

THE SMITHY AT GRIFFIN'S GABLES, BROCKVILLE, ONTARIO

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ABSTRACT

During 1993, salvage excavations of the Dyer blacksmith shop at Griffin Gables (also known as Beley House) uncovered structural and artifactual information on smithy operations dating to the 1830's through 1840's. A discussion on the excavation and more importantly, the smithy-related materials are presented here.

RÉSUMÉ

En 1993, des fouilles de sauvetage furent entreprises à la forge Dyer de Griffin Gables (aussi appelé la maison Beley). On a mis au jour des artefacts et des restes architecturaux remontant aux activités de la forge qui s'y sont déroulées pendant les années 1830 et 1840. Cet article présente ces fouilles ainsi que les objets reliés au métier de forgeron.

HISTORICAL BACKGROUND

Right at the eastern tip of the Thousand Islands, the City of Brockville has long benefitted from its location on the river as a transportation route and as a fishery (Figure 1). The St.Lawrence is one of the world's great rivers stretching 775 miles from Lake Ontario to the gulf where it enters the Atlantic. It gives access to the heart of the continent, and it drains the world's largest body of fresh water--the Great Lakes. In the 1950's the river was reshaped as the St.Lawrence Seaway; a massive canal that submerged dangerous rapids and created a direct connection from the Great Lakes to the Atlantic Ocean.

When organized settlement began here in 1784, the river was one of the few advantages enjoyed by the first settlers. Most of these settlers were United Empire Loyalists, expatriot British Americans fleeing the Revolution. The British government created a safe haven for these people in Eastern Ontario surveying a line of townships along Lake Ontario and the St.Lawrence River.

By the War of 1812, the community had attracted dozens of settlers, and the burgeoning town, first called Elizabethtown, developed. The community was soon re-named Brockville after Sir Isaac Brock, commander of the British forces during the War of 1812.



Figure 1 Location of Beley House.

Brockville was able to tap into the 19th century shipping business, which saw hundreds of boats plying the St. Lawrence. In the late 1800's, the old cargo ships were replaced by tour boats, taking holidayers around the Thousand Islands. The birth of the tourism industry added a new and permanent facet to Brockville's economy. Lake shipping began to decline after the arrival of the railroad in 1854. Canada's first railway, the Grand Trunk, ran from Montreal to Toronto through Brockville, linking the growing town to new markets. In the latter half of the 19th century, the number of rail lines grew explosively. Brockville even acquired its own local line, the Brockville & Westport, to bring in produce from satellite villages.

With the railways came a wave of industrial development. Starting in the 1860s and 1870s, Brockville became home to many manufacturing firms and heavy industries. The small, family-run



Figure 2 A Brockville street ca.1840.

The Smithy at Griffin's Gables, Brockville, Ontario



Figure 3 Beley House today.

firms of earlier days disappeared, as the railways could move finished goods quickly and cheaply from Brockville to the countryside. This industrial boom collapsed by the turn of the century, but Brockville continued to have some major manufacturing concerns.

BELEY HOUSE

In 1975, the Ontario Heritage Foundation (OHF) acquired through donation, a

house in Brockville (Figure 3). Built between 1828-1830, this house was named after the family who donated the property, the Beleys. The house, however, has also been known in the community as the Dyer house and as Griffin Gables. The Dyer brothers (Charles and William) were blacksmiths who, having purchased the property from Charles Jones in 1828, decided that the land on the King's highway would be perfect for locating their blacksmith business. The 1830 census of Brockville noted that there were nine people living in the house that year. Apparently, a number of family members lived in the house, which may have also included apprentices. The smithy business operated until the death of Charles in 1844, *i.e.*, it operated for at least a period of 14 years (1830-1844). The property changed hands within the family until 1848 when half of the lot was sold and the other half leased until 1863, when it was sold after the death of Richard Dyer. In the 1853 map of Brockville we note a structure on the west half of lot 22 and what appears to be a gateway/entranceway and/or wall along the north property line between the two structures (Figure 7).

ARCHAEOLOGY AT BELEY HOUSE 1992 - 1993

In 1992, John Light, of Parks Canada and Dena Doroszenko of the Ontario Heritage Foundation, dug a series of test pits in various areas of the property with the intent of locating spoil heaps and/or something connected to the blacksmith operation of the property. In August of 1993, Doroszenko went back and tested the west lawn area, the one area had not tested the year before. Two foundation walls were quickly encountered during this testing, and so, in



Figure 4 1993 excavation on the West Lawn area.

October of 1993, a three week field season began in order to salvage as much as possible of the blacksmith shop area prior to de-accessioning the property to the private sector.

The excavations uncovered a large portion of the north half of the building as well as its southeast corner. Most of the middle section of the structure is protected by an asphalt driveway that leads to the carriage house behind the main house. The building was dismantled, probably by no later than 1890, and therefore, very few indicators as to the layout of the smithy shop were evident stratigraphically. In fact, stratigraphy was not very complex on the west lawn. Under the topsoil, there were a series of fill layers, often comprised of furnace ash, and then the foundation walls and features associated with the use of the yard by the smithy. There were two areas that did suggest certain activities took place in their vicinity. Within the interior and along the north wall of the building, a brick feature was uncovered. It is plausible that this feature may represent the stack for the forge. Beyond the north

wall, due to the high concentration of smithy waste, particularly horseshoe nails, is the other activity area which has been interpreted as a shoeing area. The structure itself may have had a lean-to on the front of the building and possibly faced King Street as was evident in the 1853 atlas drawing.

Approximately 9,800 artifacts were recovered. Within this assemblage, 1,750 were ceramics, 2,634 glass, 3,971 metal, 713 faunal and 776 other materials. Within the metal group, which made up 40% of the assemblage, there is a clearly defined assemblage of artifacts related to the blacksmithing activities on the property. Also recovered was approximately 24 kilograms of clinker and smithy slag from primarily outside the north wall of the shop. John Light of Parks Canada has analysed 300 of the metal artifacts in order that the OHF may have a better understanding of the nature of the smithy business at Griffin Gables.

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Figure 5 Brick feature along the north wall; probably the forge's chimney stack.



Figure 6 Beley blacksmith shop foundations.

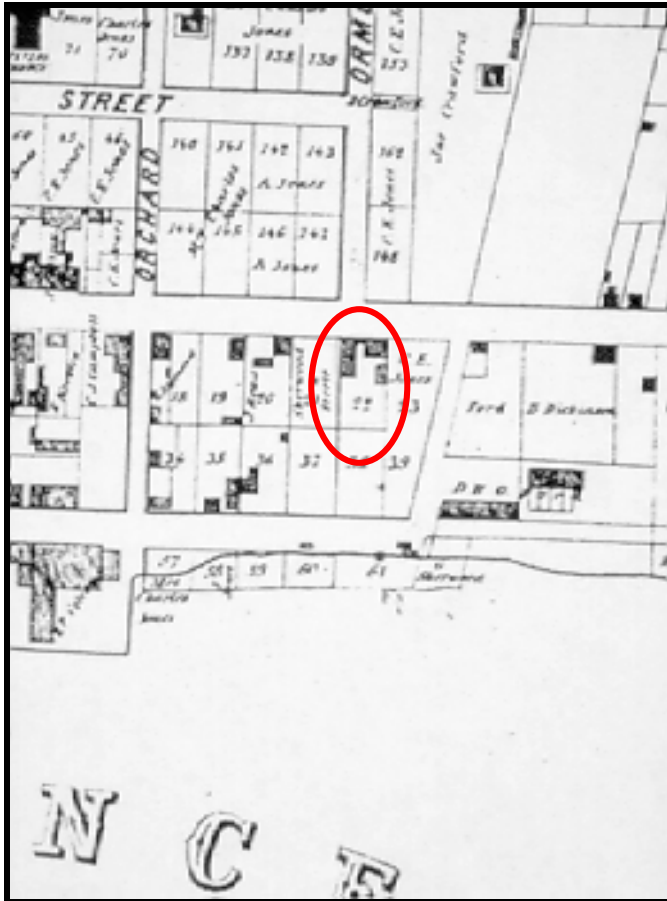


Figure 7 Section from the 1853 Brockville atlas. Note Beley House and associated buildings on Lot 22.

Artifact Analysis

The metal artifacts were all rather small, and at first sight, both undistinguished and undistinguishable. It was the sort of material which regularly gets identified as “scrap” in field inventories. Back in the office when the project is being written up after mature reflection, it still usually gets classified as scrap.

In one sense this classification is valid. The objects were scrapped by the owners. The reason that the assemblage was unspectacular or undistinguished is that the smithy had been moved or dismantled, and the site leveled or cleaned up. All large, inconvenient artifacts appear to have disappeared during this process. The vast majority of the artifacts remaining from the 1830-44 smithy were discards from the smithing operation, that is material which, to the blacksmith, was unusable.

But though they are undistinguished, the artifacts are not all undistinguishable. Few and small though they are, they give a partial picture of two very important things. First, the smithing operation itself is clarified, and second, some of the Dyer’s customers, both generally and specifically, are revealed in the assemblage.

The Smithing Operation

Material associated directly with the forge or its operation was uncovered during excavation. This material, slag (forge clinker) and a single layer of articulated brick, 65 centimetres wide, from the chimney of the forge, was found along the north wall of the building. Because the articulated line of bricks was from the long side of the rectangular chimney, and because the bricks are oriented in an E-W direction, the forge itself must have backed onto this wall for the chimney to have fallen in such a position.

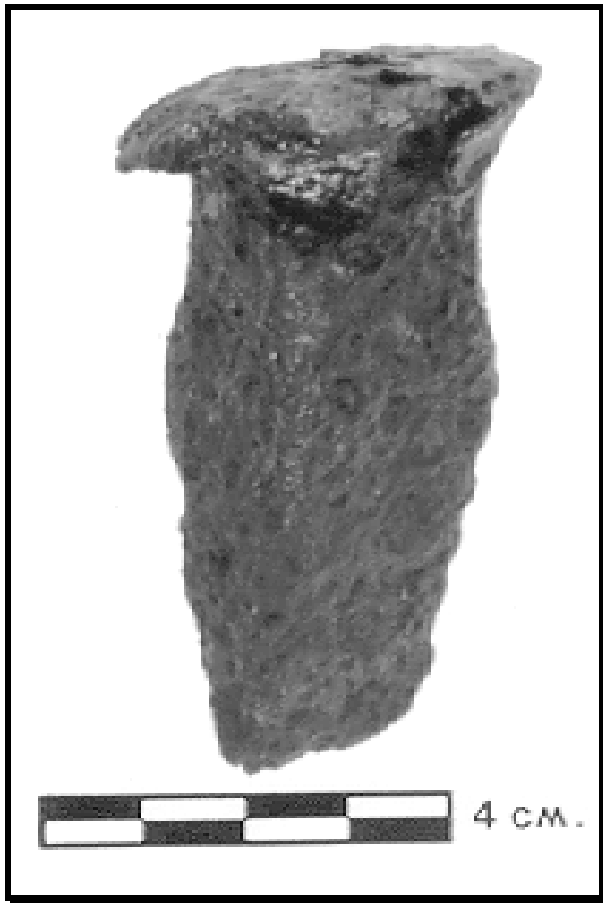


Figure 8 A hot set.



Figure 9 A file.



Figure 10 A broken tong jaw.

The slag shows that the forge was charcoal fired, and had a sand firebed, and a side tuyere. The large quantities of slag mixed with forge discards argues that there must have been a “dump” along the north side of the wall. Blacksmiths always discard this kind of forge waste in some convenient location where it does not impede traffic. It is not worth making a long march to dispose of material which is constantly and continually produced in the forge.

These considerations lead to the conclusion that the north wall was solid, that it was the site of the forge and that the smith habitually discarded waste material against the wall. The discarding of material beside and behind a forge is consistent with the deposition patterns found at other forge sites. (Light and Unglik 1987: 6-7.) It also appears that to the north of this wall there was a shoeing area, which will be discussed further on, probably covered as protection against the elements. As the west wall of the smithy was hard against the adjoining property, and as the south wall of the structure faced a fairly steep hill, it appears that the door to the smithy faced east into the courtyard.

The picture which emerges from these considerations is remarkably similar to what appears on the 1853 map of Brockville, with the exception that the smithy did not extend as a solid structure, but only as a canopy, to the King’s Highway. Thus the area between these structures must have been a driveway, and in fact excavations in this area found medium to heavy compaction consistent with this usage.

As usual in this period, the normal forging material was wrought iron. As is also usual, the smith was often assisted by a striker. This latter fact is evidenced by a set tool (a hot set) and a number of set tool burrs which have been trimmed from the tool and discarded. In order to say this, it must be possible to distinguish the blacksmith’s own tools and equipment from the objects brought to the shop for repair. This requires a thorough knowledge of the smithing trade and its tools.

There were a number of smithing tools, or tool fragments in the assemblage. These speak of the operations performed by the smith. The following objects (only one of which is complete) are either smith’s tools or part of the smith’s equipment. These tools are, of course, additional to the anvil, vise, slack tub, chisels (both cold and hot), hammers and tongs which are ubiquitous in smithies and for which there is abundant evidence in the current assemblage. There was also a complete set of farrier’s tools, files or file fragments (½-round and flat) (Figure 9), punches (round and square), set tool burrs, a complete hot set (Figure 8), a drift punch made from a nail, a soldering iron in process of manufacture, a broken soldering iron tip, a broken tong jaw (Figure 10), a possible cold chisel and a rasp. There were two ambiguous tools, possibly chisels, with burred heads which could have belonged either to a mason or a smith. There was also a tool in the process of manufacture which could have been destined to be either a ½-round hardy for the smith or a gouge for a carpenter. In addition to these are the objects which argue for the presence



Figure 11 A decorative finial from a wrought iron fence.



Figure 12 Horseshoe nails



Figure 13 A horseshoe fragment.



Figure 14 A harness buckle.

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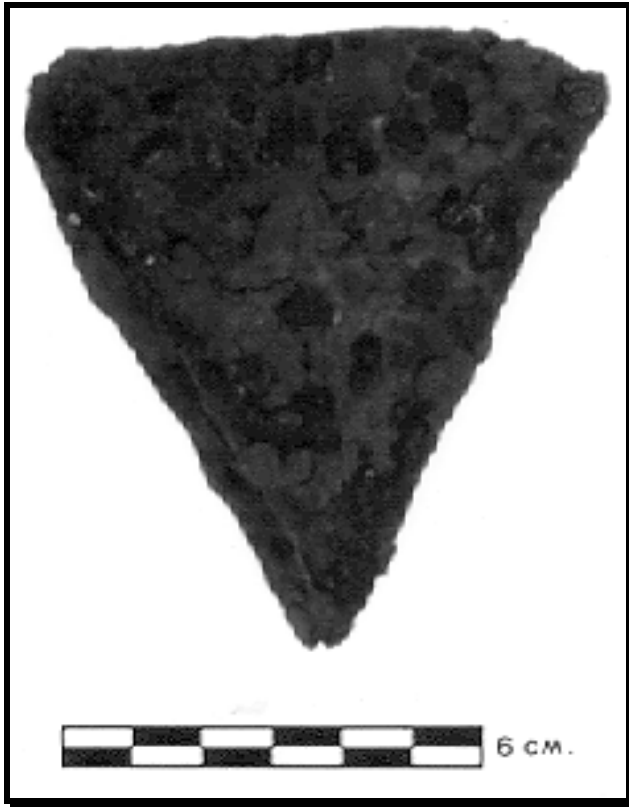


Figure 15 An axe bit.



Figure 16 A paint can ear.



Figure 17 A gate hinge.



Figure 18 Four inch RY spike for narrow gauge track.

of a particular tool because they could not have been made without that tool. In this category are the slugs which could only have come from punches, a toe caulk which had to have been made with a welding die, and a decorative finial (Figure 11) from a “wrought iron fence” which was forged with the help of a scroll fork.

Customers

A smith’s customers are revealed in the material brought in as a pattern for replacement, often items that are impossible to repair, or in unfinished objects or discarded workpieces, *i.e.*, mistakes. As a matter of clarification, it should be noted that although axes, scythes, hoes, barrels etc. may belong to the smith himself in his “other life”, and that therefore (one could argue), it is impossible to distinguish the customer from the smith himself on the basis of the material alone, it is evident that if the smith worked only for himself, he and his family would starve. For the purposes of discerning the customers of the smith, it is irrelevant that some of the material might be (indeed, undoubtedly is) from the smith’s own domestic holdings. In this case, we can simply regard the smith as his own customer and assume that he did not live a life remarkably unlike his neighbours. Therefore, we may distinguish the objects repaired by the smith from his own tools and equipment and thus learn something about both his customers and his own operation.

It is relevant here to mention that archaeological assemblages from smithies always contain numerous discards which were once part of items being repaired. Smithies are, after all, repair shops as well as manufactories. An object such as the scale rivet found in the shop is a case in point. Such objects represent not only work performed by the smith (in this case the repair of a knife tang), but also work performed by the customer (in this case cutting up meat). The customer need not have been a butcher, for farmers and householders used such knives as well, but it is always the case that the customer is represented in any assemblage from a tradesman’s shop, and that the object made or repaired for the customer is, *ipso facto*, gone from the shop.

Farriery

Almost all general smiths in this period acted as farriers, and the Dyers, with their shop on the King’s highway, were no exception. Numerous shoeing nails and horseshoe fragments appeared in the assemblage (Figure 12). A farrier cannot normally bring the horse to the forge, so he takes the shoes, and his tools, to the horse. The area in which the farrier habitually performs this task (the shoeing area) is characterized by the presence of a preponderance of broken and clenched horseshoe nails. When animals are shod, the new nail is driven through the shoe and the hoof until it protrudes through the upper side of the hoof. The nail is clenched downwards to hold the shoe on the hoof, and the excess nail is clipped off. The removal of old shoes leaves these clenched horseshoe nails to lie together with the clipped points of horseshoe nails together with an occasional new nail dropped during a shoeing operation, and perhaps the odd bit of broken horseshoe (Figure 13) in the area where the shoeing operation took place. It is exactly this pattern

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which is found in the sub-ops. 3A and 3D, *i.e.*, to the north of the wall against which the forge was situated and beneath the canopy mentioned earlier.

Livery, Wagons and Farm Machinery

Closely connected with farriery is livery, wagons and farm machinery. There was one livery object (a harness buckle) (Figure 14), and several articles from wagons in the collection. The three objects from wagons (two linchpins and a tyre bolt) all had to do with wheels, so it is possible that wheelwrighting was a skill of Mr. Dyer's. Taken together, this is only a small indication that the shop did regular work on wagons and harness, but horses and wagons were ubiquitous, and it would be very odd indeed if a general blacksmith of this period in this location did not do this kind of work on a regular basis.

Somewhat related are the half dozen objects from farm machinery in the collection. Only one of these objects (a mower section) can be tied to a particular kind of machine, yet together they clearly indicate that one of the things which occupied the Dyer's was work on farm machinery. Again, at this period in this location, such a finding is to be expected.

Throughout the collection there are assorted washers, roves, rods and rivets which may originally have been from almost anything, including some domestic objects. None of them may be declared definitively to be from wagons or machines, nevertheless, these types of devices are usually associated with heavier equipment.

Building Hardware and Domestic Hardware

Building and domestic hardware were small assemblages. The lack of building hardware does not argue one way or another for the building having been moved or torn down, for in both cases one would expect little residual building hardware. Aside from a few nails, these objects were: a thumb latch, a staple, a decorative scroll from a wrought iron fence, a strap hinge, a latch bar and a locking gate hinge. Only the strap hinge, latch bar and thumb latch could have been from the smithy structure itself (the staple was unused), but they could just as easily have been remnants of repairs.

The gate hinge is interesting (Figure 17). It is unbroken and in excellent condition, but it seems a little late for the 1830-40's. The first reference I can find for a similar object is in the Russel Irwin Catalogue of 1865. This suggests that there may have been a fence with a gate erected on the property some time after the shop stopped operation, perhaps at the same time as the northern section of the shop was removed.

The following domestic objects were part of the collection: a bail hook end, a cast utensil handle, a coin purse rim, a stove vent, a folding knife liner, a bail hook, a cooking vessel handle

fragment, a stove latch bolt catch and a furnace grate. The latter was likely from the house, and not from the smithy. It was probably part of the large amount of furnace clinker which was used as fill over the southern section of the shop. The other few objects represent repair to common domestic objects, whether the smith's own or a customer's.



Figure 19 Beley Blacksmith Shop During Excavations.

Other Tools

In addition to the tools which may have belonged either to a mason or a smith, there are fragments of other tools in the assemblage which are not associated with the smithing trade *per se*, and probably represent work done for customers. These fall roughly under two categories: either tools for other trades or domestic/agricultural tools. These tools are as follows: a turning gouge bit, axe bits (Figure 15), a rock chisel, scythe blades and accessories (attachment lugs), a rake tooth, a wood chisel, two nail sets, an auger finial, a hay fork, a scale rivet from a heavy utility knife, a light hoe, and a mortising chisel.

There are two trades represented in this small group of artifacts - cabinet maker or joiner and mason. The turning gouge, fine nail sets and the wood chisel being made from a file could only have belonged to a woodworker, and the fine rock or brick chisel to a mason. Because all these tools are fine or delicate, the

woodworker was probably a joiner rather than a carpenter. Given time, one may be able to identify these tradesmen. The other tools - the scythe, garden rake, hoe, axes, hay fork, folding knife and even the mortising chisel - could have belonged to anyone in the surrounding community.

Unusual Artifacts

There were three odd objects in the collection. Two objects are odd in themselves, and the other is oddly located.

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In 3B3 there was a paint can ear (Figure 16) which had been unsoldered from the can and modified with the side of a flat file in order to open one side of the ear. It appears that the only reason for doing this was to allow the bail to be remounted so that it would not fall down to the side of the paint can when the painter let the handle go. There are definite advantages to such an arrangement when one is up a ladder. Whether this guess is correct or not, the ear was never soldered back on the paint can.

In 3A2 was an unidentified cast iron object which was neither a kettle of any sort nor a stove. It was not burnt and was probably not part of a furnace. The object is unusual because cast iron comes in a limited number of shapes and it is not ordinarily hard to identify; that is, one is usually clear about the fact that something is a stove even if one has no idea about which model stove. Whatever the original was, it was large.

The other object is a small 4" RY spike (Figure 18) for a narrow gauge track of the type which one would find in a shop railroad or a crane track. The object itself is not unusual, but it does raise the question of where one would find such a track in Brockville.

CONCLUSION

The Dyer shop operated for a dozen or more years on the outskirts of a thriving town. The business was terminated, the useful tools, fuel and stock materials were dispersed to others in the area, and eventually the structure was either moved or (more likely) demolished. At that time the site was "cleaned up" and subsequently covered over with fill to create a terraced yard for the house. Despite this, evidence remains of a thriving general smithy in which farriery, tool manufacture and repair, wagon and wheelwrighting and building and domestic hardware repair took place. It is highly likely that the unexcavated portion (the great majority of the remaining shop), contains even more information about the Dyer operation and the service it provided to Brockville in the 1830's. As long as the paved driveway remains over the shop it appears to be reasonably safe from disturbance.

This very small collection of waste material from a limited excavation at an early 19th century blacksmith shop is nevertheless filled with information about both the smith and his operation and the customers of the shop. Blacksmith shops contain this kind of data because the function was absolutely vital to a populace which relied on horses, hand tools and forged domestic hardware. Sooner or later everyone in the community had to come to the smith to have something made or repaired or to have an animal shod.

REFERENCE CITED

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