British Army Officer Housing in Upper Canada, 1784–1841

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Résumé

À partir d'archives, d'objets et de sources archéologiques, de l'interprétation secondaire et des connaissances acquises à l'occasion de la restauration des bâtiments de la Guerre de 1812 à Fort York (Toronto), l'auteur étudie l'évolution des casernes construits par l'armée britannique dans ce qui est aujourd'hui l'Ontario, principalement entre 1784 et 1841. L'article vise à révéler comment ce type d'habitation a changé comparativement aux premières constructions militaires et aux développements du monde civil, pour mieux comprendre la vie dans l'armée, et à indiquer comment l'étude de la culture matérielle de l'habitation peut s'appliquer à l'analyse de problèmes historiques plus généraux.

Abstract

Utilizing archival data, artifactual and archaeological resources, secondary interpretation, and knowledge gained from re-restoring the War of 1812 buildings at Fort York in Toronto, the author examines the evolution of purpose-built British army officer housing in what today is Ontario, primarily between 1784 and 1841. The objectives of the article are to understand how this housing form evolved in comparison to both earlier practices and developments in the civilian world in order to comprehend army life better and suggest how material culture studies on housing can be applied to broader historical concerns.

Introduction

The British army maintained garrisons in what today is Ontario from the end of the Seven Years' War in the 1760s to 1870, when primary responsibility for local defence transferred to the new Dominion of Canada. Within that period, the army expended its greatest amount of energy in building barracks between the end of the American Revolution and the Rebellion Crisis. This article focuses largely on that era to examine two aspects of the material history related to barrack accommodation. One is the architectural character of officers' quarters; the other is the maintenance of these buildings. From the study of these two elements — which defined some of the officers' fundamental daily experiences — we can gain insights into the texture of garrison life, army housing's relations to civilian architecture, and attitudes towards officers. Excluded from this study are the homes officers acquired for themselves independent of the government, the furnishings officers introduced to army housing, and the "domestic economy" of officers' messes. These topics are not addressed primarily because of space limitations, but their exclusion does have the advantage of throwing the government's attitudes (as opposed to the officers' views) into sharper relief because of the exclusive focus on bureaucratic initiatives.

Three main points are suggested below. The first is that officer housing developed under the influences of changes in both civilian domestic architecture and the army's own evolving internal culture. Over the course of the eighteenth and early nineteenth centuries, transformations in domestic housing for middle and upper strata people were marked by increased functional specificity (or decreased flexibility) in room use and a growing desire for privacy. Both of these trends found reflection in emerging officer housing patterns. At the same time,
the army's own distinctiveness as a cultural entity set apart from the civilian world grew in the post-Napoleonic era. This development can be seen, for example, in mess life, which became more formal and ritualized. As reflections of this innovation, and the civilian trend towards functional specificity, messes became more sophisticated architecturally in the post-1815 period. However, this evolving army-centred culture also saw a reversal in the civilian trend towards privacy in the officers' personal quarters after the mid-1830s because the military encouraged officers to spend more time with their peers in the mess and less on their own in private rooms.

The second point is that the trends towards functional specificity, privacy, and formalized mess life were weak enough that other housing forms and messing practices, dating back to the early eighteenth century, survived through and beyond the period under discussion. This suggests how weak and inconsistent change could be in the past, particularly in pre- and early-industrial contexts.

The third point is that we should not be misled by the elegance of Georgian architectural design into thinking that officers lived in splendour, or even comfort, because the other side of the architectural coin consisted of ongoing maintenance. Maintenance was almost uniformly bad, with the consequence that the majority of people who lived in army-supplied housing probably were self-consciously uncomfortable most of the time.

**The Evolution of Purpose-Built Officer Accommodation**

When the United Empire Loyalists fled to the north side of the St Lawrence River-Great Lakes system towards the end of the American Revolution in the 1780s, the army began to build new forts to replace the old Western Posts on the American side of the new border. At that time, building barracks for officers was relatively uncommon except in isolated spots, while purpose-built messes anywhere were a new concept. The oldest of the modern barracks or living quarters in a populous part of Britain were Ravensdowne Barracks at Berwick-upon-Tweed, which date to the first quarter of the eighteenth century. The oldest purpose-built mess or dining/club-like facility in England seems to have been one constructed in 1783 for the Royal Artillery at Woolwich.

In populous areas of Europe and North America, eighteenth-century officers normally found their own shelter in taverns or private homes and got together to eat and socialize with their friends and peers in some convenient location, such as an inn. That was the case when George Landmann, R.E., arrived in Montreal in 1798 and "secured a lodging" in the house of "a drunken old Scotchman" before joining the Royal Engineer/Royal Artillery mess which also was located in rented quarters. Mess membership still was optional, reflecting older patterns when messes tended to be formed, often for a limited period of time, as a way of pooling resources so officers could dine together more socially and economically than they could on their own. For example, a note circulated among the officers of the 42nd Foot in New York in 1759 read: "Such of the Gentlemen of the Regiment as intend to mess with Mrs. Calender, the sutler, for next campaign to give their names to the Adjutant by Monday morning." Living and messing in...
The ca 1784 Officers’ Barracks in Kingston, though a purpose-built officers’ quarter, did not have a well-defined room layout for either barrack or mess functions, reflecting the long standing practice of providing generic space that would be deployed as required by its residents. (Toronto Historical Board sketch adapted by Gavin Watt in 1996 from “Plan of old Fort Frontenac and Town Plot of Kingston,” 1784, Archives of Ontario.)

The ca 1784 Officers’ Barracks model. An example of this was the ca 1784 Officers’ Barracks at Fort Frontenac in Kingston (Fig. 2). It was a two-storey frame and weatherboard building, 31.1 x 7.3 m, divided into four units (two on each floor). Each unit had an entrance hall and six rooms. Off the halls were two large rooms and two small ones. Each large room had a slip room. The bigger rooms had fireplaces and two windows; the small ones had no fireplace and one window. According to an 1802 report, most of the large room/slip room combinations were quarters either for one captain or two subalterns. As the small rooms off the hall were not part of the list of officers’ rooms for the building, they likely were servants’ quarters or box rooms. The officers used one of the large rooms and its accompanying slip room as a mess. The mess kitchen was in a separate structure. The mess facilities were not different spatially from the barracks, although this is not surprising given the late date at which purpose-built messes appeared in England. Aside from the external kitchen, the mess establishment was quite limited, lacking such features as a wine cellar and a proper pantry between the kitchen and mess room, which suggests a certain informality or humble quality to mess life.

The first purpose-built officers’ quarters in Upper Canada were similar to the Placentia model. An example of this was the ca 1784 Officers’ Barracks at Fort Oswego on the south shore of Lake Ontario, for instance, the post commandant in the 1780s lived in a blockhouse with a bombproof cellar. A blockhouse fundamentally was a small fort, possessing such standard features as bullet-proof walls and loopholes for shooting out at the enemy. The interior use of blockhouses varied, but employing them as barracks, storehouses, or guardhouses was common. As the commandant’s quarters, the Oswego blockhouse was equipped with a kitchen and probably had light interior partitions installed to create small rooms and separate the officer from his servants. This older, generic approach lived on in Upper Canada. At Fort York in Toronto, for example, the army built a large number of small, nearly identical bullet-proof huts in the 1790s and the first decade of the nineteenth century. Of those standing in 1802, seven were used for officers’ quarters, each housing one captain or two subalterns (ensigns and lieutenants). The army also built blockhouses at Fort George, Amherstburg, and St Josephs in the 1790s, which included storage facilities, men’s barracks, and officers’ quarters.

Even though these generic buildings survived the close of the eighteenth century, purpose-built officers’ barracks had appeared in North America decades earlier, indicating both the wide variation in army housing and the concurrent use of old and new approaches. One of these early officers’ barracks dates to the 1720s. It consisted of two three-room apartments in an isolated spot, Placentia, Newfoundland. Each apartment had two small slip rooms that opened onto one large room. A slip room was a modest chamber which connected directly to a larger room without an intervening hallway and without its own doorway to the outside. Common in Canada and elsewhere, this combination of an inner and outer room offered an opportunity to increase privacy. None of the Placentia rooms seems to have been designated for any particular purpose. The small rooms could have been used as bedrooms or box (storage) rooms and the large ones as kitchens, sitting (and dining) rooms, mess rooms, or multi-functional rooms depending upon the needs and tastes of the occupants. To a large degree, the lack of functional specificity reflected contemporary civilian practice.

The ca 1784 Officers’ Barracks at Fort Frontenac in Kingston (Fig. 2). It was a two-storey frame and weatherboard building, 31.1 x 7.3 m, divided into four units (two on each floor). Each unit had an entrance hall and six rooms. Off the halls were two large rooms and two small ones. Each large room had a slip room. The bigger rooms had fireplaces and two windows; the small ones had no fireplace and one window. According to an 1802 report, most of the large room/slip room combinations were quarters either for one captain or two subalterns. As the small rooms off the hall were not part of the list of officers’ rooms for the building, they likely were servants’ quarters or box rooms. The officers used one of the large rooms and its accompanying slip room as a mess. The mess kitchen was in a separate structure. The mess facilities were not different spatially from the barracks, although this is not surprising given the late date at which purpose-built messes appeared in England. Aside from the external kitchen, the mess establishment was quite limited, lacking such features as a wine cellar and a proper pantry between the kitchen and mess room, which suggests a certain informality or humble quality to mess life.

Two other noteworthy points about this barracks are that there was little separation between servants and officers at times when the building
had a full complement of residents, and subalterns had to double-up in their bedrooms if they wanted to have a separate sitting room. (In winter, they may have moved their beds into the big rooms from the slip rooms to be as close to the fire as possible.) From an evolutionary perspective, the apartments of this barrack did not represent an innovation from the Placentia model or an evolution away from the fairly basic and informal mess arrangements that were typical for the period.  

The 1798 Officers' Pavilion at Fort George in Niagara represented a similar, but improved approach to architecturally-designed officer housing compared to the Fort Frontenac example (Fig. 3). It had a number of apartments, one of which could have been used as a mess if desired, but none of which were designed specifically as such. (In fact, the officers messed a short distance away.) The pavilion was 36.6 × 6.1 m with two 6.1 × 6.1 m rear wings. The kitchens were located in a separate structure in a courtyard behind the building. Each of the rear wings consisted of a large room with a door to the exterior plus two slip rooms.

Logically, two subalterns occupied each of these three-room units, each having his own bedroom but sharing the sitting room. There were four apartments in the front of the building. Each had one large and one medium-sized room. Each pair of these apartments had the luxury of a small hallway between the exterior door and the apartment entrance. The front apartments were designated as captains' quarters, with each person having his own sitting room and bedroom. There seems to have been no provision for servants in the building. Presumably servants slept in the detached kitchen or in the men's barracks, which protected the privacy of the officers better than in the Fort Frontenac building. There also was very little storage space except for two narrow extensions of the entry halls, although the attic may have been able to fulfill this requirement. The detached kitchen had four rooms, each with its own hearth, but without a bake oven. Bake ovens may not have been necessary as bread came from a central bakehouse, and cakes and other baked goods either could have been purchased from civilian suppliers or prepared in bake kettles.

As was typical of the undermanned garrisons in Upper Canada, the Fort George pavilion often was under-populated. In 1800, there were only four officers of the Royal Canadian Volunteers in the building, a lieutenant-colonel, a captain, an ensign, and a surgeon's mate. The colonel used two apartments and a common hallway for his private quarters as befitted his senior rank, plus another apartment for an administrative office. Each of the other three officers doubtless took one apartment. The ensign had somebody with him, perhaps his wife. Married officers routinely occupied a number of rooms in a barrack to meet their domestic needs or found a home within the civilian community if they could afford one. They normally dined with their families, visiting the mess only on an occasional basis.

During the War of 1812, American forces destroyed the barracks at Fort George, York.
At Fort York, the 1814 Blue Barracks and the 1815 Brick Barracks and Mess Establishment represented a move towards increased functional-specificity in room use. Note, in particular, the appearance of the purpose-designed mess in the 1815 building. (Toronto Historical Board sketch adapted by Gavin Watt in 1996 from Pl. 3 of a series of Fort York plans done in 1823, National Archives of Canada, NMC-5353.)

and elsewhere. The army undertook a major rebuilding program during the latter part of the conflict and immediately after the return of peace to replace and strengthen its Upper Canadian defences. During this period, all of the housing forms discussed above re-appeared; but there were two additional changes worthy of note. One was innovation in the evolution of institutional barracks and messes from the architectural forms represented by the Fort Frontenac and Fort George officers' quarters. The other was the introduction of buildings that were essentially indistinguishable from civilian housing and which potentially could have been more comfortable for officers with families than the older facilities had been.

Two buildings at Fort York serve as excellent examples of the innovations in institutional barracks and messes. One, representing conservative change, was the 1814 Blue Barracks, a single-storey, frame structure consisting of four separate apartments, each of which had four rooms divided by a centre hall (Fig. 4). Each room was $4.4 \times 4.4 \times 2.3$ m and the hallways were $8.8 \times 1.5$ m. Each apartment consisted of three officers' rooms and a servant's room/kitchen. In 1819, the building was meant to hold three captains and six subalterns. At first glance, the twelve rooms and four kitchens do not readily divide into this number of officers. However, one possible room allocation scheme would see three subalterns in each of two of the apartments, two captains in another, and a third, more senior captain having an apartment to himself. The captains would have had no trouble creating sitting rooms in their apartments, but at least two of the subalterns in each of the other apartments would have had to double up in a bedroom if they wanted to have a sitting room.  

The 1815 Officers' Brick Barracks and Mess Establishment at Fort York (still extant) was an example of a more innovative approach to officer housing (Fig. 4). As its name implies, this structure served two functions: one part was barracks, the other was the mess for all of the garrison's officers, whether or not they lived in the building. Its original layout reveals a formal division of space according to function. There was no direct access to the mess from the barracks sections in 1815. Instead, people in the barracks portion had to go outside to enter the mess through its own door (graced with fan and side lights). This perhaps indicated a desire to preserve the privacy of the officers in the barracks end of the building.

The barrack area of the Brick Barracks and Mess Establishment contained two apartments, each of which had four officers' rooms and a kitchen/servant's room. Each kitchen/servant's room had a door to the outside, which helped preserve some separation between officers and servants except for periods when the servants' work required them to enter the officers' parts of the building. The presence of these kitchens, as well as similar ones in the Blue Barracks,
indicates that officers were not expected to take all of their meals in the mess or that messes necessarily provided more than the main meal of the day. In 1815, the apartments in the Brick Barracks were meant to house one field officer (such as a major), two captains, and eight subalterns. This was a very crowded arrangement compared to earlier and later practices and probably reflected temporary wartime conditions.

A logical division of the building in 1815 would place two subalterns or regimental staff officers (paymasters, surgeons, and the like) in each of the four officers’ rooms of one of the apartments; and in the other apartment, two captains in one room each with the field officer in two rooms. Most of the barrack rooms were $4.3 \times 4.3$ m, except for the field officer’s sitting room which was $4.4 \times 6.1$ m and his bedroom which was $4.4 \times 2.3$ m. Within a very short period of the return to peacetime conditions, the population in the Brick Barracks declined to four officers. Each person claimed two rooms, a bedroom and a sitting room, as was common in the Great Lakes region. With this division, two officers each occupied one-half of an apartment and shared the central hallway and rear kitchen/servant’s room.\[17\]

The greatest innovation of the Brick Barracks and Mess Establishment was the purpose-designed quality of the messing facilities. Originally there was a small entry hall, a well-proportioned $11 \times 6.4$ m dining or mess room (with a $2.9 \times 0.6$ m alcove for a sideboard and cellaret), a basement kitchen below the mess room with two hearths and at least one bake oven, and a hallway/pantry connecting the cellar to the mess room. The kitchen was an improvement over previous situations and is suggestive of the growing social importance of mess meals at that time. Egress from the basement to the outside was through a door and a staircase up to grade. Four windows faced an areaway or little moat, which ran along two faces of the cellar to provide good quality daylight illumination.\[18\] To reduce the migration of kitchen noise, fumes, and smoke into the mess room, the army installed pugging — a combination of mud and straw (and possibly ash) — in the kitchen ceiling below the mess room.\[19\] Presumably the common practice of soundproofing the doors between the servants’ and officers’ areas with green baize (which paralleled civilian practice) was followed in this building.\[20\]

A major problem with the mess facilities, though purpose-built, was that they were confined. These limitations, probably combined with the increasing formality of mess life, led to improvements in 1826 (Figs. 5 and 6). The contractor hired to do the work absorbed the field officer’s apartment immediately adjacent to the mess into the mess establishment by creating doors between the dining room and sitting room, and between the hallway/pantry and

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from the alterations of Fig. 6 shows it looking relatively unchanged from the alterations of the 1820s. Note the elongated chimneys from the 1820s—a failed attempt to reduce smoke problems in the building. (Photograph, Toronto Fort, Metropolitan Toronto Library, T11599.)

In addition, the contractor built a new kitchen, a plate (or silver) room, and a mess man’s room at grade. (Mess men or mess sergeants fulfilled duties similar to those of butlers in private homes.) The contractor also divided the old basement kitchen into a wine cellar and storage space, and then filled in the areaway to make the basement darker and cooler as befitted its new role. The first floor kitchen had a bake oven, but only one open hearth, unlike the old kitchen, which had two. Presumably two were not needed because the number of officers who used the mess was smaller than in 1815 and because there may have been a hot hearth installed in the new kitchen to extend cooking possibilities.²¹ (Hot hearths were low brick furnaces with solid metal plates on top that functioned much like the tops of a modern stoves. They differed from the “boilers” found in lower ranks cookhouses, which had potholes in the metal surfaces and which were used for preparing large quantities of stews and similar foods.)

Judging from surviving Upper Canadian architectural examples, the amount of servants’ work and living space in the Brick Barracks and Mess Establishment, even after renovations, was small compared to the better civilian homes of the period where a similar number of servants and “householders” lived. Yet, the upstairs kitchen was an improvement for the servants because the cellar suffered badly from damp and because they no longer had to run up and down stairs to attend the officers as much as before. The net effect of the 1826 renovations was an improvement in the ability of the mess to meet the needs of the officers and their servants by increasing the entertaining, storage, servants’ accommodation, and work space. The 1815 mess, which originally consisted of a dining room, entry hall, servants’ hallway/pantry, and kitchen, now had an additional anteroom, a more convenient kitchen, quarters for the mess man, a wine cellar, increased storage space for foodstuffs and plate, two entrances for the officers, and a larger hallway/pantry for the servants to use when waiting on the officers and for storing china and other furnishings. Further renovations before 1830 improved the building by cutting doors between officers’ bedrooms and sitting rooms in the barracks portion to give the occupants greater privacy, as they no longer would have to use the less private hallways to move between their rooms, and by adding porches to protect most of the exterior doors from the weather.²²

For the officers, the creation of two distinct public rooms—the mess room and the anteroom—when only a mess room had been available before, improved their socializing options and allowed for greater formality or flexibility in entertaining when desired. This is interesting because the 1820s seems to have been a critical period in the evolution of messes from functional dining places to more club-like and ritualized institutions.²³ It also parallels growing elite dominance of the officer corps after the War of 1812.

For example, before 1815, the full-time professional Upper Canadian defence establishment usually consisted of a mix of British regulars and Canadian provincial or fencible troops. None of the officers in the Canadian regiments purchased their commissions and only 17 percent of the British infantry officers did so during the 1812 period. After 1815, most Canadian professional regiments disappeared and the rate of purchase for British infantry officers’ commissions rose, reaching 46 percent by the 1850s.²⁴ While the officer corps always had been dominated by people from the middle and upper levels of society, there was a significant shift in the economic well-being of its members because people who could not pay for commissions found it harder to get them. (The price in 1816 started at £400 for a lowly infantry ensign and rose to £3,500 for an infantry lieutenant-colonelcy, after which rank purchase was not allowed.)²⁵ We might assume that these more affluent people expected better

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messing arrangements. Despite the renovations of the 1820s, the Brick Barracks and Mess Establishment still could not meet all the socializing needs of the officers, so the Commandant’s Quarters located a few metres away was pressed into use when needed. In 1828, the officers of the 68th Foot entertained their friends “with a splendid Ball and supper” in which the “Mess-Room and the quarters of the commandant were decorated in the most beautiful style, displaying several transparencies.”

Another barrack and mess survives that shows further progress in housing made in the 1830s. It is the Officers’ Quarters at Penetanguishene on Georgian Bay, constructed of cut stone between 1831 and 1836 for the use of two or three officers. Cut stone was the preferred building material in the army for permanent buildings in Upper Canada beginning in the 1820s, as exemplified by this and other buildings constructed in Kingston and Toronto. The Penetanguishene barrack compared favourably to the Fort York Brick Barracks and Mess Establishment. It consisted of a large mess room (5.5 × 7.3 m), an anteroom (5.6 × 4.9 m), two officers’ bedrooms (4.9 × 5.5 m each), a kitchen (4.7 × 5.3 m), a pantry (4 × 2.3 m), a cellar with a well and storage space. There also was a large attic. It had bigger windows than the 1815 Fort York building plus more sophisticated finishes on the window frames, doors, mantles, and other wood features. The kitchen had a hot hearth in addition to an open hearth and bake oven, and the design of the building allowed for better cross-ventilation in warm weather than the 1815 barracks did. These qualities, along with wider hallways and a better separation between officers and servants, seemed to indicate a continuing desire to improve army accommodation.

One departure from the Fort York buildings was the elimination of private sitting rooms. This simply may have reflected the needs of a small and isolated garrison, or it may have represented a growing trend towards forcing officers to socialize with each other. In either case, the net effect of this building’s architectural design was to create a kind of “single-family” household consisting of two or three officers and their servants, as opposed to what we saw at Fort York (and are about to see at Fort Henry) where officers lived in little private or semi-private households of two or three rooms but came together to dine in their club-like mess.

The army built today’s Fort Henry in Kingston at about the same time as the Penetanguishene quarters. Fort Henry differed from other Upper Canadian defences in that it was a large, case-mated work with barracks, magazines, and other garrison facilities built into its massive core defensive structure rather than in free-standing buildings. Many of the improvements seen at Penetanguishene, particularly increased space and better kitchens, characterized this work, making it representative of the progression in officer housing in the 1830s. As designed, Fort Henry gave each officer a 125 m² bomb-proof stone casemate, which had an interior wooden partition to create a small bedroom in about a third of the space and a sitting room in the rest. At some point, porches were built over exterior doors, which provided protection from the weather and improved privacy. There also was a mess anteroom, mess room, mess man’s room, wine cellar, mess kitchen, as well as a number of officers’ personal kitchens. The casemated architecture meant that poor ventilation and dampness were problems because exterior windows were mere loopholes, ceilings were vaulted, and the construction was heavy brick, stone, and rubble. In both the Penetanguishene and Fort Henry examples, for the first time, the allocated space for servants was comparable to that found in similarly-sized civilian homes.

In the aftermath of the Rebellion Crisis, the army constructed new barracks at various places in Upper Canada. An excellent surviving
example of a purpose-built officers’ quarter from this period stands in the grounds of Toronto’s Canadian National Exhibition (Figs. 7 and 8). Constructed of Queenston limestone between 1840 and 1841, this 45.7 X 15.2 m building housed officers until the 1940s. It provided space for 18 officers when new as well as an apartment for a civilian barrackmaster. This latter person had two rooms on each of the three floors, and his apartment was not accessible from the officers’ portion of the building. The largest basement room was the mess kitchen and scullery, complete with a hearth with a cast-iron range, a brick oven, and a hot hearth. (Ranges appeared in Britain in the eighteenth century, particularly in areas where coal was used. As cooking facilities, they functioned much like open hearths, but had the added advantages of raising the fire off the floor to a less back-breaking level, and they often boasted water heaters and ovens. The barrackmaster’s range survives in the building.)

There also were seven servants’ rooms, a mess man’s room, a “cellar,” a mess larder, and a wine cellar on this level. Light for the basement area was good because the building had both an areaway around it and large basement windows. The first floor had a 10.7 X 5.5 m mess room, an anteroom, a mess waiter’s room, plus six one-room quarters for captains and subalterns and a two-room apartment for a field officer. The second floor had ten single rooms for company officers (ensigns, lieutenants, and captains), a two-room field officer’s quarters, and two box rooms. The officers’ rooms averaged 5 X 5 m. There was a very large attic which could have met the officers’ storage needs.29

This structure was representative of the permanent barracks built in Canada after the major building program of 1813–15. A major feature of this quarter, aside from its large size, was a significant expansion of the servants’ and kitchen facilities. Compared to Fort Henry and Penetanguishene, there also seems to have been some downgrading as exemplified by the use of less sophisticated woodwork. Also downgraded from the Fort Henry model was a reduction in the amount of private space for company-grade officers. Possibly the growing centrality of mess life accounts for this change.

As might be expected with several generations of buildings and the fluctuating size of garrisons, the amount of space an officer might occupy varied considerably. In 1842, for example, the captains living in the 1841 Toronto officers’ quarters had one room to themselves while those in the 1815 Fort York Brick Barracks a short distance away had two rooms. Field officers in the 1841 barracks had two rooms, while the field officer in the 1815 building took over the old mess establishment, which, while only having two rooms exclusive of servants’ area, was almost twice as large as the space allocated in the 1841 barrack.30

In addition to the barracks and messes constructed for groups of officers, particularly from 1813, the army erected numerous buildings designed for one officer. These structures, built in their dozens across the province, closely resembled civilian homes. Architecturally, some rivalled the better civilian residences in the province (which themselves tended to be

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modest compared to those in Britain or the United States), but most of these officers' houses were more humble dwellings.

A good example of a larger building was the 1815 Commandant's Quarters, the grandest of the Fort York buildings constructed during the latter half of the War of 1812 and just shortly after the return of peace (Fig. 9). It was a brick, centre-hall, Georgian house designed to meet the needs of a senior officer with a family. The cellar had a kitchen and three other rooms, there were four first floor rooms, and a spacious attic, which may have had bedrooms in it. Only the kitchen — with a hearth and bake oven — seems to have been purpose-designed, but the other rooms lent themselves easily to the typical divisions found in comparable civilian homes for parlours, dining rooms, and bedrooms, with servants most likely being confined to the cellar. Although more humble than the very best civilian homes of the neighbouring Town of York, such as the still-extant Grange of ca 1817, it compared reasonably well to the middle level residences in the community. However, few of the commandants — commonly captains — lived in this building because more senior officials, such as the adjutant-general of the militia, occupied it until the end of the 1820s when the army converted it into a lower ranks' barracks.  

In contrast, the commandant at Fort York usually lived in the 1815 Engineer's Quarters, a significantly inferior frame and log structure, but a building that was more typical of the small homes provided for officers. In 1816, it had a cellar under a first floor kitchen, a sitting room, a bedroom, an entry hall, a little passage between the kitchen and sitting room, and a modest box or servant's room. Another typical example of this kind of building was the Officer's Cottage at the Rebellion-era Bathurst Street Barracks built a little north of Fort York (Fig. 10). Completed in 1839, it was 10.8 x 10.4 m and had a centre hall (with vestibules at each door), a kitchen, servant's room, bedroom, and sitting room (with a built-in cupboard). Surviving documentation for cottages indicates that they often had verandas which provided some protection against the climate while extending living space during pleasant weather.

After the building boom associated with the Rebellion Crisis, about the only large-scale projects undertaken by the British army in Upper Canada that included barrack space were the construction of Martello Towers in Kingston during the Anglo-American tensions of the 1840s. Martellos had officer accommodation in them but were meant to be occupied only during an emergency. This was one of their attractions because operating costs were relatively low since they needed no regular garrison. As settlement increased substantially across the province, the army could rent civic or private structures to meet temporary housing needs in an emergency. For example, the army leased a large brick house just north of Fort York during the Rebellion Crisis as an officers' mess and barracks. The army made it defensible against guerrilla raids through such measures as surrounding it with a stockade, and made more prosaic improvements, such as installing a hot hearth in the kitchen. Known as Dunn Villa, this house saw almost continuous service as officers' quarters until the end of the British army's presence in Toronto in 1870.

On a more temporary basis, the army rented or borrowed facilities during periods of tension. At the same time the army acquired Dunn Villa for the officers of the 93rd Highlanders, the 32nd Foot in Toronto lived at the law courts at Osgoode Hall, Ritchey's (probably a tavern), the New British Coffee House, as well as at the Bathurst Street Barracks. Thus, with the end of the Rebellion Crisis, the main period of activity in building officer housing came to an end and the evolution of existing buildings slowed,
This officer's cottage was typical of such military structures in the post-1813 era in its close relationship to the design of civilian homes. ("Plan, Section, and Elevation of Officer's Cottage, Magnetic Observatory [Toronto]," 1840, National Archives of Canada, NMC-5442.)

Building Systems and Decorative Features

Information on architectural features and building systems is limited in the early period under discussion, although we may assume that conditions could be quite poor given the backwoods nature of the Great Lakes in the eighteenth century and the difficulties associated with transporting goods and acquiring qualified workers. As the population of Upper Canada increased from 10,000 in 1790, to 90,000 at the time of the War of 1812, to 950,000 by the early 1850s, and as transportation improved after 1815, the army had better opportunities to meet the housing and messing needs of its officers. Overall, the building systems and decorative details in officers' quarters more or less paralleled civilian practice associated with the wide middle levels of society, perhaps with the emphasis laying towards the lower and centre tiers within this range, as befitted the "institutional" quality of officer housing, occupied as it was by a preponderate number of young, unmarried men who frequently were re-assigned to new posts.

Wood buildings were either frame or solid construction. In solid construction, squared timber was more common than round log. Timber structures regularly, but not always, were clapboarded to make them weather-tight and preserve the underlying construction. Less frequently, wood buildings had stucco or pebbledash coatings. The army normally whitewashed weatherboarding, although examples exist of coloured whitewash and oil paint being used. Wood trim, whether on wood, brick, or stone structures, almost always was painted in oil. In the earlier periods, light colours, such as salmon, were common trim colours. Dark colours, such as the "army base green" so familiar on modern military buildings, began to dominate in the 1820s. The mullion and munton bars on officers' windows customarily were white.

Porches normally were wood with the only major change over the years being an increase in the sophistication of the design. Shingles most commonly were wood, although some buildings, such as the 1841 Toronto barracks, had metal roofs. Sometimes the army applied painted finishes to shingles as fire-proofing on wood shingles and as a preservative on metal roofs. Metal valleys on roofs, plus metal or wood eavestroughs and downspouts carried rain water away. Most buildings throughout this period had chimney ladders and other fire fighting equipment permanently attached to them (which, in some civilian towns, were required by law).

The interiors of officers' quarters usually were plastered, except possibly for some blockhouses and primitive buildings. Walls normally had painted finishes, such as the yellow or buff applied to the 1798 Fort George Pavilion and the 1815 Fort York Brick Barracks. Bright colours helped improve light levels at night. Whitewashed walls were common in servants' areas but also appeared in some officers' rooms, particularly in earlier times. Wallpaper tended to appear later, such as in the commandant's house at Niagara in 1841. Interior pine trim was painted a variety of colours, from white to dark red to grey, and sometimes was grained to imitate a more expensive wood, as can still be seen at Penetanguishene. Doors universally were lettered with room numbers and functional designations. Fireplace brick was often painted red.

The range of woodwork in the 1815 Fort York Brick Barracks and Mess Establishment was typical for officers' quarters, with chair rails, doors, mantles, fireboards, interior and exterior shutters, coat hooks, cupboards, and, in storage areas, open shelves. The cupboards were four door, split front pieces normally installed in small alcoves beside fireplaces. As time passed, these wood features remained more or less constant elements in rooms, the
only major variation being differences in the sophistication of the design. For example, the 1841 Toronto barracks had brass coathooks mounted on mahogany boards in the officers’ rooms while the 1815 Fort York Brick Barracks had painted mahogany boards with wood pins. Most floors in Upper Canada were pine and were painted in the principal parts of buildings. The favourite colour was yellow, but dark reds, greys, and browns also were popular. Floors were left bare in kitchens and other secondary areas. In areas where dampness was a problem, such as cellars, dirt, brick, or rubble floors were common.\textsuperscript{43} All these practices paralleled civilian conventions.

Hardware on the 1815 Fort York Barracks included iron rim locks with brass knobs on the officers’ and exterior doors, while thumb latches were installed in those parts of the servants’ areas where security was not an issue. Hinges, bolts, pins, pulls, and other small hardware elements on shutters, cupboards, and doors normally were iron, although some wood rim locks also appeared in the historical record from time to time, such as on exterior servants’ doors. This sort of hardware seems to have been universal, judging by the existing documentary and physical data. An examination of the surviving hardware in different sites shows that the army generally took a conservative approach to adopting to stylistic and technological changes throughout its time in Ontario. In addition to British imports, much of the hardware was locally-made blacksmith work or imported American manufactured material, as one might expect given that civilian contractors did much of the construction and that the documentary record indicates the army did not have a prejudice against using non-British materials, particularly when it could save money in the process.\textsuperscript{44}

The officers and their servants needed water for cooking, drinking, and washing. While outdoor wells were ubiquitous features, some quarters had internal ones, such as at the 1830s Penetanguishene barracks. Water pumps were found in some barracks, particularly from about the mid-nineteenth century, and usually were associated with kitchen sinks (commonly made of stone, but sometimes constructed of metal-lined wood). As well as bringing water in, water had to be removed. Although servants carried away most of it, there are surviving examples of drains in kitchens, such as have been uncovered archaeologically in the 1826 addition to the 1815 Fort York Brick Barracks. Another moisture problem was the presence of underground water which could cause flooding, make for unhealthy, damp rooms, and undermine foundations. Archaeological investigations at Fort York have revealed a typical range of groundwater drainage systems dating from 1815 to the end of the British era, including perimeter drains at the footings of buildings as well as interior drains below cellar floors. Most drains were brick and/or stone box drains, although wood drains, brick surface drains, and gravel French drains also were uncovered.\textsuperscript{45}

Normally, officers had wood privies behind their barracks for daytime use and chamber pots or commodes in their rooms for nighttime convenience. Sometimes privies were brick, as at Amherstburg in the 1830s; and as was common, these privies had dividers between each hole for the sake of modesty.\textsuperscript{46} Privies at Fort Henry were more elaborate, consisting of stone facilities incorporated into the casematèd structure. They were cleaned periodically with rainwater, which had been accumulated in a cistern to flush debris downhill via pipes to Navy Bay beside the fort.

It seems strange to speak of “cooling systems” in early buildings, but efforts were made to mitigate summer heat. Fortunately for the army, most of its posts either were located on the shores of the Great Lakes system or on top of prominent topographical positions that provided garrisons with cooling breezes. In the days before central heating, the buildings, particularly brick and stone ones, could stay cool for some weeks into the summer as we know from experimental efforts made in the 1815 Fort York Brick Barracks. Furthermore, most barracks, built in variations of Georgian architectural forms, had large opposing windows and doors which allowed for cross-ventilation. One problem, however, was the general lowness of ceilings which kept in the heat. Another was the barrier to ventilation and its desirable drying effects caused by the defensive walls around forts.\textsuperscript{47} Exterior louvred shutters on doors and windows were common throughout the period to block the sun’s heat, allow for cross-ventilation, and keep animals out. Some surviving examples from civilian homes show traces of cheesecloth used to keep insects out as well, a practice which may also have been followed on military buildings.\textsuperscript{48}

While a waterfront prominence was nice in the summer, it provoked curses from frozen officers during the winter months. Protection from winter cold came in several forms. One was the presence of either enclosed porches or battened storm doors. Shutters, particularly interior
ones, helped keep out the draft. Brick or stone fireplaces were standard in most barracks (and, after 1813, in almost every officer's room within these quarters). However, stoves, which were far more efficient, were found throughout the historical record, beginning at least as early as the 1780s. Yet, stoves were not universal, and references to andirons in open hearths also appear in surviving documents. At Fort York in the 1830s, while the officers in the Brick Barracks toasted themselves beside their stoves, their friends in the Blue Barracks shivered next to open hearths. To make matters worse, the Blue Barracks officers had to keep their windows and doors open to create enough of a draft to prevent their rooms from smoking; and open fires consumed meagre fuel rations at a faster rate than did stoves. Stoves, their pipes, and their pans or stands were taken down, cleaned, and put away during the summer months, which necessitated using hearths if anyone needed heat outside of the normal 24 September to 5 May heating season. To reduce drafts (and help keep out animals), panelled fireboards covered hearths when fires were not lit or when stoves were used instead of fireplaces. In summer, stovepipe holes in chimneys (usually located about a metre above the mantelpiece) were covered with tin stoppers. Sometimes grates were inserted into fireplaces to heat rooms.49

Mention has been made above to most of the changes in cooking technologies, from open hearths and bake ovens in the eighteenth century, to the addition of hot hearths in the 1820s, to the installation of ranges at the time of the Rebellion Crisis. In addition, cookstoves, which began to appear in Canada in the second quarter of the nineteenth century, were also present in officers' barracks. For example, while the Blue Barracks officers used open hearths to heat their rooms in the 1830s, their servants used cookstoves (which was an early date for the utilization of this technology).50

Maintenance
So far, we have examined the architecture of officer housing and messing facilities. Pretty architectural plans, descriptions of light interior paint colours, and pleasant early drawings showing picket fences and gardens around officers' barracks all combine to create an image of Georgian bucolic comfort. Sometimes the historical record supports this image, as for example the 1823 comment that the officers' quarters in Amherstburg were "in very excellent repair."51 However, this image largely evaporates when we examine the record of how poorly these buildings were maintained. Dreadful levels of upkeep normally meant that officers occupying government-supplied homes were uncomfortable. The most common problem underlying substandard maintenance was the inadequacy of army budgets, although poor construction and substandard materials also contributed to the problem.52

In 1802, for example, the Kingston officers' barracks of the 1780s needed a new roof, foundations, and floors, plus repairs to the weatherboarding, room partitions, doors, and windows. At the same time, the commandant's home in Kingston was "a very old Wood Building, not worth a thorough repair." To the west, in York, the two- or three-year-old buildings were "in good repair" but some eight- or nine-year-old buildings, constructed of green logs, had to be pulled down. The Officers' Pavilion at Fort George needed whitewashing and repairs to the hearths and chimneys even though it was relatively new. At Fort Erie, both the men's and officers' barracks were "so decayed and ruinous" that they were not worth repairing. At Amherstburg, the buildings were fine, but cramped, so that new structures were needed to meet the officers' needs. At St. Joseph's, a blockhouse constructed in 1796 had not been weatherboarded yet, and there was not enough space for the officers, which forced some of them to live in fur traders' huts, which would have to be vacated when the traders returned to the island in the spring of 1803.53

Towards the end of the War of 1812, many buildings were constructed out of green wood as temporary structures to meet immediate wartime emergencies. Although not intended for permanent occupation, officers lived in these buildings for a long time. Even when new, they were uncomfortable. Such was the case at Fort George in 1816 when Captain Henry Vavasour repaired the barracks to make them dry and draft free.54 Three years later, he wrote that they required "more repairs than the buildings are worth, as the logs composing them are much decayed."55 A year later, a surgeon at the same post ordered an officer and his family to move from their quarters after they became ill because of flooding caused by the fact that the floor had sunk below the surface grade.56

A short distance away at Fort Mississauga, the one-year-old officers' barracks in 1817 suffered from roof leaks and its kitchen flooded during wet weather.57 In 1823, the barracksmaster at Niagara reported that this building needed shingling, the rooms needed plastering and painting, and the doors and windows

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needed replacement hardware. Furthermore, there was no privy nearby. The fort major at Niagara in 1817 complained: “I beg leave to report that the quarters which I occupy are suffering daily injury from the defective state of the roof & the imperfect construction of the window frames, from these causes the rain enters so freely into the front parts of the house as to render the principal rooms uninhabitable & unless speedily repaired the plastering of the ceiling & walls in that part will be entirely destroyed. I must at the same time mention that the floor in the kitchen has not been laid but consists merely of loose boards — there are some other minor repairs necessary.”

One particularly grim house — complete with a dirt floor — was at a small outpost on Lake Erie. A traveller visited the officer who lived there in 1827 and wrote this description: “He showed us to his log-house, not a dozen feet high, half buried in the sand, within twenty paces of a stagnant marsh, and blessed with not more than ten yards of prospect in any direction, besides being placed in a sort of eddy or cove, which tempted whole armies of industrious mosquitoes to carry on their operations against himself, his wife, and his six children.”

In 1837, a board of survey at Fort York decided that “the Barracks generally are in an indifferent state and rapidly decaying, and are scarcely worth any extensive repair.” Nevertheless, people continued to live in these buildings for another 95 years, at which point, between 1932 and 1934, they were restored for museum purposes.

As well as poor maintenance levels, shoddy construction practices, and the use of substandard materials, military buildings sometimes suffered from poor technological choices. An example of this problem was the design of the chimneys in the Fort York Brick Barracks and Mess Establishment. They smoked badly when built in 1815, then they were made taller in hopes of correcting the problem in the 1820s, but without success. The army often made matters worse by not providing adequate supplies to maintain comfort. In 1847, the fuel allowance led Lieutenant Gilbert Elliott of the Rifle Brigade living in the 1841 Barracks to moan: “The thermometer has been below zero [°F, or -18°C] for the last four days and I cannot get my bedroom warmer than 27°F [or -3°C] even with a stove in it, so that every morning it takes me about a quarter of an hour to thaw my sponges by pouring hot water upon them.”

Basic maintenance, such as painting rooms, was neglected regularly as well. For instance, regulations from the early 1820s stated that officers’ rooms were to be painted twice every nine years — which was a problem because these English-inspired regulations did not take into account the extra smoke damage generated by the longer Canadian heating season. By 1827, regulations called for officers’ quarters to be limewashed and coloured annually. However, what the regulations ordered and what happened in practice could be different. Judging from the paint layers found during an analysis of the walls of the 1815 Fort York Brick Barracks, it seems that the army applied fresh paint only rarely.

Some officers occasionally broke down and painted their quarters at their own expense. The transiency of army life, however, worked against individual efforts to maintain quarters because officers generally were unwilling to use personal resources since the prospect of a re-assignment made such an investment one of dubious value. On the odd occasion when somebody did spend his own money, the army might show resentment. Captain Vavasour in Niagara personally laid out £150 to upgrade and maintain his quarters over a three-year period but failed to get the army to reimburse him. Yet, when he left in 1823, the army did not let his replacement live in the house, but gave it to the commandant since Vavasour’s upgrades made it the best place to live at the post.

Occasionally, some officers treated their barracks poorly. During the Rebellion Crisis, militia officers at Fort York broke windows and doors, stole brass door knobs, walked off with room and cupboard keys, damaged the mess furniture, and committed other depredations of a similar nature.

With buildings maintained at such a poor standard, we can imagine the problems the officers must have had with vermin and insects in their homes, and can appreciate, for example, why so many period cookbooks and domestic guides contained numerous recipes for getting rid of unwanted intruders. Furthermore, images of Georgian bucolic comfort fall to pieces, along with much of the notion of the elegance of the officer lifestyle, when we examine maintenance, to be replaced, hopefully, with a more realistic view of how this group of professional people lived. We can only conclude that most people in these buildings — like most people in Upper Canada — usually were uncomfortable, being too cold, too hot, too damp, too smoky, or too pestered by bugs and mice to enjoy their homes thoroughly.

Likewise, we can speculate that the poor quality of their domestic environments partially

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accounts for the large number of fevers, ailments, and even deaths that historical documents record among army officers, a group of supposedly active and comparatively fit people. And, we might wonder how much of the celebration of domestic comfort that engulfed the middle levels of society later, in the middle and later years of the nineteenth century — a celebration made possible in part by industrialization and technological advances — was a reaction to older discomforts and their corresponding insecurities.  

Summary
I have discussed the evolution of officers' quarters in Upper Canada, primarily from 1784 to 1841. My objective has been to survey both the physical and cultural change in the institutional home lives of officers in an effort to create a reasonably comprehensive sense of how these professionals lived within the limitations of an article-length report.

From a design perspective, officers normally, but not always, had homes which were comparable to what the middle levels of Upper Canadian society occupied at similar points in time, with perhaps some weighting towards the humbler end of this scale. Except for chimneys, architectural elements usually seem to have been capable from a design perspective of fulfilling their intended functions within the technological limits of the period. (Keeping warm in uninsulated buildings, for example, seems to have stymied most people during the eighteenth and nineteenth centuries.)

From an experiential perspective, however, army budgets and the nature of military life meant that construction practices sometimes, and maintenance procedures usually, subverted design to the detriment of personal comfort. The result was that most officers, especially those who came from affluent backgrounds, probably found their quarters poorer to what they had experienced before joining the army or what they saw when visiting their peers in the civilian world. How well an individual accepted his quarters, tried to mitigate them, or abandoned them in favour of private accommodation, depended upon a variety of factors, such as his own inclinations, his personal finances, his marital status, and where he stood in his life cycle.

Tentatively, we can read two things into this situation. First, the army, perhaps passively, left its officers to fend for themselves in modifying their housing conditions, accepting that the more affluent and more senior officers would be better able to improve their quarters or move into alternative accommodations than its more junior and less affluent officers.

Second, the disparity between relatively sophisticated architecture and dreadful maintenance suggests a conflict between the army and its civilian masters. The military likely wanted to make its people as comfortable as possible where it controlled conditions, such as in the Royal Engineer's design of buildings; but British taxpayers exercised their desire for low taxes and their notorious hostility towards the army through an unwillingness to pay more than the minimum necessary to maintain the defence establishment, apparently begrudging even the cost of putting a watertight roof over the army's head. This seems particularly obvious in the historical record in budget requests: military officials annually provided long catalogues of needed repairs for buildings under their control, but more senior people, working with tiny, civilian-imposed budgets, regularly scratched out almost all of the items on these lists, over and over again, year after year.

To a large degree, officer housing reflected changes in civilian society: buildings became more specialized architecturally, middle and upper level social customs evolved that necessitated structural changes (particularly in the "public" parts of buildings), concern for privacy grew, and household management became more complex. Yet these changes were not absolute as old practices survived for long periods beyond the introduction of new ones, again reflecting the experience of civilian life and the nature of change in a pre- and early-industrial world. (In some ways, the great variation within the army, a relatively homogenous organization, serves as a stark warning to historians not to be too definitive about how things were done in the past.)

One important quality that separated army officer housing from comparable civilian domestic forms was the growth of the club-like institution of the mess. Why that happened and how it affected the army and its relations to the rest of society falls outside the constraints of this paper. However, what it did mean for our concerns here was that there was some regression in the move for personal privacy in the army, beginning in the 1830s.

Finally, this survey suggests other areas of study that might parallel the approach taken here to understand the daily texture of the lives of the lower ranks, the army in other parts of the British empire, or among and between different
groups in the civilian world. For example, an examination of the homes of different groups from a material culture viewpoint might prove useful in establishing a better sense of status, its corollaries, and its implications among the emerging middle class of the period. That information then could be applied in the burgeoning field of social history, which generally has not used material culture extensively (perhaps because of the unfortunate methodological gulf that unnecessarily isolates museum curators from academic historians).

I hope this investigation helps confirm the usefulness of exploring such central material life experiences as housing, particularity for institutions such as the military where excellent documentary, architectural, artifactual, and archaeological resources await our attention.

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NOTES

1. The main Western Posts were Michilimackinac, Detroit, Niagara, Oswego, and Oswegatchie (Ogdensburg).
5. Old Barracks Museum Archives, Adjutant's Memorandum, 1759.
11. Graves, "Fort George Historical Study," 64.
13. NAC, "No. 3 Plan, Elevation and Section of Officers Barracks," 1823, C-5353; NAC, Description of...Blue Barracks, 12 February 1835, RG8, 586:15; NAC, General Return of Barrack Accommodation in the Canadas, September 1819, RG8, 407:9–9; and NAC, Return, Distribution, and State of the Barracks, 4 March 1825, RG8, 577:n.p.
14. NAC, "Plan, Elevation, and Section of Officer's Barracks," 1823, C-5353.
16. NAC, "Plan, Elevation, and Section of Officer's Barracks," 1823, C-5353.
19. Communication from George Waters, who discovered the pugging in 1968 when he was Curator of Fort York.


25. Adjutant-General, General Regulations and Orders for the Army (London 1816), 32.

26. United Empire Loyalist, 10 February 1828.


28. NAC, Plan of November 1839, H4/450/Kingston; and NAC, Plan of Sept. 1867, H4/450/Kingston/Fort Henry. The current period-room settings at Fort Henry do not include the wooden interior partitions. The officers' quarters sometimes were used for purposes other than those for which they were designed. In 1839, for example, the mess man's room was a store room, the mess room was a sergeant's mess, and other officers' rooms were utilized as a school room and a canteen.


31. THB, copy of a NAC original, "No 1 Plan of Commandant's Quarters," 1823; and NAC, Specifications for repairing...the Commandants Quarter, 17 January 1829, RG8, 580:124–125.

32. NAC, W. R. Ord to Col. Addison, 9 August 1816, RG8, 398:20; and THB copy of NAC original, "Plan of the Engineer Quarter," 1823; and NAC, Specifications for repairing & improving the Commandants Quarter, 17 June 1829, RG8, 580:124–125.


34. NAC, Report on the Proposed New Barracks at Toronto, 1839, WO55, 874:61. Open deal shelving is known to have existed in the 1815 Fort York officers' quarters pantry from staining on the wall associated with early coats of paint.


36. NAC, F. Halkett to Col. Rowan, 7 September 1839, RG8, 591:147; and NAC, R. J. Routh to Sir C. R. O'Donnell, 3 February 1841, RG8, 594:56.

37. NAC, Report on the Canada Barracks, October 1863, RG8, ii, 34:103.

38. Throughout the entire period, these building treatments are found consistently in examining archival material in the two main NAC collections relating to the army, RG8 and WO.

39. The evolution can be seen by comparing the porches on the 1815 and 1841 Toronto officers' barracks. One porch from the late 1820s survives on the 1815 Fort York building. It is a simple structure with an exterior door, lit by sidelights. While porches on the 1841 quarters have not survived, plans exist in NAC, Report and Estimate of the Probable Expense of Fitting up the Barrack Masters Quarters New Barrack Establishment, 1847, WO55, 881:37–40. The plans indicated that the porches were similar to those on the 1815 building with a door and sidelights, a shingled roof, and water valleys; but the design was significantly more elaborate with greater attention paid to its aesthetic appearance.

40. NAC, Bruyères Report, 2 September 1802, RG8, 383:16–19; NAC, Estimate, 6 August 1840, RG8, 450:210; NAC, Estimate of the Expense of Materials for...Water Spouts, 3 November 1799, RG8, 723: 167–168; NAC, Col. Foster to H. C. Darling, 17 September 1820, RG8, 596:91–95; and NAC, Estimate for...a quarter for the Senior Commissariat Officer at Toronto, 9 March 1837, WO55, 874:93.

41. For example, NAC, "W.A.H." to Capt. Wilkinson, 11 December 1846, WO55, 881:159.

Required for the service of the Barrack Department, 12 June 1823, RG8, 574:125-127; NAC, C. D. Robertson to Commanding R.E. in Canada, 2 September 1862, RG8, 1619:239; NAC, Memorandum, 4 January 1867, RG8, 1624:240-241; and Cameron Pulsifer, "Officers' Rooms, Halifax Citadel, 1869-71: Fitments and Furnishings," Parks Canada MS Report, unnumbered (Halifax 1984), 5–33. For a general discussion of building materials, see Elizabeth Vincent, Substance and Practice: Building Technology and the Royal Engineers in Canada (Ottawa: Parks Canada, 1993).

