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James T. Angus

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Robert W. Passfield

Technology in Transition: The 'Soo' Ship Canal 1889-1985, (Ottawa: Environment Canadian Parks Service, 1989).

These books thoroughly document aspects of the building of the Trent-Severn Waterway (1833-1920) and the Sault Ste Marie Ship Canal (1889-1985). Apart from the prodigious efforts of the authors to include as much detail as possible, they are very different in concept, and, taken together, raise an old question about the historian's craft and perception of transportation artifacts.

James T. Angus in *A Respectable Ditch* uncovers the story of the Trent-Severn waterway and succeeds in explaining how and why it took over eighty years to finish. Conceived as an inland waterway to link Georgian Bay with Lake Ontario for economic purposes, the Trent-Severn's military potential became apparent with the Mackenzie Rebellion. From the beginning, the Trent Canal encountered financial and political hurdles which were overcome through the sheer tenacity and strength of character of the canal promoters.

Angus tells the story of the canal primarily through the political machinations of the main players. He is obviously intrigued by the bickering and infighting which surrounded the project, and by the effort of will demonstrated by the canal's proponents who, in many instances were also the canal engineers.

This book documents the rarely discussed but important other side of the engineering profession. Engineers are usually known

only as surveyors, inventors, planners or project managers. Too often their critical role as promoters, negotiators and survival artists is overshadowed. Angus, however, has written sensitively about the canal engineers and mainly from his perspective. For example Richard Rogers, superintending engineer of the Trent Canal and designer of the 1906 Peterborough hydraulic lift lock, insisted the contractors, Corry and Laverdure, produce concrete at a lower price than they thought fair:

> Corry and Laverdure tried to cut the cost of construction by increasing the water content in the mix to facilitate pouring. Local Liberals supported them and tried to get Rogers to relax his standard for mixing. "Grit Water Cement," Rogers privately called the proposal. But he insisted that his dry mix method, which had proven so successful in the locks built by Brown, Love and Aylmer, be adhered to (234).

While the inclusion of this level of detail does tend to make the book drag, it clearly demonstrates the political meddling involved in the construction and the role of the engineer constantly to defend a professional opinion. Despite the detailed analysis of local politics, there is little in this book about the design and construction of the physical canal. The great lift lock at Peterborough, for example, is barely described as to its precedents or its operating mechanism. The best technical descriptions are reserved for the marine railroads in Chapter 28. Angus concludes with a brief chapter on the shift in the canal's operating emphasis from a commercial transportation route to a recreational waterway.

Discussing the mile long, single lock Sault Ste Marie Ship Canal in *Technology in Transition*, Robert Passfield also writes with singularity of purpose, but with a broader reference to other canals. Passfield restricts his book to the technological, having been saved the trouble of pursuing the social history of this canal, which is ably explored in the 1986 Canadian Parks Service book by Brian Osborne and Donald Swainson, *The Sault Ste Marie Canal, A Chapter in the History of Great Lakes Transport.*

Passfield argues that the 'Soo' Ship Canal represents a transitional phase in the application of concrete in construction, expanded uses for electricity, and the development of a prototype emergency dam. For each of these features the author explores both technical antecedents and the many ways, large and small, that the 'Soo' canal differed from and advanced these technological applications.

Passfield's best discussion may be of the Swing Bridge Emergency Dam. He carefully outlines this remarkable structure and the differences between the Canadian and US bridges and the subsequent use of the concept on the Panama Canal. More important yet is the survival of the bridge dam to make it an industrial artifact of considerable importance, and the Canadian Parks Service's efforts to preserve the bridge.

Angus and Passfield have written about their respective canals by largely excluding many other elements of the full canal story. Even though these books are purposely limited in scope, a clear context in which to place these two canals is missing. As a result, important questions are not asked or answered. For example, neither discusses to any depth the labour which built the canals. Given the interests of the respective authors, this is a subject which clearly ought to have been included in both books.

What emerges from these two books is the technological equivalent of the "Great Man" approach to the past. Both authors imply these canals are more than relics of a transportation route, and have transcended local importance. While this is probably true, canals remain essentially local works. What then, are the criteria for assessing the value of canals, or any other historic engineering project? Not many canals made anyone rich; most took years to build; many more were planned than constructed; and railways and roads, or, as in the case of the 'Soo', another canal, quickly made most of them obsolete. Canadian canal history is still largely unwritten. James Angus and Robert Passfield have, in these well-organized books, made significant contributions to our understanding of Canada's canals. Regardless of their shortcomings, these books can be recommended for anyone with an interest in this important part of Canada's past.

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