ARGONAUTA

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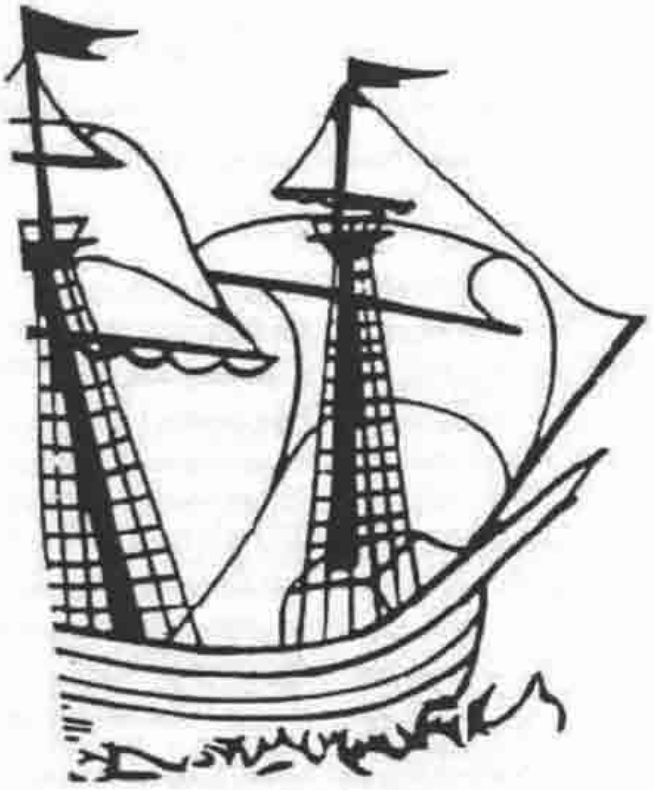

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In this Issue

Editorial

Our own Alan Ruffman has provided an interesting pair of contributions to this issue of *Argonauta*. Both discuss tsunamis – a topic of particular relevance in 2005 – and they illustrate just how pertinent historical knowledge can be to many other fields, scientific and otherwise. In this age of specialisation, data is stockpiled in informational silos – unknown to people on the outside. Projects that cross disciplinary boundaries do more than just break down these silos: technologies and methods of working in one area can be adapted to work in others, and new insights made by people unconstrained by traditional ways of thinking.

Organizations such as the CNRS are of particular value when it comes to such endeavours. Our Society mixes people united by their interest in maritime history: academics and "outsiders" (many of whom are highly regarded in their particular fields of expertise). In short, the CNRS is a group with a wide-ranging body of knowledge. An ideal source to be tapped when a project could benefit from an historical point of view. Feel free to raise queries for publication here in *Argonauta*, and/or links for the Society's website: not only are projects like these of great interest to our readers, they are also in keeping with the *raison d'etre* of the CNRS.

WS

President's Corner

It is with a mix of emotions – humility, gratitude, and optimism – that I assume the responsibility of serving as your President. The twenty-fifth anniversary of our Society, established in 1982 and incorporated under federal law in 1984, looms over my watch. Through that quarter century, a long succession of presidents past have faced a range of challenges that make any before us now seem small in comparison. It is humbling to follow in the footsteps of those giants of Canadian maritime history. The courage originally to establish an organization dedicated to the aims of our small but vital community has been equalled by a steadfastness in recent years that allowed us successfully to weather the long and difficult shift to a truly independent status. To my predecessor, Jim Pritchard, we owe an

enormous debt for guiding us through the final stages of this process.

He leaves his post having positioned us on a solid foundation for the future. My challenge is to build upon that foundation to "grow" the Society both literally and figuratively so as to realize our full potential. That brings me to the emotion of optimism. I truly believe that we are in as good shape as we have ever been. Our finances are solid and our membership numbers have begun to recover. We have a dynamic and committed Council, which at our annual winter executive meeting shall be reviewing a number of fresh ideas to increase the benefits of membership in CNRS. I shall report on the results of our deliberations more fully in the next edition of this newsletter.

In the meantime, let me introduce to you the new members of our Executive. The elevation of Roger Sarty to Vice-President opened a space for a new councilor, now filled by Paul Adamthwaite. Paul has established an incredibly comprehensive marine and nautical research capability in the Archives & Collection Society in Picton, Ontario, and in that capacity also is active with the Canadian Society of Marine Artists. The other new member is our Treasurer, Walter Tedman, who comes to us in his retirement from a successful Toronto business career and association with the Muskoka Marine Museum, where he remains Manager of Brokerage Sales.

With their addition, our Executive Council team truly covers the full spectrum of nautical research in Canada. To remind you of the credentials of the remainder, Past President Jim Pritchard is Professor Emeritus of History at Queen's University. Roger Sarty has taken up a teaching position at Wilfrid Laurier University, and Serge Durflinger (Roger's former colleague at the Canadian War Museum) similarly has joined the faculty of Université d'Ottawa. Chris Madsen is on the academic staff at the Canadian Forces College in Toronto, and Peter Haydon is the Senior Research Fellow at the Centre for Foreign Policy Studies at Dalhousie University. As Curator Emeritus at the Marine Museum of the Great Lakes, Maurice Smith is our entré into the museum world. Honorary Councilor Alec Douglas remains active in a number of capacities as the "éminence grise" of the Canadian naval historical community. Faye Kert has retired from the civil service, but continues to devote her energies as our Membership Secretary. And our "regular" Secretary Bill Schleihauf is a workhorse for a wide range of nautically minded organizations besides our own. As for myself, after a most enjoyable stint as an independent historian and defence analyst, I have been invited to rejoin the Navy as Director of Strategic Communications in the Ottawa headquarters, commencing in January 2006.

Turning to matters of substance, we have a wonderful line up of conferences ahead of us. This coming year our sister society, the North American Society for Oceanic History (NASOH), has invited us to meet with them in "Charting the Inland Seas: Recent Studies in Great Lakes Research," 1-4 June 2006 at the Wisconsin Maritime Museum, Manitowoc, Wisconsin (a full notice and the call for papers appear elsewhere in this newsletter). You will recall what a great success it was when we hosted them in Kingston in 2002, and this is a wonderful opportunity to enjoy their reciprocal hospitality.

Our meeting in Churchill, Manitoba, 2-7 August 2007 will be our first foray as a group into Canada's Arctic. Bill Glover is shaping a programme of authorities from far and wide on the theme of "Northern Navigation", and has already prepared an exciting travel package. I urge you to return the "intent to travel" form that accompanied the most recent mailing of *The Northern Mariner* to the Great Canadian Travel Company in Winnipeg at your earliest convenience.

Looking further into the future, we shall be participating in the Quebec Quadricentenary, with our conference in "la basse ville" 6-9 August 2008 (Serge Durflinger, Eileen Reid Marcil and myself are the committee). Barry Gough has offered to organize our 2009 meeting in Victoria, and in 2010 we shall become engaged somehow in the celebration of the centennial of the RCN.

It is an exciting agenda, and I look forward to enjoying it with you.

Rich Gimblett
President, CNRS

Requests for Information

1755 Ships' Logs

Researcher with a nose for data seeks leads to primary observations, or to descriptive sources, of the arrival of the tsunami created by the Lisbon Earthquake of Saturday, November 1, 1755 along the shores of the western Atlantic Ocean from Iceland and Greenland south through the British colonies of Newfoundland, Nova Scotia and New England, and on to the Caribbean Islands and the northeast coast of South America. This is a voluntary project with the researcher not subject to the benefits of a contract, grants or a patron. I am particularly interested in reports that note the time of arrival of the "unusual agitation of the sea" and its "flux and reflux" of sea levels, keeping in mind that observers had no idea what they were seeing drain their harbours to expose unseen ocean floor or coral reefs, then to flow back onto the land creating unheard of currents and eddies. The tsunami travelled at 700 km/hr from the ocean floor break that occurred at 0930 Lisbon Time (1021 UT) to the southwest of Lisbon. It arrived on the shores of the western Atlantic in early to mid-afternoon of November 1, 1755.

It was at least 40 days, and in the case of the French island of la Martinique three months and a week, before a vessel from Europe arrived with news of the Lisbon Earthquake and the deaths and disruption caused, first from the shaking from the □8.5 magnitude offshore event, and then, within 30 to 60 minutes, from the arrival of the powerful tsunami triggered from a large seafloor rupture. Had there been tourists with video cameras in resorts along the Algarve coast of Portugal, their images of the November 1, 1755 tsunami would have reminded us all of what we witnessed on our televisions from the 0058:53 UT December 26, 2004 Indian Ocean Tsunami.

The Atlantic Ocean is no better protected from tsunamis than was the Indian Ocean on Boxing Day 2004. If a tsunami warning system is to be installed for the Atlantic, we must better understand and discover our Atlantic tsunami history. For the western Atlantic we have a relatively short written history, and we have lost the oral history of the First Nations peoples. Understanding and modelling events such as the Lisbon Tsunami of November 1, 1755 is a part of the exercise of reconstructing our tsunami history and quantifying the hazard they represent.

The same sort of an ocean edge tectonic plate subduction zone exists in the Atlantic Ocean, in two places, as let loose off the northwest coast of Sumatra on December 26, 2004. Both have created, can, and will create in the future, large tsunamigenic earthquakes that have the potential to effect both sides of the Atlantic. One subduction zone is seen reflected in the deep trench that wraps around the eastern Caribbean Windward Islands, and the other is seen in the Scotia Arc that connects the southern tip of South America to Antarctica. The focal mechanism of the 1755 Lisbon Earthquake is not yet understood, but it may have been the product of the slow, relentless collision of the African tectonic plate, northward, into the European plate.

One of the best records of the arrival of the 1755 Lisbon Tsunami in all ports will be found in the logbooks of vessels tied up at wharves. British, French, Spanish, Portuguese and Danish, and perhaps Icelandic, naval vessels may be the best sources since their logbooks will record actions taken to protect the ship as mooring lines were loosened to allow the vessel to sink and possibly ground. As the positive tsunami pulse came about 15 minutes later lines would have been tightened and further adjusted as each tsunami pulse arrived. Anchors may have been ordered to be set – or even dragged in the currents created. There may have been minor damage to vessels. I would welcome the names of vessels known to be in ports on November 1-2, 1755 anywhere along the western shores of the Atlantic. I will follow all leads in all languages, and will

carefully credit and recognise all input. I've not much travelled in the Eighteenth Century, and will welcome the assistance of the eyes of all readers.

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"Double-Stemmers?"

Martin Naugler is now the proud owner of a fishing boat, that he'd like help identifying: "she is an inshore vessel of 18' 6" in length with a beam of 60", there is a place for a mast, in the stern an engine compartment, the rudder control runs through the stem, lap strake construction and thole pins for rowing. Guysborough County, Nova Scotia" (see the accompanying photos). He can be reached at: martinnaugler@ns.sympatico.ca

Bow view of Martin Naugler's "double-stemmer".

Stern view of Martin Naugler's "double-stemmer".

Rudder details.

News and Views

Digital Photography at the NAC

Jim Pritchard reports that Library and Archives Canada have begun a six month pilot project, allowing researchers to take digital photographs of documents in the Reading Room. This "Self-Serve Digital Copying Pilot

Project" will run from 1 November 2005 till 30 April 2006. Copying may commence only after proper authorization has been obtained from a staff member, and must to be carried out at a table reserved for the purpose. Only digital and 35 mm cameras will be permitted; flash, tripods, and other attachments will not be allowed. Just as is the case when ordering photocopies, a record of the documents to be copied must be submitted to the staff before copying begins. The editors of *Argonauta* would welcome any first-hand reports should anyone have the opportunity to try this out.

Wreck Could be First Canadian Ship Sunk by German U-boat

[CBC, 10 October 2005] Researchers from the Department of Fisheries and Oceans (DFO) believe they have come across an important piece of Canadian history. Underwater surveying equipment detected what is believed to be the first ship sunk by a German U-boat in Canadian waters during the Second World War. In September, a DFO research vessel was doing underwater surveying in the Gulf of St Lawrence, off the north coast of the Gaspé, Quebec. It was gathering information on the habitat of the Spotted Wolf Fish, an endangered species, when the surveying equipment picked out the shape of something unnatural, man-made.

"We could almost see the shape of a ship, and after analysing the data we concluded it was a wreck," said Richard Sansfacon, head of the DFO's hydrographic service. Sansfacon contacted some friends who are military history enthusiasts. They believe the wreck is of the SS *Nicoya*, the first ship sunk by a German submarine in Canadian waters during the Second World War.

Marc Milner said the U-boat's offensive on the East Coast played a unique role in Canadian history. "That's the start of one of the great campaign for Canada during the war and the only one that was fought entirely on Canadian territory," said the Chair of the History Department at the University of New Brunswick. The Germans launched two separate U-boat offensives in Canadian waters during the war, sinking 22 boats at a loss of at least 340 lives.

The wreck still has to be officially identified before it can be confirmed as the *Nicoya*.

Canadian Coast Guard College 40th Anniversary

[Sydney, Nova Scotia–CCNMatthews] Geoff Regan, Minister of Fisheries and Oceans, participated in festivities to celebrate the 40th anniversary of the Canadian Coast Guard (CCG) College. The festivities, which took place over the August 12-14 weekend, included the christening of a training vessel, the *Cap Perce*, and dedication of the College library to former CCG Commissioner John Adams.

"The Canadian Coast Guard College has a proud history of providing first-rate maritime training to young Canadians as well as students from abroad," Minister Regan said. "Graduates of the College are recognized and respected around the world. I congratulate the Coast Guard College for the contribution it has made to maritime safety over the last forty years."

The College was established in 1965 with the mandate to provide marine engineering and navigation officers for the Canadian Coast Guard. Today, located on a different site, it has become one of the most modern, state-of-the-art marine colleges in the world. In addition to its officer cadet program, the College provides professional training to Coast Guard employees in areas that include marine communications and traffic services and rescue and environmental response. The recently opened Marine Maintenance and Equipment Training Centre provides instruction on the electronic, navigational and communications systems essential for mariners to navigate safely in Canadian waterways and to operate the Coast Guard fleet.

Graduates receive certification in either marine engineering or navigation and earn a Bachelor of Technology (Nautical Science) degree from Cape Breton University. In exchange for a free education, Canadian

graduates commit to four years working on board Coast Guard vessels as ships' officers.

Archaeologists Discover Base of Ancient Lighthouse

[CAIRO, November 7 (RIA Novosti, Igor Kuznetsov)] French diving archeologists have discovered the foundation of the ancient lighthouse of Pharos in Alexandria, the seventh wonder of the world.

The director of the Alexandria national museum, Ibrahim Darwish, said Sunday that the lighthouse, which was destroyed by two earthquakes in the 11th and 14th centuries, had occupied an area of 800 sq m north of the city's eastern harbour. The lighthouse consisted of three towers stacked one on top of the other largest to smallest and reached 120-137 metres (390-450 feet) in height. On top of the lighthouse, there was a bronze chalice holding smoldering coal. A complicated system of mirrors made it possible for travellers to see the smoldering coal from a distance of tens of kilometres (up to 60 miles).

The lighthouse was built by Greek architect Sostratus for King Ptolemy II (284-246 BC). It was erected on the eastern side of the island of Pharos at the entrance to the harbour of Alexandria. Earthquakes scattered the remains of the lighthouse all over the harbour, and only now have archeologists established its exact location.

In July, Governor Salam El Mahgoub called on Egyptian and international organizations to restore the lighthouse, a project that will cost $100 million.

Explorers Blame *Kursk* Sinking on WWII Mine

[St. Petersburg Times, 5 August 2005] With the fifth anniversary of the sinking of the nuclear submarine *Kursk* to be marked mid-August, a group of St. Petersburg marine explorers have cast doubt on the official explanation for the loss of the vessel and its 118-member crew in the Barents Sea. "[The Barents Sea] is a traditional undersea graveyard left unattended," said retired captain Yury Alexandrov, head of the Polar Convoy organization that conducted a ten-day expedition, Northern Convoy 2005, in July.

Alexander Sorokin, the group's spokesman, cast doubt on the official version of the sinking of the *Kursk*, saying that the real cause of the disaster might have been that the submarine hit a World War II era mine. "There are thousands of unexploded mines under the sea, mostly planted by the Soviet Navy to trap German submarines," he said. "It goes without saying that nuclear submarines were involved in other incidents that went unreported due to the Soviet government's culture of secrecy."

The Northern Convoy expedition to the Arctic region researched conditions for vessels in the Barents Sea. "Our mission was aimed at looking for ways to make the Barents Sea safer," Alexandrov told journalists at the St. Petersburg Regional Press Institute where he challenged the authorities to allow the region to be researched to avoid catastrophes similar to the *Kursk*. "It's a military zone off-limits to non-Russian researchers and to which local explorers have limited access," he said.

The first expedition to the region was held in 2003, nearly six decades after World War II and two years following the *Kursk* tragedy that provoked a debate over the causes of the disaster. In the aftermath of the tragedy, on Aug 12, 2000, the Russian government and naval authorities appeared reluctant to reveal information about the incident. This prompted newspapers to expose a series of Soviet submarine disasters that were once considered secret.

"This is our second mission to find out about everything artificial, including sunken vessels and weapons, on the Barents seabed during and after World War II," said Vyacheslav Solodov, head of the 46-member expedition team that included six marine specialists from Moscow and St Petersburg, two World War II navy veterans from Iceland and two from Russia. Findings from the area covered by the team have revealed that at least the remains of at least 8,000 Americans,

Britons and Russians who died aboard about 100 warships and supply ships during WWII. The seabed is also the resting place for about 40 German submarines sunk by Allied forces.

Sorokin said the expedition located an "almost undamaged" American ocean liner, the *Thomas Donaldson*, which will be included for inspection on the group's next mission in July 2006. Sorokin said that during its next expedition the group will begin to identify the remains of the war dead which will, he said, be a historical breakthrough.

Contributors needed: *Seas and Waterways of the World*

ABC-CLIO, a publisher specializing in historical reference works, is currently in the preliminary stages of planning an encyclopaedia entitled: *Seas and Waterways of the World: A Historical Encyclopedia of Transportation and Trade*. This encyclopaedia will focus primarily on the 20th century (with a good deal of historical context), approach the subject from a variety of perspectives, and will be intended for use at both the university and advanced secondary school levels.

The entries will take a multidisciplinary historical approach to sea-dependent commerce, covering the aquarium, cruise, energy, fishing, insurance, mining, trade, transportation, recreation, and sport industries. Included will be significant coverage of harbours, ports and coastal development since access to the waterfront has always had a significant influence on local and national economies. There also will be coverage of the more macro themes such as the rise and fall of the Erie Canal as the gateway to the Midwest, and the rise and recent problems faced by the Panama Canal.

We are currently searching for the best group of contributors to give this set the high quality, broad coverage, and depth of interpretation necessary to produce a useful and groundbreaking encyclopaedia.

For more information regarding the encyclopaedia, including a project description, list of entries to be written, compensation information and entry due dates, and sample entries, please visit the project website at: http://ed.abc-clio.com/contributor. When prompted, please enter:
Entry Code: seawatc, Password: panama.

If you are interested in contributing entries to the encyclopaedia, please send a message with the titles of the entries you would like to write, along with a copy of your c.v., to: jzumerchik@peoplepc.com.

Thank you,
John Zumerchik, Editor
Steven L. Danver, Acquisitions Editor, ABC-CLIO

General Hunter

Larry LePage writes (21 September):

Last week a researcher going through the archives in Washington DC found a report of the Commanding General in Detroit who after mentioning that construction of the northern posts was well on the way and the stockades were almost complete mentioned the loss of the *Hunter*. It included as an attachment a letter from the ship's master describing the loss.

I did not read the letter but some of the salient points were:

The *Hunter* left Detroit Aug 9, 1816 bound for Michilmackinac with supplies. It arrived Aug 14 and unloaded. There was no return cargo so it "left Aug. 15 at 4, post meridian unladen" Aug. 17 it ran into strong south-west gales and tried to tack to stay on the western side of Lake Huron. This was a losing battle and the gale strengthened the morning of Aug. 19. They were off the eastern shores and even with full sail could not make headway to windward. They found themselves in the breakers (probably the Chantry or Lambert shoals) and decided to head straight to shore. They lost the main mast over the side but it stayed with the ship. When they hit shore, amongst rocks and quicksand, all eight aboard, including two young passengers, were able to

Photo of the *General Hunter* excavation courtesy Larry LePage.

get to shore by crawling along the main mast. No lives were lost. They salvaged about 4 lb of pork and some flour. On Aug 21 all left on the ship's small boat and it took them 1 week to get to Detroit.

The *Hunter* was lost on the eastern shore of Lake Huron about 100 miles North of the St. Clair rapids. Their description fits the Southampton beach but not Sauble or Port Elgin and the shipwreck is 99.4 statute miles north of the St. Clair rapids.

Two boats were sent back to the wreck to salvage what they could including any iron. The wreck was burnt to the waterline to salvage the iron. This is in keeping with what was found and the charcoal fines, in all likelihood, helped preserve the artifacts we found by minimizing oxidation.

When you consider the military construction, finding musket balls, cannon balls, even a Royal Navy musket bayonet, buttons from regiments known to be aboard during the Battle of Lake Erie, and US Infantry buttons even the Project Director, Marine Archaeologist, the cautious Ken Cassavoy now says the wreck is the *General Hunter*.

Google Makes Public Domain Books Accessible to the World

[*Business Wire*, 3 November 2005] Today, Google Inc (NASDAQ:GOOG) announced the availability of the first large collection of public domain books on Google Print. This collection, scanned as part of the company's book digitization project with several of the world's largest libraries, includes works such as US Civil War history books, government documents, the writings of Henry James and other materials.

Because they're out of copyright, these cultural artifacts can be read in their entirety online at http://print.google.com, where anyone can search and browse every page. They are fully searchable and users can save individual page images.

"Today we welcome the world to our library," said Mary Sue Coleman, President of the University of Michigan. "As educators we are inspired bythe possibility of sharing these important works with people around the globe.

Think of the doors it will open for students; geographical distance will no longer hamper research. Anyone with an Internet connection can search the text of and read the compelling narratives, historical accounts and classic works offered today, and in doing so access a world of ideas, knowledge and discovery."

Examples of the public domain books available on Google Print today include:

- Civil War regimental histories and early American writings from the University of Michigan
- Congressional acts and other government documents from Stanford
- The works of Henry James from Harvard
- Biographies of New York citizens and other collected biographies from the New York Public Library

These works however are just a small fraction of the information that will eventually be made available as a result of Google Print.

"Our goal is to make these public domain books and the knowledge within them accessible to the world," said Susan Wojcicki, Vice President of Product Management at Google. "Any researcher or student, whether they're in New York or New Delhi can now research and learn from these books that previously were only available in a library. This underscores the value of Google Print and the work we're undertaking with our library partners."

The Google Print programme was introduced in the fall of 2004 to help users search through the oceans of information contained in the world's books and to help authors and publishers promote their books and expand their sales. Google is working directly with publishers through the Google Print Publisher Program and libraries through the Google Print Library Project to digitize the world's books.

Users can visit http://print.google.com to search only the Google Print index for book results; however, the Google Print index is also integrated into Google.com web search results pages. As they can with web pages, users can search the full text of every book Google has scanned and, when they find a book that interests them, view a card catalogue-like entry with brief excerpts of their search term in context. Users can only see more of any book they find if the book is out of copyright or if the publisher has given explicit permission to show full pages of a limited portion of the book.

QEII Longest Serving Cunarder

The Cunard liner *Queen Elizabeth 2* reached a notable milestone on Sunday the 4th of September when she became the longest serving Cunarder ever. When she entered service in 1969 City analysts prophesied that QE2 would be mothballed within six months - that the age of the liner was dead. How wrong they were!

On the 4th, QE2 will pass the 36 years 4 months and 2 days' record of service of *Scythia*, which sailed from 1921 to 1957. QE2 was also the Cunard flagship for longer than any other - from 1969 until she handed over the role to *Queen Mary 2* last year. In November last year she became the longest serving Cunard express liner when she passed the 35 years 6 months and 1 day record previously set by *Aquitania*, which served Cunard Line, in peace and in two wars, from May 1914 to December 1949.

Fittingly QE2 was berthed in Sydney, Nova Scotia. It was Nova Scotian Samuel Cunard who founded Cunard Line in 1839.

QE2 has sailed more than 9.8 million kilometres - that's more than any ship in history and is equivalent to travelling to the moon and back 12 times. She has carried nearly three million passengers - many of them returning again and again to their second home. She has called at her homeport of Southampton 651 times and has completed 1,383 voyages. She has made 796 Atlantic crossings and completed 23 full World Voyages. She has sailed at an average speed of 24.75 knots over the last 36 years and she can sail backwards faster than most cruise ships can sail forwards! One litre of

fuel moves her just 3.32 metres! She has been commanded so far by 24 Captains.

QE2 was launched by Her Majesty the Queen in 1967 and was the last passenger ship to be built on the Clyde. For the last 36 years QE2 has been the most famous passenger liner in the world, making headlines throughout her career. She was one of the star attractions when she led the Tall Ships into New York Harbour for the Statue of Liberty's centenary celebrations in 1986; over one million sightseers flocked to see her when she called at Liverpool for the first time during Cunard's 150th anniversary celebrations in 1990 and she was at the head of the flotilla reviewed by the Queen on the 50th Anniversary of 'D' Day in 1994.

However, QE2's history has not only been one of sedate cruises, ecstatic welcomes and luxury living. In 1982, she was requisitioned by the Government for service in the Falklands Campaign - and so joined the ranks of the great Cunarders called upon to serve the country in times of conflict.

QE2 goes from great things to greater, and many sailings this year - her second season of European cruises - were completely sold out.

New MA in Maritime Archaeology

[*Editors' note: although the deadline is long past, this may be of interest for next year.*]

The Institute of Archaeology, University College London is pleased to announce a new MA programme in maritime archaeology. Applications from suitably qualified candidates are being accepted now, for entry at the end of September 2005.

The MA comprises a core course, two other taught courses, and a 15,000-word dissertation. The new maritime courses are also available as options open to graduates on other MA and MSc programmes.

Some grants are available for the MA in Maritime Archaeology. To apply please send an outline application to Thom Rynsaard, Secretary to the Grant Sub-Committee, Institute of Archaeology, 31-34 Gordon Square, London WC1H 0PY by 5pm 3 August 2005. A full application, including a covering letter, CV and admissions application may be submitted up until 15 September 2005.

Based at the Institute of Archaeology in central London, the programme will be co-taught by Dr. Joe Flatman, Prof. Ole Grøn and Mr. Gustav Milne, in collaboration with Prof. Sarah Palmer of the Greenwich Maritime Institute, University of Greenwich. Staff from the Museum in Docklands and the Museum of London will also contribute to teaching.

This new programme defines maritime archaeology as the study of ships and harbours in their wider social, political, environmental and economic contexts, together with an understanding of coastal and submerged cultural landscapes. Our aim is to relate maritime archaeology to the broader body of archaeological knowledge and theory, rather than treating it as a discrete sub-discipline.

The course sets out to show the range of approaches and methods used by maritime archaeologists today, and to demonstrate the relevance of maritime issues in wider social and economic studies, as well as in legislation, conservation and heritage concerns. The course does not aim to train archaeological divers.

Students are required to take the core course Global Issues in Maritime Archaeology and the equivalent of two whole element MA options, of which at least one must be chosen from:

- **S** Underwater Archaeology: Techniques and Methods
- **S** The History and Archaeology of the Port of London
- **S** The Ship in Ancient and Modern Society (from 2006/07)

The second option may be chosen from the above, or from other appropriate Institute of Archaeology Master's degrees (e.g. MA in Archaeology of London). A wide range of options is available within the Institute's Masters programmes, and those considered

particularly relevant include (subject to availability):

- The Archaeology of London
- The Prehistory of London (half element)
- The Archaeology of Roman & Medieval London (half element)

It is also possible to take an option offered within an MA degree in other departments of UCL (e.g. Anthropology, History). Students will write a 15,000 word dissertation, which is produced as a result of an individual research project undertaken during the programme. It can be on any approved topic relevant to the degree and to the selected taught components. Students are assigned a supervisor to guide them through the main stages of work. Students will be encouraged to become involved in Institute fieldwork, which takes place at numerous sites around the world (see www.ucl.ac.uk/archaeology/research /where/index.htm for a guide to sites currently under investigation). Specific maritime archaeological fieldwork and research is currently being undertaken by Prof. Grøn on prehistoric submerged sites in Denmark and by Mr. Milne and Dr Flatman at medieval intertidal sites in Britain on the Medieval Ships Project and Cinque Ports Project.

The programme lasts for twelve months (starting at the end of September), although it is possible to take the course part-time over two years. Most of the structured teaching takes place in the autumn and spring terms, the summer being devoted to work for a dissertation. Details of graduate programme fees may be obtained from the College Registry; application materials are available to download from the UCL Graduate School website:
www.ucl.ac.uk/admission/pg/appadmis.html

Entry onto the programme is dependent upon a UK Bachelor's degree in an appropriate subject, awarded with first or second-class Honours, or an overseas qualification of an equivalent standard from a university or educational institution of university rank. Where the US/Canadian marking scheme is used, a minimum grade point average (GPA) of 3.0 is required. An applicant whose qualifications, although otherwise acceptable, are of a lower standard may be admitted if evidence of an adequate academic background and experience in an appropriate field can be shown.

Applications are also being accepted from suitably qualified individuals for PhDs in maritime archaeology and related themes; please contact the program coordinator for further information on possible research topics.

For further information, please contact:
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www.ucl.ac.uk/archaeology/masters/summary /MAmaritime.htm

Ship's Secrets up for Grabs

[*The Daily News*, Halifax, 16 November 2005]
A documentary filmmaker says he should be allowed to film an historic shipwreck before treasure hunters damage the site. John Wesley Chisholm, president of Halifax-based Arcadia Entertainment, said the province is permitting treasure hunters to visit the resting place of HMS *Fantome*. "What we're asking for is that the province shut down the treasure-trove licence and the Treasure Trove Act altogether, because it's an anachronism and just doesn't make sense in a modern age," said Chisholm.

Chisholm wants his application for a heritage research permit fast-tracked. He applied Monday under the Special Places Act. Treasure hunters can take what they like from shipwrecks. After getting a permit under the Treasure Trove Act, they pay 10 per cent in royalties to the government and then sell the artifacts as they wish. "So it's not beyond reason to have this kind of stuff end up on EBay in partnership with the government of Nova Scotia," Chisholm said.

He said the *Fantome* was loaded with loot from the White House, which British troops burned in August 1814. The ship was heading home to Halifax with a convoy when it lost its way in a vicious storm. With untold treasures, *Fantome* smashed into shoals and sank off Prospect Nova Scotia on Nov. 24, 1814. The wreck was left undisturbed for political reasons. The event coincided with the end of the war, and the two nations wanted to move on. "Obviously, this was a very touchy subject at the time, so no one really said any more about it," Chisholm said.

Jagged rocks kept excavators away for nearly 200 years. It's only recently that the technology has allowed anyone to take a look. Chisholm's company employs sonar and underwater robots called remotely operated vehicles.

Chisholm said there has been at least one treasure hunter at the site already. Arcadia Entertainment wants to document the site before winter hits, and will not extract any artifacts, Chisholm said. He hasn't heard anything yet about his application for a heritage research permit. Chisholm said he isn't expecting a positive response. "I think there's a chance the government will say no, because they've given this treasure-hunting licence. I've said to the government I don't think that's right. We just want to go and take some pictures." Officials from the Natural Resources Department were not available for comment.

Rear-Admiral Desmond Piers

[MSPA/AP EMFM - November 2, 2005, Halifax NS] Rear-Admiral Desmond William "Debby" Piers, DSC, CD, RCN (Ret'd), a Canadian naval legend and a celebrated wartime hero, died peacefully yesterday in Halifax, NS at the age of 92.

Rear-Admiral Piers was born in Halifax in 1913. In 1932 he joined the Royal Canadian Navy, the first graduate of the Royal Military College to do so, and began what would prove to be a highly distinguished naval career spanning over three decades.

Rear Admiral Piers is best known for his courageous actions in 1944 when, as the 30-year-old Commanding Officer of HMCS *Algonquin*, he directly participated in the invasion in France where he guided his ship and her crew through the conflagration of D-Day. In recognition of his actions he received L'Ordre National de la Légion d'Honneur, France's highest recognition for bravery in military action and service. He was also awarded the Distinguished Service Cross for his vigorous and invaluable service at sea during the Battle of the Atlantic.

Following the Second World War, Rear-Admiral Piers went on to serve in a number of key positions including Command of the cruiser HMCS *Quebec*, Assistant Chief for Personnel and Administration at NATO Supreme Allied Commander Atlantic, Senior Canadian Officer Afloat (Atlantic), Commandant of the Royal Military College, Honorary Aide-de-Camp to the Governor General, Assistant Chief of Naval Staff, Chairman of the Canadian Joint Staff and Commander Canadian Defence Liaison Staff in Washington, D.C.

The loss of Rear Admiral Piers will be felt by many in the Navy. According to Vice-Admiral Bruce MacLean, Chief of the Maritime Staff and Commander of Canada's Navy, his death marks the end of an era for the Canadian Navy. "It is with great sadness that we mourn the passing of Rear Admiral Piers, an inspirational leader and an enduring symbol of all that is the best of the naval service. He was a heroic man whose contributions to the Navy are unparalleled. He will forever be remembered as one of our finest."

Maritime Provinces Steam Passenger Vessels

by Robin H. Wyllie

S. S. *Enterprise*

Specifications:

Official Number:	122460
Builder:	J. McGill, Shelburne, NS
Date Built:	1907
Gross Tonnage:	210.57
Overall Length:	180.0 feet
Breadth:	25.0 feet
Draught:	8.6 feet
Engines:	2 cyl 15" and 32", 42 h.p.
Propulsion:	single screw

History:

From its inception in 1892, the Department of Trade and Commerce was responsible for the administration of the Dominion Government's shipping service subsidy and grant programmes. These responsibilities were subsequently transferred to the Canadian Maritime Commission, a department which had two main functions, the administration of subsidies and providing assistance to Canadian shipbuilders. The first was carried out by the Subsidies Branch and the latter through the administration of the Canadian Vessels Construction Assistance Act.

The subsidies were designed to support and maintain the economical operation of mail, freight, passenger and ferry services used by the Canadian public. However, around the turn of the century, the establishment of railway connections between many mainland communities offered an alternative and less costly means of transportation, with the result that many of the steamship subsidies were discontinued.

Such was the case in January 1907, when the first regular Halifax and South-Western Railway train passed through Bridgewater, at the head of navigation on the LaHave River, en route between Halifax and Yarmouth. The subsidy had made all the difference between profit and loss for the Coastal Steam Packet Company, which maintained a subsidized service from Bridgewater, via Conquerall Bank, Getson's Cove and Chester to Halifax. As a result, their vessel, the 207 ton, twin screw steamer, the Dumbarton-built *Bridgewater*, was subsequently sold to Charles Bristol of Halifax for use as a salvage vessel.

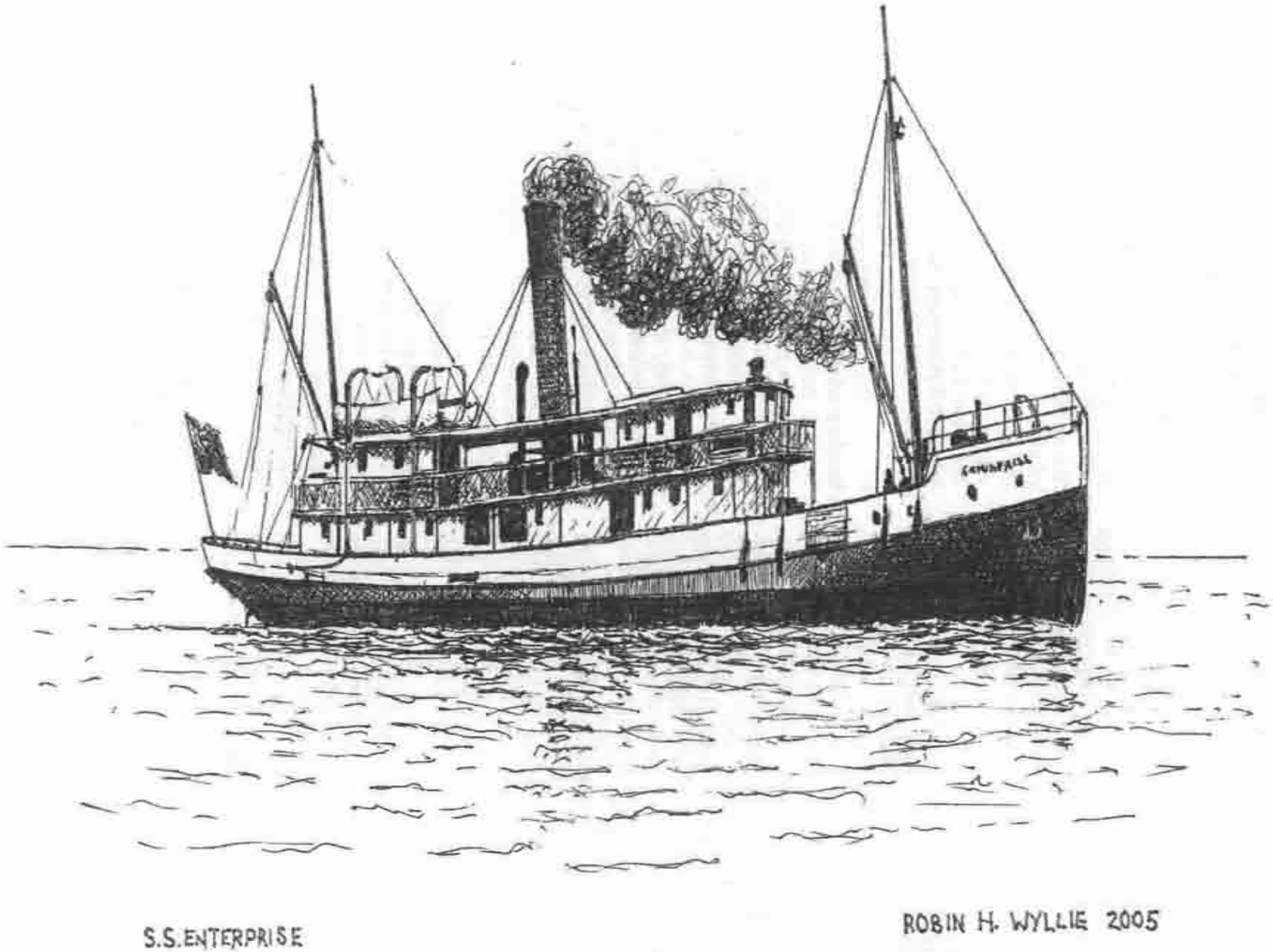
There was, however, still an obvious demand for a passenger-freight service between the lower LaHave River ports and Halifax, so a group of Riverport businessmen formed the Western Steamship Co.

The canny Riverporters had obviously made a study of the type of vessel most suited to their needs and decided to have McGill's shipyard in Shelburne build an identical twin sister to William Murdoch's highly successful *Dufferin*, built two years earlier and then running between Halifax and Eastern Shore ports.

Aptly named *Enterprise*, the 210 ton wooden steamer was 108 feet long, had a broad 25 foot beam and a shallow 8 ½ foot draught. Her relatively powerful 42 hp engine propelled her at an economic 11 knots and her 1,000 barrel cargo capacity and 100 passenger licence were ideal for her proposed route between Riverport and Halifax.

The change of government in 1908 apparently caught the staunchly Conservative Riverporters by surprise and, unable to obtain the very essential Canadian Maritime Commission subsidy for the proposed route, they were lucky to find a place for the vessel on the contracted mail run from Pictou to Eastern Prince Edward Island ports.

Belcher's Almanac for 1908 shows her schedule, during the open season, as leaving Pictou on Tuesdays and Thursdays on arrival of the morning express from Halifax, for Beach Point, Georgetown and Montague and every Saturday at the same hour for Beach Point and Georgetown.



SS *Enterprise*. From a photograph in the collection of Barry Parks.

In 1915, the new Canadian Government Railways rail ferry *Prince Edward Island* was delivered and, as the massive roll-on roll-off rail car loading facilities at Pictou and Carleton Point were far from completion, as a wartime measure, she was immediately pressed into service as a conventional passenger-cargo steamer on the Pictou – Georgetown run.

What happened to the displaced *Enterprise* from then until just after the First World War remains somewhat of a mystery, but in 1918 and 1919, she was chartered by James Farquhar's Gulf of St Lawrence Shipping and Trading Company, as a replacement for the *Lady Sybil*, on the Pictou – PEI – Magdalen Islands service.

In 1920, after a refit on the Dartmouth Marine Slips, the vessel returned to the South Shore and was placed on a weekly run between Halifax and LaHave River ports.

Departing Central Wharf in Halifax on Thursdays at 5:00 am, the vessel called at LaHave, Riverport, Park's Creek, West LaHave, East Middle LaHave, Pleasantville, Conquerall Bank and Dayspring, returning to Halifax by the same route the following evening.

There was considerable public interest at this time in having the Government subsidize the vessel and add stops at East Dover and Indian Harbour in Halifax County. However, although neither of these communities had either rail or steamer communication with the outside world, the plan came to nothing.

Enterprise is believed to have continued on the Halifax-LaHave run until at least 1935, when the Liberals, under Mackenzie King, regained power from RB Bennett's Conservatives. What effect this had upon the operation of the vessel is unknown, but 1936 found her in the Bras d'Or Lakes where, that November, while berthed at St Peters, *Enterprise* was destroyed by fire.

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Contemporary timetables, newspapers and almanacs in the collection of the author.

Atlantic Tsunamis: "Like a River Returning"

by Alan Ruffman

What's in a Name

A 'tsunami' is the ocean wave, or waves, created in the ocean, or in a body of fresh water, when something abruptly moves a large volume of water (Martitia Tuttle, *New York Times*, Long Island Edition, January 16, 2005). The sudden displacement can be caused by a large earthquake rupturing the ocean floor, by something plunging into the

body of water such as a landslide, a calving glacier, a meteorite, or by an explosion in the water.

The name 'tsunami' comes from the Japanese and means 'harbour wave'. Clearly tsunamis are not just confined to harbours. However, it was generally around harbours where the earliest Japanese coastal communities were located. By its very nature, a harbour is often in a coastal indentation that narrows and shallows landward – hence focussing the energy of an incoming tsunami wave. It has nowhere to go but to build in height, and often begins to lose energy closer to shore by becoming a breaking wave as it rolls into shore.

The Japanese written historical record is very long and documents many Pacific tsunamis; it is only fitting that their word be adapted in other languages as the name of this natural phenomenon. A tsunami often comprises several significant waves and a myriad of smaller, complex, often derived, reflected and refracted waves. A tsunami should never be called a 'tidal wave'; it has nothing to do with the lunar or solar tides.

Nature of the Wave

In the deep, open ocean, the height, or amplitude, of a tsunami wave may be from a fraction of a meter, up to two or three meters above sea level, i.e. an amplitude of 4 to 6 m, with a period of between 10 minutes and half an hour, a wavelength of about 100 km, and a velocity of up to 600 to 700 km/hr. Thus if you were able to measure your absolute motion in an anchored vessel over an hour, you would rise perhaps 2 m above mean sea level and sink 2 m below mean sea level. The higher the amplitude and the higher the velocity of the tsunami, the more energy it has, and the more dangerous it is.

As a tsunami passes into shallower water such as coming onto a continental shelf, or passing over a mid-ocean ridge, it begins to "feel" the bottom -- i.e. it begins to experience frictional losses of energy. Thus a broad continental shelf, a wide coastal expanse of shallow coral reefs or a broad shallow delta front can sap energy from the tsunami waves and offer the coastal area some degree of protection. In the last stages of its approach to the shoreline, the shallowing depths will cause a tsunami to rise in height and to eventually become a breaking wave -- analogous to an ocean swell coming into a beach like Lawrencetown, Nova Scotia. The water falling down the front of the breaking wave is mechanism to loose energy.

The speed and long wavelength of the tsunami means that it possesses tremendous energy, thus as it crashes onto a shoreline there is a great deal of momentum in the water behind the breaking wave so the sea appears to rise all along the coast, or harbour shoreline, as a sudden influx of the "tide". That excess height and momentum can propel the water inland to even greater heights – hence the runup height of a tsunami on the shore, or at the head of a bay, can be much higher than the tsunami wave height above mean sea level. Thus in the 1929 Newfoundland tsunami the tsunami wave heights were 3 m in St. Lawrence Bay and 7 m in Taylor's Bay, but the runup heights at the heads of the bays were about 13 m and 10 m respectively.

As the tsunami begins to "feel" the bottom, it progressively interacts with the seafloor sediment, disturbing it and moving it. In the end as the wave propels itself onto shore, the landfalling tsunami, "like a river returning" as one of my 1929 Burin witnesses put it, exercises all the erosive power of moving water entraining sediment and carrying it inland along with any other debris, pieces of broken human infrastructure, vehicles, trees, and humans and livestock all fighting for their lives. The rivetting images from tourists' video cameras during the December 26, 2004 Indian Ocean event has brought home to all viewers, geologists included, the tremendous power of such an event.

Eventually the shoreward moving water rises over the land to such a height that all its forward kinetic energy is converted to

potential energy. As it flows onto higher ground, it slows, stops its forward motion at what we call the runup height, then begins to drain back to the sea under the influence of gravity. The arrival of a second, or third pulse, or more, makes the survival of trapped victims in the stream even more problematic.

Origins of Tsunamis

Tsunamis can be caused in a number of ways. Large magnitude earthquakes greater than *circa* 6.5 on the open-ended Richter Scale can break the ground at the earth's surface. When this occurs underwater it is like hitting the outside of an above-ground swimming pool with a sledgehammer; a fast-moving wave is created that begins to propagate in all directions from a rupture. A strike-slip rupture may not create much of a tsunami, but a normal, or vertical, fault may lift one part of the ocean floor and drop another.

The December 26, 2004 Sumatra offshore earthquake was a 'subduction' earthquake exactly analogous to the massive earthquake and tsunami that occurred on January 26, 1700 along the Cascadia Subduction Zone that lies off California, Oregon, Washington, and Vancouver Island. In this area not far offshore, an east-moving oceanic tectonic plate is slowly passing down under a continental tectonic plate off Vancouver Island, or, in the case of the December 26th event, the Indian Ocean tectonic plate is 'subducting' to the east down under the Burma-Indonesian Plate. If stress is constantly released with a regular series of little earthquakes, there is little, or less, concern. However, when the subducting plate becomes 'locked' with the overlying plate stress begins to accumulate and the eventual break and stress release gives a much more powerful seismic event. Subduction events are often in the range of 8.0 to 9.5 magnitude, and can be 'tsunamigenic' if they occur offshore. Not all large earthquakes centred under the ocean create tsunamis. On December 24, 2004 a large marine earthquake occurred in the Pacific Ocean near MacQuarrie Island off New Zealand, and no tsunami resulted. This earthquake was on a different geological structure, and was not related to the event two days later off Banda Aceh, on the island of Sumatra in the Indian Ocean.

Tsunamis can be generated when a large volume of ocean floor sediment moves either because it is shaken loose by an earthquake, or slumps spontaneously and moves downslope as an underwater landslide; this is what happened south of Newfoundland in 1929. The November 1, 1755 Lisbon Earthquake and tsunami may have had partially the same cause; in this case a significant tsunami flowed up the Tagus River into downtown Lisbon and 10 to 20,000 persons died in the city, with up to 60 to 80,000 elsewhere along the west coast of France, Spain and northwest Africa.

If a volcanic island becomes over-steepened as the volcanic cone grows upward, a large slab may slough off and slide precipitously into the sea creating huge local tsunamis that have the potential to propagate across oceans. In the Atlantic the Canary Islands, The Azores, and the Cape Verde Islands all represent real but rare threats. The seafloor below the Hawaiian Islands shows ample evidence of slide scars; the problem is we do not know whether these were catastrophic slides, or slow creep over a long period of time. There is good evidence in the Hawaiian Islands for tsunami-laid sediments carried several hundred metres above sea level.

Earthquakes, or simple freeze-thaw cycles, can trigger onshore landslides down the slopes of mountains directly into the sea and do the same thing. Thus on July 7, 1958, an 8.0 earthquake shook loose a massive landslide that plunged directly into Gilbert Bay at the head of an Alaskan panhandle fjord. This caused a huge local tsunami of up to 55.1 m in height above sea level which sheared off the metre-thick west coast rain forest over a 16 km length as it ran down the length of Lityua Bay and over the baymouth bar into the Pacific Ocean; the tsunami was still 30 m high as it exited the fjord. In 2001

in northwest Greenland, a landslide into the sea created a local tsunami of 50 m height, and in Western Brook Pond of Gros Morne National Park, a 30 m tsunami was created when 'Broke Off Cliff' let go in the Fall of about 1905-1910.

If a volcanic island simply explodes or collapses, a huge tsunami can be created as was the case on August 26, 1883 when Krakatoa vaporized at the other end of Sumatra from Banda Aceh; an estimated 36,000 persons died in the tsunami. The Santorini volcano erupted and collapsed in 1490 off southwest Greece and created a tsunami that caused great loss of life all around the Aegean Sea. The detonation of the vessel *Mont-blanc* in Halifax Harbour on December 6, 1917 created a short-lived local tsunami that locally rose above Campbell Road (Barrington Street) in Halifax's north end. Autopsies were not done on the Explosion's 1,950 victims, so we have no idea how many died of drowning as opposed to from the explosion shock and being hit by shrapnel.

Meteorological events with significant rapid atmospheric changes can give rise to 'tsunami-like waves' called by some 'meteorological tsunamis' or 'risaggas'. Eastern Newfoundland experienced two such daylight events in 1999 and 2000 in bright, clear weather as a result of hurricanes José and Hélène passing over the Tail of the Banks several hundred kilometres offshore. In 1938, the serious Category 3 'New England Hurricane' came ashore in Rhode Island, but rather destructive reflected and refracted tsunami-like waves were seen along the New Jersey coast from New York southwest to Cape May, New Jersey, well after the hurricane had gone by offshore.

A large bolide, or meteorite, hitting an ocean will create a very, very large tsunami that probably none of us even want to think about!

November 18, 1929; Canada's most tragic known, historic earthquake

The earth's continents are constantly eroding, and the erosional detritus is carried mainly by rivers (but on occasion by wind and by glacial ice) to settle in the sea on the continental shelves. Ocean waves and tidal currents sort the material over time and move it to, and over, the continental shelf edge. Until the early 1950s, the processes of moving these erosional sediments down into the deep ocean was not really known or understood by earth scientists.

It was an event quite unknown in the lives of most who felt it in Atlantic Canada. The surface wave magnitude (M_s) 7.2 earthquake of Monday, November 18, 1929 struck at 5:02 p.m. NST in the late afternoon – seventy-six years ago. The hypocentre was some 18 km below the seafloor of the northwest Atlantic Ocean, at the mouth of the Laurentian Channel in 2 km of water depth on the continental slope south of the Burin Peninsula on the south coast of what was then the Dominion of Newfoundland. It was felt as far away as Montréal, in the New England states as far south as New York City, and there is even a serendipitous felt report in Bermuda of a probable seismic 'surface wave'; it registered on seismographs around the world. It is still remembered by older residents of the Atlantic Provinces as the only felt earthquake experienced in their lives. Onshore the damage from the earthquake's shaking was restricted to some slumping and minor building damage in Cape Breton Island; some chimneys were dislocated resulting in subsequent chimney fires in the next few days. Newfoundland, despite its proximity to the epicentre, experienced virtually no physical damage onshore.

Two-and-a-half hours after the event, on a dead calm, bright, moonlit night, on a rising high tide, three main pulses of a tsunami arrived, quite unexpectedly, along the coast of the Burin Peninsula, with amplitudes of 6 to perhaps 14 m. There was an initial slow withdrawal of the sea to expose ocean floor in places never before seen by local

inhabitants, then the water returned in three positive pulses that rose 3 to 7 m above sea level in St. Lawrence harbour and Taylor's Bay respectively. The height and forward momentum of the arriving tsunami caused the runup to rise to as much as 10 to 13 m above sea level at the ends of the long narrow harbours such as Port au Bras, St. Lawrence, Little Lawn Harbour, Lawn, Lord's Cove, Taylor's Bay, and Lamaline. Twenty-eight persons lost their lives, and the fishing capability of the coastal communities was devastated.

There was as yet no road to connect the communities to each other or to link the Burin Peninsula to the rest of Newfoundland to the north. Landline telegraph communications with the rest of the Island had been broken by a storm two days earlier, and the tsunami took out the land lines between the coastal communities. In St. Lawrence the telegraph station ended up floating in the harbour. The Burin had to cope on its own for two-and-a-half days before a coastal ferry named the *Portia*, which had a working wireless radio, arrived on the scene. Despite the success of wireless 17 years earlier during the *Titanic* disaster, the local communities had no radio sets, and while a wireless was available on the *Daisy* situated in Burin harbour, no-one knew how to operate it to get a message out!

The tsunami was seen in Cape Breton Island, Nova Scotia, at about 8:00 p.m. AST on November 18th, where it did minor damage. The one possible death in Nova Scotia has been shown to be false and was based on incomplete information. The tsunami refracted counterclockwise around the Avalon Peninsula to arrive in the Bonavista area about 1:30 a.m. NST the next morning. The tsunami was physically seen along the coast of Nova Scotia as far southwest as Lunenburg, and in Bermuda at about 8:00 p.m. local time in the evening. It rose in Halifax Harbour, where it flowed over the gates of the commercial drydock at Halifax Shipyards for five minutes and is recorded on the tide gauge record. The only tide gauge operating in Atlantic Canada to record the tsunami was in Halifax; the British had not yet installed a tide gauge anywhere in Newfoundland (or in Bermuda).

The tsunami travelled at about 615 km/hr south and eastwards in the deep ocean; the tsunami travelled at about 105 km/hr over the shallower continental shelf of Canada north and westwards. The tsunami was recorded on tide gauges as far south as Charleston, South Carolina, in the United States, in the Azores, and on the west coast of Portugal. The tide gauge records for the United Kingdom were destroyed during WW II bombings. The rather high water recalled by many Newfoundlanders as the "tidal wave" on the next morning of Tuesday, November 19, 1929 was not the tsunami. It was a significant storm surge of an early winter storm that had tracked up the Atlantic coast from New England and the Maritimes over the past day. It snowed that day on the Burin and turned bitterly cold, making life even more miserable for people affected by the tsunami.

At the instant of the earthquake, five trans-Atlantic telegraph cables broke in numerous places near the top of the continental slope as the underwater landslides began to move down into deeper water. Over the next two hours, seven more cables parted progressively in deeper and deeper water, and more distant from the initial breaks. The repairs to the twenty-eight breaks in the twelve trans-Atlantic telegraph cables required all available cable ships, and repairs stretched well into 1930. At the time, the mechanism of the seafloor disruption was not understood, and was not successfully worked out for some 23 years. It is now known that the earthquake's strong vibrations shook loose and mobilized up to 200 cubic kilometres of ocean floor sediments on the continental slope. The underwater slump, or landslide, travelled downslope, initially at speeds of up to 50 to 70 km/hr, as a slurry of water and sediment, now called a "turbidity current".

The turbidity current then slowed and eventually travelled over 1,200 km from its source out across the Sohm Abyssal Plain,

laying down a thin layer of graded sediment -- material that had initially been deposited over thousands of years on the upper Continental Slope, and was now in 3,000 to 4,000 m water depth. This process of filling the ocean basins by an ongoing series of turbidity currents is now recognised as a very important final step of a process that moves sediments from the rivers and coasts of the continent, out onto the continental shelves, over the shelf break, and then down into the ocean basins as turbidity currents.

There is still an ongoing debate as to whether other earthquakes, in what is now known as the Laurentian Slope seismic source zone, could cause other slumps and tsunamis. One other apparent slump was reported nearby in October of 1884 when three trans-Atlantic cables all broke in one area at about the same time, south of the Tail of the Banks. The continental slope of Atlantic Canada, when mapped by deep ocean sidescan sonar, or other swath-mapping multi-beam sonar techniques, shows substantial evidence of other downslope mass movements, though the ages and frequency of these events is not known. A number of the apparent slump scars may reflect slow creep events rather than catastrophic landslides such as occurred 76 years ago south of Newfoundland. Only the rapid underwater landslides will create a tsunami. Much like moving one's leg rapidly to one side in a bathtub, the rapid movement of the ocean floor creates a very long wavelength, low amplitude, fast-moving, gravity wave on the ocean's surface – a 'tsunami'.

It is popularly believed by many Newfoundlanders that the collapse of the fisheries and the loss of the eel grass in the early 1930s were a direct result of the 'tidal wave'; this observation appears to be unfounded. The onshore geological signature of the 1929 tsunami has been found in many of the harbours along the south coast of the Burin. At Taylor's Bay the tsunami's signature clearly shows as a band of white sand about 10 cm down in the brown peat (see photograph at the Dalhousie University Department of Earth Sciences website http://meguma.earthsciences.dal.ca/staff/ruffman/ruffman.htm). A case study at St. Lawrence, and a careful mapping survey in Taylor's Bay, have allowed the zone of tsunami runup to be mapped. In St. Lawrence, community growth has gone forward without regard to the 1929 runup zone or a possible recurrence. In contrast, the village of Taylor's Bay has never recovered from its losses on that fateful November 18th evening. Documenting of community folklore has allowed a rich oral history of the event, songs, stories, poems, photographs, and myths surrounding the event, to be documented throughout the Burin Peninsula.

The Storegga Slide and Tsunami

Since 1965 scientists in Scotland, England, Norway, Denmark, and Iceland have found the onshore signature of a massive pre-historical tsunami that is believed to have been caused by the Storegga Slide on the Continental slope of midwestern Norway. This slide moved in the order of 2,300 m^3 of material into the abyssal depths. The resulting tsunami has left its onshore signature all around the Norwegian Sea, as far south as northern England, as far west as the Hebrides, in the Shetlands, in the Faroe Islands, perhaps on the north coast of Iceland, and all along the western coast of Norway, where post-glacial rebound of the coastal regions has lifted the deposits many meters above present-day sea-level.

The event is thought to have been a Fall event. It is known to have terminated human habitation at an archaeological site found during a trench excavation in downtown Inverness, Scotland. This tsunami certainly reached the coast of Canada and the U.S., though no modelling has yet been done to show its potential amplitude on this side of the Atlantic. There is a good chance that this event will have taken the lives of first nations peoples camped along the east coast of Canada, and that the Storegga tsunami's onshore signature can still be found in Canada by geologists or archaeologists.

Warning Systems and Canada's Response to the Banda Aceh Event

As we now know, deadly tsunamis are not confined to the Pacific. There has been a tsunami warning network in the Pacific for the past 56 years. The impetus for the Pacific Tsunami Warning System came from the April 1, 1946 Unimak Island, Alaskan Earthquake and tsunami which caused the loss of 165 lives in the Pacific Ocean; 96 were lost in Hilo and another 25 in Laupahoehoe, Hawai'i, 22 on Maui, 10 on Kauai, 6 on Oahu,

5 died in Alaska and one in Santa Cruz, California. A tsunami warning system is now being considered for the Indian Ocean, and in recent days Stephen Ward of the University of California has advocated a similar system in the Atlantic because of the hazard posed by possible flank collapses on the Canary Island volcano Cumbre Vieja. The Americans have recently announced a $37.5 million plan to strengthen the Pacific Tsunami Warning System from 6 to 31 tsunami sensing buoys and bottom pressure sensors. also planned are the first seven bottom pressure gauges and floating satellite communication buoys for the Atlantic (5) and the Gulf of Mexico and Caribbean area (2). The Mediterranean Sea has in the historic past experienced very serious tragic tsunamis; it too has no tsunami warning system.

In eastern Canada we have historical evidence of at least five natural tsunamis, the November 18, 1929 Laurentian Slope-Burin Peninsula event, the Fall 1905-1910 rockslide into Western Brook Pond, an 1864 local earthquake and tsunami seen at St. Shotts on the southwest corner of the Avalon Peninsula of Newfoundland, the September 24, 1848 tsunami seen from St. John's Harbour to Fishing Ships Harbour in southern Labrador, and the November 1, 1755 Lisbon Tsunami seen in Bonavista, Newfoundland; only the 1929 event is known to have cost human lives. Clearly it would be prudent for Canada and its Provincial emergency measures organizations to carefully review east coast Canadian concerns in light of the lessons brought to bear in the Indian Ocean on December 26, 2004.

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[Text of an Extended Abstract for an illustrated talk in the Small Craft Gallery Maritime Museum of the Atlantic in support of Tsunami Relief efforts in the Indian Ocean by Oxfam Canada by Alan Ruffman, P.Geo., Research Associate, Maritime Museum of the Atlantic, President, Geomarine Associates Ltd.]

West Coast Letter

by John Crosse

The West has no rivals to the fall colours of Eastern Canada, our deciduous leaves are poor by comparison, and the rains will soon be here. But BC's climate is remarkably mild and giant fronds of banana trees are not an unusual sight in Vancouver streets.

Nor is BC uniformly wet. Beside the arid Interior, there is a long rain shadow cast by the high Olympic Mountains opposite Victoria. Thus cactus grow on some of the Gulf Islands and drinking water can be a problem. The shadow extends all the way up the Strait of Georgia, and its effects can be still seen in the open farmland of the Comox Valley, with its scattering of small conifers. It is only beyond the head of the Strait that the real evergreen forest begins.

But most British Columbians know nothing of our coastline to the north. Beyond is *terra incognita*, a land to be viewed only from the deck of a cruise ship.

We had more than two hundred and fifty sailings of these last summer, with other vessels coming up from Seattle. But they quickly disappear over the northern horizon, leaving a pang of jealousy among those of us unable to afford such luxuries.

However as your West Coast correspondent, it is my duty to keep you informed of all activities, not just those in the southern waters of our province.

With that in mind, if you wish to travel north other than by a cruise ship, the alternative is by BC Ferries out of Port Hardy, near the northern end of Vancouver Island. Only the Kwakiutl and Tshimshian Indians, loggers, fishermen and towboat operators know this coast. But slowly even a southerner can begin to become acquainted with its geography. The Inside Passage and the inclement weather normally to be expected there begins to be a little more than just a name. The Douglas Channel leading up to Kitimat takes on an identity, and the Grenville Channel up to Prince Rupert becomes easily recognizable.

Beyond is Alaska, and a landscape so vast that cruise ships become like miniature tour buses on a mirror that is the sea. Cloud and mountain, fresh air and forest take over. Whale sightings become so common you cease to look, and ever onwards you move north. A passenger in an airliner can follow progress on a moving screen, so too on the ferry, but we move at a snail's pace, each degree north takes several hours. You wait with bated breath while the screen ticks off another minute of latitude. However for your convenience, there is an easel close by, loaded with flip charts, a complete set of nautical charts of the route, so that even the smallest detail can be examined.

Alaska is a world of such unbelievable beauty that I can only refer to it as 'British Columbia's back yard'. Like all Canadians we have our gaze rigidly fixed on the south, scrupulously ignoring the wonders to the north. Alaska is largely an unexplored land, virtually unchanged since time began. Were it not for the navigational beacons and the occasional settlements, it is as if we are moving in a new world, one we never knew existed.

My world used to end at the Strait of Georgia, with the sun setting over the Vancouver Island mountains. But now it includes all waypoints north, Port Hardy and the Inside Passage, Prince Rupert and beyond. 'Up the street' are Ketchikan, Wrangell, Petersburg and Juneau, and if you so wish, Skagway and the gateway to the Yukon.

Our ferry had missed the tide through the Wrangell Narrows and was therefore running eight hours late. The channel here is so narrow that vessels coming south must give way to those going north. Beyond are the giant fiords of Alaska, with the snow capped mountains of Admiralty Island to the west. Three days after leaving Vancouver, we slink into Juneau the poor man's way, from the north, the further end of the channel, up which the cruise ships come having been silted up by a glacier centuries before Klondyke Gold Rush.

Juneau, the state capital, is a city of only 30,000 inhabitants and its downtown core is so small it becomes familiar after only a few days. Alaskans got their statehood in 1959, and only since then have they been able to make their own decisions. One of their first was to create Alaska's Marine Highway System. Distances here are so vast and communities so isolated, that the best way to connect them was by a fleet of ocean-going ferries. Their vessels are large, and even in summer could have accommodated many more passengers. But that is Alaska, and they do things big here.

However the main purpose of my trip lay further to the south, off Prince of Wales Island, the largest of the five main islands in the archipelago of the Alaska Panhandle.

Down towards the southwest corner lies the small commercial fishing port of Craig, a community of 1,500 souls, fronting onto Bucareli Bay, a historic spot in Pacific Northwest history.

The Russian, Alexei Chirikov, sighted the mountains that form its western ramparts from the Pacific in 1741, making his the earliest landfall, Bering arrived further north a week later. Subsequently several Spanish expeditions explored here.

However Bucareli Bay has one unique attraction. It is so far off the beaten track that no tourist guide or yachties handbook covers it, and the Internet gives but basic information. The only illustration is a single

pencil sketch by a North European artist aboard a fur trader more than two hundred years ago. There is *not a single* photograph!

Two of the Spanish expeditions made detailed surveys of the bay, and many of their place names survive to this day. My plan was therefore to circumnavigate the bay as they had done, and photograph everything. No small undertaking, for even on a twelve-hour charter it was still necessary to cut corners. Even today there are still some photographs that need identifying. I would have liked to remain longer, but developments at Prince Rupert demanded attention. Taking ferry, I returned to Canada.

Prince Rupert has long been known as the city that never quite made it. Its founder was drowned on the *Titanic*, and the only time the place ever reached prominence was as a trans-shipment point in the 1940s for Americans fighting the Japanese in the Aleutians.

The story of Prince Rupert is of one disappointment after another, of one dream bubble burst after another. A finely located city, carefully laid out by its founder, but with empty streets and a mass of undeveloped lots. Things have always been tight in Prince Rupert, there is no room for luxuries, and real estate prices are still at rock bottom.

But all this seems about to change, there is a new breeze blowing in from Asia. The overwhelming flood of containers from China, has meant that every railhead on the Pacific coast, from Los Angeles north, must be used to its fullest capacity. A hundred years after the Prairie railroad booms of the 1900s, CNR is finally committed to a major upgrading of its single track line to Edmonton, and contracts have already been let for a major container port. It is early days yet, but the indications are that finally Prince Rupert is beginning to change. Not only containers, but there are also other improvements on the way. The cruise ships are starting to make it a port of call, and the old Skeena mill may well be reopened. There is talk of a possible natural gas pipeline, but best of all, small businesses are starting to open.

It is only an oyster jump from Prince Rupert to the Queen Charlottes, but the BC ferry takes a marvellously circuitous route across the shallow Hecate Strait before eventually arriving at the lower end of Graham Island.

Moresby, the more southerly of the two main Charlottes, was set aside in 1988 as a protected area for the Haida culture. Thus developments are largely in the north. The Haida have the advantage of having a contiguous island group as their homeland, known today as *Haida Gwaii*. They are a friendly and industrious people and make up a fair percentage of Queen Charlotte's 5,000 inhabitants. It is a two hour drive to the top end of the island, to Masset, their largest community. Back in the 1970s there was a small RCN base there. It is unusual village for northern BC, being laid out on flat land, and has the air of a small holiday resort, although the major industry is commercial fishing.

The inlet at Masset opens onto Dixon Entrance, one of the stormiest waters off our coast, and site of our international boundary with the United States. In the 1840s there was even talk of going to war, 'Fifty-four Forty or Fight!' and tempers still flare occasionally. In 1977, citing a new international code of fishery regulations, the US unilaterally extended its border south to what they call the Equidistant Line, a line Canada has never recognised. Since the last showdown there in '97 a *modus vivendi* has been established, and a Northern Border Joint Enforcement committee meets annually to iron out differences.

On a clear day the mountains of the southern Panhandle can be seen, and volunteers in the village have recently created a Dixon Entrance Maritime Museum. Among the exhibits is a large earthenware olive urn, identified as coming from the frigate *Aranzazu*, the *only* relic of the Spanish presence in BC during the 18th century.

Masset was the site of a World War II military airfield, and the museum has sections of the original steel matting used for the runway. Identical matting was to be used for the 1945 invasion of Japan, which due to the atom bomb, never took place. As a young sub-lieutenant this writer was to be part of a MONAB (Mobile Operating Naval Air Base) on the beaches of Japan. Because of the *kamikaze*, our aircraft carriers were to lie out of range, and their naval aircraft were to be rearmed and refuelled on these beach landing strips. Fortunately none of this ever took

place. But it was a sobering sight to see that matting.

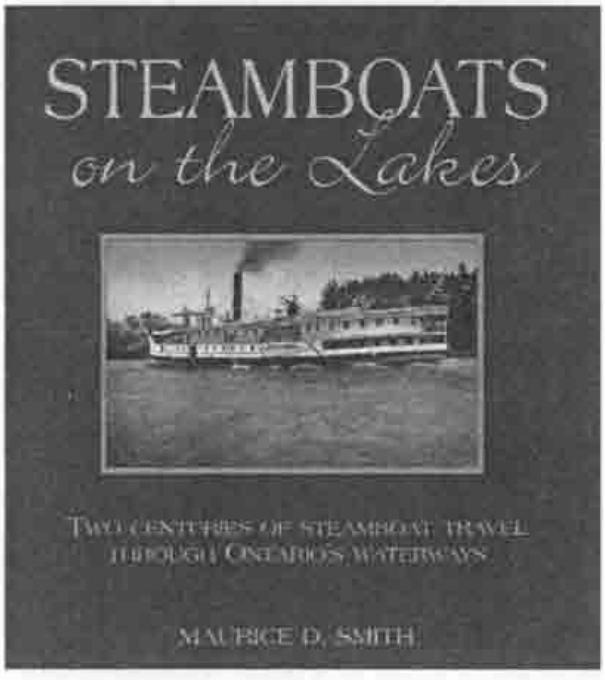
Today the peacetime airport is largely devoted to the needs of the many luxury fishing lodges in the vicinity. An offer of a flight out to one in a float-equipped Beaver was eagerly accepted. Our landing at Langara Island was uneventful. But it is not always so. In heavy weather swells sweeping through from the Pacific can make touch downs decidedly 'dicey'. Afterwards it was a bit of an anti-climax to catch the more conventional flight home.

Members' News

Commander **Ken Hansen**, currently Military Co-Chair Maritime Studies Programme at the Canadian Forces College, was awarded the Barry D. Hunt Memorial Prize as the best graduating graduate student by the Royal Military College. His thesis, entitled *Fuel, Endurance and Replenishment at Sea in the Royal Canadian Navy, 1935-1945*,won the Society's Jacques Cartier MA prize.

Maurice Smith is pleased to announce the publication of his book *Steamboats on the Lakes* (James Lorimer & Company, ISBN10 1-55028-885-7, ISBN13 978-1-55028-885-8): a technological and social history, covering the period between 1816 (the *Frontenac*) and 1949 (the *Noronic* disaster).

The John Carter Brown Library, an independently administered and funded centre for advanced research in history and the humanities located at Brown University, has awarded a Jeannette D. Black Memorial Fellowship to Dr **Richard W Unger**, University of British Columbia, for his project "Ships on Maps: Pictures of Power in the Late Middle Ages and the Renaissance".



*James Lorimer & Company
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* ISBN13 978-1-55028-885-8
* 8¼"x9"
* b&w and colour photographs and illustrations
* 96 Pages
* 2005
* $24.95

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Steamboats on the Lakes
By Maurice D. Smith

In the nineteenth century, steamships ruled the Great Lakes and rivers of Upper Canada (now Ontario). Powered by ever-evolving engines that helped them defy the forces of wind and waves governing the progress of a sailing ship, steamships sped up not only the transportation of passengers and goods throughout the province but its very settlement and growth.

In *Steamboats on the Lakes*, marine historian Maurice D. Smith brings together technological and social history. From the story of the building of the first Ontario steamship in 1816, the *Frontenac*, and its successors that carried vital supplies into and rich resources out of growing communities, to the fire on board the passenger ship *Noronic* in 1949 - an event that marked the beginning of the end for the steamboat era - and the preservation of the *Segwun*, Smith shows us the range and colour of these magnificent vessels' history.

With a rich collection of paintings, photographs, and other illustrations from museums and archives across Ontario, *Steamboats on the Lakes* tells the unique story of the boats, the dangerous waters they plied, and the daring entrepreneurs and hardy sailors who navigated the many rough and glorious passages of the steamships' heyday.

Museums and Ships

USS *Iowa* banned from San Francisco

The USS *Iowa* joined in battles from World War II to Korea to the Persian Gulf. She carried President Franklin Roosevelt home from the Teheran conference of allied leaders, and four decades later, suffered one of the nation's most deadly military accidents. Veterans groups and history buffs had hoped that tourists in San Francisco could walk the same teak decks where sailors dodged Japanese machine-gun fire and fired 16-inch guns that helped win battles across the South Pacific. Instead, it appears that the retired battleship is headed about 80 miles inland, to Stockton, a gritty agricultural port town on the San Joaquin River and home of California's annual asparagus festival.

Senator Dianne Feinstein, D-Calif., a former San Francisco mayor, helped secure $3 million to tow the *Iowa* from Rhode Island to the Bay Area in 2001 in hopes of making touristy Fisherman's Wharf its new home. But city supervisors voted 8-3 in July to oppose taking in the ship, citing local opposition to the Iraq war and the military's stance on gays, among other things. "If I was going to commit any kind of money in recognition of war, then it should be toward peace, given what our war is in Iraq right now,"Supervisor Ross Mirkarimi said. Feinstein called it a "very petty decision."

San Francisco's maritime museum already has one military vessel - the USS *Pampanito*, an attack submarine that sank six Japanese ships during World War II and has about 110,000 visitors a year. Officials in Stockton couldn't be happier. They've offered a dock on the river, a 90,000-square-foot waterfront building and a parking area, and hope to attract at least 125,000 annual visitors.

The *Iowa*, decommissioned by the Navy in 1990, is currently anchored with a mothballed fleet in Suisun Bay, near the mouth of the San Joaquin-Sacramento River Delta.

Hurricane Katrina and the USS *Alabama*

[The *Mobile Register*, 6 September 2005]

A Battleship Memorial Park official said damage inflicted by Hurricane Katrina on the park is worse than first believed and will likely reach at least $3 million. Initial estimates had put the damage at park on the Causeway at between $1.5 million and $2 million. And the park – one of the state's top tourist attractions – could be closed for more than two months.

"We're hoping to reopen the park by Veterans Day," said Bill Tunnell, the park's executive director. Veterans Day is Nov. 11. Tunnell added that the Veterans Day events normally held in the park's aircraft pavilion "will have to be held somewhere else this year" because the pavilion is "a total loss." He said the 36,000-square-foot building valued at $1.5 million is unlikely to be ready for reopening before next spring. One factor involved in the increased cost of Katrina's harm, Tunnell said, is that damage to about a dozen vintage military aircraft inside the pavilion is worse than originally believed. He estimated that it would cost between $250,000 and $500,000 to restore them.

A major factor in reopening the park will be the length of time needed to straighten up the World War II battleship USS *Alabama*, which was left listing at about 8 degrees toward the shore by the storm surge. "Just the sheer size of the ship makes the project difficult," Tunnell said. He estimated that the storm surge at the park site on Mobile Bay was 12 feet.The warship, which is 680 feet long and weighs 80 million pounds, is anchored in 20 feet of bay mud. Tunnell said Navy experts, as well as engineers employed by the park, were working to find the best way to move the *Alabama* back into her proper position. He said the cost could range from $50,000 to as much as $750,000. He said one possibility being considered was the use of heavy-lift-capacity cranes.

The park spent some $15 million in recent years to restore the battleship and its corroding hull, as well as restore and preserve the park's 311-foot-long World War II submarine USS *Drum*. Tunnell said the two warships apparently sustained no structural damage from Katrina. He said, however, that the lights on a permanent cofferdam built around the battleship as part of the project were "blown away by the hurricane." Further, he said there was some damage to the cathodic protection system that inhibits corrosion to the underwater metal parts of the battleship and the cofferdam.

About 20 people, including park employees and their families, rode out Katrina

inside the battleship, as has been a tradition going back some 40 years. Tunnell said those people who ride storms in the battleship volunteer to do so. He has said, "It's the safest place in the area to be during a hurricane."

Lee Bryars, a 15-year employee of the park, is one of those veterans of past hurricanes who rode out Katrina on the battleship."I never thought that in a million years I would see this ship move like it did," said Bryars, 35, the park's assistant crew chief. "The scary part was when the ship started rolling," Bryars said. He added, "You felt like the bottom was coming out from under you for a second." No one was injured, but Bryars noted that he was in charge of the safety of everyone on board and said his biggest concern was their well-being.Asked if he would ride out another major hurricane on the battleship, he replied, "I think next time I'll pack my stuff and head north."

China Showcases Nautical Hero Zheng He's Shipyard in Nanjing

NANJING, China (AFP) - As China and the world marks the 600th anniversary of the voyages of famed navigator Zheng He, a newly excavated shipyard where much of his ancient fleet was built has finally opened to the public.

The new park surrounding the Treasure Boat Factory Ruins is part of Nanjing's commemoration of the adventurous admiral who set sail from the city and whose footprints still mark this ancient capital. Many of Zheng's maiden fleet of 62 ships were built in the shipyard that sits in Nanjing's central Gulou district near the Yangtze River, including his huge 136-metre-long (448-foot) flagship vessel, experts say.

"Not all the boats were made in Nanjing but we are sure that most of them were, including the treasure boats," Ma Guangru, head of Nanjing's Zheng He Research Society, told AFP, referring to the most prestigious vessels in the fleets. "At the time Nanjing was the capital of China, the capital of the Ming Dynasty, and it was the Ming emperor who ordered the voyages, so that is why the boats were made in Nanjing and why the voyages began here." Other boats were made in the eastern provinces of Zhejiang, Jiangxi and Fujian provinces, he said. Today only three of Nanjing's seven ship docks where the boats were built remain, and only one has been excavated.

During his seven voyages, the eunuch Zheng travelled as far as northern Australia and the western coast of Africa with fleets growing to more than 300 ships, many of which dwarfed the boats that Christopher Columbus would use to discover America nearly 100 years later. By comparison, maritime historians have marvelled at how the three ships that Columbus navigated to America could all have fit snugly on deck of Zheng's command ship, his nine-mast treasure boat.

Zheng's fleet was made up of many types of boats of differing sizes. Besides the bigger and more comfortable treasure boats, there were smaller vessels for soldiers, grain, supplies and horses, Ma said. Up to 27,800 men, including sailors, clerks, officers, soldiers, artisans and doctors sailed on the voyages that visited 37 countries from Vietnam to Africa from 1405 to 1433. Zheng also transported princesses for marriage abroad and brought diplomatic emissaries back to China.

The excavated site was opened to the public this summer as part of Nanjing's Zheng He commemorations that also included the rebuilding of the Tianfei Temple, dedicated to the sea goddess Mazu, that was built in 1407 after Zheng returned from his first voyage. The temple, which was destroyed by Japanese artillery in 1937, sits next tothe Jinghai Temple, or temple to the calm seas, which was also built in Zheng He's time and where Zheng lived late in his life when not at sea.

Excavations of the ship yard took place in 2003 and 2004 with many of the1,500 artifacts found kept at a museum in the park or in other museums in Nanjing and around China. Included in the display is a 600 year-old wooden mast that stands about 11 metres tall, several iron and bronze anchors, wooden and iron tools and plenty of old rope, wooden planks, nails and metal clasps. Caches of tung oil were also found. The oil, when mixed with lime mortar, became one of the world's first waterproofing agent for boats. The boats were built upon wooden scaffolding in a dry dock that was flooded with water when the boat was completed and then floated onto the Yangtze river. The ruins of the scaffolding can still be seen in the excavated pits.

The park plans to build a replica of one of the treasure boats which should be completed by next spring, park administrators said.

China's government has largely commemorated the 600th anniversary of Zheng's voyages – and his apparent disinterest in the conquest of faraway lands despite overwhelming naval superiority – as proof that China's 21st century rise as a global economic and political power will come peacefully. But for many, Zheng's exploits are also a reflection of China's long-standing closed door mentality and its failure to make better use of its powerful navy and innovations such as the compass and boat building to strengthen its global influence. After the death of the Ming Yongle emperor, the mover behind the voyages, Zheng was allowed one final voyage before his fleet was grounded and Chinese maritime exploits came to a halt.

"Zheng's voyages were the result of the will of the Yongle emperor to explore the high seas, but as soon as the emperor died, exploration of the sea ended in a rather dramatic way," Feng Xiangxiang, a curator at the Jinghai Temple said. Inward looking bureaucrats at the time stifled the maritime industry throughout the nation and boats built over a certain size became punishable by death. "Today we say that going into the sea was not a mistake, but due to China's feudal bureaucratic system maritime travel was stopped and from then on the nation fell behind in navigation sciences and the country became weak," Feng said.

China's failure to take advantage of its powerful navy would come back to haunt the nation several hundred years later during the Opium Wars of the 19th century. At that time British gunboats forced their way up the Yangtze River and anchored not far from the site of Zheng He's boat yards. Ironically, it was in the Jinghai Temple that Great Britain negotiated the 1842 Treaty of Nanking ending the first opium war and ceding Hong Kong to Britain.

Hermitage Museum and AMO Sign Memorandum of Understanding to Define the 21st-Century Museum

[Rotterdam, 1 November 2005] The State Hermitage Museum (St. Petersburg) and the think tank AMO, part of the Office for Metropolitan Architecture (OMA), have officially agreed to pursue a collaborative study of the future of the 21st Century museum. The joint effort will be to define the Hermitage as a new prototype for the museum in the 21st Century.

On the occasion of Russian President Vladimir Putin's state visit to the Netherlands, Mikhail Piotrovsky, director of the Hermitage, and Rem Koolhaas, partner of AMO/OMA, signed a Memorandum of Understanding this morning in Amsterdam. The project is expected to begin in early 2006.

The enormity of the Hermitage's collection combined with its extensive number of rooms has created a scale, complexity and an organisation that approaches urbanism. For this reason, the Hermitage and AMO will develop, as part of the study, a Curatorial Master Plan, which will focus on the intersection between the needs to modernize and to preserve the museum's approach to art and historic preservation.

Both parties intend to finance the project through public and private funding sources. A fundraising campaign is already under way to realize the project.

In the recent past, many museums have modernized through architectural extensions. The basis of this joint study will be to address the need of the museum to explore other means of change that do not threaten the history of its buildings but instead preserve their architectural integrity.

Of all the world-class museums, the Hermitage sustains the largest collection, and the largest number of exhibitions. In recent years, the Hermitage has expanded its reach with satellite spaces outside Russia, including in Amsterdam and London. AMO has been a consultant to the Hermitage in its pursuits of an extension in St. Petersburg (the General Staff Building), and OMA has been the architect for the satellite space shared with the Guggenheim Foundation in Las Vegas (USA). The pursuit of this new project will be a continuation of this longstanding partnership between the Hermitage and AMO/OMA.

Rimouski Museum Acquires Canadian Submarine

[Ottawa, Nov. 15 /CNW Telbec/] Marking the first time that a Canadian submarine will be preserved as a museum, the Department of National Defence today announced that Musée de la Mer de Pointe-au-Père, Que. has acquired HMCS *Onondaga*. "Having HMCS *Onondaga* on display will provide a rare opportunity for all Canadians to learn more about an important aspect of our naval history" said Captain (Navy) Larry Hickey, Commander 5th Maritime Operations Group in Halifax, NS. Captain (Navy) Hickey, a former Commanding Officer of HMCS *Onondaga*, made the announcement on behalf of Defence Minister Bill Graham.

HMCS *Onondaga* is an Oberon-class submarine, built in Chatham, UK. She was launched in 1965, commissioned in 1967, and served Canada with distinction until July, 2000. HMCS *Onondaga* was one of three Oberon-class diesel/electric submarines acquired in the 1960s by the Royal Canadian Navy, the others being HMCS *Ojibwa* and HMCS *Okanagan*. For more than 30 years, HMCS *Onondaga* played a significant role in protecting Canada's sovereignty and security.

"Life aboard a submarine has always seemed a bit mysterious to the public" explained Vice-Admiral Bruce MacLean, Chief of the Maritime Staff and a former submarine commanding officer. "Visitors to the museum will be able to experience hands on what it was like for the many submariners who served Canada proudly in this class of submarine."

Once further fundraising and site preparation is complete, the Musée intends to take possession of *Onondaga* during the summer of 2006, transporting the submarine from Halifax for permanent display in Pointe-au-Père. *Onondaga* will be located near the Pointe-au-Père wharf, and will offer interactive displays. The Musée hopes that the Onondaga could attract up to 100,000 visitors annually.

[*Editors' note: the Pointe-au-Père museum is noted for it's display of many artifacts from the wreck of the* Empress of Ireland, *which lies a few miles offshore.*]

What's going on at the Vancouver Maritime Museum – Fall 2005?

"On the Waterfront: Forgotten Images, Remembered Stories": In our newest exhibit, the story of Greater Vancouver is inexorably linked with the sea and the mighty Fraser River. We focus on some never before published images and their stories, which provide an authoritative and lively tour of maritime history and explore the dynamic relationship between water, people, ships and events along a working waterfront.

"Treasures from the Maritime Museum's Archives": J Torben Karlshoej Gallery features Treasures from the Museum's Archives. Rare and original brochures, sailing schedules, and passenger lists will be some of the items on display from the first half of the 1900's and a time when oceanic travel brought visitors, new immigrants, and goods to Vancouver and beyond.

RCMP Arctic Schooner *St Roch*: Step back in time on board Canada's celebrated RCMP Arctic schooner housed ashore. Wander the ship's narrow corridors where it is 1944 and you are crew on her second and most famous voyage through the treacherous North West Passage. *St Roch* was the first ship to travel the treacherous Northwest Passage in both directions, as well as the first ship to circumnavigate North America.

"Sea Hunter Sundays": Join us at the Vancouver Maritime Museum for Sea Hunter Sundays. Explore the Maritime Museum on your own, view artifacts from famous BC shipwrecks and watch one of the episodes of the popular TV show *The Sea Hunters* - a documentary series about shipwrecks from around the world. Video begins at 2 pm. Free with paid Museum admission.

www.vancouvermaritimemuseum.com

Conferences and Symposia

The World of Michael of Rhodes

A conference featuring the recently rediscovered Michael of Rhodes manuscript sponsored by the Dibner Institute for the History of Science and Technology:
December 1-3, 2005
Dibner Institute, MIT E56-100
Cambridge, MA - USA

Registration is free but, as space is limited, please RSVP to Dawn Davis Loring at dloring@mit.edu or 617-253-8721. For updated conference information, please visit: dibinst.mit.edu/mor-conference.
[*Editors' note: more complete details may be found in the "Conferences and Symposia" section of the July 2005* Argonauta.]

What's New to Say about Captain George Vancouver?
At the Maritime Museum of British Columbia, Victoria, 21April 2006

This event, chaired by Barry Gough, will consist of a number of invited presentations that address new possibilities for research about the famous navigator and explorer of the Royal Navy in the Pacific, notably in British Columbia, Alaska, Washington, Oregon and California, Hawai'i, other Pacific islands, New Zealand and Australia. Attention will be drawn to such matters as ships and ships' companies, disease and provisioning, native responses and interaction, Spanish and other rivals and encounters, hydrography and cartography, literary and biographical results and consequences – indeed anything that forwards the agenda that the life and voyages of Captain Vancouver embrace. Note: because of limitations of time the symposium will deal directly with Captain Vancouver and cannot be a meeting embracing all aspects of the history of discoveries and international politics of the time.

A registration fee, to include admission to MMBC, lunch and refreshments, will be charged. In addition, patrons are being sought for this event. FURTHER DETAILS from BARRY GOUGH: bgough@wlu.ca or by phone 250 592 0800

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- Capturing Georgian Bay Lights - Russell Floren
- The Hand that Lit the Beacon: Men and Women, Canadian & American - Ed Butts
- Telling Your Lighthouse Story: A Photojournalistic Approach- George Plant
- Lighthouses Weather Lore & Art - Phil Chadwick
- The Future Needs of Lighthouse Preservation in the 21st Century: NHLPA is only the beginning - Dr. Steve Belko
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- Valdy – The Great Character of Canadian Music

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"Charting the Inland Seas:
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At the Wisconsin Maritime Museum
June 1-4, 2006

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Please send abstracts to:

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Jeff Gray, Superintendent, Thunder Bay National Marine Sanctuary and Underwater Preserve, Alpena, Michigan

Conference Coordinator

Bill Thiesen, Director of Operations/Curator, Wisconsin Maritime Museum, Manitowoc, Wisconsin.

Meeting Location

Wisconsin Maritime Museum, Manitowoc, Wisconsin: The Wisconsin Maritime Museum is one of the largest maritime museums in the Midwest with a recently completed facility of 60,000 square feet, including exhibits, conference facilities, state-of-the-art library and archives, collections storage, computerized office spaces and the National Historic Landmark submarine U.S.S. *Cobia*. The Museum was established thirty-five years ago and houses one of the finest archival and artifactual maritime collections on the Great Lakes.

Hotels

Inn on Maritime Bay Spa and Resort, located next to the Wisconsin Maritime Museum with a room rate of $62 per night. Includes restaurant, bar, pool and spa facilities. All rooms afford a view of Lake Michigan or Manitowoc Harbor.

Other Manitowoc/Two Rivers Hotels: Holiday Inn, AmericInn, Comfort Inn, Super 8, Village Inn & Suites and the Lighthouse Inn range in room rates from $70 to $115 per night.

Transportation

Manitowoc is about 45 minutes from the Green Bay Airport, which is small but served by most major air carriers. It is also provides quick and easy access to air carriers. Milwaukee's Billy Mitchell Airport is an hour-and-a-half drive south by Interstate 43 and requires more time for security checks and aircraft boarding, but it serves more air carriers than Green Bay. Chicago's O'Hare Airport is about a two-and-a-half hour drive south by interstate routes and serves all air carriers.

Bear in mind that the Lake Michigan car ferry SS *Badger* serves Manitowoc from the Western Michigan town of Ludington. If you would like a scenic and relaxing four-hour ferry ride and happen to be driving from the east, then consider taking the *Badger* across Lake Michigan.

Tours

Pier Wisconsin/*Denis Sullivan* Reception: For one of the evening receptions, participants will be hosted on board the 138-foot Great Lakes schooner *Denis Sullivan* and presented a programme describing the new state-of-the-art interactive Pier Wisconsin museum facility on the waterfront in Milwaukee. The vessel will be moored just a short walk from the Inn on Maritime Bay for the convenience and comfort of participants.

Saturday Tour: One afternoon will feature a tour of Two Rivers, Wisconsin's, Historic Rogers Street Fishing Village. Known for its commercial fishing, the tour will be narrated by Sandy Zipperer, Executive Director of Rogers Street. Ms. Zipperer will describe the important features of the history of commercial fishing interpreted by the Rogers Street Museum. Participants will then have time to roam the Museum and its grounds before boarding a bus to return to Manitowoc.

Sunday tour: Participants will enjoy the Sunday tour of the Door County Maritime Museum and Door County. The tour will include the Museum, completed in 1993 and its branch facilities located along Wisconsin's scenic Door Peninsula. The bus ride back and forth will pass through the scenic lakeshore communities of Algoma and Kewaunee, construction site of the infamous USS *Pueblo*.

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