A Case Study in Frustration: Archives, the History of Technology, and the Restoration of Yukon Riverboats

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Historical researchers often complain that there is not enough archival documentation available to answer their questions, and that archives have not preserved what researchers consider central to their work. From the viewpoint of the history of technology, the criticism has more than a little validity. The researching and writing of the history of Canadian technology, whether focusing on the internal dynamics of a technology or dealing with its social implications, is hampered by collection policies that are not cognizant of the needs of historians of technology. As Canada is highly industrialized and technology plays a central role in defining its society, the continued neglect of records pertaining to technology cannot be justified. The research problems associated with this lack of records increase when research is more narrowly focused to the restoration of a particular technological structure.

This study will examine the resources used in the restoration studies for two Yukon sternwheel steamers, the *Klondike* and the *Keno*.[1] Most of the information, whether in written or visual form, used in the production of the histories of these two vessels was found outside archival repositories. Research was not restricted to the actual structures. Questions had to be answered concerning the material culture associated with the vessels as well as the social interplay, working conditions, and hierarchy of the crews on board the vessel, and the crews' interaction with the communities along the river. The economics of the transportation system, although a minor component of the research, required some study to provide background information. This paper will look at the sources used in the production of the histories, briefly analyze their contents to show their significance, and look at why they may have escaped inclusion in archival repositories.

Background

In the late 1950s, the Minister of the Department of Northern Affairs and National Resources, acting on the advice of the Historic Sites and Monuments Board of Canada, declared transportation in Yukon to be a theme of national historical significance. To commemorate this theme, the department acquired the sternwheel steamer *Klondike II*, along with three other vessels, in 1960. It was decided to restore the Steamer (Str.) *Klondike II*, the largest vessel to ply the Yukon River, as a national historic site, and a project team was established to undertake the restoration.[2] As the vessel had been built

during 1936-37, and had undergone no major structural changes since its construction, it was decided to restore and refit the vessel to the 1937-45 period. Most of the research was, therefore, focused upon these years. The vessel was officially opened to the public in 1981. Subsequent to this project, further research was done, using the same records and methodology, for the restoration, or more correctly stabilization, of the Str. *Keno*, which had been moved to Dawson City, Yukon, in 1960 to commemorate the transportation theme in that location. Like the Str. *Klondike*, the *Keno*, built in 1922, was owned by The British Yukon Navigation Company (BYN), the river arm of the White Pass and Yukon Route Railway (WPYR), that had operated the Str. *Klondike*.

When they think of Yukon, most people think of the gold rush of 1897-98 when thirty thousand people invaded this remote corner of Canada. For the majority of Canadians, the history of this part of the country begins and ends with that event. In fact, Yukon was inhabited prior to that moment of madness, and life there did not terminate when most of the newcomers left to pursue rumours of other strikes.

A limited transportation network had been in place prior to the discovery of gold in 1896. The Russians, the Hudson's Bay Company, and, after 1867, the Americans, had all been active in this region. The area had been explored in the nineteenth century by those who followed the dream of gold up the coast, from California to the Cariboo and then to Yukon and Alaska. By 1896, there were at least fourteen steamers on the Yukon River to service a small and dispersed population. They operated mostly on the lower river from St. Michael to Circle City, at times going up as far as Fort Selkirk at the mouth of the Pelly and Yukon Rivers. The two passes, the Chilkoot and White, which were to be etched into the minds of many in the winter of 1897-98, were also well-known entry points through the coastal mountains into the country. Given this limited transportation system, the onset of the Gold Rush had the impact of one thousand guests arriving at a dinner party for five.

One of the more enduring consequences of the gold rush was the construction of a transportation system that was to last half a century. Its core was the White Pass and Yukon Route Railway, built between 1898 and 1900, which ran from tidewater at Skagway to just past the Whitehorse Rapids on the Yukon River where the community of Whitehorse was established, a modest length of 110 miles. The railway, in conjunction with the river arm of the company, the BYN, allowed the WPYR Company in very short order to dominate its opposition and then to eliminate it. Ownership of a unified system extending from tidewater to Dawson, or the upper river section, allowed the WPYR Company, after a brief struggle, to gain control of the lower river as well. The whole river thus became the preserve of one company.

Once Yukon settled into a more sedate phase of its development, this transportation system, although operable with the vessels for only five months of the year, and supplemented with some overland transportation in the winter, allowed the placer mining around Dawson to evolve from the labour-intensive techniques of the gold rush days to the capital-intensive operations of the gold dredges that were introduced by 1901. The transportation system as it initially evolved was a one-way system of manufactured goods coming into the area and very little going the other way. This imbalance changed in 1918 when silver lead ore was discovered in the Mayo district, located along the Stewart River, a tributary of the Yukon River. This ore was shipped out of the north to be refined. The logistics of getting the foodstuffs and manufactured goods to the communities along the Yukon and Stewart Rivers, and getting the unrefined minerals out, all in a five-month season, determined the type of transportation system that evolved.

The river system dictated the type of vessel that could be operated economically. Until silver lead ore was found in the Mayo district, most of the cargo was transported downstream from Whitehorse to Dawson. The Yukon River, along which these two communities are located, is a fairly shallow, winding river. The type of vessel which functions best on its waters is a shallow-draft sternwheel steamer. The need to transport silver lead ore from Mayo on the Stewart River, a tributary of the Yukon, exacerbated transportation problems: depending on the time of year, the Stewart River was shallower and narrower than the Yukon. To circumvent this difficulty, the *Keno* was specifically designed to ply its waters, and in 1922 this vessel began pushing loaded barges between Mayo and Stewart Landing, located at the confluence of the two rivers, where the ore was picked up by the larger main river vessels to be moved to Whitehorse and then out of Yukon.

The problem with pushing a barge, which all of the vessels did in order to move as much ore as possible in the short season, was that it added half again to the operating time with a resultant increase in fuel costs. In order to reduce the time required and hence cost, a new vessel was designed to carry approximately three hundred tons of ore and thus eliminate the need for a barge. This vessel, the *Klondike*, was launched in 1929 and proved successful. When the *Klondike I* sank in 1936, due to a misjudgement in navigation by the pilot, the need for such a large vessel persisted and the *Klondike II*, an almost identical copy, was launched in 1937.

The riverboats remained viable as long as there was no road network. After the construction of the Alcan road in 1942 to meet wartime requirements, and a later extension of the road, river transportation could no longer compete, and the last vessel, the *Klondike II*, was pulled from the water in 1955.[3]

A vessel such as a sternwheel steamer performed three functions. The first of these concerned the operation of the steamer as a vessel; that is, how it moved from point to point along the river. The operations associated with the structure as a vessel extended from the wheelhouse, which can be looked upon as the control center, to the engine room where the power plant and associated technologies were located. The second prime function of the steamer was to move freight to and from various communities along the river. The vessel in this sense was a warehouse through which passed every possible commodity required to sustain an isolated mining community. Finally, a riverboat was also an hotel that had both permanent and transitory residents. There were, therefore, services available to meet the needs of the occupants, including rooms, meals, leisure spaces and activities, and sanitary requirements. Such functions did not operate in isolation from each other. For example, the deck crew, who lived on board, were responsible for the movement of freight on and off the vessel, and helped both with the repair of the vessel if required and with the movement of wood fuel for the boilers onto the vessel.

The research requirements, for the restoration of *Klondike II* and for the stabilization of *Keno*, were, therefore, multifaceted as information had to be provided to answer questions on the structures themselves, on the material culture to be found on board, and on the social history of the crew and the communities that the vessels serviced.

The restoration of any structure to a particular period is fraught with many difficulties. A vessel, especially a wooden one, is not a static entity as changes can readily be made to modify some oversight in its original construction plans. Even though blue prints may exist that show how a vessel was originally constructed, the information obtained from these documents may be of limited value for indicating what a certain sector of a vessel

was like one year or even one month after the vessel was first launched. On the *Keno* the forward part of the saloon deck was cut away soon after its launch because the pilot could not see the bow of the vessel from the pilot house, a requirement for navigating the narrow channels and swift waters of the Yukon River. The cabins occupied by crew members, especially officers, could and were modified to reflect particular tastes and requirements. A cabin could be occupied by a different person each year and the number of modifications made to it could, therefore, be quite numerous. Most alterations leave some evidence on the structure itself, such as screw holes or an outline of a shelf on the wall and these indications have to be analyzed to determine how the structure changed over time. Blueprints, if they exist, are important starting points against which the extant structure can be measured to see where and possibly why changes were made. If blueprints do not exist, as was the case with the *Keno* and *Klondike*, the structure itself has to provide much of the information concerning its original configuration.

The questions raised during an examination of the structure are then used to analyze other sources of evidence. After the structure itself, photographs are the greatest source of information concerning changes made in the physical fabric of a vessel. A series of photographs extending over the life of a vessel reveal details of the structure frozen at certain moments in time and can provide crucial data for a structural history. As photographic evidence is seldom all-encompassing, an oral history programme should be used to fill the gaps. For the *Klondike* project a definite attempt was made to include a variety of former crew members from masters to firemen, in order to cover all areas of the vessel. The textual sources, although important, were the least significant of the records used in this project. The collection policies of various archives have preserved little if any documentation concerning the various mechanical systems found on board the vessels and, without good visual evidence such as photographs, answers to questions concerning these systems remained unanswered. Company records often noted some of the major changes the vessel underwent but were mute as far as minor interior modifications were concerned. The information obtained from written documentation had more to do with non-structural matters such as when and where the vessels operated and the costs of operation. The sources used in the production of the structural history have been noted in order of importance; it should, however, be borne in mind that each source provides important information and leads to other paths of inquiry without which the structural history would have been seriously flawed.

Historic Sites decided that besides restoring the *Klondike* structurally to the 1937-45 period, it would refit the vessel as though it was simply waiting for the crew and passengers to board for the trip from Whitehorse to Dawson. To achieve this, information had to be obtained as to what was to be found in the cabins, the dining room, and the galley on a normal working day in approximately 1940. What did the blankets look like? What kind of mattresses were on board? What were the cutlery, crockery, and tablecloths like? What kind of food was served on board and in what kind of containers was it obtained? The freight deck would have had cargo stowed on it ready for the downstream run. Answers had to be found as to what a typical cargo consisted of and in what sort of containers it came. A crew member's or an officer's cabin would have had many personal effects besides normal work clothes lying about and such items had to be identified after refit and restoration was complete and the vessel was opened to the public in 1981. Guides had to be provided with information concerning life on board the vessel and in the communities that it served so as to place the vessel within a social context. All of the information concerning the material culture and social history of the vessel was derived from the same

sources used to produce the structural history; however, the questions asked concerning them were different.

Stating the parameters of a research problem is not difficult; analyzing the resources needed to answer the questions raised can be quite another matter.

Company Records

The largest collection of papers consulted for the project was that of the company records in the Yukon Archives in Whitehorse, Yukon.[4] While the collection is quite extensive, it appears to be a mere remnant of what once existed. The records cover both the vessel and railroad aspects of the transportation network. Needless to say, only those documents that could provide information towards the production of histories of the *Klondike* and *Keno* were surveyed. The collection was apparently transferred to the archives sometime in the early 1970s as the inventory is dated June 1975. What quickly becomes evident from this finding aid is the tremendous gaps in the documentation concerning the riverboats found at the Yukon Archives.

In the section of the inventory entitled "Masters' Trip Reports to the Superintendent 1903-27," there is a statement that may explain what happened to the rest of the records: "Although the format/design of the prescribed form was subject to certain changes over the years, the type and extent of information required to be entered/recorded remained almost constant."

This may be the key to unravelling the nature of the collection that ended up at the Yukon Archives. If such documentation as masters' reports, logbooks, or for that matter waybills (which were cargo consignment manifests) is taken as a whole, there appears at first to be no variation from document to document. It would be extremely logical from this perspective to be selective and reduce the shelf space required to hold the material. It is not clear who may have carried out the culling of the papers.[5]

The rest of the inventory clearly indicates that only a representative sampling of certain records has survived for virtually every vessel the company owned; however, an analysis of four sets of documents important in researching the vessels indicates that this apparent selectivity destroyed a large pool of information central to the production of a structural and social history. The waybills, which recorded a description of a cargo and its consignee, and the master's trip reports, that is, a log of a return trip by the master of a vessel, were each recorded on single sheets of paper. When a selection was made of these documents only a number of waybills and perhaps trip reports covering a two-week period were selected for each vessel. The crew lists and master's logbooks extended over longer periods because they were recorded in bound volumes, and by selecting a representative sampling from the bound volumes larger amounts of data were preserved.

The duplication upon which the decision to eliminate selected portions of the records appears to have been made was in fact more apparent than real. The duplication that did exist was not eliminated since the logbooks and the masters' reports to the superintendent both survive and the former was simply a clean copy of the latter, handed into the office. Here judicious selection, comparison, and elimination could have saved shelf space without any loss of information. For the production of the type of history that was used in the reconstruction, restoration, and refit of a structure such as a riverboat, however, the destruction of much of the documentation outlined above has regrettable consequences.

The masters' trip reports and logbooks which survive can only hint at the type of information available in the complete record. On quick perusal these particular documents seem merely to note repetitive information concerning the stops made, the time at which they were made, and the amount of wood taken on at a fuelling stop. Other information, however, can also be found, including the number of times the vessel was grounded, and the length of time taken and the method used to get off a sandbar. Those areas in the river where a vessel could ground changed from year to year. There were years when there were no groundings, and there were other years when the river was so low that it could occur on every trip. Information about such occurrences would have given the history of the river as a changing entity. It was also not unusual for a vessel to break a few planks in the hull, and this damage had to be patched very quickly with soft patches, which were sections of wood that had been cut to fit exactly between the frames of the hull and had been treated with caulking. Other repairs were made to the rudders and the paddle wheel buckets which, because of the shallow waters, sustained damage frequently. The recording of the frequency of such repairs, whether to the hull, the rudders, or other structures, would have provided insight into the durability of a vessel and its effectiveness in a particular environment; the elimination of most of the documents means that this can no longer be determined.

Stoppages due to mechanical trouble were also noted in the logbooks. Mechanical breakdowns were not at all usual and their causes varied greatly. The cause of a breakdown was usually noted in the trip report, as well perhaps as what was done to correct the situation. An example would be the breakdown of one of the main steam engines due to a slug of water going through the system. This was certainly noted in the engineer's logbook; he, however, was not required to deposit his logbook with the office and very few of them survive. The information would also have been noted in the masters' logbooks, although more concisely. The data on repairs allows equipment which was altered or replaced to be identified. Other information as to where the replacement parts came from and where they were made may also have been available. Through the removal and elimination of the apparent duplication in this set of papers such technical information is no longer available.

The masters' reports would also have noted problems with the crew on those rare occasions when they did occur. These could range from drunkenness to mutiny. Actually there were no mutinies in which the crew took the vessel over from the officers, but there were (at least) two mutinies in the 1940s in which the crew refused to ship or get on board once the vessel was loaded. With the destruction of virtually all of the masters' reports the only way this sort of information could be obtained was through the oral history component of the research. According to most of the officers and crew members interviewed, especially those who worked on board the vessels during the 1930s, there were never any drinking problems aboard the vessel. Considering the amount of work that a person had to perform per day this is not hard to understand. Some of those interviewed who worked aboard the vessels in later years, however, considered it not at all unusual to have a drunken fight on board or to have someone too drunk to work. Such occurrences, according to the masters interviewed, were recorded in the reports. Unfortunately these are no longer available, and one can only get an insight into labour relations and changes in attitude toward drinking in a limited way from crew members themselves.

Crew lists are a major source of information concerning the people who worked on the vessels. They provide the names of former crew members, essential for setting up an oral

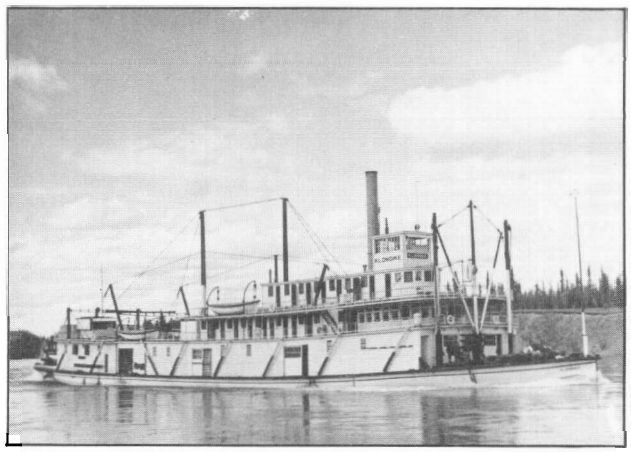

Figure 1: *The overall riverboat view is the type of photograph usually retained by archives. Generally it is felt that one such photograph will suffice. If a vessel was a static entity, this viewpoint would have merit. Vessels, however, especially wooden ones, are not static, but change depending upon requirements. Ideally, general view photographs should be collected for each year of the vessel's existence, for a comparison of these would allow identification and dating of modifications made to the exterior of the vessel.* Courtesy: Alex Courquin.

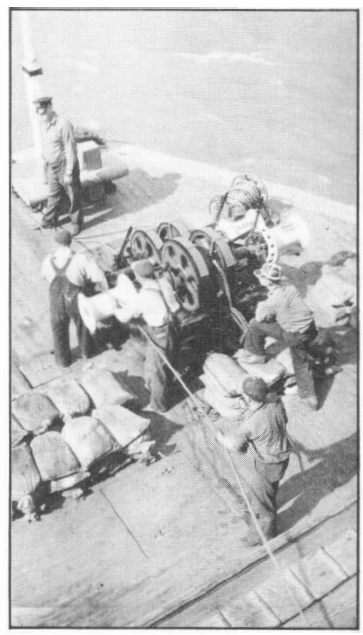

Figure 2: *Unusual activities, such as "lining up" through rapids as shown in this photograph, were often the focus of photographers. As these took place on sections of the vessel not normally of interest, such photographs provide structural details of the vessel, such as the planking pattern of the foredeck, unavailable otherwise.* Courtesy: Bill Lesyk.

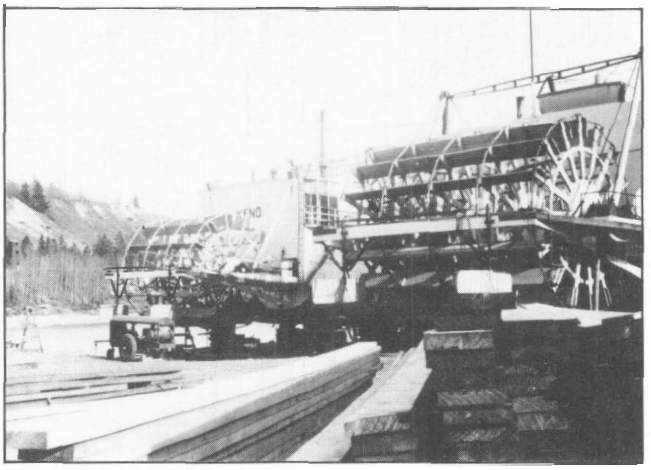

Figure 3: *In the spring of the year the vessels were upon the ways. This was a time when repairs were made to those areas of the vessel normally not accessible while they were in the water. These photographs provide information on external structure, such as the rudders and hull, not available from the general riverboat photographs.* Courtesy: Cyril Doheny.

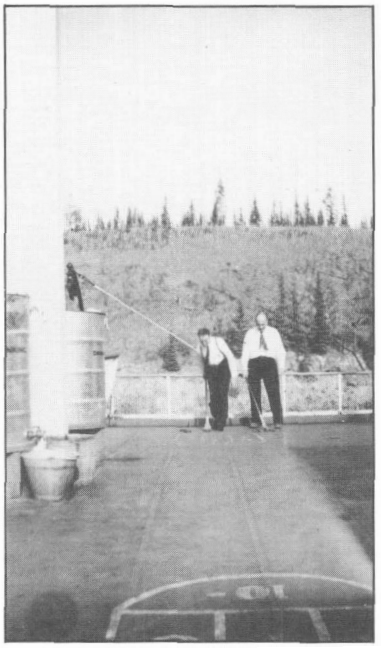

Figure 4: *Social activities such as shuffleboard can provide significant details for the compilation of a structural history. This photograph indicates the pattern of the canvas covering the deck, the design of drinking water barrels, and the layout and equipment for the game being played.* Courtesy: Bill Lesyk.

Figure 5: *Group photographs, aside from providing information on the crew and their belongings for a particular season, give not only close-up details of the structure but also the material culture associated with the vessel itself. This photograph provides details for the gangplank, the foredeck hull, lighting system, blocks and tackle, freight carts, and winch.* Courtesy: Frank Coghlan.

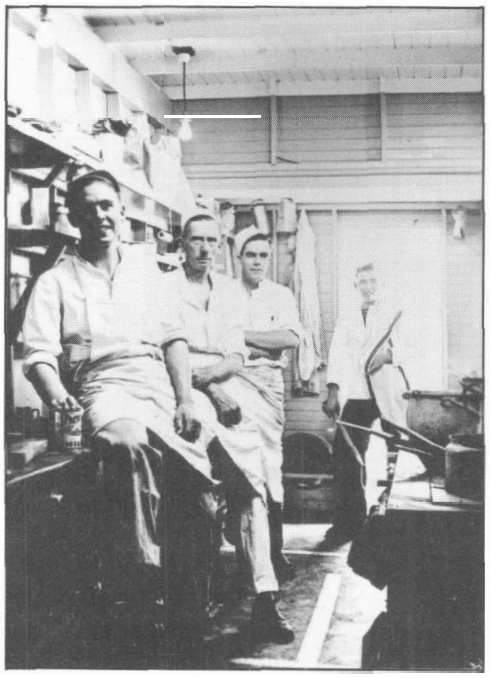

Figure 6: *Because of the scarcity and cost of flash equipment at that time, interior views are very rare and are seldom found in a sequence of photographs extending over a number of years. This one of the galley on the Str.* Klondike, *besides providing a wealth of information concerning the structure and the material culture which was located there, provides a check on non-visual sources of evidence.* Courtesy: Harold Nicholson.

history project. Such lists are also invaluable in determining crew turnover rates, which, in turn, give insight into labour problems. The difficulty with the records as they now exist is that only tentative conclusions can be reached. If there are records of only one vessel for a select number of years, and the records of the other vessels are missing for those same years, it is difficult to know, if a crew member disappears from a list, whether he left the employ of the company or if he was simply moved to another vessel, as often happened. Such lists also give insight into the hiring practices of the company. One example is the employment of natives. The extant crew lists note no more than the occasional Indian on board and then only in the late 1940s. According to the photographic record and the oral testimony of former crew members, however, the practice of hiring Indians started much earlier, and by the forties, especially during the war years, there were whole crews made up of local Indian labour. According to the oral interviews, the company regularly hired farm boys from the Fraser Valley in British Columbia in the 1930s, as they were used to hard labour. Furthermore, according to the interviews, economic factors, namely renewed prosperity on the farms, changed the demographics of the labour pool from rural to urban in the 1940s. It is now almost impossible to check the veracity of such statements from the incomplete crew lists available.

In the restoration of the freight deck a complete set of waybills would have been central in determining what passed through this area in a shipping season. The waybills listed the consignee of the goods being shipped, and gave a brief description of the products themselves. A complete run of waybills would have given the names of manufacturers that were shipping goods to this part of the country. As the freight deck on the restored steamer *Klondike* was to be outfitted to the 1937-45 period, this data would have given an insight into what sort of packaging would be appropriate to display there for those years. The waybills would also note the range and quantities of goods being shipped, which in this case would have been extremely varied. Analysis of such waybills may also have provided information about the changing tastes of the inhabitants of this region. Given that only the odd waybill for some of the vessels has survived, any analysis or conclusions are tentative at best.

The above serves merely to highlight what could have been derived from the textual documentation if it had been complete or nearly so. With the elimination of so many vital documents information such as that on repairs undertaken on a vessel while on the river may never be retrieved. What was destroyed were important sources of structural history concerning the vessels, in addition to historical information relating to life along the river, and to labour and social factors concerning riverboat transportation. Fortunately for the two projects, the two vessels did not stop operating till the 1950s and other visual, oral, and written sources were found outside of archival repositories that filled some of the gaps.

Official Records

A lot of information concerning extant and scrapped vessels constructed and operated in Canada is still in the hands of Transport Canada. In addition to correspondence between shipping companies and this department, or its precursors, Transport Canada retains many blueprints and line drawings concerning vessels built or modified in Canada. It appears to have been a requirement for such blueprints to be placed on file with the department. The documentation accompanying these blueprints indicates that this

ministry and its predecessors once had in their possession a rich source of information concerning our naval heritage; however, much of this information has either disappeared or been destroyed.[6]

Information concerning the engines, boilers, and the various systems on board, whether mechanical or electrical, was the most difficult to find. The records held by Transport Canada were virtually the only documents dealing with the technical side of the riverboats, the boilers and engines. One example of the type of problem which needed to be solved during the restoration was the rather mundane question of the galley cook stove. When the *Klondike* was acquired from the company, it had on board a cook stove installed about 1950, and which therefore did not fit the 1937-45 restoration period. A photograph of the galley showed a corner of the original cook stove and former crew members suggested that the McClary Stove Company might have supplied the original stove. A successful search was made for the archives located at McMaster University in Hamilton that held the General Steel Wares papers, as GSW had taken over the McClary Stove Company.[7] Most of the records deposited by this company were financial. The few blueprints included were those for a new factory. There were, however, a few old catalogues on deposit from which some information was obtained. This concerned not the cookstove, but a mouthpiece for a speaking tube, which ran from the wheelhouse to the engine room, and a commode pail used on board the vessels. The GSW company records are fairly typical of manufacturing company records deposited in an archive. Most of these collections concern the finances of the company and rarely document the products being manufactured. The large gaps in the technical record supports the contention that both the company and the archivist generally consider such papers the least important part of a company's records and as such expendable. Technical information is the prime requirement from a structural history perspective.

Customs records were also consulted; these too were still held by the department, Revenue Canada. Since the beginning of the transportation network is at Skagway in the US, and some cargoes were destined for places downstream in Alaska, custom papers were filled out for the cargoes of vessels plying between Whitehorse and Dawson. In addition lists of the arrivals and departures of vessels were kept at both Whitehorse and Dawson. These data were extremely useful in determining when and where a vessel operated in a certain year and could be used in an economic evaluation of the transportation system. Some of the records concerning arrivals and departures survived; most, especially those having to do with cargoes, appear to have been destroyed.[8]

Personal Papers and Reminiscences

The problem of published primary sources is summed up in Louis Hunter's *Steamboats on the Western Rivers*, a study of the evolution of riverboats on the US rivers in the nineteenth century.[9] Hunter notes that for the most part only officers left published reminiscences. Of those who worked as firemen or deck crew, no personal records remain, published or unpublished. The same can be said of those who worked in this capacity on the Yukon River in the first half of the twentieth century. The few books and manuscripts that do exist are of no help in researching a structural history of a vessel, as they deal with the social life along the river, on board, and with the river itself, and are more anecdotal than analytical.[10] This is not to say that such documents cannot assist in the creation of an overview of riverboat transportation, but they are of extremely limited use in the production of a structural history.

Newspapers

Newspapers were another textual research source consulted; unfortunately, newspapers, especially those in the north, were notorious for ignoring what was happening around them. For the most part the newspapers recorded world events. Local news was generally restricted to a short local social column. If there was any report on transportation, it dealt with notable events, such as the opening or closing of the shipping season, the sinking of vessels, or the influx of crews to the north at the beginning of spring to start work on the riverboats. Other than these incidents, the newspapers are more remarkable for their silence than for the information they provide about the steamers.

Photographs

One of the principal sources of information in the production of a structural history of a vessel, and one that is extremely helpful as well in an analysis of the social side of a vessel's operation, is the photograph. Of the two thousand photographs having to do with riverboat transportation collected for this project, approximately 80 per cent were obtained from sources outside archival repositories.[11] There were many more photographs collected, or rejected, that had to do with other topics in Yukon. The total number discovered probably ran to more than five thousand. Almost all of the photographs were of the 1920-55 period, and are still in the hands of the photographers. These photographs were borrowed from the owners and copy negatives were made from them, which are now in the hands of National Historic Parks and Sites Branch, with the original photographs being returned to the donors. Considering that transportation is a major theme in the social, economic, and labour history of Yukon, very little has been done by established repositories to acquire documentation of the visual side of that history.

The limited acquisition policy of some archives regarding photographs indicates a lack of appreciation of the importance of photographs not only to the writing of structural history, but also to the researching and production of social and labour history.[12] The maxim that a photograph is worth a thousand words, considering the destruction of the technical documentation so far outlined, is an understatement. Photographs showing structural details on board the vessel are at times the only documentation available concerning the many elements that made up a riverboat. This applies not only to the dating of those structural elements but also to their dimensions and material composition.

If an oral history project had not been possible, photographs would also have been the major source of insights into labour relations and social intercourse on board the vessel. Without photographs showing the material culture to be found on board — from the freight to the china — the refurnishing of a vessel to a definite time period would have been very speculative. Photographs can almost be considered a *sine qua non* of a successful and accurate restoration and refit.

The greatest limitation of the photographs encountered in this project concerns the photographic technology of the time. The camera that was used throughout most of this period was the simple inexpensive box camera without flash. Flashes were used, but for the most part only in the latter years, and then very selectively. Hence most photographs were taken outdoors and there are very few photographs of the interior of a vessel. For the production of a structural history, this is a severe shortcoming.

The other limiting factor is that amateur photographers do not generally take photographs of the commonplace, restricting their shots to the unusual. Fortunately, most

of the people who worked on the steamboats came from outside Yukon. When new recruits arrived in Whitehorse, where the shipyard was located, everything was new and unusual to them and they took many photographs. With this point in mind, a strong argument can be made for keeping a photograph collection intact and in order if the photographs are mounted in an album. The interesting aspect of the consecutive nature of the photographs in an album, aside from ease of dating, is that one can conjecture what struck the photographer while working on the vessel, and how the novelty of certain operations wore off and became ordinary. A photographer over time becomes more selective. What is, therefore, in one sense a limitation is in another sense a strength. The collections, if weighed as to the types of photographs found, give clear insights into what was important to the crews working on the river. If a number of photographic collections are analyzed, it can be seen that the photographs fall into natural groupings, each of which tell a different story, and each of which play their part in the production of the structural history.

The photographs that crew members took when they arrived in Whitehorse were often of the work they performed in the shipyard to prepare the vessels for the upcoming shipping season, and showed structural details normally not seen when the vessel was on the river. Such photos give clear views of the vessels' hulls and rudders, as the vessels were out of the water at the time and supported underneath by cribbing. These photographs also allow clear views of those areas of the vessel such as the area near the forward mast which, under normal circumstances, would be hidden by ropes, anchors, carts, and other paraphernalia. This may seem insignificant, but if a former crew member clearly remembers that a speaking tube was located in the bulkhead near the forward mast and there is no structural evidence of it, the photographic evidence can make the difference whether or not such a fixture is installed in the restored vessel. One of the crew members interviewed may have worked in the shipyard when a vessel was being constructed or modified. Photographs taken during construction or modification of a vessel provide a lot of structural details which could not be seen once the vessel was completed. In the case of the *Klondike II*, such photographs clearly indicate that many, if not all, of the masts and hog posts incorporated within the structure were salvaged from the *Klondike I*.

Once the vessel was in the water and operating on the river what seems to have impressed the crew members most, according to the photographic record, was the large amount of cargo and fuel that they had to move. There was the ever-present woodpile where the vessel loaded up with fuel for the boiler. The level of difficulty in getting the wood on board could vary from site to site along the river, and also could be influenced by the height of the river throughout the season. Photographs showing the loading of cord wood down steeply inclined ramps, from the river bank to the vessel's foredeck, invite the question of how such loaded carts were controlled going down the ramp. The technique was to use the low railing attached to the side of the ramp as a brake for the cart by allowing the wheel of the cart to rub up against it. This explains the particular design of the ramps.

Part of the tonnage moved by the deck crew was the freight that ranged from general cargo leaving Whitehorse for communities downstream, to ore coming back to Whitehorse to be transported out of the Yukon. Photographs showing the freight can be an invaluable source of insight into the material culture not only of the vessel but of the communities along the river. There is very little evidence available anywhere concerning packaging, especially bulk packaging, and the stencils or graphics found on them. This is

not the sort of information that is retained by the company itself, collectors, museums, or archives. The only way such data can be obtained is from actual examples, from photographs or, if one is very lucky, from the company records. Photographs indicate what packaging was used at the time, and what should be looked for when searching repositories for such material culture artifacts.

A very common and useful category of photograph in the production of this structural history, and a type generally collected in very limited numbers by archives, is the overall riverboat view. Such a photograph shows one of the sides or ends of a riverboat. This type of image provides considerable detail concerning changes in the structure. Were a structure static, four photographs of the vessel would be sufficient — one each from the port, starboard, forward and aft sides. Vessels, however, are not static entities but change from year to year. As a vessel grows older, its parts wear out, and functions that were once performed in one area of a vessel may be moved to another, requiring changes in the structure. The engineers may decide that they want better ventilation in their cabins. The company may decide to add more cabins or eliminate a number of them. The steamboat inspector may require that more lifeboats, firebuckets, or fire standpipes be installed. A decision may be made that more light is needed in the dining room, or that there is too much, which would lead to windows being painted over. In fact, there are as many reasons as there are structural details. The one thing that should also be kept in mind is that these were wooden vessels, and modifications were easily made without any great difficulty or inconvenience. Many photographs of the exterior of a vessel taken in different years look the same upon initial inspection and in a collection would appear to be unnecessary duplication; however, if a magnifying glass is used to compare them, differences soon become apparent. Through such differences, information as to how the vessel changed both internally and externally over time can be accumulated, and such data can also help date other photographs from which more information can perhaps be derived. The ideal photograph collection, from the standpoint of a structural history, is one that has the four shots noted above for every year of the vessel's existence.

Certain activities photographed on board give clear views of specific areas of the vessel that, under normal circumstances, would not have been the focus of a photographer's attention. An example is the photographs taken of the activities that were required to "line" a vessel through a set of rapids, such as those found in the Yukon River at Five Fingers Rapids. The water conditions in rapids could be such that a vessel was unable to make headway against the current without help. In such cases, a heavy wire cable was extended through the rapids and secured to shore at either end. To get through the rapids the vessel could pick this cable up at the bottom of the rapids and secure it to a steam winch, located on the vessel's foredeck, and pull itself through the rapids. Once the vessel "lined" through the rapids, the wire would be released and thrown back into the river for the next vessel. The foredeck, where all of the activity would take place, was detailed in many of the photographs taken of the lining procedure. These photographs are a good source of information concerning the planking pattern of the foredeck. This area of the deck was a high traffic area; thus planking and the way it was positioned on the foredeck often changed. The photographs also have good technical details of the winch located on the foredeck of all the large vessels; since there was no other documentation available for this type of machinery, the information obtained from the photographs can help to identify missing parts if such a winch is to be restored. If the photographs are preserved only for the types of activities that they show, such as that of lining a vessel through a set of rapids,

a few of each operation shown would perhaps suffice; however, the structure itself and other details must be taken into account in the evaluation of photographs for deposit within an archives.

Another group of photographs that provided important structural details focused on the aft end of the vessel where the paddle wheel was located. This is not hard to understand, as the paddle wheel was at that time an unusual form of propulsion. Furthermore, the ordinary deck crews' quarters were located at the aft end of the vessel, that is, right next to the aft bulkhead or wall of the vessel where the water, thrown up by the wheel, would hit. Photographs of the paddle wheel were also taken when the buckets (or blades) on the wheel were replaced, a common occurrence given the structure's exposure to the hazards of the river. This work took the combined effort of a number of crew members, especially if the rudders had also sustained damage. Photographs of these repairs provide intimate structural details of the rudders, paddle wheel, and associated technology. They also give close-ups of the transom, which is the aft wall of the vessel, through which quite a few pipes extend. These pipes, which were generally for effluent, offer clues to any modifications made to the internal piping systems through their appearance or disappearance over the years. The structural data as outlined above would probably be lacking if the vessel had been propeller-driven or if the crew's quarters had been located elsewhere. As with the photographs taken of lining a vessel through a rapids, those of the aft end of the vessel cannot be assumed to be repetitive, as a series taken over the years can chronicle minor changes that provide significant data for a restoration.

Detailed structural information can best be derived from close-up views of specific areas of the vessel, and such photographs were generally taken to record social activities that took place on board. These include photographs of people loading the boiler, washing clothes, getting their hair cut, competing in tests of strength, making ice cream, working in the galley, jack-knifing a barge, loading ore, sitting in the engine room, playing shuffleboard, watching the world go by, collapsing from exhaustion, and sleeping in a bunk. Of the two thousand photographs examined for the structural histories, only one photograph was obtained showing the interior of a deckcrew member's cabin. As such photographs were taken in a confined area, they generally give very good close-up views of a particular structure or bulkhead. Aside from the structural details, such photographs also provide data as to clothing worn by officers and crew, which is important if vessels are to be fitted out to a certain period, and also gives visual evidence of the social intercourse that went on on board vessels.

The final major photographic group of interest is sets of unique photographs. One such series has to do with the sinking of the *Klondike I.* It is not the *Klondike* as such that is of interest, but the camp that the passengers and crew established on shore. These unfortunates brought much of their luggage and material from inside the cabins, so that they would be as comfortable as possible while waiting for a rescue vessel to arrive. The photographs provide evidence of the material culture that was to be found on board the vessel, including blankets, mattresses, sheets, towels, pots, and pans.

Photographs are, therefore, an invaluable source of information for the production of a structural history of the exterior of a vessel, but only if there are photographs extending over the whole life of the vessel. Photographs must be evaluated in their totality and not just from a narrow perspective such as a specific activities or overall views to determine their suitability for archival preservation. From a structural history perspective a structure

can be considered as a living entity that is born, matures, grows old, and dies. Each of these stages of the edifice may have different structural details associated with it. Given these premises, one photograph of a structure is insufficient to produce a structural history, as a baby photograph would be totally inadequate to represent the life of a person. If the photographic record is discontinuous, the data required to produce a structural history of a vessel or any other structure will be incomplete.

As stated earlier, the cameras used in the 1930s and 1940s and the cost of flash equipment mitigated against taking photographs of the interior of a vessel; however, such photographs were acquired and provided important benchmarks against which other data could be compared. Such photographs showed the dining room, observation room, galley, purser's office, engine room, and even one of the freight decks and crews quarters. But these are isolated views giving literally a snapshot at a moment in time. This does not allow an analysis of what happened to a certain location over time. Such photographs are still important, however, because they can verify hypotheses formulated about the area using other sources of information. If there is agreement among the sources, then a greater reliance can be placed on these other sources for those areas of the vessel for which no photographs have been found. This process worked very well in the restoration of the Str. *Klondike*, since photographs of the interior acquired after the restoration was completed more than confirmed the veracity of the non-photographic sources used in the restoration of areas such as the dining room.

Film

Moving picture film, by its very nature, can record more details than a series of still photographs; however, because of the scarcity of home movies, or perhaps due to a lack of public awareness of their historic importance, they have not found their way into public repositories. If it is true that people took photographs to record unusual or special occasions, then motion picture film, taken in the same period, was even more restricted as to its subject matter. From 1920 to 1950, the number of people who owned still cameras was quite large compared to those who had motion picture cameras. Furthermore, the costs associated with this hobby likely restricted the use of movie cameras by those who owned them. During the research phase of the structural history, however, I met a number of people who had taken such films while they lived in Yukon. Most of these films, which dated from the late 1920s to the early 1950s, were found outside archival collections.[13] Many of the film owners were surprised that anyone was interested in what to them were "home movies." Some of the films found had deteriorated to the point where they had to be optically reproduced before they could be viewed. It was clear from encounters with people who owned film of the period that they had little awareness of the historical value of their productions, nor had there been any attempts by the appropriate repositories to make them aware of this.[14]

The subject matter of the films did not deviate from that of the photographs; however, films gave a perspective of the structure that could not have been obtained using a photograph. Films tend to pan a subject and hence, instead of providing only one view, offer a whole series of views. A film can, therefore, provide much more information than a single photograph or even a series of photographs. A film also shows motion. Instead of a verbal description of the operation of a particular technology, such as the use of spars to get a vessel off a sandbar, the operation is presented graphically and even the roles played by various personnel are at times discerned. From an interpretive standpoint, if enough film

footage is available, a motion picture history of the structure can be put together using this historic footage. For the riverboats a film entitled "In the Days of the Riverboats" was produced.[15] Films, although few in number, can provide a broader view of the structure.

Oral History

The greatest limitation of the visual sources used was the lack of views of the interior compartments of the vessel and of data concerning life on board the vessels; it was in part to answer questions in these areas that an oral history project was undertaken. As the two vessels only stopped service in the 1950s, there were people still living who had worked on or near the vessels. Locating former crew members was not difficult, as a number of them lived in Whitehorse, a relatively small community, where the Str. *Klondike* is located. Crew members were located using local sources such as the museum or the WPYR Company itself, and they in turn provided the names and addresses of other former crew members.[16] The type of work and the confined space in which the crew members had lived on board the vessels was conducive to building life-long friendships. Crew lists would have been an invaluable aid to locate a cross section of crew members from a particular vessel for an oral history project; lists allow for the identification of people not only by name but also by their function on board. The destruction of such lists was, therefore, a hindrance. The ideal list of people to interview would not only take into account knowledge of specific areas of the vessel by crew members but also when they worked on the vessel. The numbers available to be interviewed of course diminishes the further back in time the project extends. Memories of structural details have a tendency to fade with time; what generally remains to be tapped, from older participants in an oral history project, are memories of events and situations and this sort of information can play a crucial role in an analysis of the social history of a vessel. Most structural and material culture information obtained from the oral history project focused on the latter years of the vessel's operation.

So far as structural history is concerned, an historian usually embarks upon an oral history project with great hopes that are almost inevitably destined to be disappointed. When people are asked to describe events and physical layouts that they encountered thirty to fifty years ago, memory often fails them. Some interviewees, however, could at times remember the most minute details, such as the placement of a hook on the wall, the way a table was set in the dining room, the manner in which the crew's mess was laid out, the way the bunks were made up in the passenger staterooms, and the clothes the crew wore. It appears from my interviews that people remember most vividly unusual events and the routine of daily life, particularly those tasks for which they themselves were responsible. They tend not to remember those areas of the vessel that played little part in their lives. For the deck crew, this meant anything or any area that had to do with the officers or passengers, including the observation room, the dining room, the staterooms, or the wheelhouse, even though the crew may have walked through these areas every day. To obtain a balanced picture of the structure, it was important to interview a cross section of crew members. Even so, memories varied tremendously. Some of the people I met had spent a good part of their working lives on the boats yet could not remember what was in their cabins, or how their work areas were laid out. Others were in Yukon for only a four- to five-month shipping season, and yet had an excellent recollection of their work space and living conditions.

For the purpose of structural history, the reliability of oral interviews can be determined only through considerable preliminary work by the researcher prior to the interview. The interviewer must be intimately acquainted with the structure, in this case the vessel, and also the functions performed by the various people working on it. This will permit an ongoing analysis of the reliability of the structural information obtained from the former crew members. Such an evaluation of former crew members is important if a decision is made to tour the structure with them: those selected should be chosen not only for memory but also for the area in which they worked, so that as broad a database as possible can be obtained. This also points out the fact that a person other than the researcher(s) cannot be delegated to conduct the interview because the interviewee is apt to sense the level of technical expertise of their interviewer and frame his responses accordingly. In cases where it is impossible or impractical to conduct interviews at the original site, the interviews should be conducted with visuals of the structure present, both historic and contemporary.

Visuals, that is photographs and blueprints, although very necessary in an oral history project concerning a structure such as a riverboat, can also be a hindrance. A former crew member, upon agreeing to be interviewed, will often dig out his old photographs and study them. These photograph albums have over the years reinforced certain aspects of his memory to the detriment of others. What he will then give is a history of his life on the vessels as seen through his photographs. There is really no way to avoid this selective reinforcement of memory. This limitation, however, can sometimes be a boon, for it has preserved certain aspects of life on the vessels in the person's mind. That this process does influence interviews can be seen if the information obtained is compared to the interviewee's photographs, and also if these data are compared to those obtained in interviews with people who did not have any photographs. The latter often tended not to have as clear a recollection of certain events or structures.

For the production of a structural history, the whole oral history process is cumulative. The more interviews that are done, the more the pieces of the puzzle fall into place. Furthermore, each interview is a source of new questions, which in turn lead to further information. In addition to the structural component, most of the information obtained in oral history interviews deals with the social history of the vessels. Each interview is a snapshot of life on board. In the case of this project, only when thirty or more interviews that spanned thirty years of the vessel's life had been collected and compared did the differing and changing attitudes toward liquor, toward theft or pilfering, and toward the work itself, become evident. It was difficult to see themes emerging during the actual interviewing. One day the interview might be with someone who worked on board in 1936, and the following day with someone who was there in 1952. The solution to this problem is to be consistent in the questions asked. Only when the interviews were put into chronological order, and according to subject, did the picture become clear. Contrary to what might be expected, the best source of information concerning the social fabric of the vessel's community were those crew members who had spent only one or two seasons on board, as they would give a clear view of social attitudes, whereas those who had spent ten to twenty years seldom saw how values changed because they themselves were also changing with the times.

Structural Evidence

The major source of information in any structural history is the structure itself. It is the ultimate document. There is a way in which this sort of "document" can be stored in an

archives, and that is to do an "as founding" of the structure. "As founding" means the production of a set of blueprints that records everything, every paint bead trace, every screw hole, every nail pattern, and every rub or scar mark on the vessel.[17] Such blueprints were produced for the *Keno* and *Klondike*. These blueprints record exactly the vessel on paper before any restoration takes place, preserving all of the evidence that the structure itself has accumulated over the years. These witness marks are the paragraphs and sentences of this document. The structures, in the form of "as found" blueprints, have to be read and interpreted, and where answers were not forthcoming from the documents themselves, other sources must be used to provide the meaning of certain pieces of evidence. In a sense, therefore, the structure is both the initiator of the question and the final arbiter of the answer.

For example, if a paint bead trace is found on a bulkhead of a cabin, and no cause is readily apparent, a question can be formulated as to what had caused the marks to appear on the bulkhead and when. A paint bead trace is generally caused when something is attached to a wall and the wall is then painted without the object being removed. If the fixture is later removed from the wall, the section that the fixture covered will have less paint on it than the area around it. The shape and location of the bead will give clues as to what had been in place on the wall. Sometimes the answer is obvious; however, other paint bead traces or rub marks, such as those left by a chair rubbing against a wall, are not easily identified. The question of when a fixture was in place and when it was removed also has to be asked. The answer to this question may be obtained from written, oral, or visual evidence, or from the paint bead trace itself. If the area that it circumscribes is unpainted or simply covered by a base paint, it may be safe to assume that whatever had been attached had been in place since the structure was constructed. If, however, there are several coats of paint in that area then the fixture must have been attached at a later date and other sources will have to be used to determine when it was attached and removed. Any research in the production of a structural history has, therefore, to proceed from an ability to read and analyze the document of the structure itself, and it is the structure that, in the final analysis, will determine the veracity of the answers obtained in reply to the questions formulated.

It is essential that "as found" blueprints be produced before anything is done to a structure no matter how decrepit the structure may be. There are many examples of well-meaning citizens who have embarked on the cleaning of a structure as part of a civic project. They scrape off the old paint and put on new coats, repair or remove broken walls, take doors from somewhere else to fill in the empty door frames, put in walls where they think walls should have been, and remove doors because someone has a photo showing that there was at some point no door or window there. They also sweep out the rooms and throw out old cans, and fixtures which appear inappropriate. Through this civic largesse, they inadvertently destroy years of historical information. To continue the analogy of the previous paragraph, such activities as cleaning, scraping, and repainting are not simply retyping the words or getting a xerox copy of the original document, it is removing the words, that is the visual evidence, from the page of the document so that what remains is a virtually empty page.

Conclusion

The greatest difficulty encountered in the research was a lack of technological documentation — both written and visual — deposited in archives, and this forced

research to be focused in many cases on the artifact itself to provide answers. More often than not when corporate records are preserved, the technological component has been ignored in favour of the economic and administrative aspects so that in many cases the only remaining records of the technology produced by a certain company are the extant artifacts. In certain cases, such as the Polson Iron Works, the company that produced the boilers now in place on the *Klondike*, these artifacts are virtually the only extant records. Technological research in such cases is extremely difficult, and can only progress to a certain level through an inspection of the artifact; however, further information may perhaps be obtained from an inspection of other extant artifacts by the same company. Considering how much of the written documentation has disappeared, a case can certainly be made for an historic engineering inventory that would record extant historic technological artifacts to facilitate technological research, and allow for the research and commemoration of this facet of our history.

The research on the structures was aided immensely by the existence of a large number of photographs and to a lesser extent motion picture films, and these were found, for the most part, outside of archives. As with a large part of our heritage this sort of information is quickly disappearing as the population that produced these visuals dies and their collections are either destroyed or dispersed. There should be a concerted effort by local repositories to pursue visuals for structures still extant, especially if they have any local or national historical significance, as such records would facilitate restoration or commemoration of the structures. The public should also be made aware of the fact that research concerning such structures requires as many visuals as possible, extending over the whole age of the structure, and that a few photographs do not begin to provide the information required if the restoration of a structure is to be undertaken.

Oral histories, because of the expertise and time required to bring even a small project to completion, are more than most archival repositories are able to undertake. Unfortunately, unlike the written or visual aspect of archival material, the collection of this sort of information has definite time limitations associated with it. Furthermore, the collections that do occur in this area tend to focus in many instances upon noted personalities and not those involved with the more mundane tasks associated with a particular technology. To try to obtain the recollections of every worker in every industry would be an impossible task; however, key industries identified through historical research should be targeted, and some sort of attempt made to preserve at least a miniscule part of their oral heritage.

The acquisition of most government records will, depending on the department, proceed as they have done in the past. Archivists should ensure that a good percentage of government records acquired by their institution are technological in content. On the whole, government records have fared better than their private sector counterparts, as there is a framework, even if somewhat creaky, which ensures that some of these documents do end up in the appropriate repositories. As a result these records can be an important source in the production of a structural history.

A structural history of an edifice, whether it floats on water or is anchored firmly in the ground, has by definition a large technological component. As our technological history and heritage has, with a few exceptions, been ignored by historians, there has been no demand placed upon archivists in the past to acquire the documentation to allow research in this field. The lack of demand has meant that the sources of information necessary to research a structural history will be found, for the most part, outside archives. This is not

to say that archives do not contain relevant information, but what they do contain has generally been preserved for reasons other than its technological content.

It is recognized that a restoration is a special case of technological historical research and that, for the most part, the use made of records required to carry out such a project to completion is a one-time occurrence. The response to a demand that archives collect such records could be that archives should focus their limited resources on those records for which there are larger demands. This ignores the fact that the completed restoration is in effect an archival document that will be viewed by a large segment of the public. Even as far north as Whitehorse, Yukon, the number of visitors to the steamer *Klondike* is around twenty five thousand a year, which is more than the entire population of that territory. The number of visits made to restored structures located in more populous areas far exceed that figure. Archives must look beyond their own walls to see what actual and potential use is or can be made of the documentation that might be deemed worthy of preservation. Archivists must become more aware of how their collections are being used, and this can only be done through an active interchange with the users of the archives.

Notes

* I would like to thank Diana Pedersen, for convincing me that what may be obvious to me might be interesting and novel to other people, and Bruce Wilson, for suggestions that helped to tighten up my initial scribblings into the present paper.

1 The result of these studies were three manuscripts. A.E. Roos, *A Narrative History of the S.S. Klondike*, Parks Canada Manuscript Report Series No. 402 (Ottawa 1981); A.E. Roos, *The S.S. Klondike, 1937-55: A Structural History*, Parks Canada Manuscript Report Series No. 342 (Ottawa, 1979); A.E. Roos, *The Steamer Keno: "The Bride of the Stewart,"* (Manuscript still being edited at the time of writing.)

2 This project team varied in size depending upon the stage of the restoration. There was a core that remained on the team throughout the restoration, comprised of a marine engineer, historian, curator and project manager.

3 For a fuller discussion of the evolution of the transportation network in Yukon see G. Bennett, "Yukon Transportation: A History," *Canadian Historic Sites: Occasional Papers In Archeology and History*, No. 19 (Ottawa, 1978).

4 There is a "Preliminary Inventory of the WP&YR Records" which is used as a finding aid to the collection.

5 Yukon Archives, "Preliminary Inventory of the WP&YR Records," p. 9. In 1982 an attempt was made to find out what had happened to the missing parts of the collection. According to the company they had a complete set of records and had passed the set to various repositories. When asked if anything had been eliminated in the past for records management purposes, the company said that as far as they knew nothing had ever been destroyed. The archives in response to the same line of questioning stated that they catalogued all of the documents that they had received. One of the major problems with the documents is that they did not all go directly to the Yukon Archives from the company. Some of the records, such as the River Division records, with which this paper deals, were originally held by the MacBride Museum for the Yukon Historical Society before being transferred to the archives. Furthermore, a good portion of the other records were originally deposited at the Alaska State Library in Juneau, Alaska. There were simply too many repositories involved. None questioned knew what had happened to the missing documentation. Further enquiries have either not clarified the matter or have not received a reply.

6 That this department has at one time or other held within its possession many more blueprints than they now do is obvious if the files on various vessels are surveyed. Many letters refer to enclosed plans that can no longer be found. This is not difficult to understand as the plans would have been working documents that could have been used by a number of people, any one of whom could have eliminated plans once they were finished with them.

7 The company had produced on a regular basis trade catalogues containing descriptions of its products. The fact that so few of these are still extant indicates the level of relevance assigned them by the company itself. In this case the responsibility of the documents' demise rests solely with the company.

8 Some of these documents ended up in the Vancouver office of this department. In the early 1970s most of this material appears to have been sent off for disposal.
9 Louis C. Hunter, *Steamboats on the Western Rivers* (New York, 1969).
10 See the bibliography in G. Bennett's "Yukon Transportation."
11 To include a complete list of all those who donated the use of their photographs would be too onerous. There were close to fifty donors and a complete list of them can be found in the works cited in footnote one.
12 It is recognized that the limited acquisition policies in place at quite a few repositories are dictated by financial constraints and not by a lack of interest in acquiring such photographs.
13 One series of reels which contained over two thousand feet of 16 mm film had sat unused in a basement for almost twenty-five years before being saved and deposited at the Moving Image and Sound Archives, National Archives of Canada. They were not in the best of condition. These reels included footage from the 1920s and colour footage taken in the years 1936-45.
14 The community in the north was quite small throughout the riverboat era, and it was well-known who had a camera. It was not difficult to track down those who shot film in Yukon during those years. In total six collections were viewed, five of which (amounting to over five thousand feet of film) were finally duplicated. This film covered all aspects of Yukon life from mining to social affairs.
15 This film is available through the National Film Board.
16 For the two projects approximately fifty people were interviewed. A complete list of the participants can be found in the works cited in footnote one.
17 A vessel such as the *Klondike* was recorded using well over two hundred blueprints. These covered every bulkhead, deckhead, and deck of every cabin plus all exterior bulkheads and the hull. Copies of these should eventually find their way into the National Archives.