built from designs by Thomas Lincoln Casey and B.R. Green. A military engineer, Casey was in charge of all Maine fortifications during the Civil War and was later to complete the construction of the Washington Monument.

The fort consisted of the following components. A small gable-roofed store house measuring 14 feet by 10 stood to the north-west. In the center of the complex was a nearly square timber magazine measuring externally 43 feet by just over 39. Excavations by Wendell Hadlock in 1965 indicated that this semi-subterranean structure was built of unhewn logs, varying from eight to twelve inches in diameter, which sheltered an 18 by 12-foot chamber for powder and ammunition storage. The battery itself faced east and was a timber-revetted earthwork about 150 feet long, north to south. This work protected five guns. The three central guns were 32-pounder smoothbores which were mounted at ground level and fired through embrasures 18 feet wide at their mouths. The two other guns, one at each end, were 24-pounder rifled cannon. These seem to have been mounted at a higher level *en barbette*, that is, they fired over the parapet rather than through it.

Fort O'Brien is to this day a prominent earthwork overlooking the Machias River in Machiasport. Its peaceful setting belies the fact that in three American wars fortifications were built and defended here with greater or lesser success to protect one of eastern Maine's major population centers.

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29. Fort O'Brien, plan

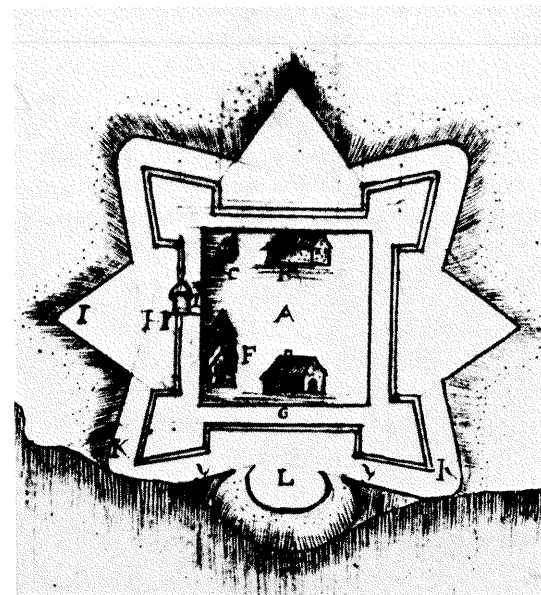
The history of the Town of Castine is long and complex. The first European known to have settled the place was an Englishman by the name of Edward Ashley who established a trading post about 1629. In 1630 the Plymouth Colony took control of Ashley's post, which in due course was destroyed by the

French in 1655. Thereafter Castine, known as Pentagoet, became the most important French settlement in Maine, protected by Fort Pentagoet. . Antiquaries researched this fort and conducted limited excavations on its site in 1891. At the time of writing (1981) Alaric Faulkner of the University of Maine has

uncovered the cobbled parade-ground and substantial remains of the curtain and southwest bastion, constructed of slate from Mayenne, France.

At its height, about 1670, Fort Pentagoet was a square fortification with corner bastions and a seven-pointed outer palisade. Eyewitness descriptions of the time refer to a magazine, guardhouse, chapel, officers' quarters, barracks, and a cookhouse. Clearly, Fort Pentagoet was substantial, a fact that archaeology now and in the years to come is proving.

As French fortunes ebbed during the ensuing Indian Wars, the settlement and fort at Castine had a checkered history. By 1744 France abandoned the small peninsula, never to return.



30. *Fort Pentagoet, plan (1670)*

We have seen how the building of Fort Pownall was a spur to Anglo-American settlement of the upper Penobscot Bay area after 1759. By the 1770's Castine (then known as "Majabigwaduce" and later simply as "Penobscot") had become a small village with outlying sawmills. As a settlement it was as yet insignificant, but it occupied a position of long-standing strategic importance at the head of Penobscot Bay, a position which did not escape the attention of the British in 1779.

On June 17th of that year an English force of 750 men and three sloops of war seized Castine and on July 2nd began the construction of Fort George on a commanding rise in the center of the small peninsula. Just over two weeks later the British learned of an American force assembling in Massachusetts which intended to retake the peninsula and drive the enemy from the Province of Maine. Feverishly strengthening the parapets as time would allow, raising them from a height of five feet to a barely adequate eight, the British regulars under General Francis McLean braced themselves for a difficult test of strength. On July 24th the American force arrived, consisting of some forty-five ships mounting 328 guns and carrying up to 2,000 men.

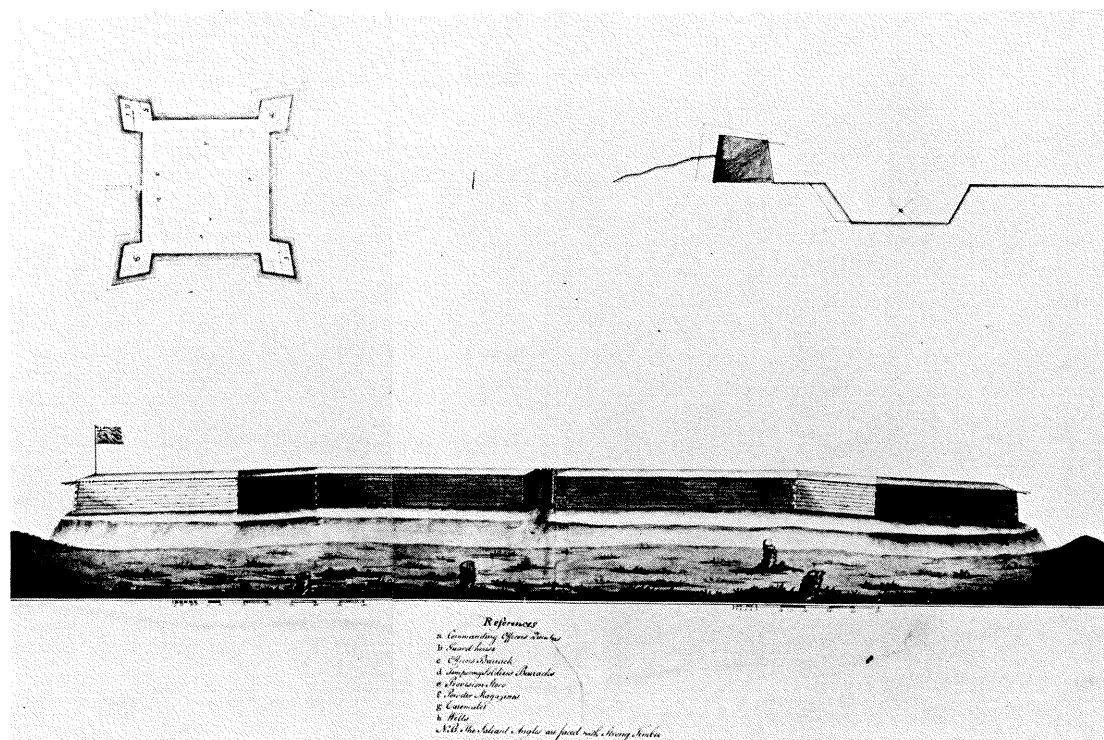
Four days later the American infantry landed and the day after that they began shelling Fort George. Col. Paul Revere, commanding the artillery, carefully scrutinized the fort through a glass: "I could see that it was as high as a man's chin; that it was built of squared logs; was abbetted [sic]"; that they had begun to fraise it round the rampart; that it had two guns mounted which they fired in barbet [sic]."

The British suffered sporadic bombardment over the next few days, but managed to further strengthen

their fort. By the last day of July the fort was firing six cannon, and its ramparts had been made more defensible. How was this possible in the face of such overwhelming superiority? The fact is that American tactics were inept, and the enormous fire power of the Continental fleet was not used to batter the fort into submission. When six British ships sailed up Penobscot Bay on August 14th the American infantry and artillery quickly embarked and the fleet fled northward. In the worst naval disaster in American history, not one vessel survived the action.

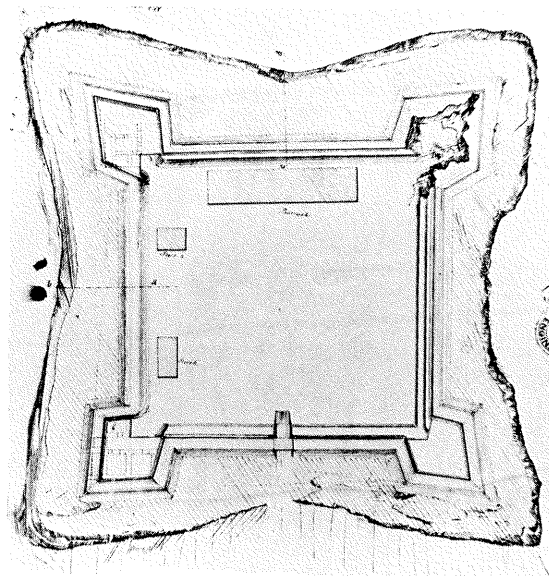
In the following weeks the British quietly worked on the bastions and curtain of Fort George. In October McLean apologetically wrote to Sir Henry Clinton to explain that the fort's construction was behind schedule because of "the interruption caused by the last visit of the rebels." McLean had reason to be contemptuous of his foes.

In the ensuing years the British constantly improved Fort George, augmenting its fire power to eighteen



31. Fort George

cannon, building brick magazines in two of the bastions and raising well-designed rectangular officers' quarters and barracks framing a parade ground. In the words of George Washington the fort became "the most regularly constructed and best finished of any in America." With such fine appointments behind high timber-revetted earthworks, the Americans never again sought its capture. When the British evacuated Castine in January, 1784, they did so in a leisurely way, awaiting American officials who never appeared and burning the fort's buildings in an indignant huff.



32. *Fort George, Plan (1820)*

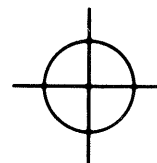


33. *Fort George, earthworks*

When abandoned, Fort George was a square fortification with a timber-revetted curtain 200 feet to the side between four corner bastions of standard "arrowhead" form, all surrounded by a deep ditch. The entrance was in the center of the south side. Suffering normal decay over the following three decades, the fort was further damaged by Castine residents, who quarried the magazines for brick.

In September, 1814 the British returned, hastily reconstructing the ramparts. Following their second and last evacuation a year later, Dr. William Ballard inspected the fort in October, 1815 and had this to say about its magazines and ramparts: "[The magazines] have very much fallen into decay; now are to be discovered broken arches, and passages filled with rubbish. The British have partly cleared and repaired (sic) these ... You here find parapets composed of a mixture of fascines and gravel; also barrels filled with sand, or any kinds of materials at hand."

Decommissioned in 1819, Fort George was never again to be used. The State of Maine acquired the site in 1940, and in 1960 the 100th Maine Legislature provided funds for the Bureau of Parks and Recreation to conduct research and reconstruct one of the magazines. Today the earthworks of Fort George are an impressive memorial to the British presence in two wars and comprise the remains of one of the State's most important colonial forts.



19th Century

As the 18th century closed, the young United States of America found itself in a perilous world. When England and France again went to war against each other in 1793, both countries applied pressure on neutral America. President Washington persuaded Congress in 1794 to authorize the fortification of key harbors as a deterrent to European aggression, and for the next four years America's "First System" of defense was built. The only fort built in Maine at this time was Fort Sumner (1794), erected on Munjoy Hill in Portland as that city's only defense against a sea-borne enemy. Most of the forts of this system were flimsy gun emplacements of earthen construction, sometimes reinforced with stone.

Although the European powers signed the Treaty of Amiens in 1802, a year later they were fighting again. It was inevitable that sooner or later America would be drawn into these overseas conflicts.

* * * * *

With the opening of the 19th century, the United States, with its vast seaboard and miniscule land and sea forces, was a vulnerable target for Britain's Royal Navy, which was eager to avenge defeat in the Revolution, despite being locked into war with Napoleon. By the close of the 19th century, the United States had become a major world power and a match for any of the European countries and their empires. Throughout the century there were almost constant needs for defensive works.

In the summer of 1807, while tracking down deserters, the British frigate *Leopard* attacked the

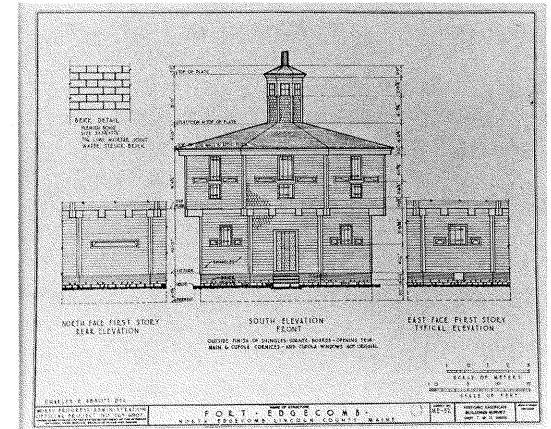
American frigate *Chesapeake* off Virginia. This provocation could have led the United States into the war, but President Jefferson and Congress responded at the end of the year by instituting construction of America's "Second System" of defenses. One million dollars were appropriated for this work, which was supervised in the "Eastern Department" (New England) by Major Joseph Gardner Swift of the Army Corps of Engineers.

In southern Maine, Fort McClary in Kittery was built as a simple battery of stone and earth, while Portland saw comprehensive defenses for the first time; here Fort Preble in South Portland was born as a small stone star fort, and Fort Scammell arose on House Island as a wooden blockhouse behind a brick battery.

Under the direction of Colonel Moses Porter, Maine's central and eastern coast was fortified by seven new forts erected in Phippsburg (Fort Popham), Boothbay (Fort Webber), Castine (Fort Madison), Machias, Eastport (Fort Sullivan), Edgecomb, and St. George. Most of these were simple installations—no more than earthen batteries with or without stone revetments, but several were much more substantial.

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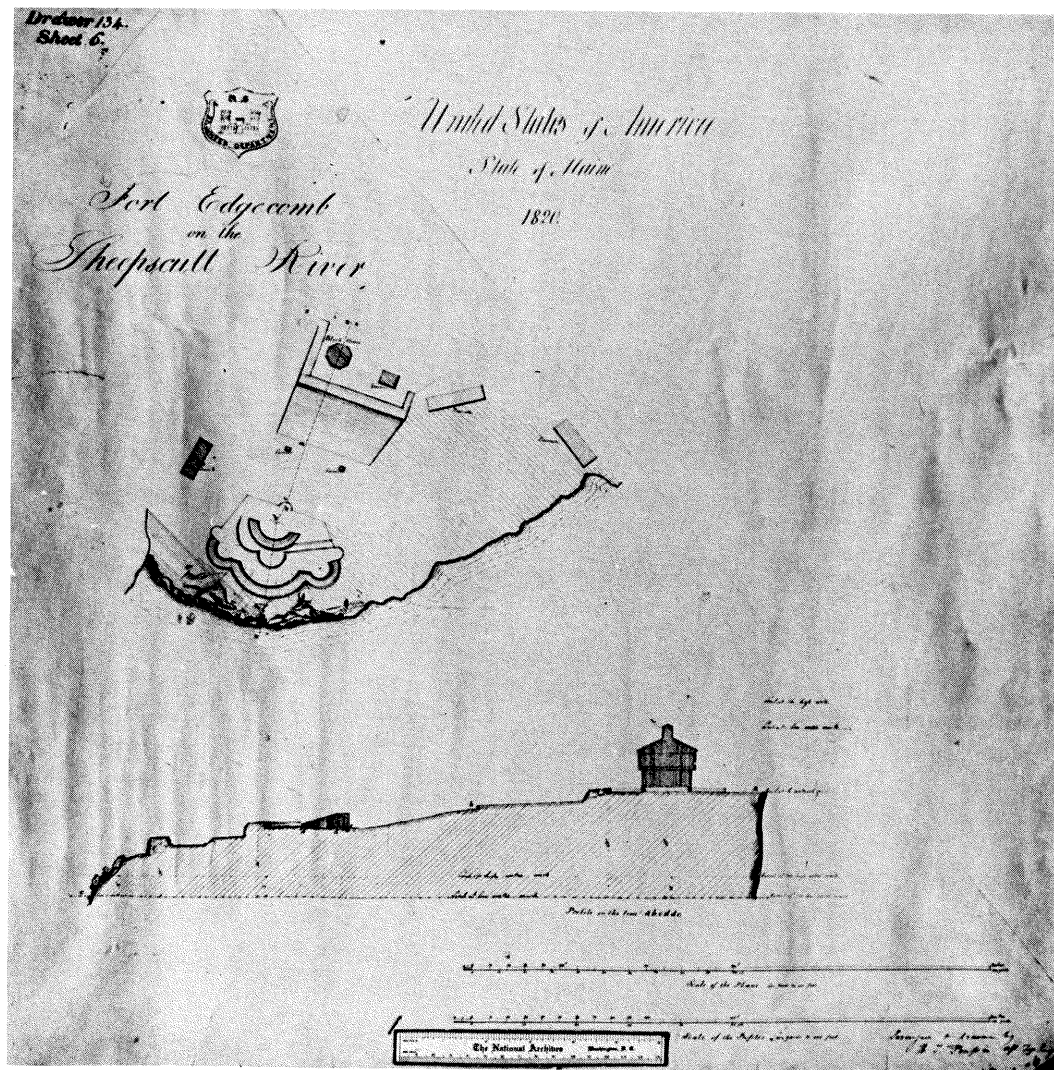
From the river bank to high ground Fort Edgecomb consisted of the following components. A massive stone revetment with twin bastions supported two 18-pounders, meant to provide fire across both the Sheepscot and Back Rivers. A brick magazine with vaulted roof was buried beneath the eastern bastion; this structure measured six by seven feet with a height of seven feet, and it was fitted with a passage



34. Fort Edgecomb blockhouse, elevation

ten feet long and three and a half feet wide. This magazine was completely buried in sand in 1961, since its state of deterioration posed a danger to the public. Above the lower batteries was a crescent-shaped earthwork which protected a single gun, a 50-pound Columbiad. Both of these levels were protected in the rear by a palisade. Scattered about the fort on this second level were a wooden barrack-block and two storehouses as well as a brick bake-house, none of which survives above ground today. Above these buildings was a third level consisting of an earthwork with straight sides which covered two more 18-pounders. Behind these upper gun emplacements was a wooden blockhouse. The visitor today can see this blockhouse, the various levels of earthworks, the stone bastions on the shore, and the reconstructed palisade.

The blockhouse is a remarkable post-and-beam structure of octagonal plan with an overhanging second



35. Fort Edgecomb, plan

story. Its diameter is twenty-seven feet at ground level and thirty feet at the upper level. In height it rises some thirty-four feet to the top of a watch-box which crowns the roof. In both the first and second stories there are horizontal musketry ports and embrasures. Today the blockhouse is shingled; this surface treatment, along with exterior trim and the sash in the watch-box, are late 19th-century modifications. The blockhouse was originally equipped with two carronades.

Commanding an excellent view of Wiscasset Harbor, Fort Edgecomb admirably served its purpose in protecting one of Maine's busiest ports of the early 19th century. Indeed, the only times in which Fort Edgecomb's cannon were fired were on March 4, 1809, when they saluted President Madison's in-



36. Fort Edgecomb blockhouse, detail



37. Fort Edgecomb blockhouse

auguration, and on February 14, 1815, when they signalled news of peace with Britain. It is fortunate that a citizen's group launched a successful fund-drive in the late 19th century to ensure the survival of the blockhouse, because Fort Edgecomb is the best preserved installation of its period in Maine.

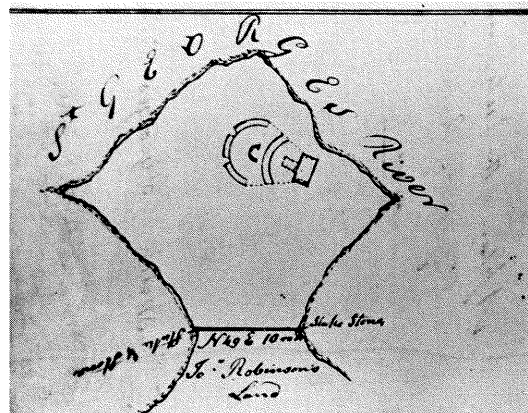
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Another of these forts was built on what is now known as Fort Point in the Town of St. George, south of Thomaston on the St. George River. This defensive work was called, appropriately, Fort St. George's. A survey map of the River drawn by one John Gleason in September, 1808 carries an inset (reproduced here) which gives a rough impression of the fort's plan. When Gleason drew the plan, Fort St. George's was under construction.

The fort was sited to protect another of Maine's important early 19th-century towns, Thomaston; and

the location, with extensive views up and down the river, was well selected. The work was supervised by Captain Thomas Vose of Thomaston, although Colonel Porter was also involved.

Gleason's sketch-plan of Fort St. George's shows a work akin to, but more modest than, Fort Edgecomb. An outer earthwork of semi-circular form contained two emplacements for 18-pounder guns. The plan suggests that these pieces fired through embrasures, but without doubt they were mounted *en barbette*. Behind this outer earthwork are shown two more crescent-shaped features; presumably these were built as emplacements for additional guns. One or possibly two rectangular buildings are also shown with dotted lines indicating palisades running from the rearmost building to the terminals of the outer gun emplacements. Although the plan is unclear, it is known that the fort was equipped with a small blockhouse, magazine, and barracks. As at Edgecomb, the magazine would have been mostly or



38. Fort St. George's, plan

completely underground, which may explain why the plan seems not to show it.

The fort was not garrisoned until America declared war on Great Britain in 1812. A year later, however, this garrison was transferred to another duty, and thereafter Fort St. George's was defended, incredibly, by just one elderly man. When a 74-gun English ship, *Bulwark*, sailed up river in 1814, its crew had no difficulty in landing and spiking the American guns.

Today Fort St. George is an archaeological site overgrown with thick brush. The earthworks are plainly visible, and there are suggestions of at least two cellar holes. Someday archaeological excavations on this site will provide much more evidence of the fort's components than has been forthcoming from traditional documentary sources. Moreover, such a project would document in the ground the fact that a well-designed fort lacking a garrison is no fort at all.

* * * * *

America's "Third System" of defense closely followed the end of the War of 1812, a conflict which was largely an embarrassment to the young country. This system, far more comprehensive and grandiose than its two predecessors, was implemented in stages from the early 1820's through the Civil War and was responsible for a number of Maine's most spectacular defensive works.

The period from 1815 to the beginning of the Civil War in 1861 was one of general prosperity and growth for America and particularly for Maine. It was

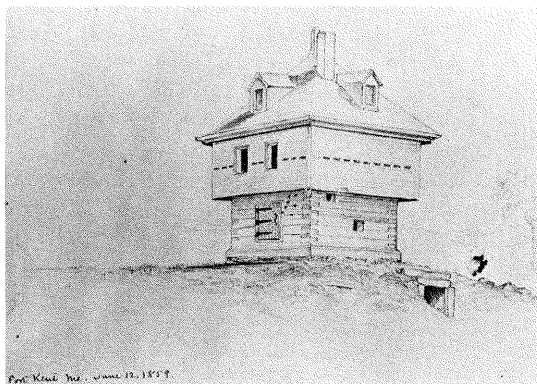
also an era of peace in Europe unprecedented since the height of the Roman Empire. Yet there was a serious military problem unique to Maine.

The 1830's saw the rapid expansion, virtually overnight, of Maine's nationally-important lumber industry and the creation of the City of Bangor. Lumbering operations steadily penetrated northward up the Penobscot River drainage, and in their wake came settlers and entrepreneurs of various sorts. As the decade drew to a close, what is now Aroostook County had become a region of potentially great economic importance for Maine, but there was a northern powder keg awaiting detonation. For a brief, terrifying moment the State of Maine was on the verge of going to war against the British Empire.

What had caused this alarming confrontation? The root cause was the fact that although agreement had been reached with Great Britain on Maine's eastern boundary on the St. Croix (1798) and the Bay of Fundy (1817), resolution of the far northern borders had never been made. At issue was the definition of the "highlands which divide those rivers that empty themselves into the River St. Lawrence from those which fall into the Atlantic Ocean," which was the fuzzy terminology set forth in the Treaty of Paris (1783) ending the American Revolution. Unfortunately, it can be (and was) argued that there are two different ranges of mountains which fit this description: the northeastern terminus of the Appalachians and the Notre Dame Mountains. Britain favored the former and maintained that the boundary was located along a line running through Mars Hill, Mount Katahdin, and the area just north of Moosehead Lake. Maine claimed that the border ran along the ridge of mountains just south of the St. Lawrence River. This simmering dispute would

ultimately lead to high tension once again between Britain and America.

In February, 1839 a Maine land agent was seized by New Brunswick militiamen just east of what is now Houlton, and preparations for a confrontation accelerated. The Maine and New Brunswick militias were mobilized; Congress authorized the raising of 50,000 Federal troops; and Britain dispatched regulars to the enflamed area. Before bloody fighting could erupt, however, President Van Buren sent Major General Winfield Scott to Maine to seek a compromise. Scott managed to keep the troops on both sides in check, and by early spring had negotiated a mutual withdrawal of forces from the disputed area. Subsequently the treaty negotiated by Daniel Webster and Lord Ashburton, signed in 1842, at last established today's borders between Maine and the Canadian provinces of Quebec and New Brunswick. The "Bloodless Aroostook War" had lasted just six weeks, but had it been handled less diplomatically the consequences would have been grim.



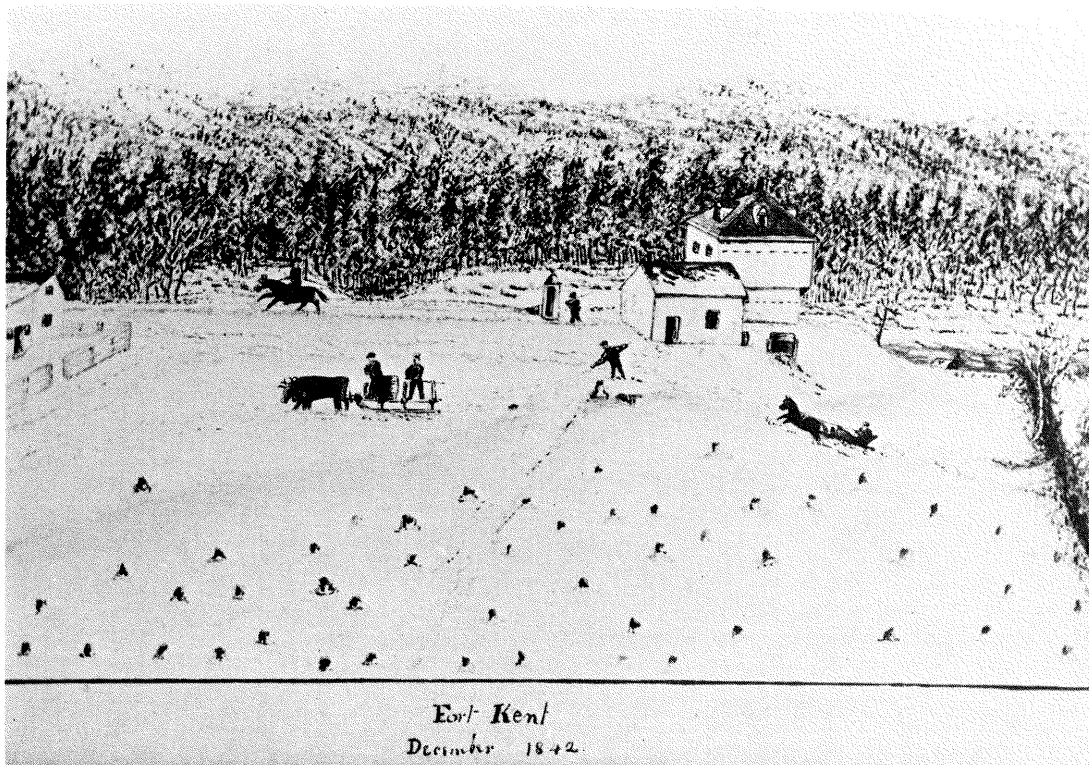
39. Fort Kent, sketch (1859)



40. Fort Kent Blockhouse (1911)

Although two blockhouses were erected at the height of this crisis in what has become known as Fort Fairfield, the only fortification in Maine which survives intact from the "Aroostook War" is the blockhouse at Fort Kent, constructed in 1839 at the confluence of the St. John and Fish Rivers at the northern tip of the state. Built by Maine militia, this blockhouse is of standard form, virtually indistinguishable from its ancestors of a century earlier. It is square in plan, just over twenty-three feet on each side at ground level and about twenty-six feet square at the level of the overhanging second story. A massive door faces west, flanked to either side by four musket ports. Each of the other first-story walls carry twelve ports, while a cannon embrasure is provided in both the north and south walls. In the second story the east and west sides of the blockhouse each contain eleven ports and two embrasures (the latter now fitted with window sash), while the north and south sides are each provided with fifteen ports.

The walls of the blockhouse are constructed of squared cedar logs, of which some are nearly twenty inches square in section. In 1926, when the roof of



41. Fort Kent, sketch (1842)

the blockhouse was reshingled, four gabled dormer windows were removed as being presumably later modifications. However, pen sketches of 1842 and 1859, reproduced here, show that this distinctly un-military feature was indeed original to the fort. It should be borne in mind that militiamen are, after all, civilians. The sketches also show clearly the mine-like entrance to the fort's magazine immediately adjacent to the south side of the blockhouse.

The sketch of 1842 is the only record of Fort Kent's entire complex, which amounted to a small guard-house and barrack-block in addition to the blockhouse and its magazine. This complex has an impromptu look to it, and it is particularly surprising that there is no curtain of any kind enclosing the buildings. The reason for this is that the fort was never completed as a finished installation. When Federal regulars took over garrison duties from the

militia in the fall of 1839, the "war" was over and negotiations for a settlement underway.

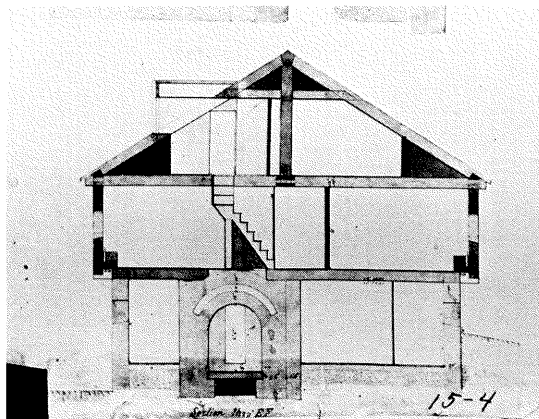
The blockhouse at Fort Kent, a National Historic Landmark, is open to the public as a memorial to a remarkable episode in North American history when Maine nipped at the heels of the mighty British lion and survived. With the steady dilution of states' sovereignty over the past one hundred and fifty years, one can only imagine the reaction of the Pentagon and the State Department today were the State of Alaska to threaten the Soviet Union!



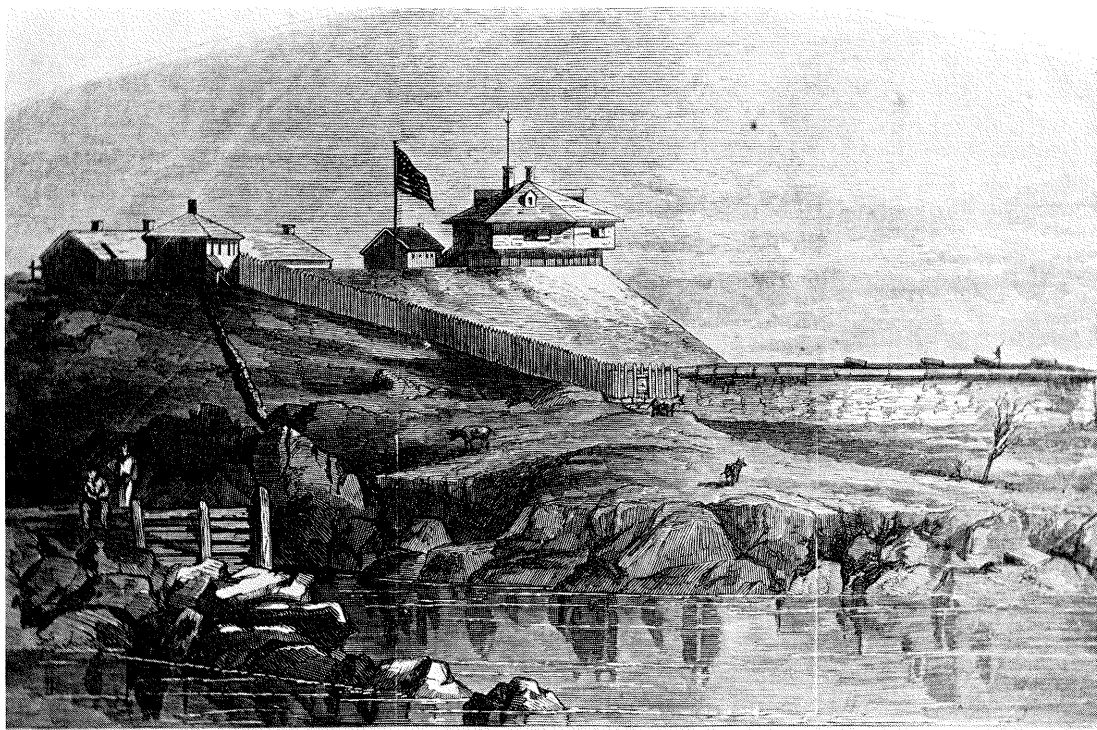
42. Fort Kent blockhouse

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The ground beneath Fort McClary in Kittery has supported fortifications from the colonial period onward. This site, high on a hilltop on Kittery Point, dominates the approaches to the Maine side of the Piscataqua River. Although a number of garrison houses were built in the vicinity during the Indian Wars of the late 17th century, the first true fort rose on this site in 1715. In that year the Massachusetts Assembly voted "That a Breast Work of six guns be erected. . . . in the town of Kittery." What is interesting about this fort is that it was not built to protect the town from the French or Indians, but rather from folks closer at hand: "That it is for his Majesties Services that a Naval Officer be kept in the Port of Kittery to avoid the unreasonable duties or impositions exacted from the inhabitants of this Province passing in and out the said river (the Piscataqua) from the Naval Officer of the Government of New Hampshire." In other words, the guns were meant to encourage New Hampshire officials to treat Massachusetts vessels more fairly.



43. Fort McClary, section



Fort McClary, Kittery, Maine.

44. Fort McClary during Civil War

This fortification, named Fort William, was hastily pressed into service during the Revolution, when in 1776 powder and ammunition for 9- and 12-pounders were provided. As the Royal Navy never attacked Portsmouth and the important shipyard at Kittery, this battery of guns served its purpose.

Renamed Fort McClary for Major Andrew McClary, who lost his life at the Battle of Bunker Hill, this fortification was strengthened in 1808 and completely

rebuilt in the year or two following 1844 because of continued fears of confrontation with the British.

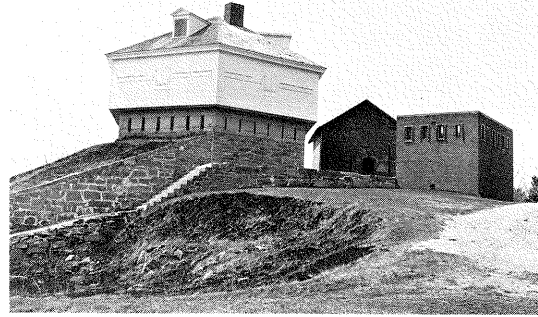
Engineering elevations and sections drawn in 1844 (the latter reproduced here) show in detail the uniquely transitional blockhouse built as the core of the fort. This blockhouse, the last to be built in Maine, is hexagonal in plan, each side measuring eighteen and a half feet in length. The ground floor is pierced with six vertical musket ports on each side,

while in the second story there are a total of six embrasures and twenty-four horizontal musket ports. An attic in the half-story is fitted with three dormer windows for light and ventilation, an unmilitary feature seen elsewhere only at Fort Kent.

Instead of the familiar squared-log construction, the Fort McClary blockhouse is a curious mixture of building materials: the foundation is of mortared field-stone; the first story walls are of cut granite; and the second story is of log construction. What is seen here is the transition in the mid-19th century from earth and timber fortifications to works of stone, a change necessitated by steady advances in the effectiveness of artillery.

During the Civil War Fort McClary was further strengthened by a pentagonal granite curtain which was never completed. In addition, a brick barrack-block, a wooden cook-house with mess-hall, a chapel, hospital, guardhouse, and magazine (all of brick) were constructed, but by 1869 work on the fort had ceased. This historic spot was to see one final episode of fortification in 1898 when the Spanish-American War prompted the installation of three 15-inch guns. In the First World War it was equipped as an observation post.

Today's visitor to Fort McClary can view the blockhouse and uncompleted curtain as well as the magazine and guardhouse. Impressive as these structures are, it is the site's history which challenges the imagination. Rarely has a locality been fortified against so diverse a series of enemies, from New Hampshire tax collectors to Britain's Royal Navy, Confederate raiders, and the Spanish Fleet.



45. Fort McClary

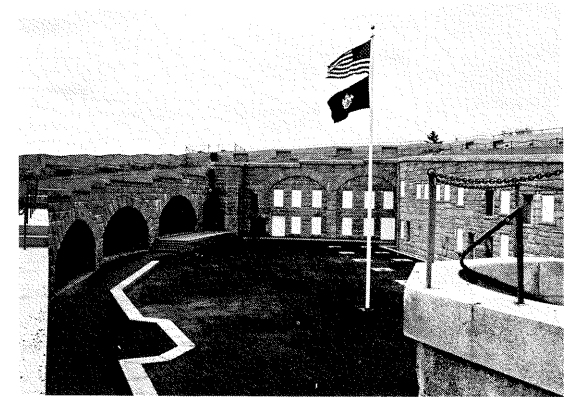
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On the basis of sheer scale, Fort Knox is certainly Maine's most impressive fortification, and indeed is one of the most remarkable forts in America. Recognizing this fact, the United States Department of the Interior has designated Fort Knox as a National Historic Landmark.

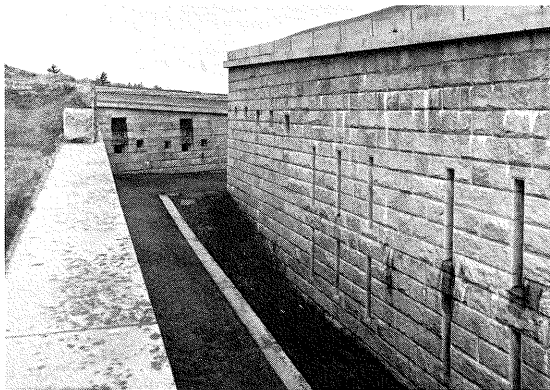
When the disputed northern boundary between Maine and Canada nearly led to conflict between the United States and Britain in the "Aroostook War" of 1839, it was suddenly realized that the booming city of Bangor—in fact the entire Penobscot Valley—was utterly defenseless in the face of naval attack. Indeed, except for some batteries in Castine installed during the War of 1812, among them Fort Madison, the region had lacked defenses ever since the demolition of Fort Pownall in 1775. Although the Webster-Ashburton Treaty of 1842 had resolved the border issue with Great Britain, prominent Maine politicians and the War Department wished to eliminate the clear vulnerability of the Penobscot

River. Between September 1843 and March 1844 nearly 125 acres of land in the Town of Prospect were acquired, and the following summer an enormous granite fort began to rise on the landscape. Twenty years and nearly a million dollars later, Fort Knox was all but finished, and it was a formidable work.

Named in honor of General Henry Knox of Maine, Washington's commander of artillery in the Revolution and America's first Secretary of War, the overall dimensions of Fort Knox are an awesome 350 by 250 feet, including the glacis, dry moat and polygonal fort proper. North and south of the fort are additional batteries for thirty-nine guns. The main fort measures 252 by 146 feet with granite walls twenty feet high and forty feet thick. On the river side these walls contain eight massive vaulted casements for heavy guns which supported additional guns mounted above *en barbette*. The landward sides of the fort would have been murderous to attack. As

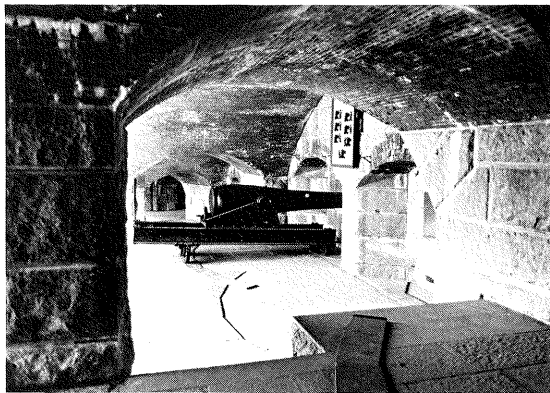


46. Fort Knox, parade ground



47. Fort Knox, dry moat and rifle galleries

attackers clambered up the wide glacis, cannons mounted *en barbette* could find easy targets. Once over the glacis, survivors dropped into the dry moat and looked squarely into the ports of rifle galleries to the front and rear.



48. Fort Knox, casemates

The center of Fort Knox is dominated by a large parade ground, beneath which are several magazines and other bomb-proof stores. Framing the parade ground are officers' quarters, barracks, and stables. In the northeast and southeast corners of the parade ground are granite spiral staircases of remarkable design which provide access to the various levels and the parapet. Such details explain the high cost of this fortification.



49. Fort Knox, spiral stairway

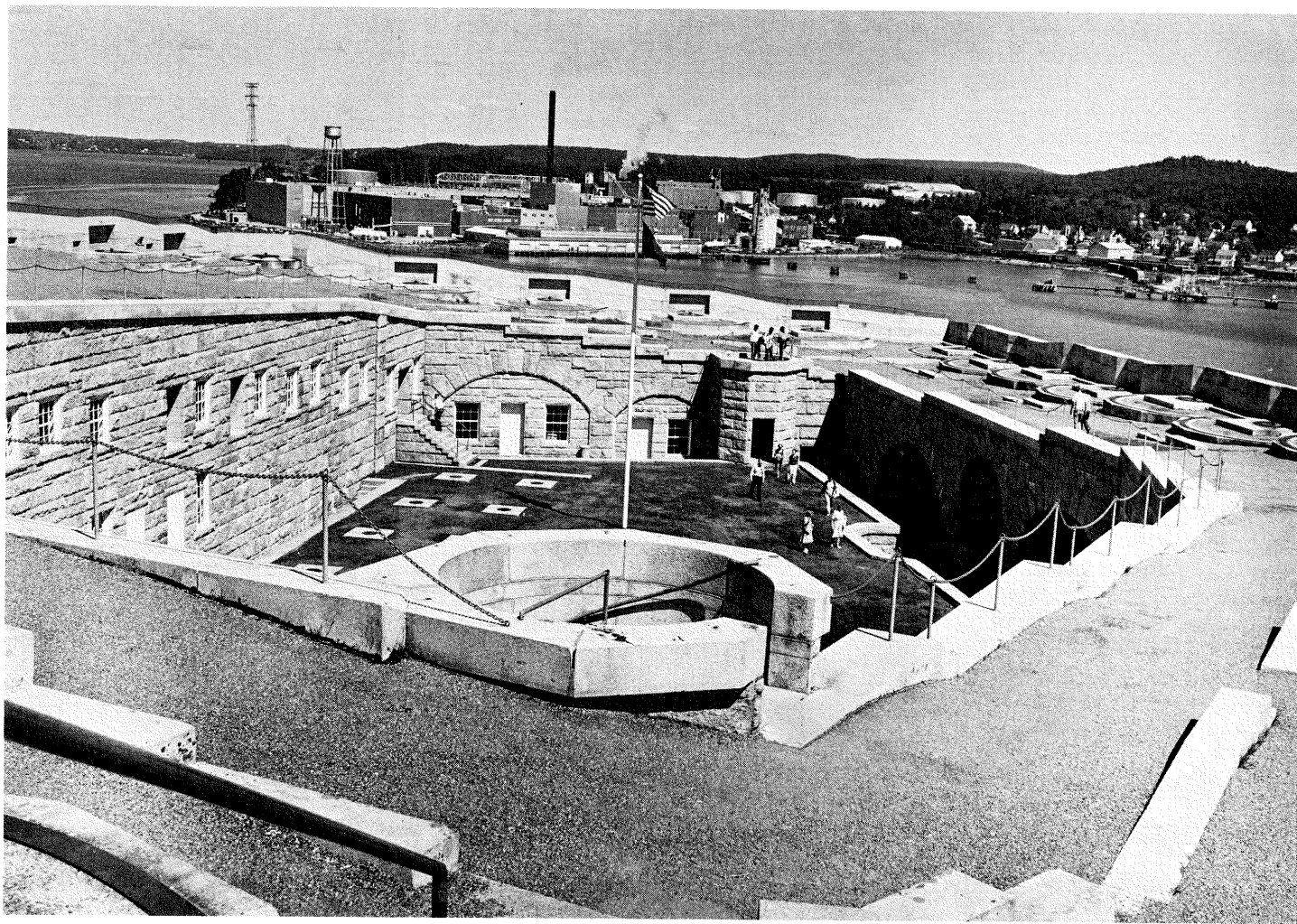


50. Fort Knox, from the south

Built to mount 137 guns, Fort Knox never fired a shot in anger. Garrisoned during the Civil War by fifty Maine volunteers and again in 1898 by a Connecticut regiment of some 350 men, this spectacular defensive work ensured that no enemy warships would ravage the Penobscot Valley communities. Nothing quite like it will ever be built again.

* * * * *

Slowly, very slowly, America's Third System of fortification came into being as the 19th century wore on. In 1861, however, a combination of internal and external threats accelerated this process overnight. The internal threat was the secession of eleven states from the Union and the creation of the Confederate States of America. The external threat was the real possibility, at least until the summer of 1862, that one or more of Europe's great powers would recognize the Confederacy and intervene with mighty naval forces on her side.



51. *Fort Knox*

Shortly after the outbreak of the Civil War, Governor Israel Washburn wrote to President Lincoln, "Should war again occur with any leading European power, Maine must fall at once into the hands of the enemy, unless means of defence are provided." Washburn took pains to point out Portland's strategic significance as one of New England's major harbors, and he noted that "the present forts are of very little, if any, value in defending the city from guns of long range used in modern warfare."

Accordingly, Portland's forts were quickly upgraded. Fort Preble in Cape Elizabeth was greatly enlarged and provided with granite casemates (never completed). Fort Scammell on House Island was also expanded at this time, having been a wooden block-house covered by a brick battery as part of the Second System. The *Portland Transcript* of September 12, 1863 described the engineering feats involved with this work: "We found a force of stone-cutters hammering away upon the granite blocks, which dowelled together with iron bolts, are to form the walls of the bastions. The armament of the Fort will include ... fifteen inch guns. ... These guns, the largest now made in this country, weigh each nearly 50,000 pounds, and throw a round solid shot weighing 480 pounds ... The process of mounting (these guns) is rather slow, one end being hoisted at a time."

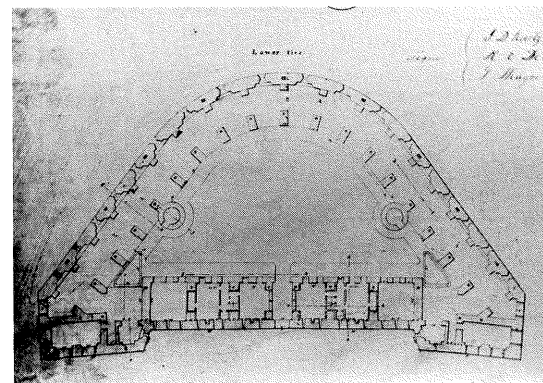
Fort Gorges had begun to rise on Hog Island in 1858, a massive hexagonal work with a double tier of casemates on five of its sides. It was designed in large part by Captain John D. Kurtz, and ironically the principal champion of its construction was Secretary of War Jefferson Davis, who visited Portland in 1858. Three years later Davis was President of the

Confederacy, and must have regretted his enthusiasm for advocating the fortification of such northern ports.

* * * * *

The Second System battery of 1809 in Phippsburg at the mouth of the Kennebec River was hopelessly antiquated by 1857 when the construction of a new fort was finally authorized under the Third System for strategic Hunniwell's Point. Here again the Federal Government's sluggishness is evident, for no work on this fortification began until after the start of the Civil War. Indeed, Fort Popham, named in honor of George Popham of the 1607 colony, was not begun until 1862 when the Union was panicked by the effectiveness of the Confederacy's ironclad *Merrimac*, renamed the *Virginia*. It was all too clear that with the mouth of the Kennebec undefended, the strategic shipyards at Bath as well as the State Capitol in Augusta would be easy prey for hostile naval forces.

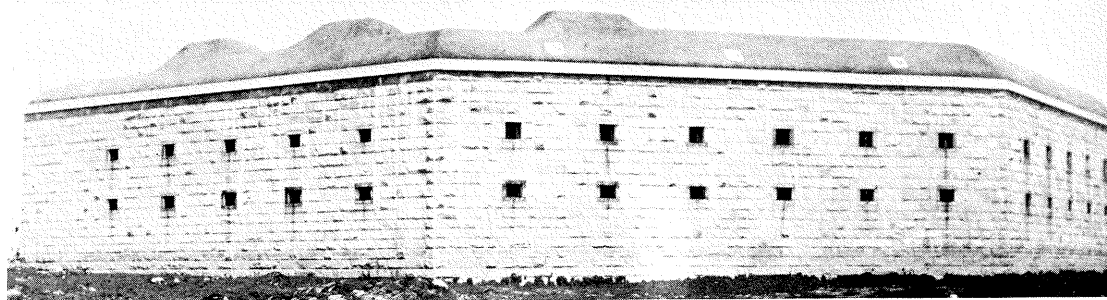
As designed and largely built, Fort Popham is of closed lunette form; that is, it is roughly crescent-shaped with defenses on all sides. In circumference



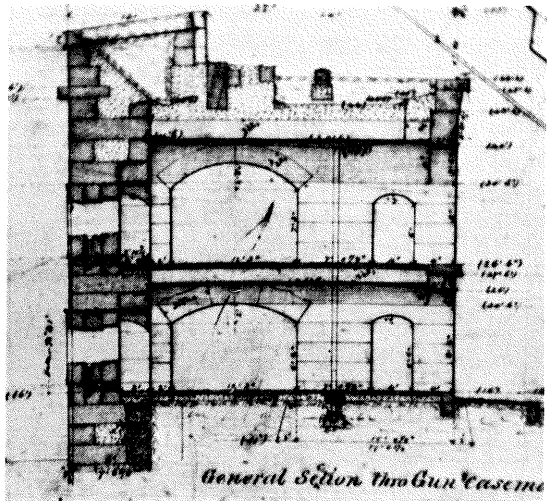
53. Fort Popham, plan

the work measures 500 feet, while the sides facing the river rise to a height of over 30 feet. The walls, as in all of the major Civil War forts, were constructed of massive cut granite blocks which in this case were quarried on nearby Fox and Dix Islands.

Enemy vessels attempting to sail up the Kennebec would have met Fort Popham at a narrow part of the



52. Fort Gorges (c. 1880)



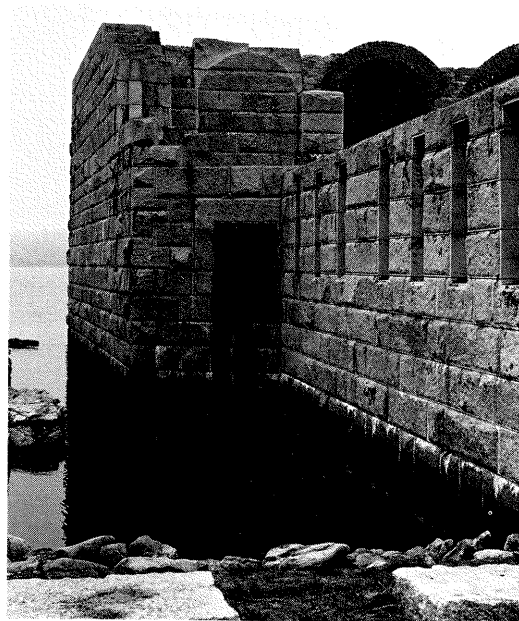
54. Fort Popham, elevation

river and would have faced thirty-six ten- and twelve-inch cannon arranged in two tiers of vaulted casemates. Above the second tier there was to have been an open parapet for additional guns as well as a thick layer of earth to cushion the impact of indirect fire on the fort. This parapet was never finished. Each side facing the river was also provided with smaller casemates for lighter guns as well as musket ports. These were intended to provide fire against landing parties heading for the beaches on either side of Fort Popham.

The rear or landward side of Fort Popham was more lightly defended by a low moated curtain containing twenty musket ports and a central gate. This curtain was recessed slightly to provide flanking fire from a casemate at each of its ends which would have raked attackers attempting to storm the gate. In com-

parison to the water front of the fort, this rear curtain seems very insubstantial, and indeed it is, for original plans called for two stories here. It should be borne in mind, however, that Fort Popham was built as a defense against naval attack. The walls which it presented to wooden warships of the period were more than adequate, while its rear curtain could effectively have dealt with lightly-armed marines attempting a ground attack.

Internally Fort Popham was provided with a spacious parade ground containing two barrack-blocks (which do not survive); great subterranean cisterns to afford a besieged garrison an ample supply of water; and



55. Fort Popham, moat



56. Fort Popham, from the rear

four magazines to provide powder to the fort's maximum of forty-two guns. As at Fort Knox, elaborate spiral staircases gave access to the casemates and parapet from the parade ground.

Work on Fort Popham ceased in 1869 before the fortification was completed. By then the Civil War was a bitter four-year memory, and America was not to be threatened for another generation. When this threat came in 1898, in the form of a much over-rated Spanish Navy, the fort was once again garrisoned. And although for a final time it hosted troops during World War I, it had by then become hopelessly obsolete as the technological advances of naval guns and armament demanded new types of defenses. As will be seen below, the strategic Kennebec River would yet again be fortified, but not by means of a granite fort on Hunniwell's Point.

20th Century

From the mid-19th century on, dramatic advances in naval architecture, armament, and firepower once again demanded great changes in the design of coastal fortifications. For centuries the clumsy wooden warship, powered by sails and firing smooth-bore cannon, was easily checked by the most rudimentary of shore batteries. Almost overnight, however, naval vessels became steam powered, armored, and armed with rifled cannon. What this meant was that the fighting ship suddenly became highly maneuverable, well protected, and capable of delivering devastating fire at long range. Against such machines of war the granite casemated forts of America's Third System were utterly outclassed. The dreadnought was to the man-of-war as the nuclear missile is to the grenade.

As so often in American history, the end of a devastating war led to a political aversion to military spending. In the aftermath of the Civil War defensive works were allowed to decay, and little effort was made to upgrade them to keep pace with technological advances. By 1885, though, Congress was sufficiently alarmed with this state of affairs to appoint the Board of Fortifications and Other Defenses, under Secretary of War William C. Endicott, to study the question and make recommendations. A year later this body made its report, and in 1890 Federal appropriations began to be voted for the construction of up-to-date batteries.

Even so, progress was pathetically slow, and when in 1898 America went to war against Spain the country was yet again panicked by the obvious vulnerability

of its shores to attack by sophisticated warships. It is fortunate that Spain's navy was formidable only on paper. In ten weeks the Spanish-American war was over, and the last gasp of Spain's Empire was heard with the destruction of her fleets in the Philippines and Cuba. Suddenly America was a global power.

For once, the end of a war led to action as the howls of coastal constituents were heard clearly in the halls of Congress. The Endicott Plan, fitfully begun in the

1890's, was intensively implemented following the war, and by 1910 most of the recommended defenses had been erected.

What this meant for Maine was substantial reinforcement of Portland Harbor. Fort Preble was equipped with mortar batteries as well as new 3- and 6- inch guns, and entirely new installations were erected on Cow Island (Fort Lyon), Great Diamond Island (Fort McKinley), Cushing Island (Fort Levett), and



57. Fort Baldwin, Battery Hardman from the rear

Portland Head (Fort Williams). Because Fort Gorges and Fort Scammell could not be redesigned, given their cramped geographical settings, they were converted into storage facilities.

* * * * *

Typical of work of this period is Fort Baldwin in Phippsburg. Begun in 1905, it was essentially completed three years later. We have seen how technological advances had rendered obsolete the tall, granite forts of the mid-19th century. Fort Baldwin thus bears no resemblance to Fort Popham, the installation which it was built to replace. Originally there were two main components to the fort, an administrative area and a series of batteries. While the batteries were located atop Sabino Hill, the administrative area was established just to the north on the flat land of Sabino Head. The latter contained a guardhouse, post headquarters, hospital, bath house, storehouse, two mess halls, a bakery, and two barrack-blocks. These frame buildings were completely dismantled and removed shortly after 1924.

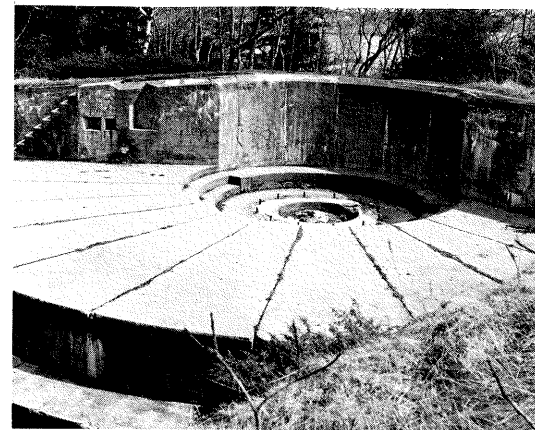
The armament of the fort consisted of three batteries, all of which survive intact. These batteries are of massive concrete construction, built below ground level on their seaward sides and above grade to the rear. To approaching ships the gun emplacements are completely invisible, in keeping with the state of the art of early 20th-century military defenses. The batteries were named and equipped as follows: Patrick Cogan (two 3-inch guns), John Hardman (one 6-inch disappearing gun), and Joseph Hawley (two 6-inch pedestal guns). Cogan and Hardman were officers in the Continental Army during the revolution, while Hawley was an officer in the Union Army during the

Civil War. Contrasting sharply with their grim exteriors, the quarters within the batteries were fitted with ornate brick fireplaces typical of civilian architecture of the period.

Readers may note the relatively small calibers of Fort Baldwin's guns compared with the 12- and 15- inch cannon of the Civil War. The fact is, however, that most of the latter were smooth-bores, while by the early 20th century guns had long been rifled. This development gave improved range, accuracy, and armor-piercing capabilities, thus dramatically increasing effectiveness while reducing calibers.

During World War I two companies of artillerists, about one hundred strong, were stationed at the fort. With the threat of naval attack receding in 1917, however, the gun from the Hardman Battery was sent to France. As the Great War drew to a close, Fort Baldwin was decommissioned; the remaining guns were removed by the Department of the Army in July, 1924; and a few weeks later the State of Maine acquired the fort as an historic site.

One may well ask why a fort built in this century should be considered historically significant. Fort Baldwin is an excellent example of the military architecture of the period, perched on the top of a hill with impressive views of the mouth of the Kennebec River and its islands. If government and the people are committed to preserving and interpreting our military sites, then examples of all periods should be so treated, regardless of age. It is therefore satisfying that Fort Baldwin is held in public trust by the Maine State Bureau of Parks and Recreation.

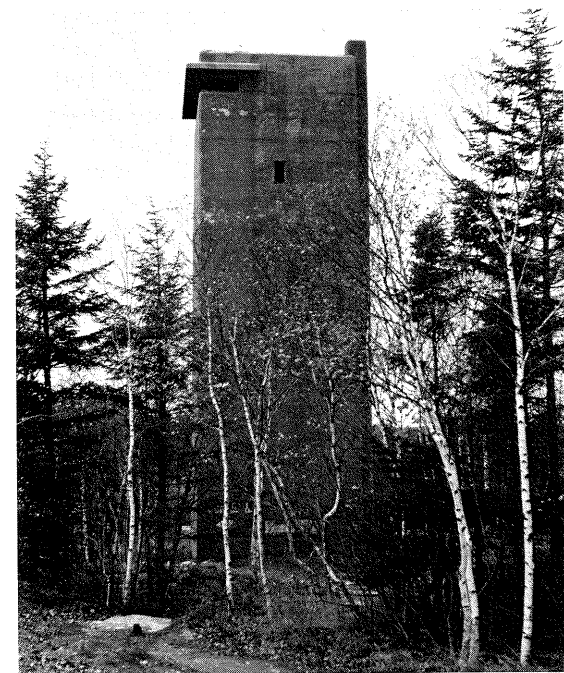


58. Fort Baldwin, 6-inch gun emplacement

The coast of Maine saw one final episode of fortification—possibly the last for all time. In the 1930's it soon became clear that World War I, the "War to End All Wars," had settled nothing. At this time and in the following years batteries in Portland Harbor were built or refitted with rifled guns of 6-, 12-, and 16- inch caliber, supported by dozens of smaller caliber anti-torpedo boat, anti-submarine, and anti-aircraft guns, weapons designed to parry the attacks of the last great vessels of conventional warfare, capital ships and aircraft carriers. A battery of two 16-inch guns was located on Peaks Island. Three batteries, each carrying two 6-inch long-range guns, were established at Cape Elizabeth, Peaks Island, and Jewell Island. Extensive networks of search-lights, submarine nets, and electrically-detonated mines supported these guns, designed to close all of the channels into Portland Harbor.

As World War II raged across the earth in 1942, strange concrete towers began to rise on strategic

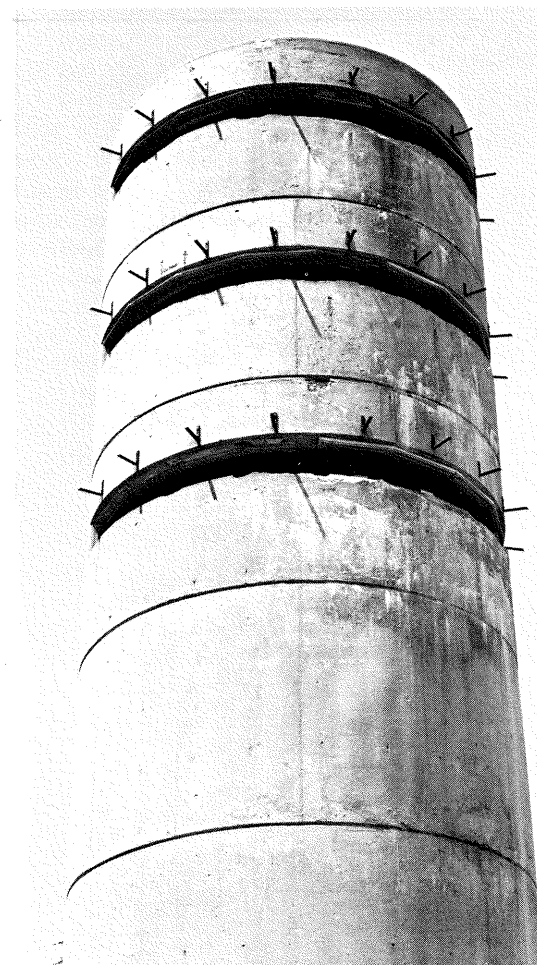
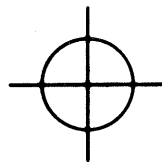
headlands up and down the coast. Fine examples of these can be seen in Two Lights State Park at Cape Elizabeth and on the grounds of Fort Baldwin. These were built as fire control towers to enable observers from various vantage points to report visual target locations. These locations were instantly and precisely plotted by triangulation, enabling the giant coast defense guns (with a range of up to twenty-six miles) to find a target with ease. The system was wide-ranging. Supported by four 155-mm batteries built in 1941, Fort Baldwin's tower (1942), operated with a companion at Cape Porpoise (1943), some forty-two miles distant, to co-ordinate the fire of Battery



59. Fort Baldwin, fire-control tower

Steele's 16-inch guns located on Peaks Island in Portland Harbor.

Sophisticated as this system of defenses may have been, it could never have thwarted a determined attack. It is therefore fortunate that none of the Axis Powers possessed the industrial strength to mount an invasion of the American mainland. The rise of mushroom clouds over Japan in August, 1945 not only signalled the end of another war—it signalled the end of the long history of coastal fortifications. As the 20th century matures and closes, the pressing of a button could erase Portland, Augusta, or Bangor in minutes. No batteries, no matter how strong, can prevent such an attack. The historic contest between defensive fortifications and offensive guns has been translated into a modern contest between nuclear missiles of greater and greater accuracy and force. The late 20th century is a period of abandoned forts, computerized early-warning systems, and fortified embassies.



60. Two Lights State Park, fire-control tower, detail

Final Notes

In September, 1924, Governor Percival P. Baxter wrote, "The preservation of historical sites within our State is a matter of importance both to present and future generations. . . . A people that preserves the history of its past has a background for its future . . . When I learned that the United States Government was to dispose of some of its old forts located in the State of Maine I immediately took steps to acquire them in behalf of the State. . . . In the years to come the people of our State will be grateful that the properties were acquired in the public interest. Their historical and sentimental value cannot be overestimated."

And so the State of Maine found itself in possession of seven forts to add to the site of Forts William Henry and Frederick in Bristol. In the following years several more were to be acquired in the public trust, such that today there are ten historic memorials commemorating forts and another half-dozen military sites under State control.

At the time that Governor Baxter vastly expanded Maine's role as an owner of forts, he requested that the State Librarian, Henry E. Dunnack, prepare a book on the history of the state-owned forts. Dunnack's staff at the State Library labored hard combing through documentary sources relating to these sites and in addition collected concise data on most known forts which were then organized into a gazetteer. The product of this research was a book entitled *Maine Forts*, published by the State of Maine in 1924.

The publication now before you is not intended to be a new edition or revision of Dunnack's pioneering work. *The Forts of Maine* is not to be confused with *Maine Forts*, for there are fundamental differences between the two publications. Dunnack's work contains much valuable information, and it can still be viewed as the bible in its field. Yet it was prepared with great speed and is often uneven in its detail; there are a few inaccuracies; and many of the illustrations are less than useful.

This new publication, while highlighting the forts owned by the State of Maine, refers to many others in order to place the state-owned properties in a wider context. Historical events, domestic and foreign, are cited to explain the reasons why, where, and when forts were built in Maine. Technological developments in arms are dealt with in order to provide a focus on why a fort was stockaded, presented high granite walls, or was buried underground in reinforced concrete. The illustrations for this booklet, most of them never before published, have been carefully selected to balance historic and modern views of the various sites.

Since the 1960's much archaeological excavation has been conducted on a number of these forts, giving us detailed evidence of construction and physical plant unavailable to researchers in the 1920's. This booklet has digested these archaeological data and presented them in a concise form for the reader approaching the subject for the first time.

Some readers may wonder why the garrison houses of the 17th and early 18th centuries receive little, if any, mention in this booklet. It is important to know that most such buildings were nothing more than

residential buildings, sometimes fortified, sometimes not, which were designated within each community as places of refuge and as deployment points for the local militia. They were not forts.

It should be stressed that this publication is a booklet, not a book; that it is a survey, not an exhaustive study. To deal with the forts of Maine in the minute detail which they deserve would take many volumes. This study is meant to provide the reader with a compact examination of the subject from which he can proceed in many directions with the sources listed below.

An essential direction for the reader to take, however, is to visit the many forts of Maine, whether as a resident or a visitor to this state. No words can replace a climb to the top of Fort William Henry's great bastion to view the excavated ruins of two colonial forts. Reading this booklet will only hint at the historical atmosphere of walking along the dark rifle galleries of Fort Knox. No photographs can provide the sense of history when seeing the long evolution of military works in the Popham area of Phippsburg, dating from the very beginnings of colonization in 1607 to the darkest days of World War II. The forts administered by the Maine State Bureau of Parks and Recreation uniquely evoke the evolution of Maine as a colony and a state.

For military architecture, though sometimes grim, is always fascinating. Its presence or absence in a given locality at a given time tells us two things: the importance of the place and the climate of the times. By these measures Maine has played an important role in the history of North America, and between 1607 and 1945 things have not been peaceful.

Glossary

Abattis. A barrier of sharpened tree branches surrounding a fort.

Bailey. The outer part of a castle protected by walls which were the first line of defense.

(En) Barbette. Refers to a cannon mounted such that it fires over a wall, rather than through an embrasure.

Bastion. A defensive work attached to, but projecting beyond the line of the curtain.

Battery. A group of cannon behind a defensive work.

Bomb-shell. A cannon projectile designed to explode after a certain interval or on impact.

Breastwork. See *Parapet*.

Carronade. A short-range, light cannon of large caliber.

Casemate. A vaulted space within a rampart from which a cannon fires through an embrasure.

Columbiad. A heavy, smooth-bore cannon developed during the War of 1812.

Curtain. The outer wall of a fortification from which project bastions and other defenses.

Embrasure. An aperture in a wall through which a cannon can fire.

Fascines. Bundled sticks used to revet an earthen embankment or fill in defensive ditches.

Flanker. A defensive work at either end of a fortification or a projection from a work which provides raking fire.

Fraise. A horizontal (projecting) line of pickets at the top of a wall to impede an enemy attempting to take a fortification by storm.

Glacis. A gently-sloping bank outside of a ditch over which an enemy must pass, being fully exposed to gunfire from the walls of the fortification.

Keep. The heart of a castle or fort, usually a free-standing, defensible building.

Magazine. A storeroom, often underground, for gunpowder.

Moat. A wet or dry defensive ditch outside the curtain of a fortification.

Ordnance. Cannon or artillery pieces.

Outwork. A free-standing defensive work built beyond the curtain or main line of a fortification.

Palisade. A line of vertical posts set above or within a ditch as a simple curtain.

Parapet. An earthen bank on top of a fort's rampart, synonymous with *Breastwork*.

Port. An aperture in a wall through which guns may fire.

Redoubt. A stronghold of any kind.

Revetment. Earth or stone reinforcement to the sides of an earthen parapet or ditch.

Sally-Port. A small opening in a curtain allowing defending troops to make rapid, small-scale counter-attacks.

Star Fort. A fortification with multiple pointed bastions creating a plan of star shape.

Stockade. A line of vertical posts set into the ground as a simple curtain; see also *Palisade*.

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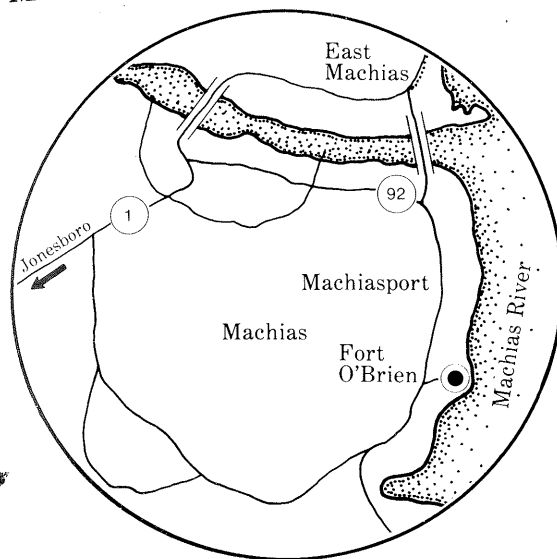
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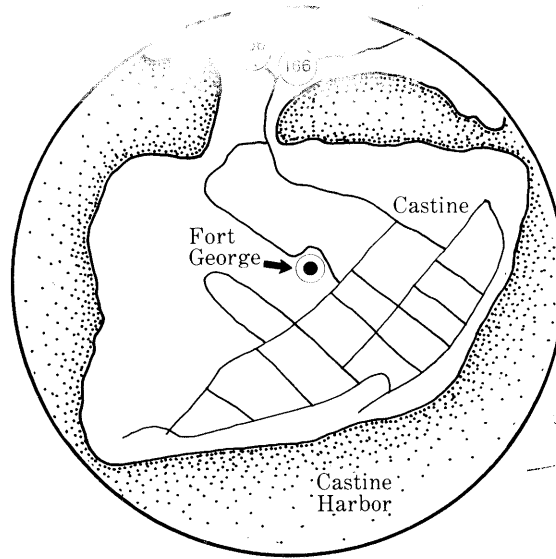
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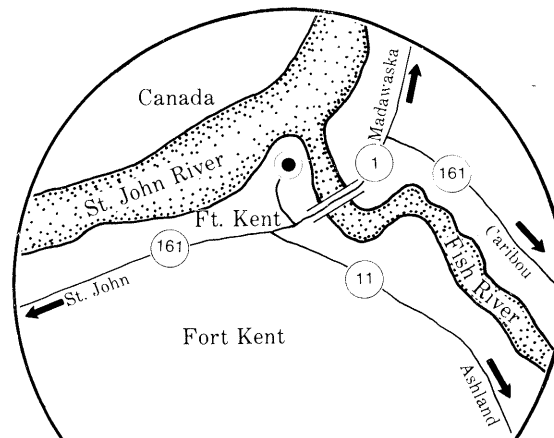
Fort O'Brien
Machiasport



Fort George
Castine

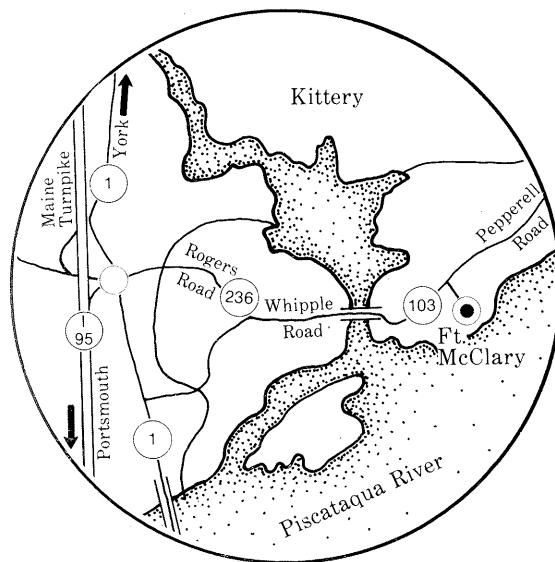


Fort Kent
Fort Kent

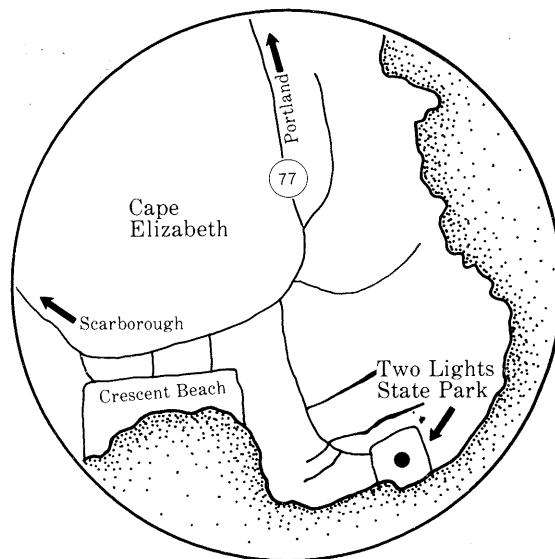


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