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A STUDY OF FORT ST. JOSEPH

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A Study of Fort St. Joseph
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Abstract

Fort St. Joseph on St. Joseph's Island near Sault Ste. Marie, Ontario, was excavated during the summers of 1963 and 1964 by the University of Toronto. The project was sponsored by the Department of Indian and Northern Affairs. During the two field seasons the locations of the major structures of the fort were identified. These include the blockhouse, the old bakery, the guardhouse and the stores building, the new bakery, the powder magazine, all four bastions, the curtain walls, the water-gate with its associated ravelin, and the land-gate. The ravelin associated with the land-gate and a problematical chimney structure were investigated. The ground plans and dimensions of each of these structures were determined; a high degree of correlation obtained between the documentary and the actual measurements.

Detailed information has been obtained about the construction of foundation trenches, footings, foundation walls and oven and chimney foundations. The nature of both palisade and bastion support-beam constructions has been recorded. In many instances, the position of floor levels and supporting beams was ascertained. It has been confirmed that roofs were sheeted with metal and that windows were glazed.

A total of 20,000 artifacts was retrieved, including items of a military, constructional, personal and domestic function. These artifacts, as well as the structural information obtained during excavation and historical
documentation, have been used to recreate the life and culture of the fort during the early 1800s.

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Abrégé

Les ruines du fort St-Joseph se trouvent sur une colline de l'île St-Joseph près de Sault-Sainte-Marie (Ontario) et elles dominent le chenal sud de la rivière Sainte-Marie. Le présent rapport décrit les fouilles archéologiques faites à cet endroit durant les étés 1963 et 1964 et tente de reconstituer l'histoire du fort, de même que la vie et la culture des gens qui y ont vécu au début du XIXe siècle.

Au début des travaux archéologiques, les plans du fort aidèrent à situer et à identifier les bâtiments et à établir un plan de fouilles (Lambart 1963). A cet égard, les plans de Ross (1925), de Durnford (1823), de Dubeger (1800) et le plan PL4278, Mann (s.d.) du British Museum se révélèrent les plus utiles et les plus précis. Quant aux plans de Bartley (1925), de Molesworth (1853-1854) et de Renwick (1852), ils se montrèrent inférieurs aux premiers. Les photographies aériennes furent également d'un certain secours. Cependant, comme il s'avéra souvent assez difficile de repérer au sol ce que montraient clairement les photos aériennes et les plans, nous avons brûlé le gazon à certains endroits pour faire apparaître la configuration des bâtiments et des éléments structureux, ce qui facilita le travail de fouille.

De manière générale, nous avons d'abord fouillé les éléments structureux les plus évidents. Les vestiges de quatre ouvrages présentaient des murs de pierre encore debut qui atteignaient dix pieds de hauteur. Ces murs furent soigneusement enregistrés au moyen de notes de fouille, de cartes, de descriptions, de dessins et de photographies. La
fouille débuta par l'ouverture d'une tranchée de sondage dans le secteur de la courtine nord-est. Nous voulions ainsi repérer la courtine et savoir ce qui en restait. Après avoir trouvé les quatre courtines, nous avons attaqué les fondations évidentes du fortin. Enfin, nous avons entrepris simultanément la fouille d'éléments structuraux moins évidents et des angles des bastions. En même temps, nous avons tenté de repérer les autres éléments structuraux au moyen de tranchées de sondage. Nous avons établi un quadrillage standard aux fins de références et un dossier complet de la fouille - dessins, notes et photographies - qui a été déposé au ministère des Affaires indiennes et du Nord.

La fouille a révélé l'emplacement des principaux bâtiments du fort. Il s'agit du fortin, de l'ancienne boulangerie, du corps-de-garde, du bâtiment des provisions, de la nouvelle boulangerie, de la poudrière, des quatre bastions, des courtines, de l'entrée côté eau avec son ravelin et de l'entrée côté terre. Nous avons fait des découvertes peu dignes de foi sur le ravelin associé à l'entrée côté terre et avons étudié une cheminée problématique. Les plans dressés et les dimensions notées de tous ces ouvrages révèlèrent la très grande exactitude des documents historiques.


La fouille a livré un total de 20,000 artefacts
témoignant de la vie militaire, des matériaux de construction et des articles personnels et ménagers.

Outre les techniques de construction, la fouille a également fourni un grand nombre de preuves de la destruction du fort par les flammes, plus particulièrement des preuves de l'incendie de la boulangerie et du fortin. Les fouilles n'ont pas été très fructueuses en raison des grands ravages des incendies notamment celui de 1814 et des bouleversements du site par bulldozer en 1948. Nous avons donc été contraints de nous fier aux documents et aux données comparatives obtenues d'autres forts anglais de la même époque approximativement.

Les élévations faites par Duberger, une aquarelle du lieutenant Walsh et les affirmations assez précises du capitaine Bruyères sur les dimensions (particulièrement les hauteurs) des bâtiments nous ont été très précieuses. Outre ces descriptions verbales et ces dessins, nous nous sommes inspirés des ouvrages restaurés du fort George et des ouvrages encore debout du fort York pour nous représenter l'aspect des constructions. La grande uniformité des plans et des techniques de construction des fort anglais du début du XVIIIe siècle nous autorisait, avons-nous cru, à procéder de cette façon.

Le fort St-Joseph n'a jamais connu la solidité et la complexité des forts George et York. Le terreplein, la banquette, la place d'armes et les plateformes à canon des bastions (sauf peut-être dans les bastions sud et ouest) n'ont pas été achevés. Le fort n'a jamais eu la réputation d'être un fort résistant et facile à défendre. Malgré la faiblesse défensive que lui attribue l'opinion moderne, sans s'appuyer sur des faits faut-il préciser, le fort St-Joseph servit au logement et au maintien de la garnison qui protégea les pelletteries et la population indienne. Il servit également de rendez-vous commercial et, à l'heure de
l'offensive décisive de juillet 1812, il fut la base d'où on lança l'attaque réussie sur le fort Michilimackinac. Ainsi, il joua un rôle militaire important dans le maintien de l'intégrité nécessaire de la frontière internationale dans la région des Grands lacs et, partant, contribua véritablement à l'évolution du Canada à titre de nation.
Acknowledgements

Since its inception in 1963, the program of archaeological investigation and subsequent analysis which is recorded herein has required the essential co-operation and assistance of many individuals and institutions.

We have benefitted greatly from the advice and guidance of those in whose hands lay the final responsibilities of administration of the project. Specialists in many areas generously made available to us their detailed knowledge and competence acquired through long years of study; while others gave us the necessary stimulation and encouragement in all phases of fieldwork, analysis and reporting. Countless mundane and routine tasks requiring patience and perseverance almost beyond the call of duty were cheerfully undertaken by a roster of individuals too long to be included here. To all of these people, we acknowledge a deep and genuine debt of gratitude.

We must here acknowledge our indebtedness to the Department of Indian and Northern Affairs which not only sponsored the project, but provided us with very adequate field equipment and the broad assistance of their specialists whenever such help was required. The staff of the National Historic Parks and Sites Branch, Parks Canada, was at all times completely co-operative.

For their encouragement and unfailing co-operation we are grateful to both the past and the present chairman of the Department of Anthropology of the University of Toronto. The late Dr. T.F. McIlwraith took a keen interest in the
project in its early stages and his successor, Dr. Tom McFeat, placed considerable departmental research space, facilities and resources at our disposal as well as showed an intellectual concern with our work that has always been inspiring.

To the 40 or 50 students who made up our crews during the two seasons of excavation, and to the many among them who assisted as well in the laboratory work during the winter seasons, we extend our thanks. We hope that the experience of participating in this project has given each of them a measure of healthful living, good companionship and an expanded knowledge of archaeology. Mr. William Hunter of Lakefield and Mr. Peter Carruthers of Toronto, graduates of the University of Toronto, served ably as foremen during the two seasons. During the 1963 season, Mr. D. Hakas, University of Toronto, served as photographer and made architectural drawings of the standing masonry. Mr. Paul Hamilton, University of Toronto, acted in this capacity in 1964 and contributed much valuable survey and map work.

During the excavation phase of the project, we received important assistance from local residents. The Algoma Steel Company very kindly provided our vehicle during the 1963 season. The island residents gave us a warm welcome at all times and extended many a helping hand. The late Dr. William Wallace of the Classics Department, University College, University of Toronto, whose family have been summer residents of the island for several generations, was a kind and interested host to our entire crew during both digging seasons. Mr. Glyn Smith of Hilton Beach was always generous in sharing with us his depth of knowledge of the history of the island for which we are much in his debt, as well as for his kind hospitality and for the valuable photographs taken in the 1920s of the powder magazine ruins and of the chimney that now bears the designating plaque.
Mr. and Mrs. Louis Adcock of St. Joseph Island extended their hospitality and shared with us a knowledge of the history of the fort which only their lifelong association with it could make possible. We are grateful to them also for the collection of artifacts they turned over to us which they had assembled over many years.

We are pleased to express our appreciation also to Mr. and Mrs. Kent of Kentvale for their unfailing kindness and interest and their assistance with problems of the commissariat. Mr. Lloyd Cane of St. Joseph Island, superintendent of the site, made our work easier in more ways than we can count and we are very grateful for his constant thoughtfulness. Our thanks are also due to the St. Joseph Island Historical Society for their welcome and encouragement.

In the analytical phase of our project, we were very fortunate in the help we received from a number of specialists. Others generously submitted data which is imbedded within the text.

We are indebted to Dr. James Swauger of the Carnegie Museum, Pittsburgh, for his report upon a sample of ceramic bricks. With regard to nails, we have had the benefit of the advice of Mr. H.J. Calverly of Richmond Hill who provided us with the evaluation that all the nails we retrieved were handwrought, an opinion that gave us our first sense of security. In this same connection, we acknowledge with gratitude the contribution of Mr. Allan Dove of the Steel Company of Canada, Hamilton, whose authoritative paper on nails added much to our knowledge of that subject. Miss Urve Linnamae, graduate assistant, identified the metal artifacts and gun parts and, together with Miss Sonia Kuryliw, student assistant, prepared the analysis of the nail samples from which our typology emerged.

Mrs. Rosamond Moate Vanderburgh of the Department of
Anthropology, University of Toronto, Scarborough College, analyzed the ceramic fragments from Fort St. Joseph. Mr. Ronald Whate of Peterborough undertook the tedious task of reconstructing the collection of ceramic vessels found under the land-gate of the fort.

In the identification of animal bones, we had the very expert assistance of Dr. H.J. Savage, Research Associate in Ornithology of the Royal Ontario Museum, who gave prompt and meticulous attention to the specimens we submitted to him. Drs. R. Peterson, B. Scott, E.J. Crossman and John Barlow and Mr. James Baillie, all of the Royal Ontario Museum, consulted freely with Dr. Savage in the work of identifying animal bones. Mr. John Guilday of the Carnegie Museum was our final authority in the determination of a doubtful fragment as a domestic chicken, for which help we wish to express our thanks. Mr. Harry Lumsden, Southern Ontario Research Centre, Department of Lands and Forests at Maple, Ontario, was also very helpful in the identification of some of the more puzzling avian specimens.

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In identifying our rather limited series of gun parts, we were fortunate to have the assistance of Mr. James Gooding then of the National Historic Parks and Sites Branch, Department of Indian and Northern Affairs. The glass objects were examined by Mr. Gerald Stevens, Research Associate, Canadiana Galleries of the Royal Ontario Museum, and Mrs. J.D. Robinson, and we are grateful to them for
their expert help.

Mr. David Lee of the National Historic Parks and Sites Branch undertook research upon the wider historical aspects of Fort St. Joseph and Miss H. Lambart performed specific research in connection with documents relating to the fort. Our grateful thanks are due to them both for work that helped us to develop our total approach to this report.

We acknowledge also the thoughtful analysis of the defensive works prepared by Mr. Allan Tyska, student assistant, Department of Anthropology, University of Toronto.

In connection with the actual production of the report, we are indebted to many individuals. Mr. John Glover, photographer, Faculty of Arts and Science, University of Toronto, prepared the plates of artifacts and prints of field photographs and of line drawings as well as documents. We are deeply grateful not only for his superb photographic work but also for his infinite patience in bearing with our seemingly endless demands. Mr. Donald MacLeod, then of the National Museum of Canada, and Miss Joyce Kleinfelder deserve great credit for the line drawings and artistic illustration which we consider add so much to the clarity of the report. Mr. John Reid, Technician of the Anthropology Department, University of Toronto, coped with the control of materials, equipment and research facilities with a degree of patience and efficiency that greatly facilitated our work.

We owe an especial debt to Miss Vandra Ward, graduate of the University of Toronto, who shouldered virtually the whole burden of responsibility for co-ordinating the production of the report, including footnoting, document control, bibliography and pagination and who, at any given moment was ready to research necessary data for insertion in the text. Miss Ward's efficiency, wit and patience were
outstanding.

Finally, we owe a substantial debt to Mrs. Ethel Meade who typed the manuscript. As a graduate in English, she cheerfully and unflaggingly translated our archaeological "jargon" into English, as well as coping with innumerable emergencies and an ever-haunting deadline.
Introduction

On a windswept hill overlooking the South Channel of the St. Mary's River stand the ruins of Fort St. Joseph. The hill is located on St. Joseph's Island near Sault Ste. Marie, Ontario. These ruins were investigated archaeologically during the summers of 1963 and 1964 by the University of Toronto. In the pages which follow, we seek to construct something of the history, life and culture at the fort in the early years of the 19th century.

Recreating life and culture at the fort proved to be a challenging task. It was first necessary to shed our stereotyped ideas as to what a fort should be like. This stereotype conjured up a picture of a nearly impregnable fortress with menacing cannon projecting from the bastions. We could imagine the roar, the smoke and the flame as shot rained down upon the unwelcome intruder. The blockhouse would stand prominent, strong, and central, enclosed by a rugged picket palisade. Inside the fort there would be a bustle of military activity upon the parade square. The changing of the guard and the firing of the sunset gun would be important daily events. The flag of England would fly proudly above this outpost of empire. However, as we immersed ourselves in the archaeological and historical data, such a picture never emerged as a reality.

It became apparent that there was no one single Fort St. Joseph. In fact, we felt that we were seeking to recreate a fort which never actually existed. Yet the ruins were there, and the accumulated historical and
archaeological evidence testified to the fact that such a fort had existed.

Gradually the realization came that we were dealing not with an entity, a fort, but with a process - the process of a fort coming into being, developing, taking form, being burned, decaying and becoming a ruin. This was the reality which had to be grasped, not our stereotype of what might have been. The realization of this has done much to determine the approach and format of this report.

The fort was in a constant state of change throughout the period of its existence. Accordingly, it was considered more realistic to approach the data from a direct historical or chronological point of view and to trace its development year by year as revealed by the historical documents available to us. Such documents, then, dictated the order and organization of the topics discussed. In turn, each topic was expanded in the light of both the archaeological evidence and in some cases, in terms of a broad historical understanding of events which were taking place upon a grand scale in the New World and which had their impact upon life at Fort St. Joseph.

As a topic, such as the fur trade, or a structure, such as the blockhouse, was encountered for the first time in our documents, we pursued that particular topic or structure to a point of appropriate completion, even though its development spanned a number of years. In this way, we did deviate from a strict chronological approach. Also as a given topic was introduced, we considered our information in relation to the artifact material which was associated with it and drew what inferences we could from such associations; thus, artifacts are mentioned only when they cast light upon the understanding of a given structure or feature. For example, we are able to infer that in the blockhouse, the construction of the upper chimneys consisted of rectangular
red brick. Thus the data of history and archaeology were integrated as far as possible. Sometimes there was confirming evidence, sometimes conflict; sometimes the particular evidence had to stand alone. But in general the result was a deeper and more comprehensive picture and understanding of Fort St. Joseph.

The excavation of Fort St. Joseph was the first experience of the Department of Anthropology of the University of Toronto in the field of full-fledged "historic archaeology." We found the experience both salutary and rewarding. It was new, different, and challenging.
Method of Study and Analysis

This report must be considered a beginning rather than a complete study. It would be unrealistic to consider that the whole story of Fort St. Joseph could be pieced together by two seasons' excavation and the amount of historical documentary research and analysis done to date; however, the broad outline is blocked out and in a number of cases, quite detailed information has come to light.

It must be emphasized that the competence of the writers of this report lies in the field of archaeology, not history. We are largely dependent upon the National Historic Parks and Sites Branch, Department of Indian and Northern Affairs, for the historical documents and the abstracts of documents contained in this report.

The National Historic Parks and Sites Branch provided us with a series of some 70 abstracted documents, 13 maps or plans, and a 6-page summary of this data which have been utilized generally throughout the text (Lambart 1963). The Branch also presented us with an historical summary (Lee 1966). We have used all of these documents freely.

The Glossary of Military Terms Used in Fortifications prepared by Mr. Steven Sheridan of the National Historic Parks and Sites Branch was of particular assistance to us (Sheridan 1963). As archaeologists much more at home in the prehistoric and Indian field, we found ourselves often at a loss to name the structures encountered.

In the initial phases of our work, the ground plans of the fort proved to be a boon in the location and naming of
buildings and in selecting them for excavation (Lambart 1963). The plans of Ross 1925, Durnford 1823, Duberger 1800, and British Museum Pl4278, Mann (n.d.) were the most useful and accurate in this respect. The plans of Bartley 1925, Molesworth 1853-54, and Renwick 1852 (alphabetical order) were of more dubious value. Aerial photographs were also helpful. Features which appeared on maps and aerial photographs were often not so clearly evident from the ground. A technique of burning off the grass in such areas was used and the contours of buildings and structures became more visible, facilitating their excavation.

Archaeological investigation in general began with the most obvious structures. Four structures still maintained standing masonry with walls as high as 10 feet. These were recorded in detail, mapped, described, diagrammed and photographed. Excavation was begun by running a test trench through the area of the northeast curtain. This testing was done in order to locate the curtain and determine what sort of evidence for this structure still remained. When all four curtains had been located, the obvious foundations of the blockhouse were attacked. Finally, concurrent work proceeded on smaller, less obvious structures and in the angles of the bastions. As excavation proceeded upon these structures, a search was made by test trenching for the less obvious features. A standard grid system was established for reference purposes and records kept which now form a copious series of documents of a graphic, written and photographic nature, on file with the Department of Indian and Northern Affairs.

The site was gridded in 100-ft. square sections on an arbitrary base line which was at a 45-degree angle east of true north, each section bearing a series of co-ordinates. Co-ordinates for one 100-ft. section consist of the letters from A to K inclusive (excluding I) placed along the
northeast/southwest axis and any 10 numerals in sequence between 1 and 170 along the northwest/southeast axis. The 100-ft. sections are not in consistent order numerically since they are numbered in the order of excavation. If occasion demanded excavation of a smaller unit than 10 ft. square, then this area was quartered and bore the 10-ft. unit designation (e.g., F116) with each quadrant being designated by lower case letters indicating the true compass direction (e.g., F116n, F116s, F116e, F116w). The pickets for designation were placed at the south corners of the squares.

A major exception to this grid system occurred in the excavation of the blockhouse and bakery. Here a grid of 5-ft. squares was imposed, oriented to true north. The bakery had numbers 3 - 9 on the north/south axis and lower case letters c - l (excluding i) on the east/west axis. The blockhouse had numbers 10 - 20 on the north/south axis and letters e - q on the east/west axis. The pickets for designation were located at the southeast corners of the squares.

It should be noted that these letters and numbers designate areas, not lines, of the grid.

Operation numbers were assigned as follows:

Op. 1 The blockhouse
Op. 2 The guardhouse
Op. 3 The stores building
Op. 4 The old bakery
Op. 5a Northeast curtain
  5b Southeast curtain
  5c Southwest curtain
  5d Northwest curtain
  5e North bastion
  5f East bastion
  5g South bastion
During the two seasons, 10,000 sq. ft. out of a total area of 93,000 sq. ft. of the fort were investigated. Much of our knowledge had to be gained by the strategic placement of test squares and structures extrapolated from the evidence revealed. This was particularly true of the investigation of such features as the bastions, the palisade and the redan.

No single building or structural feature was completely excavated. The most detailed structural information comes from the blockhouse, the old bakery, and the guardhouse where intensive work was done. Over 18,000 artifacts were recovered from various parts of the fort and these provided many contextual clues which contribute to our analysis.

This report is based upon the preliminary and final reports of the 1963 and 1964 excavations which themselves amount to some 200 pages of documentation on file with the Department of Indian and Northern Affairs. In these reports a systematic presentation was followed: there was first a summary of the documented historical evidence for a given structure or feature; second, a detailed report on the archaeological structural features, and finally, an evaluation and synthesis of the two.

Artifact analysis was carried out in the laboratories at the University of Toronto during the fall of 1964, 1965 and the spring of 1966. Categories of material were submitted to various specialists in the historic
archaeological field for comment, advice, and analysis.

Once again, we do not consider that the last bit of information has been abstracted from the artifact analysis. It is to be hoped, however, that what has been done will serve as a solid beginning and a stimulus to further research upon this material, now stored with the National Historic Parks and Sites Branch.

The words "social life" and "culture" deserve some comment in the context of Fort St. Joseph. Archaeologists, again, are traditionally asked and expected to recreate the social life and culture of the sites they investigate. Such a task is not simple. The problem is one of inference; but the problem of abstracting ideas about social life and culture is much greater than that connected with forming conclusions about buildings and other structures. If, as we know both archaeologically and historically, Fort St. Joseph was burned, it is not a profound but certainly a justifiable inference that this event was related to social activity which involved war. Or again, if we encounter gaps in the timetable of the construction program, we may infer either a lack of materials or apathy in pursuing the work. But we must emphasize that our statement of social life must, at best, be fragmentary and incomplete.

Finally, the problem of "culture" is even greater. As used by anthropologists, the term refers to the basic values held in common by a particular society. Such information is difficult to obtain at the best of times, even from living, extant societies. The problem is aggravated when one deals with societies archaeologically or historically. However, here we follow the lead of Walter Taylor (1948) who considers artifacts to be the material "objectifications of culture" and capable of providing useful and valuable information about the values of the people involved. The recovery of delicate, black basalt Wedgwood-type wares in
this rugged outpost of empire gives the investigator, for example, pause to think. Many such objectifications of culture have aided our construction of the culture of Fort St. Joseph.

Not only the artifacts themselves, but the location and interrelationships existing between them can be instructive by studying what Taylor calls the "cultural context" by means of the "conjunctive approach" (Taylor 1948). Such conjunctive analysis has, for example, allowed us to give a much more detailed picture of the origin, intensity, and results of the bakery fire than was encountered in the historical records.
The Pre-Fort Era, 1778-96

The first available references relate St. Joseph Island to the fur trade. A license was issued in 1778 at Quebec to Jean Baptiste Rousseau to operate in the Michilimackinac area (Bayliss and Bayliss 1938). The early history of Fort St. Joseph is closely interwoven with that of Fort Michilimackinac. In fact, the subsequent saga of the fort can only be understood in the light of events which occurred at the latter fort.

The chronicle of Fort Michilimackinac begins in the early 1700s when the French crown considered its establishment (Wisconsin Historical Collections 1890-1911, 14: 9-10). In 1671, the straits area of Michilimackinac, established by Father Jacques Marquette, S.J. as the mission station at St. Ignace, was occupied by Jesuit Fathers, French coureurs de bois and Indians (Compton's Encyclopedia 1955, 9: 229). These preferred the comparative safety of the straits area and refused to move to the Detroit settlement newly founded by the Sieur de la Mothe Cadillac (Maxwell and Binford 1961: 9). The French carried on a subversive trade in beaver skins. In 1701, Cadillac withdrew from Michilimackinac. In the meantime, a flourishing establishment had become entrenched at Michilimackinac which, by 1720, included a fort, mission and trader's house. Between 1720 and 1760, it expanded and developed into a very considerable settlement under the French regime (Maxwell and Binford 1961: 10, 12).

On 9 September 1760, the French governor Vaudreuil,
forced to capitulate to the superior forces of the British General Amherst, surrendered Fort Michilimackinac (Michigan Pioneer and Historical Collections 1899, 19: 28). The terms were lenient and many of the French soldiers and inhabitants continued to live at Michilimackinac.

British troops occupied the fort on 28 September 1761 (Wisconsin Historical Collections 1890-1911, 1: 25). In June 1763, part of the British garrison was massacred by Chippewas. Apart from this setback, the settlement generally developed and prospered. John Askin wrote in 1778 that it had grown to impressive size. There were more than 100 houses in the suburbs of the fort, some of them "tolerably good" (Askin 1928, 1: 69). In 1778, Askin's own estate could only be described as "magnificent" (May 1963).

Lieutenant Governor Patrick Sinclair took over civil and later military command of the fort, and between October 1779 and the fall of 1781, he moved the entire establishment to Mackinac Island (May 1963: 16). Sinclair, like others before him, was very critical of the location and defensive position of the fort upon the mainland. For several decades thereafter Fort Michilimackinac was to play an important part in the military and economic life of the area. In a very real sense, St. Joseph Island was to fall under its protective wing.

Lieutenant Governor Sinclair, in a letter to Captain Brehm, Michilimackinac, 12 May 1781, wrote that Etienne Campion very fortunately was at the post of St. Joseph to repel the first attack of the villagers from the Illinois. His business called him to Michilimackinac when the second attack was made and the traders plundered the fort (Canada, Public Archives [hereafter cited as PAC], MG21, G2, 98B, pp. 38-9).

Governor Haldimand, in a letter to Lieutenant Governor Sinclair, Quebec, 31 May 1781, wrote that Sinclair must use his own judgement about permitting traders to go to St.
Joseph and that the traders must be protected by the Indians they were serving (PAC, MG21, G2, 98B, p. 46).

The names of Jean Baptiste Rousseau and Etienne Campion are, in a sense, just names that have come down to us through historical accident. Both, however, seem to have existed on the fringe of organized society which characterized that at Michilimackinac. Quite probably they fall under the rubric of French "free traders."

When Canada came under British rule in 1763, one might naively have thought that the British-French struggle for the fur trade would come to an end. The charter granted to the Hudson's Bay Company in 1670 creating the "Governor and Company of Adventurers of England, trading into Hudson's Bay" should have been decisive. But one had to reckon with the Rousseaus and the Campions, some 2,000 woods-runners, the coureurs de bois, voyageurs, and the survivors of the French fur trade. These men roved the wild "Up Country" and were skilled in the ways of the wilderness. They knew every stick, stone, river, chute and portage from Quebec to the Rockies. Such men were at loose ends when Canada came under British rule. Moreover, they were ready and willing to hire out their skills to merchants or to anyone who desired to travel in the wilderness (Compton's Encyclopedia 1955, 5: 324). In this sense free, they and their loyalties lay where the trade was lucrative.

It would appear that this was the breed of men who first left their imprint upon St. Joseph Island and here developed the first trading posts. They had to fight for themselves and to depend upon their Indian allies. Not yet sufficiently important to be "within the pale," they could expect no military protection from Governor Haldimand. Their influence, however, spread far beyond the precincts of the fort. Dr. Clark, in discussing an earlier period of social unrest similar to that of the time of Fort St.
Joseph, says, "The opening up of a new frontier of individual economic enterprise associated with the fur trade... introduced far-reaching problems of social disorganization which extended back into the rural community" (Clark 1962: 24). As far as New France was concerned, "there developed as a result [of adventurers' tales] a romantic picture of the coureurs-de-bois which stirred the imaginations of the sons of every habitant and seigneur in the colony" (Clark 1962: 25). Moreover, "Through their contacts with the Indians, and because of their extreme mobility, the coureurs de bois came to constitute a distinct social group in which conformity to collective ways of thought was maintained by group loyalties....In such places as Michilimackinac, Green Bay, and Detroit,...social disorganization was wholly confined to the Indian society. But the influence of the fur traders inevitably reached back into the settled community" (Clark 1962: 27). Although the frontier society discussed above is that of New France around 1700, it could be argued that Fort St. Joseph was part of a similar frontier expansion a century later. Certainly such men as McGillivray and Mackenzie worked within a code of behavior not held by the settled society, and formed an enclave of fur traders which was not integrated into either Indian, French, British, military, or civilian society.

Harmon, who visited Fort St. Joseph on 28 May 1800, reported that a North West Company post had been at St. Joseph in 1783 (Harmon 1957: 18, n.).

With the coming of the North West Company to St. Joseph Island, the post and the developing fort became a contributing factor in the most murderous, wicked era ever known in all the fur trade in North America. It was part of a no-man's-land and beyond the reach of the law. The "Nor'westers" were more than ready to compete with the
"Gentlemen Adventurers" of the Hudson's Bay Company. Made up of men often unscrupulous and cruel, the North West Company nurtured a pride of footloose voyageurs who drifted back to Quebec and Montreal. It fattened canny Scottish merchants such as the McGillivrays, McTavishes, Mackenzies, MacLeods and MacGregors, small merchants and peddlars with an eye for profit, who in 20 years built up vast fortunes. Great names in Canadian history – Sir Alexander Mackenzie, Simon Fraser, and David Thompson – were numbered among this collection of rogues and heroes. In a combat to the death, the Nor'westers countered with post for post those built by the Hudson's Bay Company (Compton's Encyclopedia 1955, 5: 324).

While this increasingly violent struggle for the fur trade was developing, other events of great moment were taking place which were to effect the developments on St. Joseph Island. The declaration of American independence on 4 July 1776 and the following five years of war terminating in American victory in 1781 culminated in the Treaty of Paris in 1783. By this treaty, all territories south of the Great Lakes were awarded to the new American republic. As a consequence, forts Niagara, Detroit, and Michilimackinac were to be evacuated by the British. St. Joseph was envisioned as the ultimate replacement for Fort Michilimackinac. The Americans retained the old French fort as a counter threat. The British, however, were in no hurry to evacuate their posts held within American territory, and on St. Joseph Island the tenor of life changed only imperceptibly (Lee 1966: 1).

In 1784, Governor Frederick Haldimand ordered the commanding officer at Michilimackinac to reconnoitre the north shore of Lake Huron to choose a site suitable for a frontier fort (PAC, MG21, G2, 98B, p. 246 ff.). The commandant, Captain Daniel Robertson, suggested that a
location at the mouth of the Thessalon River would be an advantageous one. This recommendation was shelved as the British delayed evacuation of their posts in American territory (Lee 1966: 1). Captain Robertson also visited St. Joseph Island and was not impressed with it as a potential site.

We explored the southeastern part of the island, where we found some remains of an old French building (supposed to be a storehouse) but the foundation is now quite covered with shrubs and brambles...from this I visited the southwest end which I found equally attended with disadvantages (PAC, MG21, G2, 98B, p. 256).

It is interesting to note that Captain Robertson reports only French ruins at this time. Inferences are, then, that men such as Rousseau and Campion, and the North West Company post reported by Harmon as existent in 1783, had moved to a new location.

The Mackinac Company, which came into existence about 1785 (Wallace 1934: 9) had no immediate effect upon St. Joseph Island, but it was later to build and become part of the community forming there.

The historical information upon St. Joseph is sparse and somewhat vague from 1784, when Captain Robertson stressed its disadvantages, until 1792. On this latter date, Lieutenant John Humphrey recommended to Lieutenant Governor John Graves Simcoe an alternative for the establishment at Michilimackinac. A new fort should be built on St. Joseph Island which was on the direct canoe and shipping route from Upper Canada to Lake Superior (Simcoe 1923-26, 1: 115).

It would appear that about the same time the military was pondering the new location, the fur trading companies
were already active on St. Joseph Island.

The earliest permanent settlement in this immediate region was probably the fur post of the North West Company, which was built at the foot of St. Joseph's Island in 1792. Its original foundations can still be seen (Smith 1950: 5).

In 1792 the North West Co. built an establishment for constructing canoes for the interior (Voorhis 1930: 155).

The building activity of the North West Company indicates that the merchants of Michilimackinac had seen the merit of the location. Once their choice had been made, Lieutenant Governor Simcoe (1794) felt that they needed military protection. (See Simcoe to the Committee of the Privy Council for Trade and Plantations, 20 Dec. 1794; Simcoe 1923-26, 1: 226-29.)

In the same year, Jay's Treaty was signed, under the terms of which the British agreed to abandon their forts and posts still held in the "North-Western Territory" by 1 June 1796 (Compton's Encyclopedia 1955, 7: 328). Events which followed upon this treaty moved amicably and still slowly. The Americans promised to handle Loyalist claims more judiciously and in the meantime also agreed to allow British merchants to continue trading south of the Great Lakes.

A little less than a month and a half before the terminal date for Jay's Treaty, the decision approved by Lieutenant Governor Simcoe in 1794 invoked direct action. Lord Dorchester's communication to the Duke of Portland, 16 April 1796, clearly outlined the future role of Fort St. Joseph.

Lord Dorchester indicated the island was to be reconnoitred with a view to forming

within our Frontier a Rendezvous for the Indian
Traders (returning with Furs from their wintering grounds round Lake Michigan and near the Mississippi) where they meet the merchants or their Agents from Lower Canada, discharge past credits with their Peltries and receive a fresh supply of goods for the ensuing winter; this commerce has hitherto been carried on at Michilimackinac during the whole month of June, at which time about eight hundred persons are thus assembled, besides Indians of various Tribes who resort to the Rendezvous for presents, or for news and sometimes to make Peace under the King's protection (Simcoe 1923-26, 4: 246).

A few days earlier, communications indicated that men were sent to establish a base camp in the spring of 1796. (See George Beckwith to William Doyle, 11 April 1796; Simcoe 1923-26, 4: 243-4.) Action followed fairly quickly. Lieutenant Foster, who was sent to occupy the island, reported to his commandant at Michilimackinac on 5 June 1796:

The place we have fixed on for building our huts is on a little eminence close to the shore about ten feet above the level of the lake, and two hundred yards east of an old French entrenchment...about half a mile east of this spot is a small hill about eighteen minutes walk from the shore, and which Mr. Bryce thinks a very proper place for a fort, it being the highest ground by far of any near it (Bayliss and Bayliss 1938: 23-4).

Thus the decision to develop a "rendezvous" had been made. (It may be that "rendezvous" was used as a circumlocution to avoid the term "fort." This latter word
may have been an unpalatable one in those uneasy days of the 18th century.) The area had been reconnoitred and a base camp established.

The British flag was first hoisted at Fort St. Joseph in 1796, when the British post at Mackinaw was transferred to the jurisdiction of the United States by mutual agreement. The fact of this transfer is found in the following extract of a report from Thomas Duggan, clerk and Indian agent at the post of Mackinaw, to Joseph Chew, secretary for Indian affairs at Montreal. It is dated at Mackinac, 14 June 1796, and reads as follows:

'Lieutenant Foster has gone to the island of St. Joseph with a sergeant, a corporal and twelve men. They are building huts there for their present convenience. Captain Brice, of the Royal Engineers, is exploring the country and surveying a site for the post, but I am fearful that if we evacuate this post this year, according to orders, it will be late in the fall. I am afraid our winter quarters there will not be very agreeable. The amount of stores for removal will amount to about £1,400 [pounds] sterling, exclusive of rum and tobacco for the Indians' (Wooley 1926: 7).

Before embarking upon a description of the building of the fort itself, some comment is necessary on the community which grew up around the fort and at times seriously impinged on it.

It has been mentioned previously that construction was begun in 1792 by the North West Company. On 22 March 1798, McTavish, Frobisher and Company wrote to Captain Drummond, commandant at St. Joseph, upon advice of the military secretary, to apply for building lots near the fort. They requested that two lots be set aside.
Those on each side of the neck of land next the swamp would suit us best - there is a little sandy bay that would be very convenient for loading and unloading canoes. We understand the lots are only 60' in front, which would be too small for our purpose and having a lot on each side of the point, would enable canoes to unload on one side when it blows hard on the other (PAC, MG19, Bl, p. 3).

In the summer of 1798, the following persons were building near the fort: Captain Lamothe, Thomas Duggan, Charles Langlade, Mr. Birkett and Mr. Chauvin. In addition to these, preparations to build were being carried out by the North West Company, John Ogilvy, George Gillespie, David Mitchell, Jean Baptiste Pothier, Monsieur Chiset, and Monsieur Frerot (PAC, RG8, Series C, Al, Vol. 251, pp. 256-9, Capt. Drummond to Capt. Green, 28 September 1798).

They must have pressed the work vigorously forward, for in 1800 Daniel Harmon passed the fort and observed that the Nor'Westers had erected a house and store and were making canoes in the latter (Harmon 1903: 11). The builders were fur traders such as John Ogilvie, Alexander Mackenzie, Robert Gillespie and Toussaint Pothier, and Indian Department officials such as Captain Lamothe and Thomas Duggan (PAC, RG8, Series C, Al, Vol. 251, pp. 256-9; Vol. 252, p. 131). Most of these men had removed to St. Joseph from Michilimackinac after the American garrison had taken over. Jay's Treaty, as noted, had permitted them to continue trading and operating south of the Great Lakes and at Michilimackinac. Despite the duty levied by the Americans on British imports, trade continued to flourish because of the lack of American competition (McGillivray 1929: 71).

Not only the fort but the community about it grew and flourished. This is a fact that must constantly be kept in
mind as we attempt to interpret life at Fort St. Joseph. It was much more than a fort; it was a total community. As such, it had both strengths and weaknesses. In reality, the military were in charge and the responsible representatives of the crown. They had a vital role to play under demanding conditions. At times, they must have felt that they were but pawns in the international games being played for high stakes by the fur traders who were often critical of the military and were, without doubt, drawing upon greater wealth and resources.

In the background always, too, was the Indian population whose friendship could turn to hostility upon a seeming whim. The event which most influenced the Indians at this time was the government purchase of the island from the Chippewas in 1798. Upon this occasion, the government distributed £5,000 worth of goods to the Indians (Russell 1932, 1: 140; Landmann 1852, 1: 316-7).

The Indians in 1797 appeared "as much attached to us as ever," wrote Thomas Duggan to Joseph Chew on 9 July 1797 (PAC, RG8, Series C, Al, Vol. 250, p. 256). Captain Drummond described them to Captain Green (9 September 1797) as impressed with "the advantages they derived from traders" and agreeable "to support them on all occasions" (Russell 1932, 1: 276). The military were very sensitive to the delicate balance needed to maintain Indian loyalties. Thus the fort had to be built and built strong. While the situation in 1800 seemed more capable of inspiring contempt than of giving the cunning and observing Indian a high sense of our strength and respectability; it must not be forgotten that only...fear restrains him and the desire for plunder allures him....He must be employed, if not for us, he will against us" (PAC, RG8, Series C,
The fort must be finished, kept in repair and adequately garrisoned to

Undeceive the Indians who accustomed to see a considerable Body of Troops, and Military parade in our distant Posts, and now finding but a handful of men scarcely sheltered by some broken pickets, very naturally concludes that the Englishmen is dead, as he is incessantly told by French and American Emissaries" (PAC, RG8, Series C, D10, Vol. 1705, p. 22).

In summary then, we must recognize Fort St. Joseph as a total community. It included the military, the traders, government agents, Indians and the constant flow of transients. These were all active in the course of events shaping the destiny of the New World. On the other hand, they also constituted a microcosm, small but sufficiently large for factions, elites and social segments to develop within the ranks of privilege, race and wealth. Yet the fabric of the community was sustained - bonded together by common hardships and perils in the developing outpost of empire.
The Fort and Lieutenant Landmann, 1798-1800

The builders of empire must be men of energy and vigour, men possessed of stamina and strength and, in addition perhaps, a large measure of dedication to their task. They may even be men of great and profound vision. It comes, therefore, as somewhat of a shock to realize that the man charged with the task of building Fort St. Joseph was a youth of eighteen (Landmann 1852, 1: 2). He proved, however, to be a man among men and pressed forward the task with purpose and vigour.

Although Michilimackinac was given up late in 1796, the new post was slow to be established. Work was not energetically prosecuted until Lieutenant George Landmann was sent to direct it in the summer of 1798 (Landmann 1852, 1: 312).

Captain Peter Drummond, commandant, in a letter to the military secretary, Island of St. Joseph, 9 September 1797 was apprehensive that they might not be able to get into the "new Blockhouse building near the Post this season" (PAC, RG8, Series C, Al, Vol. 673, p. 77).

The building of a fort, like all construction, is a function of men, materials and resources. A survey of the materials on hand in comparison with those required indicates that in most areas the supply is far outweighed by the need. Even if we take the point of view that military requisitions may exceed the needs in the hope that the actual supplies sent will prove adequate, the men at St. Joseph were by no means well-equipped to deal with the
task they faced.

The report on the state of barrack furniture on 12 August 1797, Quebec, indicates that St. Joseph had on hand in stores and required the following (PAC, RG8, Series C, Al, Vol. 546, p. 75):

<table>
<thead>
<tr>
<th>Item</th>
<th>On hand</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron pots</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Trammels</td>
<td>5 prs.</td>
<td>13 prs.</td>
</tr>
<tr>
<td>Dog irons</td>
<td>4 prs.</td>
<td>10 prs.</td>
</tr>
<tr>
<td>Tongs</td>
<td>4 prs.</td>
<td>10 prs.</td>
</tr>
<tr>
<td>Fire Shovels</td>
<td>4 prs.</td>
<td>10 prs.</td>
</tr>
<tr>
<td>Axes</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Cross-cut saws</td>
<td>4</td>
<td>--</td>
</tr>
<tr>
<td>Water buckets</td>
<td>--</td>
<td>14</td>
</tr>
<tr>
<td>Candle sticks</td>
<td>--</td>
<td>14</td>
</tr>
<tr>
<td>Sheet iron</td>
<td>--</td>
<td>228 lbs.</td>
</tr>
<tr>
<td>Window glass</td>
<td>--</td>
<td>1 box</td>
</tr>
<tr>
<td>Lanterns</td>
<td>--</td>
<td>1</td>
</tr>
<tr>
<td>Grindstones</td>
<td>--</td>
<td>1</td>
</tr>
</tbody>
</table>

The stores on hand represent, in general, about one-third of those required. In some cases, outright necessities are completely lacking, as in the case of the water buckets. Despite the inadequacy of supplies, some construction was commencing at this time in the new fort area, for a Mr. Lacy apparently built a hut which was to be occupied by Lieutenant Landmann in the late summer of 1798.

I left...to take possession of my quarters in a hut which had been built by my friend, Lieutenant Lacy during the preceding summer...[1797]. My hut was about twenty feet square, formed of logs in the usual way, but had no chimney; this defect was remedied by a wide space paved in the middle for the
fire-place, and a hole two feet square in the roof to let out the smoke - for there was no ceiling and no boarded floor, but it could boast one windmw with oiled paper (Landmann 1852, 1: 312).

Perhaps in this time and place we cannot be critical of this abode built by a friend. It was not unsubstantial, and certainly 400 sq. ft. may have seemed more than adequate to young Landmann. The oiled paper window was perhaps something to boast about in the absence of glass, as recorded above. The lack of a chimney does have an ominous ring and is perhaps a portent of things to come. As in any wooden structure in a cold climate, fire was a constant hazard, particularly from the chimneys, and it was devastation by fire that was to bring an end to the relatively short history of the fort. A hole in the roof, as a makeshift solution to the lack of a chimney, probably seemed to be a reasonable one at the time and some such solution must have been commonplace to the earliest of those who hewed their first homes from the wilderness.

Lieutenant Landmann had arrived at the outpost of St. Joseph in the spring of 1798 and was apparently well received.

I was very politely received by the officers of the little garrison occupying a temporary fort, some three or four miles distant from the post I was about to form, more towards the West (Landmann 1852, 1: 312).

The polite reception of this young engineer officer was perhaps more a matter of military protocol. After all he was young, and an engineer. His reception by the "fighting" units at St. Joseph may have been little more than the tentative acceptance of an outsider in this already developing outpost community. Nevertheless, he had a large
task to do. As Landmann states, the task to which he had been assigned consisted in the formation of a "complete military post" which was to include the following:

- Large Blockhouse
- Guard House
- Powder Magazine
- Provisions Store
- Indian Department Storehouse
- Indian Council House
- Baking House, and

the whole to be enclosed by palisades (Landmann 1852, 1: 290).

It can be seen that the construction problems facing Lieutenant Landmann were consistent with the function of Fort St. Joseph as conceived by Lord Dorchester in his communication to the Duke of Portland in April 1796. The buildings to be constructed were essentially of a military nature; however, the interests of the Indian Department and of the Indians themselves were to be prominently represented in the complex. The key to understanding the life at Fort St. Joseph lies in remembering the constant endeavour to maintain the delicate balance between the needs and interests of the military, the Indian Department, the fur traders and the Indian population itself.

Excavation showed that plans for the fort which Lieutenant Landmann actually built correlate closely with those drawn up for the building of Fort George, Fort Amherstburg and Fort St. Joseph. This plan was traced at Quebec in 1800 by Duberger to a scale of 12 ft. to the inch, and is now in the British Museum. Nonetheless, Landmann's memoirs state that "there were no plans, sections, nor even descriptions of the buildings" (Landmann 1852, 1: 290). As a cadet at military academy, however, he had learned "in fortification, the three first systems of Vauban, with
and perhaps he followed a well-known plan. Plan or not, it is of interest to know whether he had the tools and the material to carry out the job. A report dated 8 May 1798 at Quebec gives us some insight into this problem.

Tools available at the Engineer Department at St. Joseph as of 8 May 1798 include the following (PAC, RG8, Series C, B11, Vol. 1332, pp. 3-4):

<table>
<thead>
<tr>
<th>Tool Category</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axes</td>
<td>- broad</td>
</tr>
<tr>
<td></td>
<td>- pick</td>
</tr>
<tr>
<td></td>
<td>- felling</td>
</tr>
<tr>
<td>Adzes</td>
<td></td>
</tr>
<tr>
<td>Augurs</td>
<td></td>
</tr>
<tr>
<td>Bolts for windows</td>
<td></td>
</tr>
<tr>
<td>Bars, crow</td>
<td></td>
</tr>
<tr>
<td>Chains, drag</td>
<td></td>
</tr>
<tr>
<td>Chisels, of sorts</td>
<td></td>
</tr>
<tr>
<td>Compasses, pairs</td>
<td></td>
</tr>
<tr>
<td>Canthooks</td>
<td></td>
</tr>
<tr>
<td>Files</td>
<td></td>
</tr>
<tr>
<td>Gouges, parts</td>
<td></td>
</tr>
<tr>
<td>Hinges (3 kinds)</td>
<td></td>
</tr>
<tr>
<td>Hammers (mason's &amp; claw)</td>
<td></td>
</tr>
<tr>
<td>Hatchets</td>
<td></td>
</tr>
<tr>
<td>Iron, in sheets</td>
<td></td>
</tr>
<tr>
<td>Iron, in bars</td>
<td></td>
</tr>
<tr>
<td>Latches and Catches</td>
<td></td>
</tr>
<tr>
<td>Locks</td>
<td></td>
</tr>
<tr>
<td>Nails</td>
<td></td>
</tr>
<tr>
<td>Nails, spike</td>
<td></td>
</tr>
<tr>
<td>Planes</td>
<td></td>
</tr>
<tr>
<td>Irons for planes</td>
<td></td>
</tr>
<tr>
<td>Stones - grind</td>
<td></td>
</tr>
<tr>
<td>- oil</td>
<td></td>
</tr>
<tr>
<td>- flag</td>
<td></td>
</tr>
<tr>
<td>Saws</td>
<td></td>
</tr>
<tr>
<td>Spades</td>
<td></td>
</tr>
<tr>
<td>Steel</td>
<td></td>
</tr>
<tr>
<td>Screws</td>
<td></td>
</tr>
<tr>
<td>Shovels</td>
<td></td>
</tr>
<tr>
<td>Squares, iron</td>
<td></td>
</tr>
<tr>
<td>Trowels - mason's</td>
<td></td>
</tr>
<tr>
<td>- plasterer's</td>
<td></td>
</tr>
<tr>
<td>Knives, drawing</td>
<td></td>
</tr>
</tbody>
</table>

The complete inventory included some 85 items, mostly durable.

It would appear from this list that Landmann was not ill-equipped to deal with the task facing him. The fact the above inventory does not include a notation of quantities of the items leaves the matter open to doubt. No letters of complaint nor requests for urgent supplies follow, however. We may assume from this that the means were at least
adequate. Landmann did, on the other hand, have difficulties in obtaining money to pay his workers. Since he could not collect sufficient funds from traders at the fort and at the Falls of St. Mary, he was forced to journey to Michilimackinac for this purpose (Landmann 1852, 2: 108).

Landmann apparently lost little time in setting his crew to work. Much had been accomplished by the spring of 1799.

The Commandant to the Military Secretary Island of St. Joseph, March 21, 1799

The following has been accomplished during the winter -

Guardhouse and Black holes nearly finished (except chimneys)
Kitchen and Bakehouse floors and partitions
Double partition between Officers' and Men's Barracks
Men's berths nearly finished
Cupboards and Barrack Furniture
Timber for the Powder Magazine ready to haul from the woods
Square hemlock timber for wharf "pretty forward"
150 logs at the Saw Pit

I took possession of the New Blockhouse a few days after Mr. Landmann's departure, although not finished (PAC, RG8, Series C, A1, Vol. 252, p. 50).

The historical records indicate that Lieutenant Landmann had made very considerable progress with the building of the blockhouse, the guardhouse, the bakery and
the palisade required to enclose these buildings. Each of these structures was investigated archaeologically and this data is now described below.

The Blockhouse
Lieutenant Landmann selected the highest point of ground in the centre of the hill for the building of a blockhouse. Here, following the original plan entitled "Plan and Elevation of an Ordnance Storehouse and Blockhouse Erected at Forts George, Amherstburg and St. Joseph, 1796" (British Museum P 14278, maps 2363-7), he commenced the building of the 100 ft. by 30 ft. structure.

Archaeological Evidence
The first step was the building of the foundation. This was done by digging a trench into the rugged cobblestone and gravel surface of the hill to a depth of two feet. The trench was 4.0 ft. wide on the average, with sloping sides and a flat, levelled bottom.

Against the inner face of this trench were built the mortared footings of the foundation. The lower layer was made up of cobbles and small limestone fragments to form the lowest course to a depth of 2.0 ft. Above were added large fieldstones, up to 2 ft. in length. The interstices between these large fieldstones were filled with rock cobbles and limestone slabs, all bonded with mortar. The third course was built to produce a flat top surface and was made up of thin limestone slabs, mortared and levelled. At this point, the footing was 1.5 ft. deep and from 2.5 ft. to 2.8 ft. wide.

On top of this footing set in the excavated foundation trench was constructed a foundation wall 2.3 ft. wide. This wall was almost completely made from roughly dressed
limestone and a few modified fieldstones. The limestone slabs were up to 2.2 ft. long and from 1.5 in. to 4.0 in. thick. This foundation wall was generally two slabs wide and the interstices again were filled with small rock cobbles and limestone fragments, all mortared into position. In general, only four or five courses of this wall have escaped destruction and decay. At its greatest elevation, this foundation and wall are 3.5 ft. high.

The outer measurements of the foundation wall are 28 ft. by 98 ft. These figures coincide with those specified in Duberger's plan of 1800. Here much of our archaeological evidence ceases.

What superstructure was built upon the foundation wall is unknown because of its destruction by fire and subsequent decay. Our further knowledge of the outer superstructure depends upon pictures, plans and verbal descriptions rather than upon archaeological evidence; however, archaeological investigation does throw light upon the interior structure of the building.

The plans and elevations for the blockhouse called for two hearth and chimney units to be built. The foundations for these were located and investigated. The northwest chimney foundation was located 10.2 ft. from the inner edge of the northeast foundation wall; 12.3 ft. from the inner edge of the southwest foundation wall and 22 ft. from the northwest foundation wall. All of these distances were measured from the centre point of the chimney foundation, which was 7 ft. square.

The material used to build this chimney foundation was roughly dressed limestone slabs supplemented by a few small boulders of fieldstone. The stones were bonded with a mortar of sharp sand and lime. The foundation was built up in an alternately layered pattern, largely dependent upon the size of limestone slabs utilized. One course near the
base was made up of limestone slabs about one foot long and 4 in. to 6 in. thick. These were set side by side, but not touching. Assorted sizes and fragments of limestone were then used to fill the interstices and mortared in position. The second course was made up of thinner slabs, roughly dressed and about 2 in. thick. These two types of courses were superimposed upon each other, forming a pattern of alternating bands or layers.

It may be questioned whether the entire chimney structure was built from mortared slabs of limestone. Some evidence suggests that the interior portion was filled with tightly packed, unmortared stone rubble. During the course of excavation a beam passage, or two opposed recesses in the foundation, came to light.

On the top surface of the chimney foundation, a level, finished surface free from rough mortar was encountered at an elevation of 15 in. above the top of the beam recesses mentioned above. It is possible that this flat surface constituted the floor of the first storey hearth. If this is true, it suggests that the first floor of the blockhouse was located about 3 ft. above the footing of the foundation wall.

The beam recesses were 13 in. in diameter, one somewhat hexagonal, the other round in contour although flattened somewhat on top. These are not placed centrally in the faces of the chimney foundation. One is situated 2.7 ft. from the southeast face and 4.1 ft. from the northwest face of the structure.

The second chimney was located 32.0 ft. to the southeast and was 7.5 ft. from the northeast wall and 7.4 ft. from the southwest wall. The chimney foundation had a depth of 4.5 ft. from its top to its base, which rested upon the grey sandy soil. It had undergone considerable destruction; there was no trace of a fireplace and no
construction beam recesses or passageways were encountered in the north chimney foundation. The floor of the building must have existed at a higher elevation than that represented in the upper surface of the existing chimney foundation.

Archaeological Inference
We do not know whether Landmann completed the construction of the chimneys, but in view of the amount of masonry that was laid, completion would seem more likely than not. We might assume that the blockhouse would be one of the first buildings to be endowed with its full complement of creature comforts, including heat.

As the blockhouse took form, it would appear that the stonemasons then turned to bricklaying and brick manufacturing. There is evidence that either the uppermost portions of the chimneys or their interiors were formed of brick. Fort St. Joseph bricks were hand-made in a wooden mould, approximate an ideal size of 8 in. x 4 in. x 1.75 in., are medium Indian red in colour and are hard fired.

A group of such bricks was found closely adjacent to the northwest end wall of the blockhouse. Many of the bricks still maintained their original relative positions although the mortar which once bonded them had crumbled. It is possible that these bricks formed part of the chimney stack which had toppled during the fire.

Red bricks also occur in their original relationship to one another in two areas of the blockhouse between the chimneys. These bricks are associated with limestone slabs and concentrations of mortar which may well have provided masonry footings for brick partition walls on the main floor.

Because of its ultimate destruction by fire, any further basic knowledge of the blockhouse must now depend,
particularly for details of superstructure, upon evidence contained in plans, charts, verbal descriptions and drawings by Lieutenant Walsh and others. Within rather confined limits, the archaeological artifacts are useful for this purpose.

In the case of the blockhouse, this is, to a degree, true but there are a number of variables which make accurate and meaningful analysis difficult. First, the southeast end of the blockhouse was dug by the Sault Ste. Marie Historical Society about 1926. We have almost no information on their findings and the actual extent of such work can only be roughly judged. This factor will certainly distort the distribution of items and the artifact count.

Second, the blockhouse was not completely excavated. A greater area was excavated in the northwest sector than in the southeast sector. This again affects the results of distribution studies. Moreover, sections in the middle area of the blockhouse were left unexcavated or just partially excavated. To date, we have not been able, because of limited time, to apply correction factors to cope with this differential excavation problem.

Third, there is a good possibility that external agents intruded artifacts since the time when the blockhouse was burned in 1814. Shortly after the fire, there was some attempt at rebuilding the burned fort and we have no way of assessing the effect of this upon the blockhouse. A grove of cedars began growing in the blockhouse ruins about 75 years ago. This area has been used to dump garbage and debris from 1948 to the present. It appears also that predatory birds and mammals have left the bones of their little victims strewn about the grove.

Finally, we believe but can not document that the blockhouse was cleaned out and emptied when it was abandoned in 1812. It is quite possible that certain items were left
behind as unnecessary, useless, or unduly burdensome to carry away. In view of all these circumstances, it becomes difficult to attempt inferences about either the kinds of activities for which the blockhouse was used or the differential use of space within the building.

In preliminary studies, we observed that certain artifacts, such as pipe stems, exhibited a rather uniform distribution over the areas dug, while others, such as window glass fragments (from presumably uniformly spaced windows), did not. In other cases, the distribution of chinaware did tend to concentrate toward the northeast end of the building and we had to ponder whether this differential distribution was meaningful and how much it could have been affected by the factors noted above. The situation is, at best, complex and we offer the following inferences as the merest suggestions until much more detailed study, with built-in correction factors, can be done.

The most notable feature of the artifacts in the blockhouse compared to buildings discussed later is that, despite the abundance (10,000 items), which makes up over half our sample from the site, most of the artifacts recovered are building materials such as would-be debris from the fire in 1814. These are many nails, pieces of sheet iron, fragments of brick and mortar, and plaster with lath impressions. For this reason, we concluded that the building was virtually empty when it was abandoned and when it was later burned.

Items such as clay pipes, fragments of bottle and window glass, ceramics and animal bones do occur, but in comparison to their occurrence in connection with other buildings, they must be considered very sparse. Window glass makes up less than 3 per cent of such glass recovered from all buildings, despite the great size of the
blockhouse. Ceramics make up about 10 per cent. Pipe fragments make up about 10 per cent, and bottle glass an interestingly low 11 per cent. The animal bones make up about 7 per cent of those associated with the buildings and are mainly bones of fish, birds and small mammals. As suggested, these faunal remains may have been intruded by such predatory birds as the osprey. Most artifacts were found in the area along the north wall of the building and around the north end of the chimney. This area, we might note, would lie beneath the second-storey quarters occupied by the commandant when, after the bakery fire in 1802, he presumably moved from the commandant's kitchen to this location. It is of interest that 3 per cent of the ceramics in the blockhouse is made up of prestige ware such as porcelain and that three fragments from beneath the commandant's quarters are identical with eight pieces from the commandant's end of the burned bakery. Thus we postulate his move from the bakery to the blockhouse. No gun parts were found and only one button from a British auxiliary regiment, probably the Artillery.

We tend to conclude, therefore, that the blockhouse was emptied prior to abandonment. Nevertheless, the small amount of glassware, pipe fragments and ceramics does suggest that some small degree of smoking, drinking and other social activity took place, particularly at the north end of the building.

We have constantly assumed in our analysis that the main function of the upper storey of the blockhouse was sleeping quarters for the men. It seems, also, that few if any officers other than the commandant occupied the section set aside for officers' quarters. The constant reference throughout the documents to the problems of heating the blockhouse and the inhospitable nature of the building seem consistent with its apparent lack of function as a social
centre for either the officers or the men. Whatever evidence for such a function is suggested by the above data would seem to reflect its use in this manner by the commandant after his kitchen quarters had burned in the bakery fire of 1802.

One final problem remains, however. Despite the relatively small amount of ceramic material recovered from the blockhouse, 97 per cent of it is utility earthenware, of which about two-thirds is earthenware with blue, hand-painted designs, and one-third is plain creamware. This certainly raises the problem of whether the blockhouse may not have served as eating quarters for some or all of the men, as well as sleeping quarters. They would have faced a serious problem after the destruction of the bakery, which may also have doubled as a mess hall for at least part of the group. If, as we argue, the blockhouse was essentially cleaned out before being abandoned, then the amount of ceramic debris still left in nooks and crannies would have to be accepted as considerable under the circumstances; as we are, for example, prepared to accept the pipe fragments as an expected distribution.

Thus we have perhaps produced more questions than answers with regard to the blockhouse by the foregoing comments on artifact distribution.

(One sidelight developed while writing this section of the report. In referring to the three fragments of prestige ware found in the blockhouse, we wrote that these were related to those from the commandant's end of the burned bakery, thus suggesting his removal. At the time of writing, this was set down as an optimistic hunch. Upon checking the distribution data, this proved to be a fact. Thus we were encouraged to pursue our inferences.)
Archaeo-historical Synthesis

Although Lieutenant Landmann claimed he had no plans at hand from which to construct the fort and buildings, the blockhouse which he built is very close in size and structure to the elevation and plan traced by Duberger in 1800 for the blockhouse for Fort St. Joseph. From Landmann's remarks, one gathers that his schooling had made him sufficiently familiar with blockhouse construction to proceed without benefit of such plans. A collation of data from both documentary and archaeological sources allows the following summary of the structure of the blockhouse.

The blockhouse was a rectangular two-storey building, located centrally in the fort enclosure. Its long axis lay along a northwest-southeast line. The ground floor measured 28 ft. by 98 ft. It may be inferred that the upper storey measured 100 ft. by 30 ft. to provide the usual overhang for gun slits 1.5 ft. in width. The roof was peaked.

The building rested on foundations of semi-dressed and mortared slabs of dolomitic limestone from nearby Lime Island. Foundations consisted of a footing 3.0 ft. to 3.5 ft. in width and 1.5 ft. in elevation and a superimposed foundation wall, 2.3 ft. wide and 3.5 or more ft. high.

The superstructure of the building rested upon beams 12 in. in diameter and rounded in cross-section. It is presumed that stringers were laid across the beams and floor planking was superimposed upon the stringers.

Limestone slabs were also used in the construction of the two interior chimneys. The chimneys differed in size, orientation and location within the building. The foundation of the smaller one at the northwest end of the building accommodated a large beam or beams. The general structure of the chimney consisted of limestone slabs, but there is some evidence for a red brick chimney or perhaps brick chimney or hearth linings. The hearths in this
chimney faced toward the northeast and southwest long walls of the building.

In the second and larger chimney, the foundation and at least part of the superstructure were of limestone. Hearths in this chimney faced toward the northwest and southeast short walls of the building.

The building was of wood, either hewn timbers or round log. These were eventually covered on the exterior with weatherboarding which was painted. It is possible that the corners were dovetailed in a fashion commonly used in English forts of the period.

In the upper storey, six rectangular glass windows may have been spaced along both long walls. Windows in the southwest wall of the lower storey matched those above, except that doors were substituted on the southwest long wall for the second and fifth windows. It is not certain whether there were any windows in the northeast long wall. On the ground floor, doors appear at the northeast end of the northwest short wall and northeast end of the southeast wall. These doors gave access to two stairways to the second storey.

The lower storey was partitioned into four rooms with the above-mentioned interior stairways in the north and northeast corners of the building. The partition walls may have been of wood, although there is some suggestion that they may have been of red brick. The upper storey accommodated five rooms and two hallways divided by wood partitions. Fragments of plaster with lath impressions indicate the interior, perhaps of the officers' rooms, bore this refinement.

The roof of the building was peaked and originally shingled with cedar. When sheet iron became available, this material was used to cover the roof as a precaution against
Credit for the building of the blockhouse may be given to the young Landmann. Writing on 21 March, his commandant recorded that he was able to "take possession of the New Blockhouse, although not finished" (PAC, RG8, Series C, Al, Vol. 252, p. 50). Much had been done, including cupboards, barrack furniture, the men's berths nearly finished and a partition set up to separate the officers from the men. The military being what it was, we may suspect even the latter partition was welcomed with a number of not too loudly voiced comments, contributing to the social stratification of the growing community.

The Guardhouse
The guardhouse was also erected under Lieutenant Landmann's direction. It was probably completed within a time schedule similar to that of the blockhouse. From the military point of view, a guardhouse with its ominously named "black holes" was a very essential part of life in maintaining morale and discipline. (From later descriptions of life at Fort St. Joseph, one might wonder whether three cells would have been sufficient to lodge the more recalcitrant of the men stationed at this outpost.) As a result of bulldozing carried out in 1948 to "clean up" and level off a park area, the archaeological evidence for this building is sparse. What exists, however, is definite and conclusive.

Archaeological Evidence
The building was rectangular, exactly 15 ft. wide and 30 ft. long measured from the outer edges of the foundation walls. (The long axis of the guardhouse is oriented northeast to southwest.) Its north corner was located just over 30 ft. south of the south corner of the blockhouse. All that
remains of the building are the foundation footings and foundation wall in the southwest portion of the lowest course of the footings in the northeast portion.

It was constructed in the same manner as the blockhouse, being set in a foundation trench. The masonry, however, exhibits somewhat less precision. The foundation trench for the guardhouse was 5 ft. wide and about 2 ft. deep. The lowest course of the foundation was composed of small rock boulders, barely mortared together. The second course was also carelessly assembled and of similar stone. The third course consisted of semi-cut limestone interspersed with somewhat carefully oriented cobbles. Elevation of the surface of this foundation varies between 18 in. and 24 in. above its base. The foundation wall proper, superimposed upon the footing, is, at the point of destruction, only two to three courses high and consists of limestone, two slabs wide, mortared together. As in the blockhouse, this construction produced a projecting shelf 6 in. wide both inside and outside the foundation wall, formed by the top of the footing.

On 21 March 1799, the commandant indicated that this building was nearly complete "except for chimneys" (PAC, RG8, Series C, Al, Vol. 252, p. 50). No evidence was found for chimneys and we may doubt that these were ever constructed. Stoves were known to be in use at this time as four metal stoves were inventoried at St. Joseph in September 1813 (PAC, RG8, Series C, Al, Vol. 552, p. 12). However, as we shall see very shortly, even small items of hardware were difficult to obtain at Fort St. Joseph. Consequently, a stove in the guardhouse would be highly problematical in 1799.

Lieutenant Landmann appears to have worked well and in 1802, Captain Bruyères states that the guardhouse is a "good building, 30 ft. long, 15 ft. wide and 8 ft. high. It
contains guardrooms for officers and men, and three solitary cells" (PAC, RG8, Series C, Al, Vol. 383, pp. 18-21). We learn from a letter from the commandant to the military secretary, 24 October 1811, that "the building allotted for the Guardhouse is of wood" (PAC, RG8, Series C, Al, Vol. 514, pp. 238-40), and again, from the same source on 10 February 1802, that "all the buildings have been covered with shingles made of cedar" (PAC, RG8, Series C, Al, Vol. 512, pp. 190-1). Such are the basic facts known about the guardhouse.

Archaeological Inference

In attempting to draw inferences from the distribution of artifacts in the guardhouse, we encounter problems of displacement and distortion similar to those outlined in the analysis of the blockhouse artifacts. Once again, the Sault Ste. Marie Historical Society carried out excavation here. Their exploration was done along the southwest end of the guardhouse. This would thus distort our artifact distribution. At the same time, they apparently piled the dirt from this excavation on the north end of the northwest wall; artifacts were obtained from this dirt pile, thus complicating analysis. In addition, the entire northeast end of the building was bulldozed, further redistributing artifacts.

A total of 2,610 artifacts was recovered from the guardhouse, which was about four-fifths excavated. In the materials recovered from this building were 45 per cent of the pipe fragments, 24 per cent of the bottle glass, 17 per cent of the ceramics and almost 18 per cent of the window glass found in association with the buildings. About 13 per cent of the animal bone fragments and 17 per cent of the barrel hoop items were retrieved from here. Buttons of the Queen's Rangers were in evidence. Locks and door parts
found could perhaps be related to the "black holes."

The distribution of the window glass suggests that there were two windows toward the centre and south end of the southeast wall. This leads to the inference that the detention rooms or "black holes" were at the northeast end of the building. The balance of the building apparently contained guardhouse facilities for officers and men.

The artifacts confirm a possible dual function for this building. The first is, of course, incarceration of prisoners. The second may involve its use as a place where meals were taken and as a social centre. The odds in favour of its use as an eating place would be increased by the loss of available room space resulting from the bakery fire of 1802. The ceramics retrieved here contained a large amount of utility ware, including at least 17 plates, many of white earthenware with green or blue shell edge. There was also considerable evidence of crude stoneware which would be used to store and serve food, such as bean pots and large bowls. It is interesting to note that there were fragments of rather scarce oriental export ware and a fragment of Wedgwood-type black basalt ware which suggests its use by the officers. The presence of barrel hoops suggests the use of barrels as chairs or seats in the absence of better furniture. The presence of pipes and bottle glass fragments points to the possible use of the guardhouse as a centre for smoking, drinking and spinning yarns.

Archaeo-historical Synthesis
A study of both documentary and archaeological evidence permits the following inferences with regard to the general structure of the guardhouse. It was located about 30 paces from the south corner of the blockhouse. It was a single-storey building, measuring 15 ft. by 30 ft., with walls 8 ft. high. The roof was peaked. The northwest long
wall was probably the front of the building.

Foundations of the building were of mortared limestone slabs, and consisted of a footing 3.0 ft. wide, upon which a two-foot masonry wall was built. A six-inch set-off or ledge resulted, at least along the long sides of the building. Since the ground sloped downward from the northeast end of the building, the original stone foundations at this end probably consisted of fewer courses than in the southwest end of the building.

The guardhouse was a wooden building, probably of hewn timber. Two interior units were contained within its area: a guardhouse for officers, and one for the men which comprised three cells. Partitions were probably of wood, except where it is possible that a shared chimney formed part of the partition.

No evidence of chimneys was found in the guardhouse, although such evidence could have been sheared away by the bulldozer in the northeast end or removed by the Sault Ste. Marie Historical Society in the southwest end. It is possible that a chimney did exist, or alternatively that a stove was used.

In the northwest long wall were probably located two doors, each providing access to a room. There were two windows on the southeast wall of the south room and perhaps one near the door also. In the north room there may have been a window in either the southeast or the northwest wall.

The roof was initially covered with cedar shakes but subsequently sheet iron was used as a deterrent to fire.

The Bakery
Again it appears that the industrious Lieutenant Landmann was responsible for the building of the bakery, a major and important building, for among the works reported in a letter
from the commandant to the Military Secretary on 21 March 1799 as having been completed during the winter was the "kitchen and Bakehouse floors and partitions" (PAC, RG8, Series C, Al, Vol. 252, p. 50). If construction had reached this point, it would seem quite safe to assume that such features as foundations, walls and roof were also complete, as were probably the ovens, since their absence would surely have been noted.

Archaeological Evidence

Once again, it appears that Lieutenant Landmann's men had laboriously dug a trench into which they had built a substantial foundation footing of fieldstone and limestone slabs mortared together. A foundation wall two feet thick made of mortared limestone slabs was, in turn, erected upon this.

At each end of the building and mortared to the foundation wall were platforms built upon the original ground surface to serve as foundations for the commandant's kitchen oven, 8 ft. by 4 ft. at the north end of the building, and for the bakehouse oven, 8 ft. by 3.5 ft., at the south end. Both were stone platforms but there was no evidence of the oven superstructures.

As was the case in the construction of the blockhouse, it appears that the central partition separating the commandant's kitchen from the bakery was built of brick at the exact midpoint of the building. There is at least tentative evidence for a four-foot doorway in this partition wall.

There was a cellar in the sub-floor area of the commandant's kitchen, according to the documentary evidence (PAC, RG8, Series C, Al, Vol. 512, pp. 190-1). Archaeological evidence for it was not definitive, although a depth of four feet below the present surface is indicated.
It is clear, however, that the cellar was not a walled structure but, as suggested above, simply an unlined, sub-floor storage area.

The foundations of this building were 18.3 ft. by 36.2 ft. and the outer edge of the northwest wall of the bakery was located 33 ft. from the outer edge of the northeast foundation wall of the blockhouse, while the northwest wall of the bakery was located 30 ft. southeast of the end of the blockhouse foundation wall. This coincides relatively well with its location upon the Duberger map of 1800. The ample evidence of its intensive destruction by fire leaves little doubt as to its definite identification. The life of the bakery was to be short as it was devastated by fire on 10 January 1802. Apart from the personal loss to the commandant we may suspect that the loss of this particular building was a severe blow to the social life of the developing post. One can well suspect that the commandant sought the fellowship of his officers and of visiting fur-trading company dignitaries in what was probably the cosy comfort of his kitchen, while at the other end of the building, the other ranks may well have enjoyed a hot toddy and a pipe around the warmth of the bakery oven.

Archaeological Inference
In the contextual analysis of the artifacts found in the old bakery, there are at least three very important facts to consider. The first is that the building was fully functional and in operation when it burned: thus a considerable amount of the debris can be assumed to be in situ. Second, there was an excavated cellar at the northwest end of the building which, perhaps unfortunately for our purposes, would have been a convenient hole to fill up with debris as the area was cleaned up after the fire. Third, an effort was made to re-use the least damaged
portions of the building and a shed was erected around the oven at the southeast end. This material would have been added to the area after the fire and perhaps mixed with the earlier debris.

In general, 75 per cent of all animal bones associated with fort buildings were found here; 73 per cent of the ceramics, 38 per cent of the pipe fragments and 25 per cent of the glass fragments. As we have learned, the building was divided into the commandant's kitchen and the bakery area. There is a rather clear-cut division of the artifacts which seems to suggest that the commandant's kitchen was luxuriously full and the bakery was woefully bare. By far the majority of the items found were concentrated in and around the depression that must have been the cellar beneath the commandant's kitchen.

A study of the animal bones indicates, for example, the presence of seven adult and seven sub-adult pigs, caribou, three hares and a ruffed grouse as well as cow bones. The presence of skull fragments of the pig suggests that suckling pig may have graced the commandant's table. By contrast, the finding of 12 barrel hoops and no bones in the bakery end of the building suggests barrels of salt pork for the men and some of the officers, as Lieutenant Landmann relates dividing his weekly ration of salt pork into seven equal portions (Landmann 1852, 2: 101). Again, 57 pipe fragments were found at the commandant's end of the building as compared with 10 at the bakery end.

There was also a preponderance of ceramics in the commandant's area. Many of the fragments of the very fancy and prestigious black basalt Wedgwood-like ware came from there as well as delicate porcelain from cups, saucers, plates and bowls. In addition to these accoutrements of elaborate dining, there were also knives and forks. A number of personal articles were found here as well,
including cuff links, comb fragments, hair pins, buckles and rings.

Gun parts, including a serpentine butt plate, and harness hardware (probably from the lamented English saddle the commandant lost in the bakery fire) came to light. A silver tinkling cone suggests the presence of a female, or perhaps an Indian chief - archaeology can not determine which.

Buttons belonging to personnel of the Queen's Rangers, the 41st and 49th Regiments were also recovered. Combining the high incidence of bottle glass and pipe fragments with the other suggestions of luxury noted above, it would appear that Captain Peter Drummond, commandant of Fort St. Joseph, was able to compensate, at least in part, for the drawbacks of duty at this outpost.

We have created the picture of the bakery as bare or virtually so. This raises problems for consideration. If it served only as a bakery and a place to cook the men's food, which was then carried to eating quarters elsewhere (and certainly such quarters appear at a premium) then the emptiness of the bakery seems reasonable. The barrel hoops found here may indicate the storage of basic food staples. But a high percentage of ceramics, particularly creamware and blue and white hand-painted earthenware, both basic utility wares, was found. This raises the possibility at least that the bakery, which might also be considered the "men's kitchen," may have served as a mess hall for all, or at least some of the men. The smaller numbers of pipe fragments and bottle glass would then suggest this as a secondary eating and perhaps socializing centre for the men. The occurrence of a number of brass pins, needles and two iron awls would suggest that some of the men may have sat about the warm bake oven area, sewing, mending their equipment, smoking a pipe of tobacco and consuming their
daily ration of rum upon a cold winter evening.

Fragments of earthenware were found which show melted glaze with sand and earth adhering to it. This evidence indicates that the devastating bakery fire of January 1802 burned at a temperature which exceeded 2,100°F.

The destruction of this building by fire was a very severe blow to social and military life within the fort compound. It resulted in personal loss to the commandant and dislocation of the commissariat. This latter situation must have levelled increasing demands upon available working and living space which must have been at a premium at that time.

Archaeo-historical Synthesis
The old bakery was located 30 ft. northeast of the northeast long wall of the blockhouse. It was a rectangular building, 37.5 ft. long and 20 ft. wide, with an additional 10 ft. by 10 ft. extension outside the northeast end of the building abutting the foundation wall. Its wall height may have been 8 ft. as was common in the other single-storey buildings.

Foundations for this building were typical, being of mortared limestone slabs. The foundation walls were 2 ft. wide and of unknown height, the ground having been levelled off by bulldozer in this area. The old bakery was the only building in the military complex which had a cellar. It lay beneath the commandant's kitchen in the northwest half of the building. Excavation proved the cellar to be a shallow, ill-defined, unlined excavation with a probable depth of about 6 ft. The subsurface limestone slab ledges, about 2.5 ft. in width, adjoining the northwest foundation wall and flanking the northwest chimney, may have been associated with the cellar.

At both ends of the building, rectangular foundations of limestone slabbing indicate that two chimneys had served
the building. The chimney at the northwest end was smaller, measuring probably 8 ft. in width and projecting some 4 ft. into the interior. This foundation was centrally located along the inner foundation wall and was constructed as an integral part of it. It was this hearth that warmed the commandant's kitchen.

A larger chimney foundation, measuring 8 ft. in length and intruding 3.5 ft. into the interior of the building, was built as an integral part of the southeast wall of the bakery. On the exterior of the foundation of this southeast wall, in contact with the wall but not built as an integral part of it, lay a 10-ft. square limestone slab foundation. A duplicate of this feature also lay in a similar relationship to the foundations of the new bakery. When mentioned in connection with the new bakery, it is referred to as part of the oven. In neither bakery, however, is the oven structure clear from the evidence that remains.

The old bakery contained two compartments: the commandant's kitchen at the northwest end and, opposite, a bakery. The sizes of these compartments are not known. The partitions would most likely have been of wood. Fragments of red brick retrieved from the interior of the building suggest either brick partitioning or chimney structure, but the stone foundations which would have been necessary to support such a brick partition were not found in the old bakery, which was completely excavated.

The superstructure of the building was of wood, and the walls quite probably of hewn timbers. It is suggested that each compartment was served by a door in the southwest wall providing convenient access to the blockhouse. Windows may have accompanied each door in this southwest wall. It is also not unlikely that windows were present in the northeast long wall.

The roof was originally of cedar shingles but was
subsequently covered with iron sheeting. The proximity of the old bakery to the blockhouse posed a constant threat of fire of which the military were continually and uncomfortably aware.

The Stores Building
Our knowledge of the stores building suffers from a dearth of documentation and archaeological evidence. The only direct textual reference to it is by Captain Bruyeres to the commandant of the Royal Engineers on 12 September 1802. The Storehouse is 30 ft. long, 15 ft. wide, 8 ft. high, used for a workshop and Engineers' store and divided into two apartments (PAC, RG8, Series C, Al, Vol. 383, pp. 18-21).

Then, in Duberger's plan of 1823 (after the destruction), we find the only documentary indication of the location of this building. It is on this plan and on the captain's statements about its size and shape that we must depend for our identification of the structural remains.

Historical Evidence and Inference
Landmann had indicated that he was constructing a number of units which involved the storage of materials: that is, provisions store and Indian Department storehouse. It is clear, however, from Bruyeres' later report, that such storage was accommodated in the main floor of the blockhouse. The stores building emerges from his description as a dual-purpose building which served to house the Engineers' stores and provide space for a "workshop," and there are grounds for a possible inference that the workshop may have included a working area where plans for the buildings were drawn up and filed for reference, and account books and other records kept. If this was indeed
the case, then it would have been from this spot that the young Landmann planned and directed the construction of the rest of the fort, and from which perhaps in later years Bruyeres and Nichols followed up this work.

The stores building was close to the front curtain wall and immediately inside the main gate. If one visualizes much of the activity at the post as taking place between the blockhouse and the waterfront, then as a locus of engineering administration it would have been conveniently located. In addition, it will be recalled that a hut was built for Landmann by his friend Lacy. If it were among the group of buildings the remains of which are still visible close to, but outside, the front curtain wall, then the location of the stores building would have been all the more convenient for the young builder of the fort. Further, if we are correct in surmising that the doorways into the stores building were in the northeast long wall, then they would have faced upon the front of the great blockhouse on the hill above. We can imagine the feeling of justifiable pride that inspired the young lieutenant as he watched the rising bulk of this massive structure from the doorway of the small stores building farther down the slope.

The storehouse was probably one of a pair of contiguous buildings of similar size and shape. Immediately to the northwest of its site lies today the chimney foundations of a small building that has not been investigated. Since the only military building mentioned in the documents that has not been located is the Indian council house, this may be reason to suggest that the small building adjacent to the stores building may have served this function. If this was so, its proximity to the stores building might have had a bearing on the friendship which developed between Lieutenant Landmann and the Indians, particularly Chief Little Crow.
Archaeological Evidence
The archaeological evidence for the stores building consists, at most, of the lowest one or two courses of stone in the northwest wall, the bottommost course only in part of the southwest wall, and a chimney foundation.

The northwest wall is still represented by a row of limestone slabs about 1.0 ft. square and 1.5 in. thick. The foundation here is, at present, one slab wide and, in some stretches of the wall, a band about 10 in. wide of uniformly sized pebbles probably indicates the bottom of the foundation trench. This northwest wall is not clearly defined at its northwest corner.

The southwest wall is well defined at its western end and can be projected across a bulging mid-section to join a normal line farther to the south. The southern extremity of the wall is missing and there remain only parts of the lowest course of stones.

No actual evidence exists for the southeast wall. The north wall retains no stones in situ but the north corner of the building is marked by loose cobbles.

In summary, what remains of the foundation walls of the storehouse is represented by parts of the two lowest courses, mostly of cut limestone, sufficient to indicate the southwest corner of the building; 13.5 ft. of the northwest wall in situ with loose stone possibly extending to 15 ft., and 28 ft. of the southwest wall, partly in situ and partly projected. Evidence from foundation walls, therefore, is not sufficient to indicate the size of the storehouse and inferences in this respect must be made from other features.

A foundation, 6 ft. by 6 ft. by 1.5 ft. high for a centrally located limestone slab chimney is still visible. Atop the foundation rise, at most, an additional four courses of stone which perhaps formed part of the fireplace. This upper construction measures 6 ft. by 4 ft., leaving a
2-ft. wide step along the southeast side of the masonry pier. This suggests that the floor level of the building may have been about 18 in. above the present bulldozed surface. A black stain line along the northeast and northwest side of the pier on the second course from the bottom may indicate the level of the fill onto which the burning floor collapsed. The limestone in this particular chimney was bonded in a manner that appears to be unique; the bonding material today is a light beige, ashy material, mud-like when wet, smooth and powdery when dry. It may be, of course, that the heat of the burning building modified the nature of this substitute for mortar.

From a consideration of the north and west corners of this building, of the placement of the chimney and of the proximity of the front gate, it is possible to conclude that the stores building measured 14.5 ft. by 31 ft., or close to an ideal 15 ft. by 30 ft. These dimensions lend credence to its identification inasmuch as Bruyeres says that the stores building measured 15 ft. by 30 ft.

Artifacts were few in the stores building. They consisted mainly of building materials: the few ceramic sherds and other general debris did not differ from those found in other buildings and throw no light upon the nature of the building. Much of this material may owe its location to re-distribution by the bulldozer, but some of the building materials are undoubtedly in situ. Square nails are present, as are fragments of plaster bearing the imprint of rough laths, indicating some finishing of the interior.

Archaeo-historical Synthesis
Although evidence is sparse, it is possible to describe the original stores building as follows. It was located about 10 ft. inside and northeast of the palisade and about 6 ft. northwest of the main gate. It measured 15 ft. by 30 ft.,
and had walls 8 ft. high. The roof was peaked. The building faced toward the blockhouse.

Foundations were shallow, with several additional courses of stone in the southwest half of the building compensating for the downslope of the hill and achieving a level floor. It was heated by a central chimney of limestone slabs with a foundation 6 ft. square. The floor of the building may have been 18 in. above the present surface of the ground.

The walls were probably of hewn timbers and the roof, originally wood-shingled, was no doubt later covered with sheet iron. Since there were two compartments, two doors were present in the northeast wall and probably there was a window alongside each door.

There may have been a window in the southeast short wall to overlook the main gate. No windows would have been likely in the back wall due to its proximity to the palisade, nor in the northwest short wall due to its proximity to the neighbouring building. The partition was probably of wood with the central part being formed by the chimney. The interior of the workroom, at least, was plastered with hairless plaster over laths.

Although evidence for this building's destruction by fire is limited to the black stain line in the chimney foundations, this is a reasonable assumption. Its close proximity to the curtain wall and, in particular, the charred remains of the once massive timbers of the main gate, would leave scant possibility that the stores building could have escaped the conflagration.

Defense Works
When Lieutenant Landmann arrived at Fort St. Joseph in 1798, work was progressing on a number of buildings. He drew up a
list of all those buildings which he thought necessary to complete a military post and added that the whole was "to be enclosed by palisades" (Landmann 1852, 1: 290). So the labour began of constructing the curtain walls, bastions, ravelin(s) and two gates that constituted the defensive works of the fort. The nature of the terrain made it neither easy nor rapid work. In July, 1800, the commander wrote that the Engineers had been "at great expense in removing large stones and levelling the situation for the palisades" (PAC, RG8, Series C, Al, Vol. 512, p. 78). That year, 413 sq. ft. of the fort were yet to be enclosed. The following year, however, the blockhouse is described as unfinished but, at any rate, "picketed in" (PAC, RG8, Series C, Al, Vol. 512, p. 142). In 1802, headquarters learned from Bruyeres that the stockade of the fort had, indeed, been completed.

But it is not possible to accept this assurance completely at face value. For example, a watercolour by Lieutenant Walsh in July 1804 indicates that the north corner of the fort is just that; a corner without any bastion. When Walsh was drawing his sketch, work was proceeding on the powder magazine in what would, at some time, most assuredly be a north bastion, discernible archaeologically. Perhaps the simple right-angled corner was an artistic device intended to gloss over the construction activity in that part of the fort. Certainly by 1805 it was announced that the powder magazine, and presumably the bastion surrounding it, was completed. It seems reasonable to assume that the other three bastions were finished much earlier, for in 1802, Captain Bruyeres was talking about bastions and remarking that none of the gun platforms within them had been raised. He recommended that gun platforms be raised in only two of the completed bastions, the south and the west.
The sense of sequence is also present with the ravelins. In 1802 again, Captain Bruyères says as a fact that the southwest ravelin had been completed while the northwest ravelin had merely been "traced in" (PAC, RG8, Series C, Al, Vol. 383, pp. 18-21). The southwest ravelin is the only one for which both documentary and archaeological evidence are conclusive. It is mentioned several times, it is indicated on the various maps, and it can be seen in the ground. Fort St. Joseph, four-sided as it is, could conceivably be accompanied by four ravelins. This was very much the attitude of Captain Muir who reported in 1806 that the fort had "never been finished and is deficient in three ravelins" (PAC, RG8, Series C, Al, Vol. 512, p. 133). But the idea of four ravelins does not seem ever to have been taken quite seriously by the builders of the fort. Hence the Duberger map of 1800 indicates only two ravelins, a southwest and a northeast; and even here, the northeast is shown by a dotted line. So far, the archaeology of the fort has not brought the northeast ravelin to light. It must nonetheless be admitted that the existence of this second ravelin as a defensive work outside the second gate seems a reasonable possibility.

The documentary evidence does not suggest any unusual delays in constructing the gates. Indeed, the gates are hardly mentioned in the documentation apart from the note written in 1800 by the commandant to the effect that "there are 413 ft. of the Fort not enclosed besides the gates" (PAC, RG8, Series C, Al, Vol. 512, p. 78). Perhaps this means that the gates were already constructed. At any rate, the watercolour by Lieutenant Walsh shows a gate in the northeast curtain wall, a gate with a hinged door and a fan-shaped structure above the lintel.

Although it is a common and fairly easy matter to think
of a fort as a total structure with all its parts present and functioning at any given time, it is difficult to envision a similar, historically valid picture for Fort St. Joseph, or even for its defensive works. There is much to do with process and sequence in thinking about these fortifications. Apart from the remarks above, there are notes like that of Captain Bruyères dated 1802 to the effect that none of the gun platforms in the bastions had been built; and the letter of Captain Muir dated 1806 saying that "neither platform or banquette has been raised within the picketting" (PAC, RG8, Series C, A1, Vol. 384, p. 133). Furthermore, the archaeology of the fort gives reason to doubt that the ditch which Lieutenant Duberger showed in 1800 as circumscribing the exterior perimeter of the fort was ever begun at all.

Another factor is that of the time span involved. Between Landmann's comment that the fort ought to be enclosed by a palisade, and Bruyères' report that the stockade had been completed, there is an interval of four years. Then, in 1806, Muir said that the fortifications had not been completed, since three ravelins were missing and platforms and banquettes had not been constructed. Just five years later, in 1811, Bruyères must describe the palisade as being "in bad repair and incapable of any defence" (PAC, RG8, Series C, D10, Vol. 1706, p. 127). He elaborated by saying that since the picketing was decayed at the roots, "a gale of wind blew it down in several places" and that repairs had been attempted by placing props inside and outside the palisade. The result, however, was a very uneven palisade, ranging between 9 ft. 8 in. and 13 ft. in height (PAC, RG8, Series C, A1, Vol. 514, pp. 238-40). Another difficulty arises in reconciling this description of decay with Sir George Prevost's report of 1812, which noted that Fort St. Joseph "consists of lines of strong pickets
enclosing a blockhouse" (PAC, RG8, Series C, D10, Vol. 1707, p. 3). It is possible that Sir George never visited the fort at all but was working on the basis of reports he had read. It is further possible that since he was unwilling to expend additional energy in fortifying the north, Sir George had a vested interest in suggesting that the fort was strong, despite facts to the contrary. At any rate, on 12 July 1814, the fort was burned by the Americans and presumably whatever had remained of palisade and fortifications until that time was destroyed.

There is thus a genuine problem in deciding what the condition and nature of the Fort St. Joseph defensive works could have been at any given point in the fort's history. Perhaps the only picture of complete and integrated fortifications possible is that suggested by the archaeological record, which often tends to neutralize and flatten out the temporal sequence of a relatively short-term phenomenon: everything that leaves an archaeological trace is seen more or less contemporaneously within a context of similar archaeological evidence.

This archaeological visualization, which really represents a reasoned combination of physical evidence with the available historical documentation, leaves an image of a somewhat irregular square of picketing, with a bastion in the shape of a truncated diamond at each corner. The diagonal axes through the bastions run almost directly north-south and east-west. Perhaps it is to be expected that the size of Fort St. Joseph should vary in the documents, since some of the maps (Duberger 1800) represent a fort that is yet to be and the rest (Molesworth 1853-54; Durnford 1823; Bartley 1925, and Ross 1925) reveal a fort long since gone. The lengths along curtain walls are variously given as follows: Duberger 200 ft.; Durnford 180 ft.; Bartley 185 ft., and Ross 200 ft. Field excavation
suggests, however, that the distance between a pair of parallel curtain walls, measured on a southeast to northwest or a southwest to northeast axis, is some 265 ft.

On his map of 1800, Duberger includes an inset entitled "Section through the Picketing." This is a highly detailed drawing and yet appears fairly stylized as well. Thus certain questions emerge regarding the accuracy of some of the features represented there. A basic question deals with whether the diagram illustrates a specific palisade constructed exactly as shown, or whether it rather represents an idealized conception of picketing which may or may not have been followed.

Looking at the Duberger sketch, one is left with a fairly coherent set of expectations as to the nature of the St. Joseph palisade. One would expect to find the curtain walls constructed on a series of frames, for Duberger shows a series of squared vertical support timbers set into the ground every 6.5 ft. along the line of wall. These timbers are joined to one another by squared beams some 4.5 ft. above ground level. Under the ground, each of the vertical timbers becomes part of a sophisticated support framework. Underground, at a depth of 2.5 ft., the vertical timber is set into a horizontal beam 4 ft. long and joining it at a right angle. Rigidity of the arrangement is assured by a diagonal beam running as the hypotenuse of a right-angled triangle from the end of the horizontal to a point on the vertical just above the level of the banquette that will be described later.

Duberger seems further to indicate that curtain walls are fashioned of two rows of rounded, vertical, adjacent pickets. One of these rows is on the outside of the first horizontal beam mentioned above, and extends above it several feet, each picket in the row being pointed at the top. It is not possible to say whether or not the pickets
were shaved flat on the adjoining faces, nor can it be judged with certainty whether these pickets were set into the ground or sat on the surface. The height of the outside row of the palisade is 6.5 ft. A second row of rounded adjoining pickets composes the interior face of the curtain wall, and these posts are staggered vis-à-vis those of the outer row. The second row ascends vertically only to the horizontal beam and is affixed to it. The pickets are set some 10 in. to 1.0 ft. into the ground, and the interior banquette, a mound 1.5 ft. high, is piled against the wall. Every 25 ft. along this interior row, rectangular gun slits are carved into the junctures of two posts at a point directly under the horizontal beam. These slits measure 3 in. by 6 in.

Duberger shows that between each of the vertical support timbers there were 13 pickets in the outside row and 12 in the inside. Outside the curtain walls, Lieutenant Duberger has shown a ditch 3 ft. removed from the wall and measuring 6 ft. across at ground level and 3 ft. deep. The walls of this ditch sloped inward. Finally, the exterior wall of this ditch extended up to a height of 1.5 ft. above ground level to become one face of a mound which seemed to form generally the most remote feature in the fort's defensive works. A second diagram by Duberger indicates that the structural details of bastion walls are similar to those of the curtains.

The archaeological record is at least as valid as the historical; the two records can act as checks one upon the other and, when one struggles purposefully with them, can shape an impression in the mind of how things were and why.

Prior to excavation in 1963, the remains of St. Joseph's fortifications were not completely hidden. Once grasses had been burned off the northwest curtain surface, a slight depression lying along parts of the former curtain
wall could be distinguished. At the left shoulder of the east bastion, one could see a surface depression which might have been the ditch in Duberger's drawing. Elsewhere, memories of the fortifications were even stronger and more precise. In the west bastion, the palisade trench was marked on the surface by a 2.5-ft. wide line of stones which had once served as supports for the upright pickets. The centre of the west bastion was, and still is, marked by several cobble configurations and low mounds, strongly suggestive of a base for a gun platform. And in the north bastion is the most conspicuous evidence of all, the standing masonry of the magazine. The bulldozing of the south bastion in 1948 had removed the surface, but even at that, the operator, Mr. Littleton, remembers having torn up wood and charcoal, presumably from the palisade walls.

Curtain Walls
Excavation on the curtain walls and bastions proceeded through a series of trenches of varying dimensions. Along the curtain walls, the method involved bisecting the projected line of the wall, once each for the southeast and northwest curtains, twice for the northeast curtain and three times for the southwest. (These last two curtains were those broken by the gates.) Such initial bisection was followed variously by profiling the features and excavating, or both. The general method applied in the bastions involved locating a unit precisely on each of the corners and taking it down with whatever extensions or reductions the emerging evidence seemed to indicate.

As the excavations along curtain walls proceeded, the first features to become apparent were cobble-boulder concentrations and the outlines of palisade trenches and support pits. The palisade trenches were of a fairly consistent width, being variously 2 ft., 1.5 ft., 2.5 ft., 2
ft. and 1.67 ft. wide. Some of the differing measurements probably reflect simply the random variation accompanying any digging of a protracted trench. Some of the grosser variations may be expediencies adopted for the avoiding of large boulders (such as that in the diagram for operation 5a, the northeast curtain trenches) or for the preparing of holes adequate to accommodate support boulders as well as pickets of varying sizes. Some variation can be accounted for by the depth at which the trench was archaeologically visible since, in some areas, bulldozing had removed the upper portion of the trench.

These palidade trenches were also of a fairly consistent depth: 2.5 ft., 2.3 ft., 2.58 ft., 2.75 ft. and 2.5 ft. (listed in an order accompanying the widths listed above). Generally the sides tapered inward until the width at bottom was only a few inches but this, too, varied. In some cases the bottom width was as much as a foot; in others it was simply a point. Once an area was taken down to subsoil, the palisade trench would appear as a band of characteristic fill: the normal fill colour and material would be a dark brown soil containing humus, quite similar to the topsoil except, perhaps, in containing less gravel. Only rarely did the colour of this fill diverge from the norm, at least along the curtain walls. The sole example was in the west half of the southwest curtain where a dark grey fill was encountered which contained gravel, pebbles and boulders. Intermixed with this fill was found cultural refuse in the form of ceramic fragments, pieces of brick and mortar, glass fragments, barrel hoops, bones and nails.

Along the curtains, at intervals not yet determined with certainty, large rectangular pits appeared at right angles to the curtain walls and extended inside the palisade. At each of the two gates, a measure of the distance separating support pits was obtained and this came
to approximately 10 ft. This figure may be representative of the palisade as a whole; but since the gates are a special case, it might equally be true that the figure is unusual. The gates, after all, represent a break in the palisade line. The support pits were often distinct from the palisade trenches in colour as well as in configuration, and in only one case was the dark humus-containing fill of the trench repeated in the pit. More typically, the pit would be of a greyish or greyish cream colour, often more dense and clayey than the soil of the trench; in the single case where the trench itself was grey, the accompanying pit fill was brownish. The general dimensions of these pits conform fairly closely to one found in the west section of the northeast curtain, 2.83 ft. wide by 8.17 ft. long by 4.17 ft. deep. It seems that these pits are slightly deeper than the palisade trenches.

As excavation continued in these pits, it gradually became apparent that they were, in fact, pits designed to house the support beams, timbers and ties shown by Duberger. Two pits in the southwest curtain were particularly important diagnostically. The first pit in the west section of the wall contained a wooden beam 1 ft. wide, oriented at right angles to the palisade trench and protruding from the pit into the trench. As it happened, the upper central part of the beam was rotted out. A second pit found in the east portion of the curtain wall contained a horizontal support beam, the end of a diagonal tie, and enough of a vertical picket to indicate the construction of the support framework. For our fuller understanding, we had to await certain discoveries in the bastions, which will be described later. The support beam discussed here was 5.5 ft. long by 0.7 ft. wide by 0.3 or 0.4 ft. thick. In the middle of the beam's upper surface, there was a slot 0.3 by 1.3 ft., positioned some 0.6 ft. from the end of the beam. An
upright was fitted into this slot at right angles to the beam by a simple mortice and tenon joint. It appears that the tongue at the bottom of the member which fitted into the slot was fashioned by making a cut up the centre and removing half of it to a height of several inches. Thus the tongue would fit into the slot and a flat surface at the end of the upright would rest on the beam, off to one side. Another more complex type of mortice and tenon joint will be discussed later in connection with work on the bastions, where examples of it were found. The joint attaching the diagonal tie to the horizontal beam was a similar mortice and tenon but one which allowed the diagonal to incline at a 45 degree angle toward the vertical member. Another feature of this support structure was a sliver of wood 0.05 ft. thick and 0.3 ft. wide which, positioned as it was under the southwest end of the horizontal beam, may have been used to level the entire structure accurately. The carpentry of these cedar beams appears excellent.

Except for one instance where the support pit extends downward to a depth of 4.17 ft., it may be said that these support fabrics rest on a bottom generally approximating the 2.5-ft. depth indicated by Duberger. The numerous cobbles in the support pit fills constitute a final feature (which was already apparent in the curtain excavations and was to become more important in the bastions). In the bastions, such cobbles and boulders apparently served as a weight to increase the support potential of the arrangement within the pit.

Thus far in the discussion, the only indication of the spacing of support timbers along the curtain walls derives from the two pits in the southwest curtain. From the centre of one to the centre of the other is a distance of 100 ft. If, as Duberger suggests, the timbers were evenly spaced, then the measure of separation between them would be a
factor of 100.

Excavations of the palisade trench along the curtains disclosed a total of 18 pickets and 7 postmoulds. It would appear that when the palisade was constructed, a trench was dug as described above and the posts were inserted. This is strongly suggested by the nature of the trench itself and by the character of the pickets which appear to have been flat-bottomed. This may reasonably be presumed because of their position (resting on the trench bottom) as well as because of their morphology. Once these pickets were inserted in the trench, they were apparently stabilized by cobbles and boulders. Evidence for this is abundant at Fort St. Joseph. One of the more striking examples is in the southeast curtain where a row of seven contiguous postmoulds may be seen, flanked on each side by a parallel row of cobbles. Again, in the west section of the southwest curtain, the remains of four pickets were uncovered; limestone boulders and slabs had apparently been placed against the bases of these pickets along their northeast edge before fill was introduced into the trench. A third example of boulders as support phenomena leaves more to the interpretation of the archaeologist. At one point in the northeast curtain, a support pit conjoins the palisade trench and at their juncture there is evidence of the existence of a third pit, outlined in part by concentric configurations of cobbles. Within the ring of cobbles there is one picket now visible and several more could have been contained. Theoretically, the boulder configuration was intruded into the palisade at some time after its completion to serve as support for an upright that was, perhaps, replacing one that had decayed.

In addition to the two types of support fabric described above (namely timbers and beams, and cobbles and boulders), evidence was found which suggests a third,
although this third type is connected not with the initial construction of a young fortress but rather with the repair of a fort in decay. In the southeast curtain there appears a circular pit, 1.33 ft. in diameter whose centre is 3.6 ft. removed from the outer edge of the palisade trench. The location of this pit outside the palisade suggests that it could have contained the butt end of a post set as a prop against the curtain wall. The depth, which is 1.25 ft., seems adequate to accommodate such a device. A similar feature occurs near the right shoulder angle of the south bastion where a solitary wooden picket is visible, one foot removed from the outer wall of the palisade trench. This, too, may represent a prop placed outside the walls to offset the effects of decay. Neither of these two scraps of evidence can, of course, be considered conclusive. The first may be some aboriginal feature, while the second seems too close to the palisade wall to be an effective prop. Yet, in the light of Bruyeres' comment in 1811 that such props had been placed inside and outside the palisade, the possibility ought to be remembered and considered if further excavation reveals similar features.

The most useful information regarding pickets derives from two areas: one in the northwest curtain, and the other near the right shoulder of the south bastion mentioned above. It would probably be most valuable to discuss both areas together. The unit along the curtain is represented by 7 wooden pickets, while that in the bastion contains the fragmented wooden remains of 12 pickets in a row, with a space representing one picket between numbers 11 and 12 from the northeast profile. The latter also contains most of a horizontal support beam. Although the pickets here were not particularly substantial, the floor was taken down around them, leaving the wood fragments standing in generally picket-shaped pedestals of clay.
The pickets in this area retain a generalized elliptical shape; they seem to have squared bottoms and to rest on a layer of cobbles ranging from 0.3 ft. to 0.5 ft. in thickness. These cobbles could, it appears, have served two purposes: they might have provided a more substantial base for the pickets than the floor of the trench would otherwise have done, or, in answer to the moisture of the soil, they might have served to drain the base of the palisade and thus forestall decay of posts. Similar cobble layers will be described and discussed later. As for the pickets themselves, several comments might be made about the picture they present. It seems obvious that there was only one line of these posts and this line is now very well defined. One might generalize and say that nowhere on the site has more than one line of palisade posts been found, either in the form of pickets or moulds. At the moment, it seems reasonably justifiable to infer that only one line of pickets existed in a given wall, despite the suggestion in Duberger's drawing that two lines were present.

A further consideration is that in the plan these pickets are not contiguous, although they do seem fairly close. Contiguity of pickets, as archaeological phenomena, has not been observed on the site, although in certain areas, such as the southeast curtain and the northeast gate area, lines of contiguous postmoulds have been recorded. These postmoulds were very faint within the dark trench fill, however, and could really only be seen as a concentration of wet soil after a rainfall.

Contiguity can not be discussed in isolation, for three concepts regarding pickets are closely related; namely, size, shape and contiguity of individual pickets. The question of contiguity or non-contiguity, once decided, will play an important role as a qualifier of statements regarding original size and shape. At the outset, it would
be well to indicate generally the maximum diameter of pickets with which one could be dealing. Duberger's drawing indicates some 13 pickets per 6.5 ft. of wall length, or 13 pickets each measuring 6 in. in that diameter which extends along the curtain wall. Excavations at the northeast gate suggest the possibility of there having been 20 pickets set along 10 ft. of wall, or 20 six-inch posts in this space. Thus both documents and archaeology suggest that the maximum diameter of contiguous posts along the axis of the wall would have averaged about six inches and we can adopt this as an upward limit for our reasoning about contiguity.

Adjoining pickets also seem to be suggested both by archaeological and documentary evidence as well as by the tradition of reconstructed forts contemporaneous with Fort St. Joseph (e.g., Fort George). Both Duberger's engineering diagram and Walsh's more artistic watercolour indicate that the pickets in palisade walls are in direct contact with one another. Furthermore, as noted above, two areas in particular have revealed lines of postmoulds that seem definitely contiguous although the features are rather faint. The question arises: Why, if the evidence appears so conclusive, should one have any doubts about contiguity?

The answer stems from a series of seven pickets found in the northwest curtain. One of these is, in cross-section, so obviously rectangular that there can be no question about its original shape; the others also seem to have been rectangular. Two sides of each picket are very flat-cut and variations in the other two sides seem to be the result of pieces breaking or decaying off along the grain. The heart wood of these pickets is off-centre, a fact for which there are two possible explanations: either the posts were deliberately cut off-centre, or the original growth rings were eccentric. In either case, however, the result is a very special type of decay action which could
(as will soon be shown) lead to the formation of round, contiguous postmoulds developing from rectangular, separated pickets. Measurements of the cross-sections of these posts are as follows:

1) 4-1/4 in. x 2 in.
2) 4-3/8 in. x 2-1/4 in.
3) 4-1/2 in. x 2-3/8 in.
4) 4-3/4 in. x 2-1/2 in.
5) 5 in. x 2-1/2 in.
6) 3-1/2 in. x 2-1/2 in.
7) 2-3/8 in. x 2 in.

It seems, then, that the six-inch diameter suggested by both archaeology and documentation as necessary for contiguous pickets was not the original dimension of these pickets.

The factor of decay, however, involves two effects which are pertinent to the present discussion. The first of these, the destruction of wood, dictates that a decaying post will become smaller. Thus a picket measuring some 4.5 in. at present may well have been somewhat larger when originally erected, thereby achieving a closer approximation to the six inches we have established as necessary for the effect of physical contact. The second factor relates to the process of decay and the way in which a post-hole of a given size and shape derives from a given picket. The sort of picket we have described, although rectangular, could yet have produced a circular postmould, for with the eccentricity of the heart wood and the nature of the wood ring, two types of surfaces are exposed to decomposition: the harder grain of maximum compression and the softer wood between the grains. The accompanying diagram indicates these two surfaces as well as the total effect of decay on the two surfaces. Generally, it may be said that decay proceeds more rapidly where the softer surface is involved. The general effect of such unequal release of acid is to
produce a circular area where the soil has been altered so it retains moisture for a longer period of time. Thus a postmould may not be visible when an area is dry, but as the environment dries following a rain, a darker area of moisture can be seen as a circular postmould. The area thus affected by decay may be exaggerated and pushed out from the picket itself because of the fact that the fill of the trench is itself strongly humus-like in character.

It appears, then, that at present the question of contiguity cannot be resolved. The documentary evidence for contiguity cannot be ignored; but neither can one overlook the presence of rectangular pickets of a size somewhat smaller than would have been necessary in order to have produced contiguity. The present size of the pickets implies the original existence of spaces between posts along the walls but if this conclusion is adopted, we are left with the question of why such spaces would have been there. It is possible that the Duberger drawing is correct in showing two lines of posts staggered vis-à-vis one another, even though no archaeological evidence for this second line of posts has yet been found. It may be that the posts of this second line were set upon the ground surface or, alternatively, sunk only into the topsoil. Were either of these possibilities true, postmoulds would not necessarily appear in the trench fill or the subsoil. Thus, at this point, one is given Hobson's choice in the matter of contiguous pickets along the curtain and bastion walls.

Again two possibilities exist for the shape of the pickets. They could either have been rectangular, as described above, or they could have conformed to the type evident at Fort George and suggested by Duberger's drawing. This latter type consists of rounded pickets, each with two faces cut flat so the pickets may adjoin flush. The only evidence of this last shape is, in fact, that of the
Duberger drawing. If, however, it develops that the pickets were in fact contiguous, then this shape appears to be quite reasonably consistent with the concept of adjoining pickets.

Finally it can be said that the seven pickets described above were analyzed by Dr. R.W. Kennedy of the University of Toronto Faculty of Forestry. His report, indicating that they were northern white cedar, is consistent with Captain Bruyères' statement of 1811 that the palisade was constructed of high cedar pickets.

Excavations along curtain walls have also disclosed evidence suggesting chronological sequence. The succession of construction activities is indicated by features in the west section of the northeast curtain. Here, the facts that the black palisade trench bisects a grey support pit and that the pit fill thus extends around and below the fill of the trench suggest that this support pit was dug at some time prior to the excavation of the palisade trench proper. Furthermore, the respective integrity of the two fills indicates that the support fabric was laid down and the pit filled in at some time prior to the erection of the palisade proper. A concentric arrangement of cobbles within a dimly outlined pit intruding into the palisade trench at its point of juncture with the other pit, and the presence of a picket adjoining one of the cobbles, suggest that some time after the completion of the palisade as a whole a small pit was dug here and one or more new uprights supported by cobbles were added to the palisade. A further possibility is that such a repair was necessitated by the decay of the original uprights. The time span between the refilling, at least, of the support and palisade pits does exist, but perhaps the concept of it is reduced by the similarity of refuse in the two features. This refuse consisted of pieces of red brick and mortar, glass, barrel hoops, bones, nails and ceramic fragments, some of which showed traces of heat and charring.
The charring makes possible another chronological inference. Perhaps this burned refuse may derive from the burning of the old bakery in 1802. If such is indeed the case, the implication is that the northeast curtain may have been the last section of the palisade wall to be built. There is ample evidence for the destruction of the palisade by fire in 1814. Charred pickets, charcoal fragments and burned twigs found in the fill of various features are sufficient to show without a doubt that the curtain walls were burned.

Two features described in the historical documentation and depicted by Duberger have not yet been discovered. No traces of either banquette or external ditching have yet appeared. The banquette may very well not have been constructed at all. As late as 1806, Captain Muir was writing to the effect that "neither platform or banquette has been raised within the picketting" (PAC, RG8, Series C, A1, Vol. 384, p. 133); in fact, it seems likely that the banquette went into the same limbo of ambiguous existence as the northwest and southeast ravelins also listed by Muir as among the missing. The most northwesterly part of the trench in the east section of the northeast curtain was opened in a specific attempt to reveal external ditching, but no evidence was forthcoming here or elsewhere in the curtain operations. At the left shoulder of the east bastion, however, there is a surface depression which may be a ditch and which does, at any rate, warrant further exploration. But thus far, no external ditch has been located with certainty at Fort St. Joseph. In explanation of this, the suggestion has been advanced that the boulder beach lines about the fort were relied upon for external defence in preference to the militarily more common ditch.
Bastions

The bastions were examined archaeologically to pinpoint the five angles of each bastion and to outline construction features. Investigations were precisely placed to indicate the position of each angle: left re-entrant, left shoulder, salient, right shoulder and right re-entrant. Excavation of the east bastion was not completed because of time.

Upon surface observation and excavation, each bastion revealed unique features. The north bastion contained the powder magazine. The east bastion was best preserved and showed the only vestige of a ditch. Basically, it was an earthwork consisting of a mass of piled boulders, cobbles and pebbles in a deposit of dark fill. The south bastion was bulldozed in 1948 and no trace of it remained at surface. The interior of the west bastion contained subsurface boulder formations as well as low earthworks which may reflect the former presence of a gun platform.

The east and west bastions offer promise that further excavation may reveal details of gun platforms and their construction.

The construction of bastions is similar to the construction of curtain walls. The trenches, support beams, pickets and support pits are similar.

The type of palisade trench along the curtain walls is characteristic of the bastions and is a dark brown fill containing humus of similar dimensions and depth. The right re-entrant angle of the north bastion is unusual because it is 5.6 ft. deep and has a pointed bottom. The fill is also unusual, being 1.1 ft. of yellow silt overlying brown, silty trench fill. The fill soil of the left shoulder of the south bastion is grey; the right shoulder is white clay. These are all deviant bastion trench fills. The most extreme size variation in trenches occurs in the left shoulder of the south bastion where the flank wall trench is
5 ft. wide. The right shoulder has a trench with almost vertical sides.

The left re-entrant angle of the north bastion appears to contain a "trench within a trench," a grey-brown and light brown mottled silty fill 5 ft. wide and 1.1 ft. deep. This "trench" may have contained the wall pickets.

A study of the support structures of the bastions reveals that they were built to produce greater strength and support, and were of greater complexity than the curtain walls. The support pits were larger and possibly more frequent along the bastion walls. More use was made of cobbles. Support pits are, in general, similar to those of curtain walls in size, shape and colour. However, the right re-entrant angle of the north bastion reached a depth of 7.9 ft., the deepest palisade feature upon the site.

This marked variation in depth may have resulted from an attempt to neutralize the sloping surface at this point to maintain a level trench and to compensate for a slight hillock at this point. It is also possible that, for a period of time, this north end of the curtain stood alone as the end of an otherwise unsupported wall; hence the greater depth for support.

The only other variation in trench form is at the left re-entrant angle of the north bastion where the pit tapers toward the corner post; a few feet from the post it is 4.5 ft. wide, tapering to 2.3 ft. at the post.

The support pits from the bastion corners appear in three variations, an arrow, a T or a Y. These pits extend inside the fort. The arrow-shaped trenches appear at the interior salient angles of the bastions and the left and right shoulders. The T- and Y-forms occur at the left and right re-entrant angles of the bastion in random manner.

Because the bastions were simply test-excavated to determine structure angles, we were not able to determine
the exact spacing of support pits. Two such pits were located, however, 21 ft. apart, on the right flank of the south bastion. The area between was not dug; thus two or three support structures could be possible at distances of 10.5 ft. or 7 ft. The 10.5 ft. measurement conforms to evidence associated with the land gate, whereas 7 ft. is in accord with the Duberger drawing.

A very well-preserved support structure was found at the right re-entrant angle of the north bastion. The shape of the components is indicated in the accompanying diagram and the nature of this mortice and tenon joint at the upright is contrasted with a second, found along the curtain wall. In the case of the bastion upright, the lengthwise axis of the support beam runs parallel with the diagonal of the upright beam cross-section. The support beam measures 6 ft. long by 0.6 ft. wide by 0.42 ft. thick. Measurements of the upper surface of this support beam show that the slot for the upright is set 0.8 ft. from the end of the beam and is 1.0 ft. long and 0.3 ft. wide. The slot for the diagonal tie is 0.8 ft. from the opposite end of the beam and measures 1.0 ft. long by 0.2 ft. wide. The slot for the upright is at right angles to the upper surface of the beam, while that for the diagonal slopes at a 45-degree angle toward the nearest end. The upright itself is a squared cedar log measuring 1.0 ft. by 1.8 ft. by 2.5 ft. high. The tongue is cut out of the end of this log at a diagonal from corner to corner and measures 1.0 ft. long by 0.4 ft. high by 0.3 ft. wide. The diagonal is 3.42 ft. long by 0.68 ft. wide by 0.4 ft. thick and the tongue, measuring 0.6 ft. by 0.2 ft. by 0.2 ft., is cut out of the end of the piece and lies in the centre, parallel to the long axis of its cross-section. Both the upright and diagonal are secured to the beam by wooden pegs. Remnants of the ends of these pegs are visible in the beam itself. There were two pegs used
for the attachment of the upright. There are two holes, 0.1 ft. in diameter and set 0.3 ft. apart along the centre of the beam. For this diagonal, one hole seems sufficient and is in a similar location and of a similar diameter. The photographs and drawings of these joints and timbers make the matter clear.

There is extensive use of cobbles and boulders in the bastions. They appear to be used primarily for support and drainage; however, the various ways in which they are used and positioned present a total picture which seems much richer than the record of their use along curtain walls. This could be explained by the fact that more information is available for the bastions as a whole than for the curtains; or that bastion excavations primarily explored corners where special measures appear to be taken as a matter of course.

In most areas, cobbles and boulders are used in greater profusion than along the curtains. They appear in the fill of support pits and palisade trenches and often are set in lines parallel to the lines of the wall, on one or both sides of the pickets. Indeed, pits and trenches often appear first as concentrations and configurations of cobbles.

Several unusual features also appeared. At the salient angle of the south bastion, a limestone or dolomite slab was found under the southern end of the support beam. It probably served as an added support for the upright. In two areas, the right shoulder of the south bastion and the right shoulder of the west bastion, pickets were seen resting not on the bottom of the palisade trench but rather on a layer of cobbles about 0.3 ft. thick. This phenomenon is visible in the photograph of pickets from the south bastion mentioned earlier. Two explanations have been advanced: 1) that the cobbles served to provide additional support for pickets, or 2) that they served to drain the base of the
palisade. The second explanation is more likely as the area is very damp and any water thus drawn off might offset to some degree the advance of decay and thereby lengthen the life of these pickets.

Another instance of the use of boulders in a bastion is precisely at the salient angle of the west bastion, where two large sandstone rocks on the surface suggest that they were set as props against opposite sides of a picket.

Two other facts in connection with support construction warrant mention. The first is the use of material other than rock for supports. This is particularly evident at the right shoulder of the south bastion where the palisade trench contains a band of white clay 1.83 ft. wide, running adjacent to the line of pickets. The second is a transformation worked upon a large limestone rock which was used at one time for support in the south bastion. This boulder showed extensive traces of burning and was tinted red and yellow. Together with the charcoal fragments, this provides conclusive evidence that this bastion, like the curtains, was destroyed by fire.

An unusual feature is present in the east bastion. At the left shoulder there is, in addition to the palisade trench, a second area of dark brown trench fill, parallel to the first and removed from it by several feet. There is a postmould in this second trench. It is possible that this feature represents the trench and one of the supports for an elevated walkway within the fort; however, no evidence has been found for such a walkway elsewhere at the fort nor is one described in the documentation.

Another problematical feature is present at the west bastion. Here, along the right face, there are heavy concentrations of boulders which, it has been suggested, represent artificial banking of material against the outer side of the bastion wall for support.
Gun Platforms
So far we have discussed the bastions as structural entities with emphasis upon bastions as extensions of curtain walls; however, the main distinction between a bastion and a simple corner lies in the gun platforms it contains and its defensive potential. The bastions were not excavated to discover evidence of gun platforms. Thus we can only say that, according to the documentation, they did exist, at least in the east and west bastions. It is further possible to refer to the cobble configurations and mounds in the west bastion and suggest that future excavation of and around these features might uncover traces of the platforms. The intact state of the east bastion suggests that similar work there should also be productive.

The documentary evidence is quite precise as to the conformation and nature of gun platforms. Duberger's drawing, entitled a "section through the Platform," indicates that the gun platforms were diamond-shaped structures, centrally located within a bastion and raised upon a wooden framework. The framework, which rests upon the ground surface, is 25 ft. long and is set 10 ft. back from the salient angle of the bastion. No indication is given of width. The platform itself is raised above ground on what appear to be six uprights, the entire structure being stabilized by four diagonal beams. The platform is 8 ft. above ground level and the walls of the platform are an additional 6.5 ft. above this level. There are four cannon slits in the wall: these are open-ended at the top and, beginning 1.8 ft. above the floor of the platform, measure 2 ft. by 4.2 ft. The accuracy of detail in Duberger's drawing must be judged finally against the fact that on his map, he shows a gun platform in each bastion, while other documentation, mentioned above, indicates that these were
present in only the south and west bastions.

As far as the analysis of the bastions is concerned, there is little evidence yet uncovered that is suggestive of the sequence of construction. In the north bastion, however, charcoal, carbonized wood, mortar fragments and other cultural refuse have been discovered in the palisade trench fill and have been tentatively interpreted as debris connected with the building of the powder magazine in 1804. If this interpretation holds true, it indicates that the magazine was built prior to the north bastion and that the north bastion was the last to be built.

Ravelins

The next matter of concern both historically and archaeologically is the ravelins or redans. Both terms are commonly used in the documents to describe the triangular outwork at Fort St. Joseph. The first of these, "ravelin," is defined as "an outwork of two faces forming a salient angle outside the main ditch before a curtain" (A Military Dictionary 1778). The second term, "redan," is not really applicable to the structure(s) at Fort St. Joseph since, while it may describe a feature similar to the ravelin, it refers to the feature in its use as a fieldwork. Thus the intimate association of the feature with a fort is not subsumed under the term "redan."

The history of ravelins at the fort has already been described above. In summary, the documentation indicates that by 1802 the southwest ravelin had been completed while the northeast was only "traced." In 1806, this second ravelin was unfinished because the fort was described as "deficient in three ravelins" (PAC, RG8, Series C, Al, Vol. 384, p. 133); however, the evidence of the previously discussed maps suggests that, in addition to the southwest ravelin, a second, northeast ravelin may have been
constructed outside the northeast gate. Archaeology has so far revealed only the first ravelin outside the water-gate, while restricted excavation has not shown any similar feature outside the land-gate. Thus present thinking about the existence of ravelins suggests that at least one existed and that a second may have existed as well, for logic would support the need for another outwork in front of the second gate.

Exploratory trenches in connection with the ravelins were initially begun outside the northeast gate but were curtailed before it was located. Such trenches were located on the basis of plans such as those of Duberger of 1800. In fact, the ravelin or ravelins were more expansive than indicated on the plans but this was not discovered until investigations were undertaken in the area of the southwest ravelin. No second attempt was made to investigate the northeast ravelin by expanding the earlier trenches. In these circumstances, if the northeast ravelin did exist and if it were of the same dimensions as the southwest ravelin, the negative results of the initial investigations can be understood and clearly do not necessarily preclude the existence of a northeast ravelin.

In many ways the water-gate contains a number of parallels to the curtain walls in terms of its construction. Pickets were set into a trench with nearly vertical sides. The depth, at present, runs from 2 ft. to 3 ft. while the width is 2 ft. at subsoil and so may have been 3 ft. at the surface. The fill is also predictable on the basis of curtain construction; it is black, damp soil containing numerous pieces of carbon and some cultural refuse such as nails, glass fragments and brick fragments. There were also seven partially carbonized fragments of wood uncovered in the ravelin trench and these seemed to be in two clusters centred around points of juncture of the main trench with
support pits. There was one exception to this general clustering effect of the remains. The pickets were to be seen as loosely connected clumps of pulpy wood fibre and carbon 0.5 ft. to 0.67 ft. in diameter. While most of the wood was completely carbonized, those few fragments that were unchanged were identified in the field as cedar. It appears, then, that a further parallel with the curtains can be discovered: the ravelins must have been burned as well, probably along with the rest of the fort in 1814.

Along the 47 ft. of ravelin trench actually exposed, there were two sets of support trenches visible; one midway along the wing of the ravelin and the second, 20 ft. closer to the salient angle of the ravelin. The pits differ from those along the curtain trenches in that they emerge at right angles to the main trench, but do so in both directions from the line of wall. Thus it appears that in the ravelins, either one long beam or a pair of support beams were set, one inside and one outside the wall, at 20-ft. intervals along the outwork. In the absence of any actual beams, it is probably safe to assume that these particular support beams were generally similar to those found elsewhere on the site.

Only the south wing of the ravelin was excavated, but it is quite reasonable to assume that the west wing mirrors it. It is also to be assumed that a line projected through the southwest gate bisecting the fort will also bisect the salient angle of the ravelin. In summary, then, one can say that the south wing of the ravelin measures 85 ft. in length with its free end located 17 ft. beyond the southwest curtain wall. It is estimated that the salient angle of the complete ravelin measures some 62 degrees.
Gates
The two known gates at Fort St. Joseph were precisely where one would expect them to be located. One bisected the southwest curtain, faced upon St. Mary's River and became part of the "front" aspect of the fort. It is often termed the "water-gate." The second, bisecting the northeast curtain and directly opposite the front gate, was oriented toward the farmed neck of land joining the hill to the mainland. It is often termed the "land-gate." Though it had been the intention to protect both gates with ravelins, actual evidence points only to a ravelin before the water-gate.

Documentation on these gates is very sketchy. Only one general reference has been located: in 1800, "there are 413 ft. of the Fort not enclosed besides the gates" (PAC, RG8, Series C, Al, Vol. 512, p. 78). Duberger's map of 1800 is the sole plan which shows the gates. Here they are represented by 4-ft. or 5-ft. breaks in the centres of the lines indicating northeast and southwest curtain walls. None of the other maps made after the fort was burned show the locations of the gates.

Lieutenant Walsh's watercolour painting illustrates the northeast curtain wall of the fort. In the centre of the picture there is a gateway with a hinged door and a fan-shaped structure above the lintel. However, in view of the distortion present in the painting, it is not possible to estimate the width of the gate.

The northeast gate is, typically enough, an interruption in the northeast curtain wall. Thus the gate area includes a combination of features: the pickets of the palisade; the rectangular horizontal support pits; the gap in the palisade line; the cobble paving, and the lintel. The pickets, palisade trenches, support pits and support beams follow the general pattern found elsewhere.
The archaeological evidence from gate excavations is summarized in the floor diagrams for operations 5K and 5L, showing the northeast and southwest gates respectively.

Vestiges of the northeast gateway are seen just a few inches below the present surface where the roadway is revealed and again at subsoil where the substructure of the palisade and gateway is clear. The surface features present indicate that during the occupation of the fort, a cobbled paving, traceable for about 20 ft., had been laid inside the palisade leading up to and passing several feet beyond the sill of the gate. The paving was about 8 ft. in width. The paved area was humped up centrally along its long axis, suggesting that the sides had been depressed by the wheels of passing vehicles. Vestiges of a wooden gate sill, stabilized along either side of a row of cobbles, still remain today.

At a depth of 2 ft. in the yellow subsoil, evidence of the substructure of the gateway was clear. The gateway was represented by a gap in the palisade trench 8 ft. in width (or 11 ft. in width from centre to centre of the flanking rectangular support pits). The support pits at either side of the palisade trench are 7 ft. in length and 3 ft. in width and lie at right angles to the trench. They contained the remains of horizontal stabilizing beams of cedar on one of which (measuring 4.3 ft. by 0.7 ft. by 0.35 ft.) the flanking main upright members of the gateway rested. An angle beam braced the upright member upon the horizontal support. Such a construction is, in general, indicated in the "Section through the Picketting" by Duberger and is borne out in archaeological evidence. The 8-ft. wide cobbled paving at the surface passed through the gap, as indicated at the 2-ft. depth by the cessation of the picket trench. The cobbled pavement occupied the northwesterly 7 ft. of the 11-ft. space for the gateway. The remaining 3
ft. lying northeast of the well-defined and regular border of the pavement may have accommodated a drainage ditch. The necessity for a cobbled roadway is probably related to the boggy nature of the ground at this spot. It was from below the area of the presumed drainage ditch that a deposit of broken dishes and other articles was retrieved. Thus the sequence of events here involved the filling and laying of a cobble roadbed across an area which had previously been a rough cart track through a naturally wet depression on which refuse had accumulated.

It is probable that the actual gateway was 10 ft. wide. Whether the gateway was spanned by a single or a double gate is not known nor can we be certain whether the lintel supported the fan-shaped structure depicted in Lieutenant Walsh's painting. This wooden fan-shaped structure may, however, derive from the stone arches which sometimes form the gateways of forts boasting peripheral earthen embankments, as for instance at Fort Wellington, Ontario. Lest so wide a gateway seem a weakness in the defensive works of the fort, it should be remembered that no defensive occasion ever arose at Fort St. Joseph and expectations of attack may have been slight since the picketing in the northeast palisade was not completed until 1802. On the other hand, the convenience of a gateway that would allow passage of a cart would be of great advantage in the movement of farm produce and timbers into the fort itself.

The location of the southwest gate, the main or water-gate of the fort, is indicated on Duberger's plan of 1800 where it is indicated as a gap in the wall about 5 ft. wide. (The watercolour painting by Lieutenant Walsh in 1804 illustrates only the northeast and southeast curtain walls. It is therefore of no assistance in regard to the southwest curtain and gate.) Its location is entirely logical. The southwest curtain wall of the fort faces directly on the
main channel of St. Mary's River. This is the "front" wall of the fort. Between this wall and the river stood a ravelin; beyond the ravelin, in the river, lay a schooner wharf. The long axis of the wharf, the salient angle of the ravelin and the central point in the southwest curtain wall lie along a straight line which bisects the fort. It is at this central point in the southwest curtain that the main gate is located.

Summary of historical evidence for the southwest gate is that it was located centrally in the southwest curtain wall and was 4 ft to 5 ft. in width.

Archaeological evidence in this excavation unit consisted of two types of features. First, a trench, wider and deeper than the palisade trenches in the curtain walls, running the full length of the long axis of the 30 ft. by 10 ft. excavation: second, three rectangular pits cut across the aforementioned trench, at right angles and lying 10 ft. apart, centre to centre. These rectangular pits are similar to those found at other locations along curtain walls.

Unlike the situation in the northeast gate where the gap in the palisade trench marks the gateway, the trench at the location of the southwest gate not only continues across the gateway but expands in width and depth to mark the area of the gateway. The sloping sides of the trench indicate a trench width beneath the gateway of 4 ft. at a depth of 1.5 ft. The length of this expanded portion of the trench below the gateway is 22 ft.

Three rectangular pits cut across the 22-ft. length of the expanded trench at right angles, one at each end and one in the middle. These rectangular pits are 3.5 ft. to 4 ft. in width. Their lengths are unknown, for lack of time did not permit completion of the excavation; however, they do extend 5 ft. beyond the inside edge of the expanded trench and 18 in. beyond its outside edge. Depths of the
rectangular trenches are not certain, since the use of fill containing massive boulders and the constant flooding at the conclusion of the season inhibited complete clearance of the pits; however, beams in these rectangular pits lay 3 ft. to 4 ft. below present surface.

Fill in the central rectangular pit was like that found in the northeast palisade, a light buff or grey clay. Fill in the expanded trench was very black and contained humus. Where they joined, there were indications that this, as well as other rectangular pits, had been dug prior to the palisade trench.

At a depth of 12 in. below the present surface, a double line of boulders marked the course of the expanded section of the trench. Larger boulders 2.5 ft. long were present at either end of the expanded section, while smaller ones up to 20 in. in length appeared in the central section. These also formed clusters where the rectangular support pits met the expanded trench. In each of the three rectangular pits, the remains of a horizontal beam lay beneath the clusters of boulders.

Charred remains of a dozen or more posts were found within the confines of the 10 ft. by 30 ft. excavation area. Since these posts were not removed and the exposed ends were much decayed, a single timber often presented two or even three points. These points, perhaps formed by corners of the timber after the heart had rotted away, are therefore misleading in any attempt to determine the number of individual pickets without removing them from the ground. Except for the few centrally located in the gateway, these picket remains lie either in or beyond the two outer rectangular support pits. The burned and rotting posts, rising 10 to 18 in. above the excavation bottom, were not removed from the trench at the close of the season. In the circumstances, it is also quite probable that those posts
located in the expanded trench which formed the structure of the gate may have been hewn timbers rather than naturally round posts.

Upright members of the gateway were supported in the same way as others in the defence works. In each of the three rectangular pits which cut across the expanded trench were found the remains of a large hewn timber, horizontally oriented, all showing evidence of charring. These timbers were angular, being 10 in. square and of an unknown length; however, they extended from the rectangular pits well into the expanded trench and seemed to be rotted out where they met the upright member with which they were associated. These horizontal support beams were overlain by large boulders, and in the western and central pits there is evidence that they were conjoined with the upright member by supporting angle beams.

Archaeological evidence, then, confirms the existence of a gate at the documented location. Further, it indicates that the main gate was a bigger structure than Duberger's diagram shows. Formation of the main gateway is accomplished with the same principle of horizontal underground beams laid at right angles to the vertical members, both made rigid with connecting angle beams. A notable feature in the structure of the gateway is the heavy dependence upon large boulders as additional stabilizers at junctures of vertical members and horizontal supporting beams. The actual entrance of the gateway probably lies between the two outside rectangular pits. This entrance then occupied some portion of the 22-ft. area lying between these pits. A vertical timber existed centrally in the 22-ft. area supported by the beam in the central one of the three rectangular pits, forming a double opening. Whether a superstructure such as a firing platform existed above the entrance is not known. It is not mentioned in documents and
the scope of the excavation to date does not provide other evidence than massive timbers capable of supporting superstructure. Extension of the excavation area to cover areas just inside and outside the entrance location should clarify the question of gateway superstructure. Finally, it is clear from the quantities of carbon and the charred nature of timbers that the gateway was destroyed by fire.

Discussion
Attempts to draw inferences from the association of artifact material with the defensive structures of the fort were unproductive despite extensive excavation related to the ravelins, gates, curtains and bastions. The surface of the whole south bastion was removed by bulldozer. The water-gate area and some of the southwest curtain were levelled. The surface of the southeast curtain was removed and the re-entrant angles of the east bastion suffered similarly. Bulldozing also took place in the area inside the northeast curtain and land-gate. In fact, it appears that much of the surface was pushed down the hill, over the southwest ravelin area, as far as the beach. The bulldozer scraped round and round the blockhouse, shearing off building structures and generally distributing material at random. On the other hand, the north bastion, west bastion, land-gate and the northwest curtain remained unscathed. From these some inference can be drawn.

The most obvious is that the bastion areas were quite clean. The majority of items found there seemed related to bastion construction, such as nails and iron strapping. When debris was abundant it was intrusive, including broken glass and the remains of bird and small mammal bones most probably to be ascribed to recent predators.

The most interesting in situ find, however, was the group of broken ceramic vessels found beneath the land-gate.
Here at a depth of 2.5 ft. a concentration of ceramic sherds, glass, parts of a gun and several pieces of iron strapping were encountered. Many of the vessels had been deposited bottom up. This concentration of goods occupied a confined and discrete area. Ultimately the vessels were reconstructed and a number of almost complete bowls of various sizes, mugs, and a square bottle resulted. Since parts of every vessel were missing, it seemed likely that these articles were a group that had been broken in usage, bundled into a container and carried away from the fort along the roadway that passed over the spot which later became the northeast gate. The container of broken articles was either dropped purposefully in the boggy depression (where other refuse also occurred) or else fell accidentally from a cart and was never retrieved for removal to the fort dump (which remains, so far, unlocated).

Because of the long drawn-out process of construction of the defensive works, there was probably no one moment in time when the total palisade was in a state of optimum effectiveness. All in all, however, it would not be unrealistic to assume that they were in fact as they appeared in the year 1802 when Captain Bruyères reports "the stockade of the Fort is complete" (PAC, RG8, Series C, Al, Vol. 383, pp. 18-21).
Setbacks and Slow Progress, 1801-11

Slow Progress and Catastrophes
The recall of Landmann sapped the vitality from the work of construction at Fort St. Joseph.

A full year later, on 1 August 1801, the commandant, in reporting to the military secretary upon the state of public works, reveals that the officers were obliged to hire small houses outside the fort. The commandant goes on to observe that "the Blockhouse is picketed in but not finished, the works and wharf are by no means finished, nor do I see anything that is" (PAC, RG8, Series C, A1, Vol. 512, p. 142).

This seems to carry with it a tone of anger, desperation or even petulance on the part of the commanding officer. It is difficult to assess. It does seem clear, however, that progress was slow.

On 10 January 1802, catastrophe struck: the bakery was burned to the ground. This was a major loss. It is interesting to note that the report by the commandant to the military secretary was dated a full month after the event. The bakery was a quite substantial building and, at the north end, included the commandant's kitchen. No explanation of the origin of the fire was offered and at our own point in time, we can only wonder.

The commandant did his best to turn things to his advantage, pointing out that they "were fortunate in saving the Blockhouse, as the Bakehouse was opposite to it and only 30 ft. away." It is left to the reader to decide whether
the good fortune was the result of an act of God or of hard work by the military. However, the commandant appears to be seeking to becloud the issue and perhaps to gain sympathy when he laments that "I have lost all my kitchen furniture, a very excellent English harness - all my vegetables for winter use, which were in a cellar underneath the kitchen" (PAC, RG8, Series C, A1, Vol. 512, pp. 190-1). This scarcely demonstrates the stoicism one would expect from an English officer. He takes the opportunity to point out, however, that the buildings were covered with cedar shingles and that the powder magazine had always been poorly housed and dangerously near the guardhouse and the blockhouses. So, out of adversity, there may have come the first suggestion for improvements to be made later.

The fire in the bakery is rather dramatically attested by the archaeological remains. Melted glass and ceramics, charcoal, clinkers and oxidized iron all bear witness to the intense heat of the conflagration. Profiles in the bakery area showed an unbroken layer of charcoal as deep as 2.5 ft. Of all the fires at Fort St. Joseph, this was the only one where the building was occupied at the time of the fire within it. As a result, many more useful possessions were lost than in other fires such as a pair of heel plates for boots, buttons for a jacket and sewing needles. The residents of Fort St. Joseph must have experienced a severe loss of social and cooking facilities as well as personal possessions.

While on the topic of fires, it may be appropriate to move forward in time momentarily to 18 February 1803 when the blockhouse fire occurred. On this occasion, the incident was reported by the commandant to the military secretary without delay. He recorded that the blockhouse was discovered to be on fire underneath the hearth of the barracks room. Very little damage was done, but during the
process of repair it was necessary to tear up the hearth, part of the chimney was demolished and a considerable part of the flooring and beams had to be cut up. The commandant thought that the fire must have been burning for two days or more as a very large beam which had passed under the fireplace was burned completely through. By 25 May 1803, it was reported that the soldiers had repaired the damage and that the fireplace was much safer than before (PAC, RG8, Series C, Al, Vol. 513, pp. 24, 50).

On 11 April 1803, the commanding Royal Engineer had used this disaster, or near disaster, to seek improvements, pointing out the impropriety of laying beams of wood near the fireplaces and expressing the hope that the same negligence would not occur again. The big blockhouse, he emphasized, was good and valuable and all precautions should be taken. He suggested further that it would never be safe from external fire until roofed with sheet iron, and requested that such material be forwarded (PAC, RG8, Series C, Al, Vol. 383, p. 50).

Deprived of the energies of the youthful Landmann and interrupted by disasters, progress in construction of the fort became barely discernible. By the spring of 1803, some five years after it was begun, the fort at St. Joseph fell far short of the sturdy outpost that had been envisioned.
Moving back somewhat in time, we encounter Captain R.H. Bruyeres of the Royal Engineers who, we may suspect, was given the task of expediting the activities upon which the development of the fort depended. On 12 September 1802, he produced one of the most detailed reports upon Fort St. Joseph that has come to light. It was part of his report on the state of public works in Upper Canada, addressed to the commanding officer of the Royal Engineers. On the topic of the buildings at St. Joseph, he had this to say:

The Blockhouse in the centre is an excellent framed building. The upper portion of this building is 100 ft. long, 30 ft. wide and 10 ft. high. It contains two rooms as soldiers' quarters for sixty men and four rooms for officers' quarters. The lower part is 96 ft. long, 26 ft. wide and 11 ft. high. It contains one room for ordnance stores, one ditto Provision and Commissary stores, one ditto stores, Indian department, one ditto Regimental Stores (PAC, RG8, Series C, A1, Vol. 383, pp. 18-21).

At the time Bruyeres was writing, it is clear that the ground floor of the blockhouse served as a storage area. But it will be recalled that by 18 February 1803, the commandant, on the occasion of the blockhouse fire, was reporting that the large beam which burned for two days was located underneath the hearth of the barracks room.
Archaeological investigation has shown that only the foundations of the northwest chimney accommodated a very large beam. The report of the 1803 fire, therefore, indicates a change by that time in the use of the area at the northwest end of the blockhouse ground floor, from storage area to barracks. The space must have been urgently needed for living quarters since it had been necessary to billet officers in private homes in the village below.

Bruyeres expanded his report to comment upon the remainder of the buildings at the fort. The guardhouse, he said, was a good building, 30 ft. long, 15 ft. wide and 8 ft. high, containing guardrooms for officers and men and three solitary cells. The storehouse had also been built and contained four apartments. It was used for a workshop and for engineers' stores. This building was 30 ft. long, 15 ft. wide and 8 ft. high. The stockade was complete, as was the protective ravelin on the southwest side, and the ravelin on the northeast side was traced in but not built. Bruyeres was not specific about the completion of the bastions but wrote that none of the gun platforms in the bastions was framed or fixed. He recommended that only those intended for the southwest (west) and southeast (south) bastions be completed which does suggest that these bastions, at least, were completed by 1802.

In passing, it is perhaps interesting that, of all the facilities which Lieutenant Landmann had been ordered to build, the one most conspicuous by its absence at this date is the Indian council house. Whether this building ever materialized is not clear from the documents; however, the remains of an unexcavated, unidentified building comparable in size to the stores building lies contiguous to the northwest end of the stores building. Perhaps this unidentified building served as an Indian council house.

Having noted what was complete and generally in
excellent and adequate condition, Captain Bruyères was quite
definite in his listing of deficiencies and in his requests
to have these remedied.

Accommodations for personnel were still not
satisfactory, particularly those for the officers. He
indicated that all officers, except commanding officers,
were lodged in huts belonging to merchants on the waterside.
This is puzzling in the light of his previous statement that
there were four rooms for officers' quarters in the
blockhouse. It would suggest that the accommodations were
poor, perhaps not yet well heated. It is possible, of
course, that junior officers preferred to live outside the
fort itself; or, perhaps, that the commandant had
appropriated some of the space in the blockhouse after his
kitchen had been burned.

Captain Bruyères noted that "the Bakehouse was Burned
in the winter and entirely destroyed except the oven which
is much damaged." He recommended that a new bakehouse and
oven of masonry be built outside the fort near the wharf,
closer to an ample water supply. He was quite specific that
the oven section be 10 ft. square from "out to out," and
that the bakehouse be 18 ft. long, 14 ft. wide in the clear
and 8 ft. high. The walls were to be 1.5 ft. thick. Having
advised the need for such a bakery, he suggested also the
necessity for a detached building to serve as a men's
kitchen, as well as a similar building to serve as an
officers' kitchen. Once again, the social values attached
to these two buildings, although not specified, may be
inferred. It is doubtful, however, that these kitchens were
ever built. The only unidentified building ruin known at
present is that lying immediately contiguous to the
northwest end of the stores. Whether this was the Indian
council house, a mess hall or was used for some other
purpose, is undetermined.
As we have seen, no explanation was offered for the origin of the bakery fire but it may be observed that Captain Bruyères was seeking to detach the bakehouse from the kitchens or, in modern parlance, "mess halls." One might suspect that socializing in the men's kitchen may have accidentally caused the bakehouse fire, a fact unlikely to be revealed by the men involved. Captain Bruyères' report also includes a request for the building of a sentry box as required, showing perhaps, some feeling and concern for those unfortunate ones drawing sentry duty on that windswept hill.

The foregoing observations and recommendations tend to deal with the creature comforts of the military, both the comforts already being enjoyed and those still lacking in September 1802. The captain was equally aware of the military deficiencies and inadequacies.

The lack of a powder magazine had already been noted by Captain Peter Drummond (PAC, RG8, Series C, A1, Vol. 512, pp. 190-1) and Captain Bruyères was quite concerned with this major and dangerous deficiency. He was quite specific as to what should be built. Having observed that the powder was, at that time, housed under a few logs, he indicated that a magazine built of masonry was required and suggested that it should be 30 ft. long, 15 ft. wide in the clear, with the side walls 8 ft. high above the set-off and 2 ft. thick. The foundation should be 2.0 ft. below and 1.0 ft. above ground and 2.5 ft. thick, making a set-off for the flooring joists of 6 in. within the building. The ceiling should be made fireproof and should be covered with sheet iron. The building should be divided into two apartments: the first, 17 ft. long, as an ordnance storeroom; the second, 12 ft. long for a magazine. The partition should be 1.0 ft. thick. Bruyères' recommendation was that the magazine should be in the northeast bastion. Few could
question the value of these later suggestions and the powder magazine was to become one of the most lasting and substantial parts of Fort St. Joseph.

An item of interest recommended by the captain was a "travelling magazine" to lodge powder for firing the swivel guns to salute the "Indian flags." The reference here needs clarification, but it no doubt has to do with fort ceremonialism related to visits by Indian and other dignitaries. It becomes clear that Bruyères, an engineer, showed notable awareness of the importance of what the military might call "a good show." In this same vein, perhaps, he recommended that a large flagstaff be fixed.

As one reads this report, one develops admiration for the astute evaluations of Captain R.H. Bruyères, R.E. Having assessed the problems of human comfort and Indian relations, he then turned his keen eye upon the problems of military deficiency. Some of these were most serious. We have already noted his observations on the stockade (or palisade), the ravelins, gun platforms and bastions; but his observations do not end here.

Most amazing, perhaps, is the fact that while four 6-pounder guns were on the spot, part of the iron work for the carriages was still wanting. Presumably, therefore, they were not mounted. He noted also that the terreplein and parade within the fort and the ravelin required levelling, and that a number of large stones within the works must be removed. A banquette was required to be formed all around the stockade of the fort, and a small ditch to be completed around the exterior of the stockade, "according to the original plan."

One may suspect that Captain Bruyères was a "soldier's soldier." Some of the observations in his report seem to have been included because of the need for overall assessment rather than because they were necessarily a
"must," but when he described anything as "required," there is little doubt that he considered it essential.

It fell largely to Captain Gustavus Nichols to complete the recommendations made by Captain Bruyères. Captain Nichols does not occupy a great deal of documentary space. It seems, however, that in terms of force and energy expended in the growth of Fort St. Joseph, he was a worthy successor to Lieutenant Landmann.

On 18 August 1804, Captain Gustavus Nichols wrote to the military secretary that, since his arrival on 6 August, the following had been accomplished:

The bakehouse and oven had been built.
The men's kitchen had been built.
The flagstaff was erected.
The small travelling magazine had been made.
Six ladders had been constructed.
The men's barracks had been lathed.
The blockhouse had been covered with sheet iron and painted.

The masons were working on the magazine and the carpenters were weatherboarding the upper part of the blockhouse.

He recorded that he could not finish everything because of a lack of materials (PAC, RG8, Series C, Al, Vol. 383, p. 192).

The above list of accomplishments represents considerable and progressive developments in the condition of Fort St. Joseph and a fulfilment of many of the recommendations of Captain Bruyères; but the wording of Captain Nichols's letter leaves much open to interpretation. Writing on 18 August, he stated that the above had been "accomplished" since his arrival on 6 August. We surely cannot believe that he pushed the work with so much energy and diligence that all this was done in 12 days! It would
have been more accurate, perhaps, to have stated that the above projects were "completed" and it is probably safe to assume that the work had been going on slowly but positively during 1803 and 1804, following Captain Bruyères' detailed evaluation of the situation.

Again we must note that the work that was done was related primarily to the comfort of the men and the requirements of ceremony, the latter witnessed by such projects as the travelling magazine and the flagstaff. The more difficult and, we imagine, back-breaking labour in connection with producing the refinements of a fortification — for example, building the terreplein, the banquette, the parade, the surrounding ditch, all recommended by Captain Bruyères — none of these is mentioned. It would appear that progress was being made but that most of it was directed toward making the fort a better place in which to live. The refinement of military function and efficiency seems to have been of secondary concern.

If these comments appear critical, this is not our intention, for we must see St. Joseph always in the broader scheme of things, related to the grand strategy of New World developments of the times. In fact, progress was being made in the face of very great difficulties.

On 4 November 1804, Captain Nichols at Fort George wrote the military secretary that he needed copper locks, hinges and weatherboarding to complete some of the work at Fort St. Joseph (PAC, RG8, Series C, Al, Vol. 383, p. 253). The copper hinges and locks for the powder magazine at Fort St. Joseph were forwarded from Quebec by the Engineers on 1 February 1805 (PAC, RG8, Series C, Al, Vol. 384, p. 6). On 9 July 1805, the commandant of St. Joseph wrote the military secretary that H.M. Schooner Hope arrived on the seventh of July and brought the copper work for the magazine so all the "works ordered" would be completed (PAC, RG8,
Although the documents do not contain a specific announcement of the completion of the magazine, it is evident from our investigations that not only was this accomplished, but this structure apparently remained functional for a longer period than the earlier buildings such as the blockhouse and the storehouse, all of which were destroyed by fire in 1814. We can infer that the magazine was not burned at this time, possibly because its contents, if the fire had been allowed to reach them, would have endangered the American forces who put Fort St. Joseph to the torch.

In the summer of 1963 when our archaeological investigations were commenced, the powder magazine formed part of the complex of standing masonry at Fort St. Joseph. Excavation labour was not expended on the building for several reasons. First, our goal was to locate and record as many of the unidentified buildings as possible. Second, though parts of the building had been re-mortared or in some instances even improvised by the Sault Ste. Marie Historical Society in 1926, some sections such as the partition in the powder magazine were in imminent danger of collapse. To have excavated near these walls would have threatened not only the future of the walls but also, unless extensive scaffolding had been erected, the safety of the excavators as well.

In view of these factors, all standing masonry within the powder magazine and the new bakery was recorded as to location, plan and elevation by photographs and architectural drawings.

In the records it is stated that the powder magazine was to be built in the northeast bastion. In actuality, the bastion in which it stood was the north one, the four bastions having been located on the cardinal points.
Further, the original specifications seem to have been for a building 30 ft. by 15 ft. by 8 ft. with an arched ceiling, masonry walls 2 ft. thick, and a roof of iron sheeting (a surprisingly incautious plan in the light of the care expended in obtaining copper hardware for the rest of the building). Later descriptions, however, refer to the building always as having a "shingled roof" so that we can be reasonably sure that the roof was never covered with metal, either iron or copper, such as was used at Fort George.

Today, the powder magazine is the best preserved of the original fort buildings. (The restoration work of the Sault Ste. Marie Historical Society in 1926 has been instrumental in its preservation.) It stands centrally located in what was once the north bastion. In plan, its outside measurements are 35.7 ft. by 21.5 ft. It is divided into front and rear rooms. Inside measurements of the front room are 16 ft. from front to back and 17.5 ft. wide. The back room is the same width but 12.5 ft. long. Walls are at foundation level in the back half of the back room, but are standing for both masonry partitions between the rooms and for the other three walls of the front room. There was one doorway apparent in the front room and one in the centre of the west wall. There is no probability of a doorway in the partition. Because the rear (north) wall and the rear (northernmost) part of the west wall have deteriorated to ground level, it is not possible to determine where the door to the rear room was located.

Although the original specifications for the wall height indicated it was to be 8 ft., it seems that a 10-ft. elevation may ultimately have been decided upon. It must be kept in mind, however, that the repairs made to the building in 1926 may have changed the original heights of the walls to some extent. The southeast and west exterior walls were
2 ft. thick and the partition was 2.5 ft. thick. Height of the east wall is 9 ft.; of the southwest corner, 10 ft., and of the juncture of the partition with the west wall, 10 ft. There is visible on the outside of the masonry wall a set-off 6 in. wide produced by the juncture of the wider foundation and the superimposed wall above. Such a set-off probably also exists on the interior of the building at the same level.

All interior standing walls exhibit narrow recesses 6 in. wide and 2 in. deep extending around the rooms. There are two of these in each room, one close to the floor level and the other 2 ft. above it. The upper recesses could have accommodated wood insets or nailing strips. This identical feature appears in the extant powder magazine at Fort George. It is not entirely clear how the lower recess would have been used, but it seems likely that a wood inset in the recess would have permitted some sort of wall attachment which would not have been possible otherwise.

In addition to the remains of the powder magazine, the 1963 excavating party found a second structure which still retained vestiges of walls. From the documents, we were able to identify this as the new bakery which replaced the one destroyed by accidental fire in 1802. As in the case of the magazine, no excavation was attempted for reasons of personal safety and preservation of what remains of the building.

The location of the new bakery is generally indicated in the documents as outside the fort compound "near the wharf." The building is actually located about 135 ft. southeast of a line bisecting the fort compound from northeast to southwest. It is roughly 100 ft. from the beach. Thus, as suggested in the historical records, it is quite close to the water supply.

What walls remain of the new bakery today are built of
grey limestone, as is the powder magazine. And, like the magazine and an isolated chimney which forms the only other member of the standing masonry complex, the bakery has been preserved to some extent by repair (re-mortaring) during the 1920s.

The bakery today seems to be made up of three units: a main room, an attached oven on the southeast wall, and a projection on the outside of the northeast wall whose function is not clear. Inside measurements of the main room are width, 16.5 ft.; front to back, 15 ft. The oven, which is attached to and protrudes outward from the southeast wall, is very close to 10 ft. square along its outside measurements. The projection on the outside of the northeast wall measures 8 ft. in length. Walls of the main room are 2 ft. thick; walls of the oven are 1.0 ft. thick. The oven or hearth opening is 6 ft. wide at the outer edge and narrows back over a distance of 2.5 ft. to 4 ft. The upper border of this opening, which was probably at floor level, is formed of red bricks. The upper surface of the oven is partially collapsed inward. The small area against the northeast back wall on the outside is the most ambiguous area of the building and no interpretation of its function is here offered.

The historical record indicates that the new bakery was the last of the fort structures to be completed. After the departure of Captain Nichols, a lull in activity ensued so the final years before the "incredible conflict" were to add little to the military potential of the fort.
During the next few years, the progress of the military establishment at Fort St. Joseph was dubious. The officers concerned themselves with domestic activity and the fur traders proceeded apace with their machinations.

Upon his arrival at the fort on 7 June 1806, the commandant, Captain Muir of the 41st Regiment, reported upon the ordnance stores. These included "one hundred three quarters and one pound of musket-ball in store." He indicated that thread, twine and paper would be required for cartridges if these were desired. The trucks or gun carriages for the four 6-pounder cannon had not yet arrived. In general, he opined that "this garrison has never been finished." It was deficient in three ravelins and neither platform nor banquette had been "raised within the picketting" (PAC, RG8, Series C, Al, Vol. 384, p. 133). He records that "the plaster on the walls had been made without hair," a fact that was confirmed by a study of the archaeological remains of plaster recovered.

Documents at Quebec on 20 October 1811 show that there were 2,764 bar cartridges for English muskets and 74 flints for same; and on 15 December 1812, there were three iron 6-pounders and six iron half-pounder guns (PAC, RG8, Series C, D10, Vol. 1707, p. 62). Information about garrison ordnance at St. Joseph, as reported on 31 March 1813, shows that there were four 6-pounder iron guns on garrison carriages and that under the classification of smallarms, there were 6,420 English ball cartridges, 214 musket flints,
"0 cwt, 3 qts 17 lbs" of lead ball for English muskets, 10 barrels of fine grain powder, 13 quires of paper R\textsuperscript{m}, 2 lbs. of thread, and 2 lbs. of twine (PAC, RG8, Series C, Al, Vol. 387, p. 46). Not being familiar with logistics in the early 1800s, we can not assess the real potential firepower and military strength represented by the resources listed above. They do seem to be both inadequate and thinly spread; however, inasmuch as the fort was never fired upon, the problem of firepower remains academic.

On 24 August 1811, a man whose opinion we have learned to respect, (Captain) now Lieutenant Colonel R.H. Bruyeres, had this to say about Fort St. Joseph. "It is a square consisting merely of high cedar pickets to enclose the Blockhouse and Public Buildings, the whole in bad repair and incapable of any defense" (PAC, RG8, Series C, D10, Vol. 1706, p. 127). On 24 October of the same year, the commandant had to report that "the picketing is quite decayed at its roots, a gale of wind blew it down in several places" (PAC, RG8, Series C, Al, Vol. 514, pp. 238-40). He repaired it as best he could, with props inside and out. It was also very unequal in height, being in some places 13 ft. and in others not more than 9.7 ft.

In the light of these reports, it may come as a surprise to find so eminent a person as Sir George Prévost writing to the Earl of Liverpool on 18 May 1812 that "Fort St. Joseph consists of lines of strong pickets enclosing a Blockhouse." He also notes that "the Garrison at St. Joseph's consists of a small Detachment from the Royal Artillery, and one Company of Veterans" (PAC, RG8, Series C, D10, Vol. 1707, p. 3). Time and distance perhaps account for these misinformed statements about conditions at the fort. On 13 June 1813, Sir George Prevost's aide-de-camp, Lieutenant Colonel Pierre Amable de Boucherville, who had visited St. Joseph on the evening of 22 May, wrote that "St.
Joseph in its present state cannot be of any importance. All the serviceable artillery have been transported to Michilimackinac, there still remains four long twelve-pounders, spiked and without carriages" (PAC, RG8, Series C, Al, Vol. 679, p. 83). From these observations, it is clear that whatever transpired during the years under discussion did not seriously involve the improvement of the military facilities of Fort St. Joseph.
The Web of Human Relationships

The gleaning of information about social life at Fort St. Joseph is not without its difficulties. One thing, however, does seem sure: a military elite was maintained only in the face of great difficulties.

As late as 28 September 1806, the officers still lacked proper quarters. The commandant writes, "In the Officers' part of the Blockhouse there are only two rooms with chimneys... the rest are uninhabitable in the winter for want of this necessary article" (PAC, RG8, Series C, A1, Vol. 514, p. 64). We may well suspect that officers were still billeted with the citizens outside the fort.

During this period of little military activity, we find the officers turning to gardening and cultivation.

In 1809, much of the low neck of land which joined the hill to the mainland had been "drained and laid out in fields and gardens which, from the unremitting attention of Major Campbell and Captain Trew, of the 41st, are becoming highly productive - and relieve the eye from the barren ruggedness of the hill, which is certainly one of the Bleakest spots" (Masson 1960, 2: 172-3).

By 12 May 1811, problems of cultivation had reached such a state that the distinction between military and non-military ground was a matter of confusion. Captain Roberts, the commandant, complained to the military secretary that the settlers were a problem "there being so many small patches taken up by private individuals and these patches so divided and intermixed with ground in military
use" (PAC, RG8, Series C, Al, Vol. 514, p. 211). The obliteration of land barriers could also reflect an obliteration of social barriers that may not have been to the commandant's liking.

H.J.L. Wooley, in his lively little book *The Sword of Old St. Joe*, may be guilty in part of historical inaccuracy, but he does provide us with interesting anecdotal material relevant to the social life of Fort St. Joseph. The basic facts are contained in a letter from Captain Roberts to Captain Evans, Adjutant, Quebec, dated 20 November 1811. All hopes having now ceased of the arrival of the schooner Hunter or any other vessel from Amherstburg with the clothing of the detachment, I am, this day, obtaining, upon my requisition to the storekeeper of the Indian department, a consignment of heavy blankets, for the purpose of making them great coats, a measure the severity of the climate strongly demands and one, I trust, the commander of the forces will not disprove of when he is informed that not a remnant remains of the coats served out to them in the year 1807 and that they have received none since (Wooley 1926: 18).

Mr. Wooley tells that Captain Roberts suffered from chronic ill-health and that he was thus further motivated to see that "his" men did not suffer on the windswept hill of Fort St. Joseph during the winter of 1811-12. He was apparently sufficiently annoyed at last to exceed his authority and cut the red tape.

Captain Roberts selected 3-1/2-point Hudson's Bay blankets and the "redoubtable" John Askin, keeper of the king's stores, was given the task of producing the coats. He gave assurance that he would produce 40 great-coats fit for "the soldiers of the King" within a fortnight.
Askin must have set up a temporary tailor shop, for he had "eight or ten white and half-breed women" fashion the blankets into great-coats (Wooley 1926: 19). Before the fortnight was quite up, John Askin informed the commander that the coats were completed. "Everybody was greatly pleased when the soldiers paraded in their new coats" (Wooley 1926: 20). This incident has been suggested by Wooley as the origin of the Mackinaw coat. Whether this is true or not, there can be little doubt that such events must have contributed much to the morale of the military and, in turn, of the whole community at St. Joseph.

The above passages are the first in which there is mention of women at Fort St. Joseph. There is little to suggest that at this outpost the commandant's lady was accustomed to pour tea with dignity and one may well suspect that family life was at a minimum on this rugged frontier and its counterpart, sex, a matter of opportunity and dalliance. There is no recorded parallel at St. Joseph to the luxury of the Askin household at Michilimackinac (May 1963).

Wooley tells a story, its source unknown, which strongly suggests the scarcity of European women on the frontier. A Lieutenant John Craddock of the 41st Regiment, who was "'jolly well bored and beastly 'omesick'", chanced to meet and marry a winsome half-Indian daughter of Lower Canada (Wooley 1926: 15). The return of this officer and his wife and daughter Katrine to St. Joseph caused a considerable stir. The soldiers had their gossip on the side about this "'andsome hofficer and 'is bloomin' 'awf and 'awf'" but they agreed "'she looked like a good 'un and there was nought better to be 'ad or 'oped for in this bloomin' wilderness'" (Wooley 1926: 15-6).

A happy result of this alliance was the birth at the fort of a son who was described as a "wee, dark-skinned baby
boy." When queried as to what he should be named, the response was "'I expect we'll call 'im Joseph, in honor of this bloomin' fort'", and so he was christened Joseph Craddock. The end of this story is a sad one. Little Joseph's father was summoned overseas to duty and died upon the battlefield at Waterloo. Young Joseph lived happily to a ripe old age as a respected citizen of Coldwater where he died in the year 1900.

We have emphasized earlier that St. Joseph was more than just a fort; it was a total community. It was, of course, established as a rendezvous for the fur trader and the Indian under military protection and both the trading companies and the Indian affairs department played important, often forceful roles in the lives of the total community.

In contrast to the frugal budget of the military noted above, it is evident that the Indian affairs branch had considerable wealth and material under its control. As early as 14 June 1797, Thomas Duggan, clerk and Indian agent at the post at Mackinaw, wrote to Joseph Chew, secretary for Indian affairs at Montreal, to the effect that "The amount of stores for removal [from Mackinaw to Fort St. Joseph] will amount to about £1,400 (pounds) sterling, exclusive of rum and tobacco for the Indians" (Wooley 1926: 7). Further, in connection with good relationships with the Indians, "probably the most important event was the government purchase of the Island from the Chippewas in 1798; at this time, the government distributed £5,000 worth of goods to the Indians" (Lee 1966: 11). As we have noted earlier, the Indians appeared "as much attached to us as ever" (PAC, RG8, Series C, A1, Vol. 250, p. 256), and, impressed with "the advantages they derived from traders," are agreeable "to support them on all occasions" (Russell 1932, 1: 276).

A list of trade goods carried in canoes trading into
Michilimackinac is probably very similar to any list that might have been drawn at this time at Fort St. Joseph. Major Rogers suggested that one canoe should be capable of carrying 18 bales of "Strouds, Blankets, Freize, Coats, Bed Gowns, Coarse Callicoes, Linnen Shirts, Leggins, Ribbons, Beads, Vermilion, Garterings, etc." along with "9 kegs Gun Powder, 1 keg flint steels, and Gun screws, 10 kegs British brandy, 4 cases of iron work and cutlery, 2 cases guns, 2 bales brass kettles, 2 cases looking glasses and combs, 5 bales manufactured tobacco, 12 bags of shot and ball, 1 box of silver work and wampum," the total value of which he placed at about £450 sterling at Quebec (Phillips 1961, 1: 606).

It is interesting to note that in the summer of 1811, trade goods, because of governmental control and embargoes, began to pile up in the storehouses at St. Joseph. Robert Dickson saved the South West Fur Company from ruin at this time when, in August of that year, he and seven other experienced men smuggled £10,000 in trade goods into the Mississippi valley (Lee 1966: 9-10).

Thus it is evident that the trading companies and the Indian affairs branch were "big business" and hence a power to be reckoned with at every turn. We are fortunate to have a detailed inventory of trade goods invoiced, which had arrived by schooner at St. Joseph in 1799. The list, here in its entirety, is particularly useful in that it mentions and describes many perishable articles which would never survive for archaeologists to retrieve (Wooley 1926: 8-9).

Awls, Indian, five hundred, per gross, 2s.6d.
Axes, forty-eight, 4s.
Ball and shot, two thousand five hundred pounds, per cwt., 22s.6d.
Blankets, 1 point, one hundred pairs, 5s.3d.
Blankets, 1-1/2 point, one hundred pairs, 6s.3d.
Blankets, 2 point, one hundred pairs, 7s.8d.
Blankets, 2-1/2 point, two hundred and fifty pairs, 10s.6d.
Blankets, 3 point, one hundred and fifty pairs, 13s.
Brooches, three thousand, per gross, 50s.
Buckles, shoe, seventy two pairs, per pair, 10s.
Buttons twenty dozen, per dozen, 4s.3d.
Calico, nine hundred yards, 2s.3d.
Cadis, three hundred and sixty yards, 2s.6d.
Cloth, blue, seventy two yards, 10s.
Cloth, scarlet, seventy two yards, 11s.
Cloth, green, seventy two yards, 10s.
Cloth, black, seventy two yards, 10s.
Combs, ivory, per dozen, 7s.6d.
Box for combs, 2 dozen, 3s.
Combs, horn, 24 dozen, per dozen, 2s.4d.
Coats for chiefs, twenty-four, 45s.
Cotton strip't, three hundred and thirty yards, 2s.3d.
Ear bobs, five hundred pairs, 13d.
Gun flints, two thousand, per dozen, 13s.
Feathers, forty eight boxes, per box, 1s.
Files, sixty dozen, per dozen, 17s.6d.
Ferretting silk, seven hundred yards, per yard, 4s.2d.
Flannel, two hundred yards, per yard 1s.3d.
Flags, twenty four, 15d.
Gartering, eight hundred yards, per gross, 15s.
Guns, common, fifty, each £1.
Guns, chiefs, twenty four, £4.
Rifles, eighteen, £4 5s.
Gun powder, eight hundred pounds, per hundred pounds, £4 2s.
Hats, plain, seventy two, 4s.
Hats, laced, thirty six, 8s.
Hooks, fishing, one thousand, per dozen, 1s. 6d.
Handkerchiefs, silk, forty eight, each 3s. 6d.
Handkerchiefs, cotton, 2s.
Hoes, fifty, 2s.
Kettles, brass, one hundred and seventy six, each 19d.
Kettles, copper, one hundred and twenty two, 2s. 1d.
Kettles, tin, seventy two, 3s.
Butcher knives, eight hundred and sixty, 1s.
Linen, Irish, seven hundred and fifty yards, per yard 3s.
Chalk lines, twelve dozen, per dozen, 2s.
Mackerel lines, one hundred and fifty, 6s.
Cod lines, seventy two, each, 2s. 6d.
Looking glasses, seventy two dozen, per dozen, 4s.
Melton cloth, four hundred yards, per yard, 1s. 6d.
Muslin, forty yards, per yard, 3s.
Medals, large, twelve, 2s. 6d.
Needles, one thousand, per dozen, 4s. 6d.
Oiled cloths, six, each, 40s.
Pipes, two thousand, per gross, 1s. 3d.
Ribbon, seven hundred yards, per yard 7-1/2d.
Cloth, serge, embossed, three hundred yards, 18-1/2d.
Strouds, (coarse blankets), four hundred, each, 3s. 6d.
Strouds, blue, one hundred, 2s. 6d.
Sheeting, Russian, three hundred yards, per yard, 1s. 10d.
Sheeting, Scotch, one hundred and forty four, per yard, 11-1/2d.
Fire steels one hundred and forty, per gross, 15s.
Scissors, one hundred pairs, per pair, 6-1/2d.
Shoes, men's, seventy two pairs, per pair, 4s. 4-1/2d.
Steel, sixty pounds, per pound, 6d.
Tobacco, twelve hundred pounds, per pound, 9d.
Thread, sewing, fifteen pounds, per pound, 2s. 6d.
Trunks, twelve, each, 3s. 6d.
Vermillion, fifty pounds, per pound, 4s.
Gun worms, two hundred and eighty-eight, per gross, 8s.
Grind stones, two, each, 25s.
Amounting to one thousand, six hundred and ninety four pounds, one shilling and five pence, sterling.

Signed,
CHAS. LANGLADE, Merchant
WM. FRASER, Lieutenant
WM. DEAN, Ensign

Island of St. Joseph, August 8th, 1799.

This inventory is a useful document because so much is implied and suggested by the nature of the items it includes. It is clear that the fort is geared to a money or barter economy. The scarcely subtle distinctions in cost in some cases seems almost immediately translatable into terms of prestige and social distinction. How much better to swagger through the village with a "chief's gun" rather than a "common gun" or to be decked out in a "laced hat" rather than a plain one!

It would also appear that there were definite consumers in mind and perhaps even definite and known individuals encompassed by the figure 24 when we encounter 24 "coats for chiefs," 24 "chief's guns" and 24 "flags." We may suspect that these were sufficiently varied to bring distinction to the owners. Only 12 large medals, each valued at 2s.6d., are listed. One can imagine that the desires of the chiefs
for such medals would be greatly enhanced by their scarcity and the competition all the keener.

The availability of 860 butcher knives at 1s. each introduces an ominous note. One wonders who or what is to be butchered! Along with this, the 50 lbs. of vermilion suggests a lot of war paint potentially available. As has been noted, vermilion was also one of the trade articles on Roger's canoes (Phillips 1961, 1: 606). Certainly it would raise memories of the Chippewa massacre of the British garrison at Michilimackinac in June 1763 (Wisc. Hist. Coll. 1890-1911, 1: 13).

The availability of "ear bobs," combs and looking glasses seems to serve well the needs of vanity. Almost two centuries earlier, Samuel de Champlain had diagnosed the now well-known vanity of the Indian. "Every Iroquois wanted a steel tomahawk and knife for himself, an awl and needle for his wife. The brave with an old stone hatchet was shamed before his fellows" (Bishop 1963: 199). The French had been replaced by the British and the Iroquois by the Ojibwa, but the basic vanity was still there and furs were still the medium of exchange.

Greed and vanity were not confined to the Indian, as Champlain again well perceived.

Behind the Iroquois stood the Dutch. Their demand was always for furs, more furs, fine, heavy beaver from the frozen lands. The Iroquois country of central New York provided only second-quality furs with relatively few beaver. Its local supplies were soon exhausted. The Iroquois looked jealously to the well-organized fur trading systems of the far north (Bishop 1963: 199).

Now it was the English standing behind the Ojibwa, Cree and others; and all looked jealously to the west and
southwest. Drury dwells at considerable length on the disruption which the fur trade occasioned in Huron Indian life (Drury 1959).

Bishop summarized these centuries of conflict, tragedy and extermination, which were soon to impinge upon Fort St. Joseph.

Fashion proclaimed that every gentleman must have a hat of beaver felt, and of no inferior fur. A gentleman's hat was a great magnificent burden, the unique creation of an artist, as women's hats are today. When a man died he bequeathed his hat specifically in his will. Its high crown was commonly decorated on the left side with feathers, nosegays, or furbelows, while the right side was left bare to permit swordplay. Hence all men's hats now have a discreet bowknot, a vestigial falbala, on the left.

It was men's fashions, male vanity, that sent traders across the sea, and Indians to the beaver ponds to capture the creatures under the ice with their bare hands. It was the fashion set by the courts that tempted the hardy Dutch and the hardier French coureurs de bois into the interior of America. And it was this courtly vanity which set Indian tribe against tribe, which caused endless war for the domination of the trade routes and sources of supply, which exterminated the whole great race of Hurons, which caused, eventually, the wars of white man against white man in deep forests by nameless rivers (Bishop 1963: 26-7).

The river is no longer nameless. The South Channel of the St. Mary's River and the place, Fort St. Joseph, is now
well known to us: the clouds of war are heavy upon the horizon.

But first, we digress to recall a further anecdote from The Sword of Old St. Joe that reveals the fur trade, the trader and Thomas Duggan, "keeper of the King's store" in perspective. This was the trial of Thomas Duggan, a court of inquiry held in 1802, recounted and constructed from documentary evidence by Wooley. The trial was held on 25 January.

The documents hint at an unusual stir among the inhabitants that morning. The civilians had just heard enough to make them curious, and how to get the whole story was their dilemma. They could expect no news from the military, for the one up-to-date feature at the post was its military regulations and censorship.

Lieutenant Cowell, the commanding officer, was a strict disciplinarian and brought to the little far-away past an air of authority and a ponderous gravity that seemed almost ridiculous.

All the civilians knew that a squabble between Mr. Duggan and some Chippewas was to be aired in a military court that morning. Bewhiskered men in ill-fitting overcoats straggled up through the drifts to the fort gate and when refused admittance by the guard, fell back on the blacksmith shop to spend the forenoon in argument and conjecture.

Promptly at ten o'clock the court was called in the blockhouse, (the ruins of which still stand). The members of this tribunal arrest our attention for they were strong picturesque characters and some of them played
no mean part in that formative period of Canada's history. We are thankful our documents give a good description of them. The president of the council was Lieutenant Robert Cowell, of the Queen's Rangers, an officer of the line, who served with distinction, in later years, under Wellington. He is described as a forceful personality, an officer who took his responsibilities very seriously and believed that to the British soldier fell the responsibility of policing the world to its remotest bounds. Another distinguished member of the court was Lieutenant P. Taschereau of the Royal Canadian Volunteers, a sprightly, sputtering son of Lower Canada, who rendered valuable service to the defence of his country later. Then there was Dr. Robert Richardson, of the Queen's Rangers, a prominent figure in the military life of those days. He was the father of Major John Richardson, author of Wacousta, our first Canadian-born author. Then there was John Martyn, the trusted and cool-headed Indian interpreter, and Dr. William Lee, the hospital mate, Ensign Alex. McNabb, Q.R., Corporal Joseph Bryett, Q.R., and Charles Chaboilley, of the Indian department.

Thomas Duggan took his seat in the dock with an aid of jovial unconcern. It would require more than a court of inquiry to shake the nerve of this old war horse. He had been at St. Joseph since it was founded in 1796 and had seen rough times and was thoroughly seasoned. He was a popular figure and was regarded by the inhabitants as the father of
the post. He was a regular walking encyclopedia, talking and story-telling was his long suit, which he seasoned with an assortment of Irish songs and crude jokes. He was the wit of the settlement and his name was known for hundreds of miles along the trails. In character he was a strange mixture of virtue and vice, of strength and weakness. He feared not the face of man, whatever his colour or rank, yet he bore evidence that man's ancient enemy, King Alcohol, was holding the whip-hand over him. While he had the jovial mien and warm heart peculiar to his Celtic race, he was dictatorial and arbitrary and considered that his long service and position gave him the right of a sort of overlord. The inhabitants seemed to have granted him this right and he ruled as the unofficial mayor of the whole settlement.

Notwithstanding his privileged position, he could hope for nothing but justice at the hands of this military court, even if his accusers were the despised Chippewas. Most members of the court had spent years in close contact with the red man, and had little love for him, for he rarely inspired love, more commonly contempt. No doubt every member of this court would have heartily concurred in General Hunter's characterization of the Indian. In his report to the Duke of Kent in the year 1880 this is what he said:

It must not be forgotten that gratitude is not among the Indian's virtues, if he has any at all. Pear
restrains him and the desire of plunder allures him; if he has any other fixed principle of action it has escaped the writer's notice. He's of a restless disposition, unfixed in his friendships and immovable in his enmity. He's a terrible and dangerous enemy, always prowling like a wolf in search of prey and must be employed, - if not for us he will be against us.

Every member of the court would have said 'amen' to those sentiments, the Indian was a savage and a 'lesser breed without the law' but the old flag flapping wildly from the flagstaff in that January wind was a guarantee to every man beneath its folds, of equal justice, irrespective of his rank or race. This tradition, that has come down, with ever broadening effect, from the old Magna Charta, was not to be ignored even in this remote corner of the empire. Truly no country in history has been able to surpass the traditional fairness and impartiality of British justice. If there is a spot in the world where a rich and influential man is of no more account than an obscure and friendless man, it is the dock of an English court. The complainant might be a lawless, friendless man of the forest and the place St. Joseph's Island, on the very fringe of civilization, where it might have been easy to let things slip by and shield the white man, but we find the mills of British justice grinding there
with the same old precision and fairness.

In opening the court, Lieutenant Cowell made a brief statement, which was interpreted to the Indians present by Mr. Martyn, in which he reviewed Great Britain's attitude towards the Indians. He explained that His Majesty's government recognized the Indians' rights of possession to this new world and was willing to reimburse them in the form of presents or rations of food and clothing from the king's store. Every Indian resorting to the post of St. Joseph had a right to an allowance on the terms specified by His Majesty's government. If any Indian felt that he was unfairly dealt with, he had the privilege of making his complaint to the commanding officer and it would be summarily dealt with by a court of inquiry. They were called this day to deal with two complaints preferred against Thomas Duggan, agent of the King's store.

The first complainant to be called was a young Chippewa Indian, who came forward boldly and in a quiet manner stated his complaint to the court through the interpreter, Mr. Martyn. He stated that on January 2nd, he had obtained a requisition from Mr. Duggan for one bag of corn, two pieces of pork and one bottle of rum. These articles he got at the King's store and brought them to the house of Mr. Duggan, who took from him the bag of corn, the bottle or rum and half the pork, leaving him out of the whole requisition only two pounds of pork. On being questioned by the court, the Indian declared further, that he had taken only one
drink from the bottle and that Mr. Duggan kept the rest. On being asked further how much of a bottle of rum he could take at one drink, he could not say. He further affirmed that he had been to Mr. Duggan's house several times for the provisions, but was refused them.

Mr. Duggan was then called and asked what he had to say on the matter. Assuming the same air of unconcern, he attempted to treat the whole matter with contempt and sought to turn it into a joke, but was sharply rebuked by the court. In firm tones, Lieut. Cowell asked Mr. Duggan if the charge against him was true or untrue. To this he replied, with some heat, that he knew nothing of the matter whatever, that he did not remember the complainant ever coming to his house and that he never on any occasion took corn or rum from any one at this post. He then requested the court to permit him to go and fetch his servant boy who could substantiate his evidence. The court politely informed him that the boy would be called by the guard. The boy, being called, was asked if the complainant was at Mr. Duggan's house on January 2. The witness was much excited and could not be induced to answer until the kindly Dr. Richardson took him in charge and then he told that he saw the Indian in question receive his provisions from the King's store and bring them to Mr. Duggan's house, that the Indian was drunk on the rum and left the corn and pork, and that these provisions still remained in Mr. Duggan's house.

The other complaint was then dealt with.
It was preferred by a Chippewa squaw and was to the effect that Mr. Duggan had detained a bag of corn and a bottle of rum from her, being part of her requisition from the King's store, on the 14th instant.

Mr. Duggan in answer to this charge said that seeing this woman was very drunk he thought it proper to detain the corn and remaining rum as she was likely to exchange the corn for more rum, which would only result in injury to herself and the poor little papooses this unworthy woman had left in the Indian village. Mr. Duggan made this reference with signs of deep feeling. He added that the provisions were still at the foot of his bed and she might have them at any time.

Mr. Martyn was called and gave evidence that he saw the Indian woman on the afternoon of the 14th and that she appeared perfectly sober, that he saw her again in the evening and she appeared to be in no wise disguised with liquor.

Mr. Chaboilley also gave evidence to the effect that he saw the woman that afternoon and she was not drunk.

Dr. Lee also stated that he saw the woman that evening and that she was sober.

Mr. Duggan was again called and asked for a further statement. He said that he could not remember now, whether the woman was drunk on that day or some other day. At any rate he had detained the corn fearing that she might get drunk and make an improper use of it. He again affirmed, with feeling, that he was thinking of
the little ones this woman had left behind in the Indian village and was anxious to get this woman away sober, but found it difficult to do so.

The woman was then asked about her children and she declared that her children were all big warriors and gone away off.

This concluded the evidence. After some time in consultation Lieutenant Cowell announced that the report of the whole proceedings would be despatched as quickly as possible to his excellency, the commander-in-chief, at Quebec, and the court would await his judgment before making final disposition of the case.

In the meantime Thomas Duggan was suspended from his position as agent for the Indian stores and Mr. Martyn would act in his stead.

What the final judgment was, we have no records at hand to tell. What became of Thomas Duggan we do not know. We know little of his subsequent career. All we know is that he was never reinstated as government agent (Wooley 1926: 11-15: misspellings in original).

It is evident from the above document that relationships between the Indian and the white man were not always amicable. Duggan appears to have been routinely exploiting the natives and depending on his long service and reputation to protect him. Although the right of the Ojibwa to seek redress was, in this case, upheld by English law and the evidence of the Indian complainants accepted as honest and truthful, the underlying feeling persisted that the Indian was inferior and his right to make such legal challenge
dubious. The fear of change in native attitudes, from friendliness to hostility, was omnipresent. In spite of this, life upon the fringes of civilization led to many incidents in which friendship between Indian and white man and understanding of great depth often flourished.

Indian gifts to the government were a surprisingly important source of provisions for the military. The gifts of corn became vital in the maintenance of the garrison and its cattle, horses and poultry. Often the Indians would also bring fish and this non-salted source of nutrition was so welcome an addition to their fare that the men would buy and even steal it before the Indian agent could get it to his store (Lee 1966: 13). This is very understandable when we find Lieutenant Landmann describing his rations as follows:

My weekly ration consisted of four pounds of salted pork, three pints of dried peas, six ounces of butter, six ounces of rice, and seven pounds of flour; the pork and butter were as rancid as might be expected....It [the diet] was, therefore, reduced to pork and pea-soup on one day, and pea-soup and pork on the day following (Landmann 1852, 1: 327).

In 1802, 13,000 pounds of maple sugar received from the Indians were shipped back to Upper Canada because there was a great surplus. In other years, this was true of corn as well (Lee 1966).

Often gifts of corn would be sold to the traders or even returned to the Indians in the form of presents by the Indian department. The traders in particular were quite dependent upon such Indian sources of food. This is pointed up clearly when we read that their trade and food supplies suffered quite heavily from the effect of the campaign of the Shawnee Prophet (Tecumseh's brother) which aimed to
discourage associations with the white man. This nativistic movement was felt even at St. Joseph. We learn of this in 1807 in a letter from John Askin, Jr. to his father. All the Ottawas from L'arbe au Croche [sic] adhere strictly to the Shawney Prophet's advice, they do not wear Hats, Drink or Conjure, they intend all to Visit this Autumn, which will occasion a great scarcity of corn at this post & Makina. The Merchants will suffer by it as they have not provided themselves with that Article Whisky and Rum is a Drug, the Indians do not purchase One Gall per month. I saw upwards of 60 of them at one time together spirits, rum & whisky was offered for nothing to them if they would drink but they refused it with disdain (Wisc. Hist. Coll. 1910, 19: 322-3).

Such behaviour does not conform to the usual stereotype of the Indian and certainly stresses the strength of their deep religious convictions and, in this case, disdain of the traders.

Generosity between Indian and white man was often reciprocal, as the friendship between Lieutenant Landmann and Chief Little Crow testifies, and this was not an isolated example. We may suspect that such relationships helped to soften the effects of behaviour like Duggan's. As Landmann recalls:

The Albacroch Indians, whose territories were on the borders of Lake Michigan, not many miles south from Michilimachinac, occasionally came to St. Joseph. The chief of these people was a very extraordinary fellow, exceedingly brave, and had been shot and otherwise wounded in all parts of his body and limbs. He was a
remarkably keen observer of everything passing in his presence; and very quickly accommodated himself to the European usage and custom. He handled a knife and fork as well as those around him, invited others when at table to drink with him, with as much ease as those who had never known other manners; and what may be considered worthy of remark, is that he drank very sparingly of either spirits or of wine, always giving preference to the latter. His name was Cawgawguichin or the Little Crow; he had two or three other names, and having taken a great fancy to me, he made a formal proposal to adopt me as his brother and to give me one of his spare names (Landmann 1852, 2: 101).

Here we have the clear-cut admiration of an officer and a soldier for a brave and competent Indian chief. Landmann accepts on equal terms, albeit on rather ethnocentric criteria, one whom most of his contemporaries considered a savage. And the admiration was mutual; the adoption ceremony chronicled below is no mean tribute to Landmann's stature in the eyes of the Indians. As he goes on to relate,

I consulted the interpreter, and he not perceiving any impropriety in it [the adoption], I agreed. In order to mark this important event with due solemnity, in the evening of the same day, the whole of the members of his tribe then at St. Joseph's, about forty to fifty men, assembled and seated themselves in a ring. Cawgawguichin then came forward, and pronounced a very energetic, and perhaps elegant address to his subjects, who by repeated grunts expressed their approbation of
me as a brother.

I was of course present, and as soon as I had been unanimously adopted as the king's brother, his majesty was graciously pleased to part in my favour with his second favourite name MANITOUWIN, in order that I might in the future be known amongst them by that almost sublime name signifying The Little Spirit; the full dressed pipes were then produced by the aids-de-camp, or perhaps with more propriety the equerries, and we all took three whiffs each, and passed on the pipes from one mouth to the other (Landmann 1852, 2: 101).

Close though the new relationship was between Landmann and the Indians, he was, of course, unable to cope with their language and consequently he refers to the chief and his warriors as kings and equerries, translating the event in terms of his own culture. For his part in the ceremony, Landmann treated the Indians to rum (which was two-thirds water), observed the Wabino dance and presented Cawgawguichin with his canteen containing knives, forks, plates, glasses and other utensils (Landmann 1852, 2: 103). He conferred further honour upon the chief as the tribe departed from the fort: he obtained permission from the commandant to have two, rather than the usual single cannon, fired as a compliment to the departing chief. Later Landmann learned that this special salute had raised in these native people strong feelings of attachment to the British nation (Landmann 1852, 2: 104).

Such acts of friendship were repeated. The following year, Landmann was given presents by his new Indian brothers. He relates,

These consisted of about one hundred bushels of Indian corn, five hundred weight of maple
sugar, twenty beaver skins, and two beaver blankets made out of the skins of young beavers... Each blanket is composed of nine skins measuring two yards each way. Besides these there were several dozens of moccasins splendidly worked with porcupines' quills dyed in very bright colours, a pipe of peace, and a wampam belt (Landmann 1852, 2: 105).

Gifts such as these represented great wealth and esteem in Indian terms. In particular, the wampum belt, the ceremonial pipe and the beaver blankets of choice young pelts were articles of great value.

The friendship and mutual esteem of Landmann and Chief Little Crow may be considered unusual, but the history of later events tends to prove that at Fort St. Joseph, Indian-white relationships were generally more friendly than otherwise and that the Landmanns outnumbered the Duggans. As we shall see, in the moment of crisis the Indians stood solidly behind the British in their attack upon Fort Michilimackinac.

One final series of connections, that between fort and fort, should be seen as part of the web of human relationships that centred at Fort St. Joseph. The garrisons of the American Fort Michilimackinac and the British Fort St. Joseph were, for years, on surprisingly good terms. The two forts co-operated in apprehending each other's deserters. The American commanding officer had advised the commandant at St. Joseph that his men would be welcome to send correspondence to Upper Canada by way of the "express" between Michilimackinac and Detroit. As late as 1807, the British loaned 20 barrels of pork to the Americans when they were in short supply (Lee 1966: 9). But by 1809 relations were deteriorating and Governor Hull of Michigan, visiting the Indians of the Upper Lakes and distributing
gifts, boasted that the Americans might seize St. Joseph within the year (PAC, RG10, 5b, Vol. 28).

Thus the web of human relationships stretched out from Fort St. Joseph and, in turn, impinged upon it involving, as it did, the military, the traders, the white inhabitants, the government agencies and the Indians, the Americans and the British. Lines of blood, status, race and nationality were never as sharply drawn on this frontier where all were facing the severe challenges of the northern environment. As a result, the human qualities and ties between individuals often influenced the course of events as much as traditional group loyalties. But this was to change as events marched toward the incredible era of international rivalry and finally war.
Fort St. Joseph's Part in the Incredible Conflict

The status of Michilimackinac was not seriously altered by Jay's Treaty. Under the terms of this treaty, Canadian fur traders were allowed to continue operating in the rich area south of the Great Lakes (Lee 1966: 7). The United States levied duties on British imports but the trade continued to flourish, especially as there was no competition from the Americans (McGillivray 1929: 71). The result was that Michilimackinac remained the chief centre of trade. The small garrison at St. Joseph protected only a minor post, "a resting place or place of shelter for the merchants to deposit their stores, their furs and canoes occasionally" (PAC, RG8, Series C, D10, Vol. 1705, p. 22).

About 1805, British trade south of the lakes began to diminish. The Americans tried to gain control of trade in their own territory by establishing government-operated posts or "factories" at places such as Chicago and Michilimackinac. These brought little success. Subsequently, individual American traders dared to enter the fur business themselves. In 1805, merchants who were not citizens of the United States were barred from trading beyond the Mississippi because this area, recently purchased from France, was not covered by Jay's Treaty. The British response to the new competition was a consolidation of the Montreal trade into the area. The chief traders joined together in 1806 to form one "Michilimackinac Company," centred at Michilimackinac but supplied from Montreal. They made an agreement with the North West Company to divide
their theatres of operations roughly along the current international border. The very next year, in 1807, however, John Jacob Astor formed his American Fur Company and began to provide serious competition for the British (Phillips 1961, 2: 130-41).

With British-American relations generally becoming more strained each year, the American government was quite pleased to encourage a company whose stockholders had to be citizens of the United States. The American Fur Company naturally benefitted immensely from Jefferson's embargo of December 1807. This embargo prohibited the importation of British goods to the United States. The Michilimackinac Company "wintering partners" then wanted to sell out to Astor; however, the Montreal partners, Forsyth, Richardson and Company, and McTavish, McGillivray and Company, bought out the "wintering partners" in June 1810, and a new firm emerged, called the "Montreal Michilimackinac Company." At this point, the American embargo was lifted temporarily. In the interim, the Montreal firms hastened to amalgamate with Astor. The resultant South West Fur Company was founded in January 1811, shortly before the embargo was resumed, and gave an equal share in the trade to each company (Porter 1931, 1: 252-4).

The alliance with Astor was by no means a solid one. John Jacob Astor was a shrewd, rotund German-American who had begun as a "peddlar" dealing in trinkets to barter for furs. He saw plainly that the Hudson's Bay Company and the Nor'westers were both undergoing heavy losses in their strife. He had organized the American Fur Company, and consequently amassed a fortune. Shortly before the War of 1812, he went to Montreal and sought to ally the Nor'westers with his own company in order to put an end to rivalry with the Hudson's Bay Company. The haughty Nor'westers laughed at him. Only a small number of dissatisfied Nor'westers
joined his ventures (Compton's Encyclopedia 1955, 5: 321-6). Thus the South West Fur Company was at best an uneasy alliance. It was a day, perhaps, when citizenship was not clear-cut and being English, American or French was not so important. Common alliance to produce success and profits in the fur trade was the basic thing.

We have already noted that Robert Dickson only just saved the South West Fur Company from ruin by smuggling £10,000 in trade goods into the Mississippi valley. So it is not surprising or unexpected, as events deteriorated and American government controls increased, that both the North West and the South West companies were promising to send their men and even Indians to join the British at St. Joseph in the event of war. They went so far as to suggest that Michilimackinac be seized (Lee 1966: 10).

The day of crisis was scheduled for 18 June 1812. In world events, the United States had cast in its lot with France. This gigantic struggle between England and Napoleon threatened the United States with commercial ruin. England, France, Napoleon and events of the Old World may have seemed remote to those at St. Joseph; and in fact they were. The impact, however, fanned out to erode relationships upon the frontier. Problems of the press gang, embargoes, and the strategic fact of the animosity or the friendship of the Americans were probably neither discussed, nor if so, understood in the community of St. Joseph. But these factors involved them in incredible motives which enmeshed them in an incredible war.
Fort St. Joseph's Hour of Glory

The War of 1812 between Great Britain and the United States ended in victory for neither. It was tragic in its loss of life, money and property. Both nations were left where they were before the hostilities had begun; however, for Fort St. Joseph it was the hour of victory and glory.

War was declared by the United States on 18 June, and news of the declaration reached St. Joseph on 8 July 1812. The Americans, however, were tardy in advising their garrison at Michilimackinac and their tardiness cost them the fort. Captain Charles Roberts, a veteran of British campaigns in India, was the commanding officer at Fort St. Joseph. He had at his disposal only about 40 men. His fort had been repaired the year before, but only in a temporary fashion, Captain Roberts wrote to Captain Evans, 24 October 1811 (PAC, RG8, Series C, Al, Vol. 514, p. 238). Roberts was quick to realize that in the immediate capture of Fort Michilimackinac lay the most strategic course in the current crisis.

At this point, perhaps, we can again follow Wooley's thoughts on the subject. Despite his deep interest in St. Joseph and his obvious pro-British tendencies, his evaluation of history and historical events does not seem to suffer from a lack of understanding, documentation or from bias of any serious proportions (Wooley 1926: 2-5).

In 1802, General Isaac Brock, one of England's most brilliant soldiers and statesmen, was sent to Canada. He soon saw that the
sympathies of the American nation were with the French in their war with England and that a crisis was approaching. Again and again, he urged upon Sir George Prevost, Commander of the British forces in North America, the necessity of strengthening the frontier defences. Sir George, however, was all too hopeful of arriving at an understanding with the American government and did not take these warnings seriously. In December, 1811, General Brock, who was now governor of the Upper Province, submitted a plan of defence to his superior officer. He deplored the defenceless condition of the frontier and urged that British forces should be concentrated at strategic centres so that the American strongholds at Detroit and Mackinaw could be reduced as soon as hostilities would commence. The capture of these fortresses was, in Brock's opinion, the only hope of preventing the Americans from over-running Canada from the west. He especially urged that Fort St. Joseph should be strengthened in view of an attack on Mackinaw in event of war. Sir George Prevost was still hopeful of a peaceful settlement and at any rate was not enthusiastic about Brock's plan, as he deemed the available forces of the British insufficient to hold so long a frontier, but favoured rather withdrawing to the Niagara frontier and if necessary abandon the whole country as far east as Kingston....

Early in the spring of 1812, General Brock sent a small detachment of Glengary [sic] Fencibles (Canadian Highlanders) to reinforce
Captain Roberts at Fort St. Joseph. The hardy Glengarry men marched across to Georgian Bay, came across the Manitoulin and landed at the Fort just as spring opened up....

The Americans declared war against Great Britain on June 18, 1812, and at once crossed into Canada at Detroit. General Brock, ever prompt and alert in all his actions, dispatched orders at once to Capt. Roberts to summon to his aid the men from the fur company, encourage any assistance from the Indians, and attack Fort Mackinaw as soon as possible. [In Wooley at this point we see clearly defined the Mackinaw-Michilimackinac corruption of terminology which leads to considerable confusion at this time and place because of interchangeability of terms.] Communication was slow in those days and it was the 28th of June before the little garrison knew that it was their duty to proceed against one of the most impregnable fortresses on the frontier. For the next ten days all was feverish activity on the southern shores of the island. The men of the fur trade were summoned from the scattered posts of the north and 160 straggled in, a hardy, fearless lot of men, but not much used to military discipline. The Indians were invited to join and over three hundred assembled.

On the morning of July 16th, Captain Roberts gave the order to move and 40 regulars, 160 voyageurs and gentlemen of the fur company and 300 Indians pushed away from old St. Joe on the hazardous venture. [Lieut. Hanks recorded
the attacking force as being 1,021, comprised of 306 whites and 715 savages (Sault Ste. Marie Historical Society 1921, 25). They embarked in the sailing brig "Caledonia", belonging to the Northwest Company and a fleet of small boats and canoes. The French-Canadian voyageurs were sturdy oarsmen and by midnight the lights of Mackinaw were visible. Captain Roberts managed the expedition with the utmost caution, being anxious for a surprise, his army being poorly equipped and poorly trained for an open assault on so strong a fortress. Well he knew if their approach were known and if the American garrison were prepared, the whole expedition might be blown to pieces on the rocky shores of Mackinaw Island. But this time fortune favored the brave, and during the early hours of the morning of July 17th, this strange force, unseen and unheard, scrambled up the precipitous cliffs and formed in battle array, making an imposing appearance as possible. The two unwieldy old cannon were trained menacingly on the fort and when all was ready, Captain Roberts bade the Indians give the war-whoop. Thus the first knowledge the American garrison had of the impending attack was gained through the blood-curdling yells of the Indian warriors.

Captain Roberts was an honorable and humane officer and had dispatched an officer to warn the civilians of the village, especially the women and children, to repair with all haste to the western point of the island where they would be protected by a British guard from
the fury of the Indians, for the warriors would be beyond control once a shot was fired from the fort and would not likely leave a person alive.

The American commander, Lieutenant Hanks, immediately ordered every gun charged and speedy preparations were made for resisting the assault, but by 10 o'clock it was plain that he considered defence was useless for a white flag was seen moving toward the British position, and the Stars and Stripes began to descend slowly from the ramparts. Roberts had achieved a great success, the only American stronghold guarding the North country came into British hands without a shot being fired, together with large quantities of furs and military stores. The following is a copy of Captain Roberts' own report of the expedition, to General Brock, written by him on the very day that Mackinaw surrendered:

Fort of Michillimackinac, 17th July, 1812.

Isaac Brock,
Major General.

Sir: --
I had the honor to receive your letter dated the 4th of July, on the 15th instant, and foreseeing that I should soon be abandoned by the Indian allies, whose minds had been prepared for hostilities, if I did not immediately employ them, and also that the moment so favor[able] for making an attack upon
this place, so highly important at the present crisis, might soon be lost, I embarked on the morning of the 16th with two of the six pounders and every man I could muster, and at 10 o'clock, the signal being made, we were immediately under way.

By the most unparalleled exertions of the Canadians who manned the boats, we arrived at the place of rendezvous at 3 o'clock the following morning. One of those unwieldy guns was brought up with much difficulty to the heights above the fort and in readiness to open about 10 o'clock, at which time a summons to surrender was sent in and the capitulation, a copy of which I have the honor to enclose, was soon after agreed upon. I took immediate possession of the fort and displayed the British colors. It is a circumstance, I believe, without precedent, and demands the greatest praise for all those who conducted the Indians, for although these people's minds were much heated, yet as soon as they heard the capitulation was signed, they all returned to their canoes and not one drop of either men or animal's blood was spilt, till I gave an order for a certain number of bullocks to be purchased for them.

I cannot conclude this letter without expressing my warmest thanks to my own officers [sic], to the gentlemen of St. Joseph's and St. Mary's and to every individual engaged in the service.

I trust sir, in thus acting, I have not exceeded your instructions, for be assured that
prudential measures of the first necessity
demanded the step which has put us in
possession of this island.

I have the honour to be your most obedient
humble servant,

CHARLES ROBERTS
Captain Commanding

There then followed a capitulation agreement signed by
Captain Roberts and Porter Hanks, commanding officer of the
United States of America at Fort Michilimackinac. This, in
a sense, was Fort St. Joseph's hour of glory: Captain
Roberts had, through one astute move, succeeded in gaining
control of the upper Great Lakes. However such control was
to be disputed by American naval ships. This conflict for
the water routes and hence control of the vital flow of men,
material and supplies was at times to make life at
Michilimackinac very difficult.

As Captain Roberts had firmly established the British
at Fort Michilimackinac, the role of Fort St. Joseph waned.
Fort St. Joseph was now abandoned by the British, as all
their strength and forces in the area were concentrated at
Michilmackinac. American naval victories began to threaten
seriously British control of the Great Lakes.

In 1814, Lieutenant Colonel George Croghan, a
22-year-old Kentuckian (May 1962: 33) commanding a small
fleet, was assigned the task of destroying British
installations. His objective was installations in Mathadash
Bay and presumably elsewhere in the Lake Huron-Georgian Bay
area. It is not necessary to chronicle the various failures
and blunders of this expedition. However, on 12 July 1814,
they did succeed in burning Fort St. Joseph (May 1962: 33)
and the storehouses of the North West Company. The town and
the warehouses of the South West Company were left intact
(Bayliss and Bayliss 1938: 65-6). From that moment
on, Fort St. Joseph was to serve as a satellite of its own replacement. The new British post was located just six miles to the south on Drummond Island. Concurrently, Fort Michilimackinac was once more returned to American hands on 18 July 1815, following upon the terms of the Treaty of Ghent, signed 24 December 1814.
The Later Days

By 1811, Fort St. Joseph was scarcely a defensible fort. Over the years, repairs had been made makeshift as the palisade blew down (PAC, RG8, Series C, Al, Vol. 514, pp. 238-40). Even after Captain Roberts' successful capture of Fort Michilimackinac, it was clear that the position at Fort St. Joseph was untenable. As Lieutenant Colonel de Boucherville wrote in June 1813,

St. Joseph in its present state cannot be of any importance. All the serviceable artillery have been transported to Michilimackinac, there still remain four long twelve-pounders, spiked and without carriages.

Lieutenant Colonel de Boucherville, aide-de-camp to Sir George Prevost from near Kingston 13 June 1813, left Montreal on 9 May and was at St. Joseph the evening of 22 May (PAC, RG8, Series C, Al, Vol. 679, p. 83).

It is not surprising that the fort was burned without resistance in July 1814. The burning was not without a sense of discrimination. The American interests of John Jacob Astor, the South West Company buildings, and much of the town escaped destruction by flame. It was the military establishment and the buildings of the North West Company that were demolished. We must suspect that the Americans had an eye to future control of these unburned establishments, had the war terminated in success.

After the fire, some effort apparently had been made to
repair and rebuild St. Joseph. In the meantime, Drummond Island was selected to replace Fort St. Joseph as the military installation. In May 1815, however, it is clear that the commander at Drummond Island had seized available materials and was carrying out a rebuilding program, since he states:

The repairs to the buildings at St. Joseph are rapidly going on and if necessary will soon be fit to receive the garrison and stores. I have for that purpose made use of the dwelling houses and storehouses of the South West Company (PAC, RG8, Series C, Al, Vol. 688, p. 47).

In May also, a resident, Robert Livingstone, was petitioning Sir Gordon Drummond for compensation for the loss of a house, wharf, and store at St. Joseph "burned by the enemy" (PAC, RG8, Series C, Al, Vol. 258, p. 118). It appears that the commandant at Drummond Island had largely seized the initiative in this repair work, for in October, 1815, he was hoping that the problem of the buildings "removed from the South West Company at St. Joseph's without permission" could be settled (PAC, RG8, Series C, Al, Vol. 258, p. 244).

In 1816, there is an almost comic opera aspect to the situation. In February, we learn that all the general orders and official letters relating to Fort St. Joseph were lost (PAC, RG8, Series C, Al, Vol. 515, p. 86). The misplacement of such documents does today evoke a certain wonder. In fact, the development of St. Joseph seems of little real concern. The documents were recovered 27 June 1816 (PAC, RG8, Series C, Al, Vol. 103, p. 61).

In November 1816, a report upon the state of fortifications states that:

There now remains only the old magazine which
contains an assortment of ammunition, this if possible ought to be removed (PAC, RG8, Series C, Al, Vol. 514, p. 156).

By 1818, the community and the military had abandoned the windy hill. The garrison halls had been transformed into cavernous barns and the dusty parade grounds into greening pastures. The commandant of Drummond Island, coping with the applications to settle at St. Joseph, indicates that it was totally evacuated by the inhabitants when the military post was removed. He states that "No person resides there now, except for a corporal's guard for protection of the magazine," and that "St. Joseph is also necessary to the garrison of Drummond's Island for pasturing the garrison cattle and to provide hay for them in the winter" (PAC, RG8, Series C, Al, Vol. 516, p. 16).

With the year 1820, the picture grows more desolate. A report upon the state of fortifications indicates that at St. Joseph there remains:

A magazine, a stone building with a shingle roof, of which the arched ceiling is much cracked, a bakehouse, a brick building with a good oven, formerly covered with sheet iron but this having been removed, it has now a barked roof. This building is occupied as a barrack by the guard left at St. Joseph's to protect the magazine. There is also a storehouse which originally belonged to the North West Company. Props have been placed against the walls of these buildings to secure them from falling (PAC, RG8, Series C, Al, Vol. 406, pp. 44-5).

In June 1821, Nicholas Garry "passed the site of the village of St. Joseph." The ruins of the old British fort were still standing. A corporal's guard was now on the island for the protection of the powder magazine (Garry
In September of 1823, the situation was little changed.

The only buildings at this place are a small powder magazine with the roof shingled and the walls much cracked; a small brick building covered with sheet iron, formerly used as a bakehouse, now used as a barrack; and a store 80' x 21', in bad repair, used as a stable for the commissariat cattle (PAC, RG8, Series II, Vol. 80, pp. 20-1).

In 1825, a commission report upon St. Joseph states: "No fortifications." These written words document its official demise (PAC, RG8, Series II, Vol. 6, p. 19). The day of Fort St. Joseph as a fort, as an outpost of empire, had passed. The same report goes on to state that the government buildings were situated at the south end of the island, where the post formerly was. They consisted of "a powder magazine of stone, the arch of which is cracked, a guardhouse of stone, the roof out of repair which is occupied by a detachment of one corporal and six men from Drummond's Island, and a large barn, used for cattle, old and out of repair." This is our last documentary reference of a military nature to Fort St. Joseph.

Over the span of nearly a half-century, the fort which "never really came to be" figured significantly in the struggle for control of the New World. Then, denigrated to a cow stable, finally a ruin, like an old soldier it faded away.

It is not clear when the corporal's guard, gunpowder and cattle were removed from Fort St. Joseph. Presumably, none remained by 1835 when Major Rains and his associates settled at Milford Haven Outlet and two years later moved the 10 miles west to Rain's Point (Bayliss and Bayliss 1938: 97).
Fort St. Joseph was now to have a new function as a ruin, a picnic place and a site of historical interest. It is more than likely that the colourful Major Rains and his co-wives visited the fort site for outings in the mid-1800s.

The fort was also to become the site of archaeological investigation. It is evident that Wooley's story of Thomas Duggan was stimulated by the work in which he and his associates were engaged when "uncovering the ruins of a stout, stone fireplace now overgrown with bushes and vines" (Wooley 1926: 10). Archaeological work was also carried out in the late 1920s by Mr. J. LeB. Ross and the Sault Ste. Marie Historical Society. A small amount of information derived from their work has filtered down to us.

This area has also become a bird sanctuary of importance. In 1948, the last seven miles of road was constructed, a considerable area of the fort was cleared of scrub and parts of it were levelled by bulldozer to make it a more attractive picnic area for interested visitors. In 1963 and 1964, the fort became the scene of our archaeological investigations.

The fort now perhaps enters into a new era in the history and development of Canada. Nearly 175 years after Lieutenant Landmann's initial struggles to bring the fort into being, it is seen in the new role of an historic site.

Recognition of this new role is contained in the bronze plaque attached to one face of a chimney that stands like a lonely sentinel on the grassy hill. Strangely enough, this chimney is, archaeologically and historically, a riddle. It stands 10 ft. to 15 ft. inside the southwest curtain wall and 10 ft. southwest of the main gate. It is 8.8 ft. along the northeast-southwest side and 6.75 ft. along the opposite axis. The hearths are centrally located in the long faces of the chimney and the opening of the west hearth is 6 ft. wide and 3.0 ft. deep. The east hearth is 5.8 ft. wide and
3.0 ft. deep, narrowing to a width of 4.8 ft. The stack is mortared limestone lined with brick. Photographs taken about 1920 and in 1963 indicate that it had been repaired considerably by the Sault Ste. Marie Historical Society. The entire area around the chimney was bulldozed in 1948 so it now stands upon a platform of earth about one foot above the surrounding ground surface.

None of the historical documentation, letters or plans throw any light upon this building. Test trenches were placed in an effort to determine whether the chimney was centrally located in a building 80 ft. by 21 ft. which might identify it as the storehouse mentioned as being used after the fort was burned in 1814. In these circumstances, an 80-ft. building would be feasible since the southwest palisade and the main gate would no longer be in existence. Intensive digging of 20 excavation units, however, all produced negative evidence in that no associated wall or floor structure could be found.

It seems best to infer, therefore, that this chimney and whatever building was associated with it, post-dated occupation and burning of the fort. It is possible that the building rested on a surface log foundation rather than a subsurface stone foundation. If so, the bulldozer could have removed all other remains of the building, leaving only the chimney standing.

One further point to be considered regarding the chimney structure is that the first three or four courses of mortared limestone are definitely of more careful workmanship than those above it and the bonding mortar in the two sections is different in type and texture. The possibility therefore exists that the chimney as it stands today was rebuilt on older foundations.

As to the probable date of its origin, we know only that the Durnford map of 1823 does not show this chimney
although other less obvious ruins, like the powder magazine and the new bakery, do appear. But local informants report the ruin of the chimney recalled 80 years ago and photographs from about 1920 indicate the chimney standing at that time but in a state of disrepair (since improved by the historical society).

Since no original ground surface remained at the time of our investigations, the associated artifacts are sparse relative to the large area excavated and offer almost no clue to the function of the chimney and whatever structure was originally associated with it.

The chimney remains, then, an archaeological and historical enigma. Its striking location and appearance no doubt account for its selection to bear the historic plaque which was affixed in 1928. Ironically, the only building which cannot be clearly identified with the fort bears the following inscription:

Fort St. Joseph.

The most westerly military post in Upper Canada built in 1796-99 and garrisoned from 1796 to 1812 by parties from the Queen's Rangers, Royal Canadian Volunteers, 41st and 49th Regiments and 10th Royal Veteran Battalion.

It became a noted trading station and resort for Indians.

A court of requests was established in 1808.

Here Captain Charles Roberts organized the expedition that took Mackinac, 17th July, 1812.
Conclusions

We are now in a position to assess the results of our analysis of Fort St. Joseph in the light of our objectives. Ultimately our purpose has been to recreate a picture of the social and cultural life of Fort St. Joseph.

The locations of the major structures of the fort have been identified. These include the blockhouse, the old bakery, the guardhouse and the stores building, the new bakery, the powder magazine, all four bastions, the curtain walls, the water-gate with its associated ravelin, and the land-gate. We have found doubtful information about the ravelin associated with the land-gate and have investigated a problematical chimney structure. The ground plans and dimensions of each of these structures have been determined and a high degree of correlation was found to obtain between the documentary and the actual measurements.

Detailed information has been obtained about the construction of foundation trenches, footings, foundation walls and oven and chimney foundations. The nature of both palisade and bastion support-beam constructions has been recorded. In many instances, the position of floor levels and supporting beams has been ascertained. It has been confirmed that roofs were sheeted with metal and that windows were glazed.

A total of 20,000 artifacts has been retrieved, including items of a military, constructional, personal and domestic function.

In addition to documenting construction, we have
produced more than ample evidence of destruction by fire and, in particular, we were able to substantiate the bakery fire and the blockhouse fire. Because of the extensiveness of the destruction by fire culminating in 1814, and because of the further disturbance by bulldozing in 1948, archaeological investigations have been greatly handicapped. We have, therefore, been constrained to depend on documentary evidence and on comparative data from English forts of approximately the same period.

The elevations prepared by Duberger, the watercolour painting by Lieutenant Walsh and the fairly specific statements of Captain Bruyères as to dimensions (particularly heights) of the buildings, proved most helpful here. In addition to these verbal descriptions and drawings, we have compared information from restored structures at Fort George and surviving structures at Fort York to help us visualize the building superstructures. Our thinking, in so doing, was based on the assumption that there was generally a high degree of consistency in the plans and construction of English forts during the early 1800s.

We have had to keep constantly before us the fact that Fort St. Joseph never reached the degree of structural stability or defensive complexity that was achieved at Fort George and Fort York. Such features as terreplein, banquette, parade and bastion gun platforms (except possibly for the south and west bastions) were not completed at Fort St. Joseph. Thus it never did achieve the status of a strong and highly defensible fort. St. Joseph was always a fort that was "coming into being." Despite contemporary opinion of its defensive weakness (an estimate never put to the test), Fort St. Joseph did serve the function of housing and maintaining the garrison needed for protection for the fur traders and Indian population of the time. It also
served as an effective rendezvous for trade and, when the moment for decisive offensive action came in July 1812, proved to be an adequate base for launching the successful attack upon Fort Michilimackinac. Thus it played an important military role in maintaining the essential integrity of the international border in the Great Lakes area, a genuine contribution to the development of Canada as a nation.

To recreate a comprehensive picture of the social life of Fort St. Joseph has proved a challenging task for which the basic framework, at least, now seems fairly clear. By social life, we refer, in this particular context, to those ways of behaviour which relate man to his environment and to his fellow men, both as individuals and as groups sharing common functions and interests. In these terms, a few generalizations about Fort St. Joseph can be made with some confidence. It is everywhere evident that the life was one of consistent hardship and struggle: whether with the severity of the elements, with the prodigious difficulties of obtaining supplies from Quebec or Montreal, or with the tedious and laborious means available for abstracting the raw resources of the locality. At the same time, the constant threat of renewed hostility from both Indian allies and American neighbours meant a state of perpetual anxiety. These hardships were not peculiar to Fort St. Joseph, of course, but rather an inherent factor in frontier living at the time.

Despite the difficulties which beset the community, it is evident that it functioned well from an economic point of view. St Joseph was neither the largest nor the richest trading centre in the Great Lakes area, but its volume and contribution to the fur trade was not inconsiderable. Good relations with the Ojibwa (Chippewa) were consistently maintained despite unfortunate incidents such as that in
which Mr. Duggan was involved. Wharfs were constructed, landing facilities made available and substantial warehouses built. A series of trading companies, including the North West Company, the Michilimackinac Company and the American Fur Trading Company, were able to meet here and work together in the grim competition with the Hudson's Bay Company. In fact, loyalty to the trade, more often than not, took precedence over loyalty to flag and country.

Just how crucial to economic progress was the presence of the military and government agents associated with the fort, is not something that can now be proved, but there is no doubt that it was of substantial importance. Moreover, the cooperation between fort and fort, between military and traders, between white and Indian, must, in times of stress, have been a notable factor in the preservation of all - far outweighing in importance the minor grievance which occasionally arose or the adverse opinions aired from time to time.

From all the evidence, it would appear that Fort St. Joseph was a "man's world" - much more renegade than genteel. Despite the fact that some of the officers took to gardening and that Lieutenant Craddock acquired a half-Indian wife and raised a family, there is little evidence of family life and domesticity. There appears to have been an undetermined number of white women employed in the sewing of Mackinaw coats for Captain Roberts' men, but there is no reference anywhere to their occupying the many cabins which lay outside the fort area. We may rather suspect that sexual alliances were of the more casual nature typical of early frontier society. The assemblage of broken pipe stems and bottles collected by excavation suggests that pipe-smoking, yarn-spinning and coping with the "demon rum," which had Thomas Duggan in its grasp, constituted much of the leisure-time activity of the fort and the associated
community. At the same time, the unearthing of delicate wine glasses, sporting rifles, as well as the reference to the commandant's English saddle, all suggest that the officers may have been in a position to follow gentlemanly pursuits in their leisure time.

To assess the problems of leisure time and work activity is difficult. We have been aware that the progress in building the fort was painfully slow; that Lieutenant Landmann, for example, had difficulties in obtaining funds to pay the men who worked on the fort construction. There is no denying that much of the work must have been of such a back-breaking nature that, unless a sense of urgent necessity prevailed, procrastination was understandable enough. Lieutenant Landmann seems to have been inspired with such a sense of urgency and apparently worked from dawn to dusk. He accomplished much and may well have set an example for his workers. There is evidence that, although he was a young man of aristocratic background, he was as much at home with the rough and ready woods workers and the Indians as he was with his fellow officers.

Captain Nichols, as well, seems to have been responsible for stimulating considerable progress in the work. But Captain Roberts, who was in ill health himself, seems to have been less concerned with fort building than with efforts to maintain the health and comfort of his men. He may have been influenced also by his estimate of the strategic importance of Fort Michilimackinac and, seen with the context of his swift and successful action to capture that fort in 1814, his complacency about the state of fortifications at Fort St. Joseph can even be credited to foresight rather than apathy. From a military point of view, he may have considered it inevitable that St. Joseph should have a secondary role. Therefore, instead of pressing the building of the fort, he may have concentrated
on maintaining morale by looking after the health and comfort of his men, and strengthening the alliance with the Indians by maintaining strict justice, as in the story of Thomas Duggan.

There is little evidence to indicate the extent to which the military group was kept occupied with strictly military duties, but it may well be that the military were much occupied in carrying out the normal fort duties and providing the necessary show of strength to impress their Indian allies. It would also be very likely that ceremonial meetings with chiefs and warrior groups, as well as fur-trade officials and travelling groups, would occupy considerable time and involve a measure of pomp and ceremony.

The military groups stationed at Fort St. Joseph do not appear, from contemporary description, to have been a highly trained military force, but rather a rag-taggle collection of ill-equipped men with various and somewhat questionable motivations. The presence of a parade ground is mentioned in the documents and many hours were, no doubt, spent in military drill in an effort to convert this motley group into a disciplined body of men, worthy of the title "soldiers of the king."

The development of social groupings and social elites seems a likely inference but the evidence is certainly poorly defined. We have been constantly aware of the mutual encroachment of military and civilian acreage, both in terms of ownership and use. Captain Roberts laments the degree to which the civilians have impinged upon the military terrain. Officers, in turn, were mostly billeted in the village. The presence of a military elite seems likely and according to Wooley, the civilians were kept outside the fort during the court of inquiry into the Duggan affair. Our excavation, which has been confined to the fort interior, has yielded
artifacts consistent with the presence of a military elite, such as the glass wine goblets, black basalt Wedgwood-type ware, and imported porcelain dishes.

There can be little doubt that the impact of the fur-trade company officials and the men of the Indian affairs department was strongly felt in social life. At times they must have been, to say the least, arrogant, domineering and certainly unscrupulous. Duggan, for example, is described as the "unofficial mayor" of St. Joseph and widely known along the trails. Robert Dickson was a man of greater stature and the men from Montreal, and certainly John Jacob Astor, were men of wealth and power. Possibly much energy which might have been used to develop the fort was diverted to the construction needs of the fur trading company. It seems most likely that the tenor and direction of life at Fort St. Joseph must have been dominated by the necessities and demands of the fur trade. But it must also be recalled that, in the hour of need, it was these men, their coureurs-de-bois and their Indian allies who rallied to the assistance of Captain Roberts and made possible the successful attack upon Michilimackinac.

Finally, the Indian population deserves more than passing comment. In most of the historical documents they are cast in the role of cunning savages, vacillating in their loyalties and requiring constant assurance and concrete evidence of strength and support. They were considered a breed apart and inferior. With typical ambivalence, Craddock's half-Indian wife was accepted as a "good 'un," but also as a butt of jokes and frequent comment. Similarly, Indians were granted equality in the court of law, and exchange of food in times of stress did much to strengthen the good feelings between Indian and white man; but we must constantly remember that the relationship was one of delicate balance, with the beaver
as the connecting link - Indian-beaver-white man. At this particular time and place, the early 19th century, all human relationships were dominated by and merged into this single theme. British-Indian relationships, amicable on the whole, continued to play a crucial part in the development of Canada and the west until the vitality of the fur trade began to dwindle.

The social relationships discussed above provide us with our most useful clues to the culture or value system of those at Fort St. Joseph. The beaver is again the connecting link. It joined the vanity of the European male willing to pay extravagant prices for beaver hats, to the vanity of the Indians willing to devote themselves to accumulating beaver skins in return for the trade goods that brought them corresponding prestige and gratification of vanity. Upon the vanity of both the white man and the Indian, the traders (many of whom started as small peddlars) grew rich and powerful. The culture, then, was rooted in the basic values of personal vanity and material wealth. Fraudulent barter, hard bargaining and vicious competition were commonplace methods of attaining the wealth that ultimately satisfied vanity and assured prestige.

It was also a culture where rugged individualism flourished and was esteemed. Hard work and sharp wits were necessary even for survival; for those willing to take great risks, the prospect of large and quick profits dangled alluringly. It was a culture that tolerated a wide range of deviation; where rogues and men of high dedication worked side by side in a common cause, often melded into mutual loyalties by the amalgam of common hardship and peril. There was little place for the weakling or the man of gentle nature or refined taste. But even here, deviation was tolerated and a few, through rank, privilege or manipulation, were able to surround themselves with some of
the delicacies and refinements of home and former days: a delicate teapot, a flint crystal goblet, or a fine sporting rifle.

Beneath the all-pervasive materialistic values of the fur-trade community and its economic motivations lay the values of the military. These, at Fort St. Joseph, did seem to reflect the time-honoured traditions of British imperialism: that proud and perhaps misguided belief in British and white superiority; that fierce dedication to expanding and maintaining the already far-flung empire. All of this was perhaps best symbolized by the flag of Britain which flew so proudly over even this rickety outpost with its motley band of "soldiers of the king," now disgruntled, now drunk on rum, but ultimately strong in their loyalty and effectiveness when the moment of crisis came.

This is the story of Fort St. Joseph between 1798 and 1814. Here on the frontier, laissez-faire liberalism was backed by a military integrity and dedication that were vital in the development of Canada as a nation. In the microcosm of Fort St. Joseph these qualities can be seen with sharp clarity and from our own vantage point in time, perhaps appreciated for their true worth.
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ILLUSTRATIONS
1 Map of the Great Lakes area, about 1800.
2 Grid plan and areas excavated in 1963.

3 Plan with surveyor's grid.
4 Key to symbols used in archaeological drawings.

5 Soil profile approximately 100 ft. southeast of southeast curtain.
Plan of Fort St. Joseph. (Public Archives of Canada.)
Blockhouse plan showing remains of foundations and areas excavated.
8 Exterior profile of northwest wall of the blockhouse.

9 Elevation of northeast wall of blockhouse.
10 Elevation of blockhouse northwest chimney, from southwest side.

11 Elevation of blockhouse chimney, northeast side.

12 Elevation of northwest side of blockhouse chimney.
blockhouse profiles: a, looking west; b, looking north.
14 Blockhouse profiles looking south, west and north.

15 Section through blockhouse wall, looking south.
16 Plan showing remains of guardhouse foundation.

17 Profile of northwest face of the guardhouse.
18 Profile of north face of the guardhouse.

19 Dovetailing used in guardhouse.
Plan showing remains of old bakery foundation.
21 Profile along north wall of old bakery.

22 Profile along north wall of old bakery.
The stores building plan showing remains of foundation.
OP 5a: N.E. CURTAIN

PLAN SHOWING PALISADE FOUNDATION TRENCH & SUPPORT TRENCH. DEPTH 1.0 FT.

24 Northeast curtain; plan showing palisade foundation trench and support trench.
25 Northeast curtain; profile looking southeast.

26 Northeast curtain; profile looking southeast.
27 Northeast curtain; plan showing palisade foundation trench

28 Southeast curtain; plan showing palisade foundation trench.
29 Southwest curtain; profile looking northwest.

30 Southwest curtain; profile looking southwest.
31 Northwest curtain; plan showing palisade foundation trench.

32 Northwest curtain; profile of palisade trench.
33 Drawing showing mortice and tenon joints used in palisade construction, palisade pickets and picket decay.
34 South bastion; plan showing palisade foundation trench at right re-entrant angle.

35 South bastion; plan showing palisade foundation trench at left re-entrant angle.
36 South bastion; profile of palisade trench at left re-entrant angle.

37 South bastion; plan showing right flanked angle.
38 South bastion; northwest profile of square 125K.

39 South bastion; northeast profile of square 138Jn.
40 West bastion; profile of palisade trench at right re-entrant angle.

41 West bastion; profile of palisade trench, left shoulder angle.
42 West bastion; profile of palisade trench, looking southeast.

43 West bastion; profile of palisade trench, left flank, looking southwest.
44 Profile of southwest redan test trench.
45 Northeast gate area; plan showing remains of cobble pavement.

46 Northeast gate area; plan showing palisade foundation trench and support trenches.
47 Northeast gate; northwest profile of 55Fs, 55Fe and 56Fs.

48 Northeast gate; section looking northeast through palisade post moulds.
49 Northeast gate; southeast profile of squares 56Dw and 55Dn.

50 Northeast gate; southeast profile of squares 55Ew and 56Ew.
Southwest gate area; plan showing palisade foundation trench and support trenches.
52 Southwest gate; profile looking northwest.

53 Southwest gate; profile looking northwest.

54 Southwest gate; profile looking southeast.
55 Powder magazine; plan outlining masonry still standing above present surface.  

56 Powder magazine; elevations of standing masonry.
57 New bakery; plan outlining masonry still standing above present surface.

58 New bakery; elevations of standing masonry.
OP. 6b: RECENT CHIMNEY

PLAN OUTLINING MASONRY STILL STANDING ABOVE PRESENT SURFACE. DOTTED LINE INDICATES EARTH PLATFORM RESULTING FROM 1948 BULLDOZING OPERATIONS.

Recent chimney; plan outlining masonry still standing above present surface.
60 This view, looking southwest prior to excavation, shows the blockhouse marked by the tree growth inside it. The two mounded areas mark the location of the two chimney ruins. The masonry structure to the right is the recent chimney.

61 View looking south from the blockhouse. The guardhouse is located at the "No Parking" sign. The south bastion lies between the sign and the conifers in the background. The recent chimney is at the right. The new bakery is seen in the background to the left of the chimney, partially obscured by trees.
62 View of southeast chimney of the blockhouse. The trees have been cut down, and excavation has begun on the southeast chimney. The view is to the southwest with the Michigan shoreline and the St. Marys River in the background.

63 Blockhouse structure. In the centre foreground, looking northeast, the foundation trench is visible. The footing of the southwest wall is just visible above the trench surface. In the upper right, inside the building, the southwest face of the northwest chimney with the beam recess is visible.
This exterior view of the northwest wall of the blockhouse shows the foundation footing with the superimposed foundation wall. Note the shelf-like edge.

View showing the beam recess on the southwest foundation of the northwest blockhouse chimney. Dark areas on the floor of the excavation are the remains of a black lens which would represent the charred and collapsed floor. In the upper left is a recently built stone barbecue.
66 View of what may be a brick partition wall in the blockhouse. It had been built upon the masonry foundation seen in the upper right. The wall would have collapsed from upper right to lower left.

67 View looking northwest of the excavation of the old bakery in progress. The oven foundation is seen in the foreground. The powder magazine is at the upper right, and the recent barbecue at the upper left.
68 View of the stores building looking southwest, showing the northeast face of the chimney foundation. This masonry structure was unique for the fort, not being bonded with mortar.

69 View of the right shoulder angle of the south bastion where pillars of clay and supporting wood fibre indicate the vestiges of pickets. A support beam is seen in the background.
70 Illustration of the detailed orientation of the support timbers and their orientation in a bastion corner.

71 Illustration of the detail of a mortice and tenon joint linking the main upright member at a bastion corner to the horizontal support beam below. It is morticed at a 45-degree angle and held in place with wooden pegs.
72 Close-up view of a horizontal support beam in the black fill of the pit at the northeast gate. Beyond is the palisade, with the post moulds at right angles to it.

73 View looking northeast of the northeast gate showing the cobble paving just inside the gate, and the row of cobbles aligning the gate sill, extending between the grid stakes.
View of the northeast palisade and gateway. The pit with the support beam is also seen. The palisade trench and a second support beam pit 10ft. to the northeast are seen at the far limit of the excavation. The remnant of the gateway sill is also seen.

View of the southwest gate and the support pit housing the horizontal beam which braced the northwest upright member of the main gate. Stabilizing boulders lying along the horizontal beam are shown, as well as the narrowing trench and charred pickets of the northwest wing of the southwest curtain.
View of the powder magazine looking northeast. This is one of the more impressive examples of standing masonry at the fort.

View of the powder magazine looking northeast showing the interior partition with horizontal recesses for wood insets.

During excavation of the north bastion, a section of the east wall of the powder magazine was cleared below ground level. The footing and "set-off" are visible at the base of the wall.
79 View of the new bakery looking west with the St. Mary's River in the background. The 10-ft. by 10-ft. oven foundation is at the left.

80 View of the new bakery looking east from the road along the river.
81 View of the new bakery looking approximately southeast. This structure was one of the major items of standing masonry.

82 View of the new bakery showing some detail of the oven foundation structure.
83 View, looking southeast, at the recent chimney after it was repaired in 1926.

84 View looking southeast before repairs were made in 1926. The new bakery is visible to the right of the chimney.
Earthenware, porcelain and stoneware. 1-5, earthenware; 1, red body, flint-glazed; 2, buff body, white slip decoration and trailing; 3, blue and white, hand-painted, tin-glazed; 4, faience, polychrome, tin-glazed; 5, undecorated, tin-glazed. 6-8, porcelain: 6, blue and white, soft paste; 7, blue and white, hard paste (oriental export ware, ca. 1650-1800); 8, polychrome overglaze decoration (oriental export ware). 9-12, stoneware: 9, utilitarian, slipped; 10, utilitarian, soft-glazed; 11, utilitarian, lead- or flint-glazed; 12, ornamental, white with blue decoration.
Creamware. 1, undecorated, scalloped edge, typical of site; 2, undecorated spout; 3, undecorated base; 4, blue and white transfer printed; 5, with basketry decoration; 6, with polychrome decoration; 7, blue and white rim, hand-decorated, with blue shell edge.
87 Wedgwood-type black basalt ware.
Creamware mug from the northeast gate (left) and pearlware mug from the same location (right).

Pearlware bowl from the northeast gate.
90 Creamware chamber pot from the northeast gate.

91 Creamware soup tureen from the northeast gate.
92 Creamware bowls from the northeast gate.

93 Pearlware bowls from the northeast gate.
Glass. 1, 2, olive-green bottle necks showing applied ring; 3, 4, olive-green bottle bases showing differences in height of kick-up; 5, 6, flint glass wine goblet base fragments; 7–10, flint glass wine goblet stem fragments.
95 Square green bottle.
Knives and forks. 1-7, assorted table knives; 8, metal knife handle; 9, bone knife handle fragment; 10, 11, two-pronged fork fragments; 12, bone and metal fork handle fragment.
Cauldron and pot fragments. 1, rim of cast iron kettle; 2, body fragment; 3, body fragment with foot; 4, foot; 5, body fragment with foot.
Kettle fragments. 1, kettle or pail handle; 2 tankard handle; 3, kettle lug; 4, copper pot rim fragment with lug.
100 Spikes, staples and bolts. 1, square-headed tie-headed spike; 2, rose-headed spike; 3, T-clasp-headed spike; 4, broad deck spike; 5, staple; 6, cotter pin; 7, eye bolt; 8, straight bolt.
Hardware (1). 1-3, assorted keys; 4, key for grandfather clock; 5, spigot fragment; 6, pintle; 7, latch stop; 8, 9, pintle fragments; 10-12, lock fragments; 13, miscellaneous piece of iron (eye for hook fastener?); 14, hook fastener; 15, 16 miscellaneous fastener; 17, cotter pin; 18, linch pin.
Hardware (2). 1-3, file fragments; 4, sickle; 5, hinge; 6 wedge; 7, hook (ornamental); 8-10, wedges.
103 Hinges. 1, large door hinge; 2, smaller door hinge; 3, door or gate hinge with pintle; 4, furniture hinge; 5, furniture hinge; 6 window hinge; 7, window hinge.
104 Buttons. 1-5, Regimental: 1, 100th Regiment of Foot (Prince of Wales); 2, 1A - Queen's Rangers - First American Regiment; 3, 49th Regiment of Foot; 4, 41st Regiment of Foot; 5, Auxiliary Regiment (Artillery?) - British. 6-10, Plain: 6-9, assorted sizes; 10, bone trouser button. 11-13, Miscellaneous: 11, large coat button; 12, glass-fronted button; 13, fleur-de-lis insignia (?).
Buckles, buttons and ornaments. 1-5, buckles; 6, strap ring; 7, ring (with attachment for watch?); 8, metal button: LONDON PLATED; 9, bone button fragment; 10-13, assorted beads; 14, silver tinkling cone; 15, Indian copper bead; 16, metal ornament (?).
106 Scissors, hooks, pins and awls. 1-4, scissors fragments; 5, hook; 6, fish hook; 7, scissors fragment; 8-10, awl; 11, 12, pins; 13, needle; 14, large awl.
107 Gun parts. 1, lock plate of a trade gun; 2, frizzen spring of a musket of the trade-gun type; 3, frizzen of a flintlock musket; 4, cock of a musket with flint in place; 5, 6, side plates with dragon design; 7, 8, musket triggers; 9, key holding barrel to stock of a pistol; 10, mainspring of a sporting gun; 11, body of a flintlock cock from a pistol.
Gun parts, bone and ivory artifacts. 1, trigger guard; 2, brass ramrod pipe; 3, trigger; 4, 5, gun flints; 6, lead shot; 7-9, gun flints; 10, ramrod pipe from musket; 11, lathe-made peg; 12, plain peg; 13, ivory comb; 14, horn brush back; 15, bone brush handle.
109 Smoking apparatus (1-7) and Indian artifacts (8-13).  
1, 2, pipe bowls; 3-7, pipe stems; 8-12, worked flint;  
13, Micmac pipe.
110 Indian pottery.
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2 Histoire économique et sociale de Saint-Lin, 1805-1883, et l'importance de la famille Laurier, by Réal Bélanger. 1975. $4.00; $4.80 outside Canada.

3 Historique structural du fort George, by Yvon Desloges. 1975. $5.00; $6.00 outside Canada.

4 Plans de l'architecture domestique inventoriés aux Archives Nationales du Québec à Montréal; Plans de l'architecture commerciale et industrielle inventoriés aux Archives Nationales du Québec à Montréal; Plans de l'architecture publique, de l'architecture religieuse et du génie mécanique inventoriés aux Archives Nationales du Québec à Montréal, by André Giroux, Nicole Cloutier and Rodrigue Bédard. 1975. 3 vols. $11.00; $13.20 outside Canada.

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