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Graphic Design: Kim Squared Inc.

Printing: Advocate Printing and Publishing

The editorial offices of CNR are located at the Brian Mulroney Institute of Government, St. Francis Xavier University in Antigonish, Nova Scotia. The mailing address is: Canadian Naval Review, C/O Adam Lajeunesse, Lane Hall, St. Francis Xavier University, 2330 Notre Dame Ave., Antigonish, Nova Scotia, Canada, B2G 2W5

Email: info@navalreview.ca

Website: www.navalreview.ca

Twitter: @CdnNavalReview

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- provide a public forum for the discussion of Canada's naval and maritime policies; and
- provide a source for the public examination of Canadian naval and maritime history and for the development of lessons learned.

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Credit: Whitney Lackenbauer

Canadian Ranger Jimmy Evalik scans his surroundings while on maritime patrol in Lancaster Sound, August 2019. The Rangers play an extensive role in Canada's Arctic, both on land and at sea. See the article by Peter Kikkert and P. Whitney Lackenbauer for insights into their vital work.

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Editorial

A Perspective on Canada's Three Shipyard Decision

In August 2019 the Canadian government announced the start of a competitive process to build six new medium and heavy Canadian Coast Guard icebreakers, thereby officially opening up Canada's National Shipbuilding Strategy (NSS) to a third naval shipyard. Under that strategy, launched in 2010, the government ran a competition to establish a strategic partnership with two shipyards in Canada to build up to 28 large coast guard and navy vessels over the coming decades.¹ The goal was not just to build the ships, but to replace the historically cyclical nature of shipbuilding in Canada with a sustainable federal shipbuilding program.

Affordable, timely ships depended on shipyards being able to invest for the long term, rather than engaging in a costly process of rebuilding facilities and a skilled workforce with every new shipbuilding contract. In 2011 Irving Shipbuilding in Halifax won the competition for combat vessels, while Seaspan Shipyards in Vancouver won for non-combat vessels. With this new competition, a third shipyard will be chosen to establish a strategic partnership with the government, an arrangement that sets out the rules and terms of negotiation under which bids can be made.

Given the government's NSS goal, is the decision to add a third shipyard a wise move? The jury is out. But a brief examination of Canada's naval and coast guard shipbuilding past can give us, if not answers, at least a perspective on the bigger picture.

It was growing tension between Britain and Germany in the years leading up to World War One that sparked Canada's modern naval shipbuilding industry. The government developed facilities throughout Canada and rapidly expanded them during the war to meet Britain's steel steamship requirements. By the end of 1916 there were naval shipbuilding yards in eight Canadian cities, and

two more added shortly after the war. But in the 1920s and during the Great Depression naval shipbuilding work declined dramatically. Those yards that survived did so based on repair work. World War Two then elevated the Canadian naval shipbuilding industry to new heights with no less than 21 yards producing close to 400 warships in the space of six years.² The shipbuilding industry contracted again after the war, with a low point in employment reached in 1950.

Growing East-West tensions, the creation of the North Atlantic Treaty Organization (NATO) in 1949, and Canada's anti-submarine warfare (ASW) role in the North Atlantic sparked a government decision to design and build ASW ships in Canada. Subsequent contracts included a total of 20 *St. Laurent*, *Restigouche*, *Mackenzie* and *Annapolis*-class destroyers built between 1950 and 1963 at shipyards in Halifax (Irving), Sorel (Marine Industries Limited, now closed), Montreal (Canadian Vickers, now closed), Vancouver (Burrard Dry Dock, now closed) and Victoria (Victoria Machinery Limited, now closed). The *Provider*-class auxiliary oil replenishment (AOR) vessel was built at Lauzon (Davie) in the early 1960s, two *Protecteur*-class AORs were built by Saint John Shipbuilding (Irving) in the late 1960s, and four *Iroquois*-class destroyers were built at Sorel and Lauzon in the early 1970s.

Icebreakers were also on the books, including: the medium icebreaker *D'Iberville* (Davie, built early 1950s); light icebreaker *Labrador* (Marine Industries Limited, built early 1950s); light icebreaker *Alexander Henry* (Port Arthur Shipbuilding, now closed, built late 1950s); and heavy icebreaker *John A. Macdonald* (Davie, built late 1950s). These were transferred to the newly created Canadian Coast Guard in 1962, to which was later added the heavy icebreaker *Louis St. Laurent* (Canadian Vickers, built mid-1960s).



Credit: Timothy Choi

Seaspan Vancouver Shipyards is one of the two original National Shipbuilding Strategy shipyards. Seaspan's yard is made up of multiple separate buildings. Visible at right in this December 2018 photo is the second Offshore Fisheries Science Vessel being assembled for the Canadian Coast Guard.



Credit: Walter E. Frost, via City of Vancouver Archives

Built at Halifax Shipyards, the *Restigouche*-class destroyer escort HMCS *Chaudière* sails in Burrard Inlet, Vancouver, July 1970.

After two decades of relatively continuous builds, navy and coast guard shipbuilding stopped for the better part of a decade. When it was ready to revisit major shipbuilding, the government turned first to coast guard requirements. The *Pierre Radisson*-class of four medium icebreakers were built in Vancouver (Burrard Dry Dock, later Versatile Pacific Shipyards and then Vancouver Drydock Company, bought by Seaspan in 1991) and St. Catharine's (Port Weller Dry Dock, now closed) between 1977 and 1985. The *Martha L. Black*-class of six light icebreakers was built at Vancouver (Versatile Pacific Shipyards), Collingwood (Canadian Shipbuilding, now closed), Tracy, Quebec (Marine Industries Limited, now closed) and Halifax between 1985 and 1987. In the mid-1980s the government realized there still remained over-capacity in the shipbuilding industry and paid owners to close shipyards across Canada.³ The government then turned to navy vessels, including 12 *Halifax*-class frigates, built between 1987 and 1996 at Saint John and Lauzon, and 12 *Kingston*-class Maritime Coastal Defence Vessels built at Halifax between 1994 and 1998.⁴

What followed was a 'bust' in Canadian shipbuilding unseen since the interwar period. Whereas six years separated the launch of the last *Iroquois*-class destroyer in 1971 and the start of the first *Pierre Radisson*-class medium icebreaker in 1977, there were no major navy or coast guard ships built in Canada between the last *Kingston*-class vessel in 1998 and the government's decision to proceed with a shipbuilding strategy more than a decade later. When in

2015 construction started on the Offshore Fisheries Research Vessel *Sir John Franklin* at Seaspan, and the Arctic Offshore Patrol Ship *Harry DeWolf* at Irving, this marked the end of a 17-year drought in naval shipbuilding, and an almost 30-year drought in major coast guard builds. Since then, to the original 2010 strategy of 21 combat vessels and seven non-combat vessels, the Liberal government has added about 20 coast guard vessels.⁵

What does this cursory history tell us about the three-shipyard decision? During boom times of the past, naval contracts sustained more than three shipyards. At no time were there only three yards, much less two. The many yards marked 'now closed' indicate the degree to which the industry has accommodated a necessary reduction in the number of shipbuilding facilities. And Canadian navy and coast guard shipbuilding, or lack thereof, has reached so critical a threshold that the planned number of builds in the 2020s/30s promises to exceed those of the 1950s/60s and 1980s/90s.

Thus, the addition of a third shipyard would seem to be a sensible one. But it is not without risk. If, over time, it dilutes the workload of the other non-combatant yard to the point that neither can sustain modern facilities and highly skilled personnel, then the familiar boom-and-bust issues will have returned. For this reason, the government needs to begin now to think about the next build. This should centre on Canada's submarines, which are of growing importance in this era of increasing great power tensions and a melting Arctic, and will come to the end of their operational life in the 2030s. It is time for the Canadian government to start incorporating a future submarine capability into its evolving National Shipbuilding Strategy. 🍷

Elinor Sloan

Notes

1. This would consist of 15 Canadian Surface Combatants; six Arctic Offshore Patrol Vessels; four Coast Guard fisheries vessels; two Joint Support Ships; and one polar-class icebreaker.
2. Garth Wilson, *A History of Shipbuilding and Naval Architecture in Canada* (Ottawa: National Museum of Science, 1994), p. 53.
3. Steve Durrell, "Shipbuilding Centres of Excellence: The Road Map to a Sustainable Industry," in Douglas L. Bland (ed.), *National Approaches to Shipbuilding and Ship Procurement* (Kingston, ON: Queen's University School of Policy Studies, 2010), p. 107.
4. I do not include the *Orca*-class patrol vessels built for the navy in the mid-2000s in this narrative because although these are important ships, they are small compared to the others discussed and are not commissioned. The focus here is on major ships.
5. This number consists of 16 Coast Guard multi-purpose vessels; two 'civilianized' Arctic Offshore Patrol Vessels; and six medium and heavy icebreakers (breakdown unknown).



Credit: Davie Shipbuilding photo archives

The *Halifax*-class frigate HMCS *Ville de Québec* is prepared for launching at Davie Shipbuilding in Lauzon, Quebec, 16 May 1991.

Voyage of *Xue Long* in the Northwest Passage 2017

Nigel Greenwood



Credit: Nigel Greenwood

The crew and passengers of the Chinese research icebreaker Xue Long are treated to a long Arctic sunset in Peel Sound, 3 September 2017.

It is 3 September 2017 and I am on the bridge of an icebreaker proceeding south in Larsen Sound. This, for navigators, is the proverbial Val d'Enfer; ahead just a few nautical miles is the area where Sir John Franklin's ships *HMS Erebus* and *Terror* were abandoned in 1848, setting the scene for the greatest Arctic rescue operation (and mystery) to date.

I am not here by accident. Following my most recent transit from Vancouver, BC, to Nuuk, Greenland, onboard the Finnish icebreaker *Nordica*, Captain Duke Snider, the principal of Martech Polar Consulting Ltd, had called me with an offer he said I could not refuse. He was coy about the details but promised I would be rewarded if I could get myself back to Nuuk within a week.

By the time I was taking off for Reykjavik, Iceland, and Nuuk, the desire for initial secrecy was revealed: I was to join the People's Republic of China (PRC) government icebreaking research ship *Xue Long* (*Snow Dragon*) to help her complete a circumpolar voyage.

My initial interest in the voyage, given the origin of the vessel, was tinged with a little surprise at not receiving any pre-briefing from interested government agencies. I

was curious, but not deterred. But that must have been nothing compared to the surprised curiosity of the other party who, having requested some technical assistance, found themselves playing host to a retired Rear-Admiral of the Royal Canadian Navy (RCN)!

So let me tell you how it went.

Background to Arctic Navigation

Canada's Arctic territorial sovereignty has long been established and, apart from the trivial exception of Hans Island, is unchallenged. The same cannot be said of the sea areas between the islands, which are subject to the evolving customary law of the sea, clarified and elaborated by the UN Convention on Law of the Sea (UNCLOS III, 1985). Historical arguments and UNCLOS III form the basis of Canada's claim over Arctic waters, but these are not recognized by our closest neighbour, among others. For reasons of geostrategic mobility, the United States defines the Northwest Passage (NWP) as an international strait and asserts its right of unfettered 'transit passage.' Until recently, Canada and the United States have 'agreed to disagree' on this matter and, through the mechanism of the 1988 Arctic Cooperation Agreement (ACA), we have

managed occasional transits of US Coast Guard ships 'without prejudice' to our respective positions. Routinely, such voyages are also managed under the mechanism of Marine Science Research requests (MSR) through the Department of Fisheries and Oceans (DFO).

A few things have happened recently to disturb this delicate balance. First, the verifiable diminution of summer Arctic sea-ice cover has renewed expectations of ice-free (or at least open water) sailings of the NWP and Russian Northern Sea Route (NSR) some time in this century. Interest in this accelerating trend has drawn more countries to launch scientific expeditions to examine this 'canary in the coal mine' of global climate change. Second, both Russia and China are building their militaries by developing capabilities and dispositions that generate fears that the Arctic will be militarized. This is most clearly the case with Russia, which arguably has the most coastline and existing Arctic trade to defend, and therefore the most justification for enhanced capability in this area. But China is quickly gaining capability and defines itself as a 'near Arctic' power. As well, China's aggressive manoeuvres in the South China Sea (SCS) in the last few years have generated fears that similarly excessive claims or obstructive behaviour might follow a greater Chinese involvement in Arctic affairs.

By the time I landed in Nuuk, I was aware that the Chinese had applied for permission to conduct research along *Xue Long's* passage and had arranged to take three Canadian government representatives onboard. These were two hydrographers from the Canadian Hydrographic Service (CHS) and the DFO National Manager responsible for overseeing foreign MSR requests, so at least this voyage had an overt scientific object.

Underway Again

I landed in Nuuk at dinner time on 26 August, happy for the bright evening sun to dispel the gloom of my 10-hour layover in drizzly Reykjavik. At this point my embarkation details were not yet fixed. I had not been engaged early enough to join the CHS/DFO representatives who did a boat transfer from a Canadian Coast Guard (CCG) ship in international waters off the coast of Greenland a couple days earlier. Nor was it likely that the Chinese would pay for an expensive charter helicopter flight to the ship offshore. So I had a couple days to spare while the ship's Greenland agent worked out the details of diplomatic clearance and pilotage. This gave me time to review what I knew of the ship.

Xue Long was built by the Kherson Shipyard in the Ukraine in 2013, for service on the NSR. Later she was acquired by the Chinese for resupply of their Antarctic



Nigel Greenwood and Ice Forecaster Li Chunhuan (left) brief Captain Quan Shen (right), in charge of China's icebreaker program, on ice conditions along the route. 31 August 2017.

science bases, a job she is well suited for by virtue of her cargo-carrying capacity. She carries a crew of 34 but can accommodate up to 128 with scientific staff onboard. *Xue Long* is a relatively large ship (15,353 GT; 21,025 tonnes displacement), 167 metres long, 22.6 metre breadth and drawing up to 9 metres of water. She is propelled by a single diesel-driven screw, allowing open water speeds up to 18 knots. Her assigned Chinese ice-class is CCS B1*, which gives her capability to break through 1.1 metres of ice at 1.5 knots. This translated to Canadian Type A on the Certificate of Compliance with the *Arctic Waters Pollution Prevention Act*. The correspondence between foreign and Canadian ice-classes is not always exact, and in this case the assigned class was probably low; that is, on the safe side.

By 29 August the diplomatic clearance was obtained and I was embarked by boat in the sound just off the Nuuk waterfront, where *Xue Long* arrived under the close watch of a *Knud Rasmussen*-class Danish patrol boat. As we got underway from Nuuk, I quickly made the acquaintance of my Canadian colleagues. The DFO representative, Jennifer Vollrath, was particularly pleased to see me – she related her surprise that the ship's officers had indicated an intention to go through Parry Channel, the main westward axis of the NWP comprising Lancaster Sound, Barrow Strait, Melville Sound and M'Clure Strait. The western reaches of this route are most often heavily encumbered by hard multi-year ice throughout the navigation season and would certainly exceed *Xue Long's* ice-class. Accordingly, after discussion with the Captain, I recommended a series of tracks through 'Route 3' which is the most common route from Lancaster Sound down Peel Sound to Franklin and Victoria Straits and then west under Victoria Island to Amundsen Gulf and the Beaufort Sea. I passed a set of waypoints to the Second Mate, and later verified that they had been faithfully entered into the

electronic navigation system and also plotted on paper charts as the ship's planned track.

The Ice Navigator's role onboard is generally not to conduct the navigation or even to advise on purely navigational matters in the manner of a coastal pilot. Rather, he (or she) is embarked to advise on ice conditions, assist in identifying different types of ice, and to advise the Captain with respect to ice avoidance and, if necessary, safe manoeuvring within the ice. It was clear that the Captain did not fully appreciate the distinction between Pilot and Ice Navigator, as I was asked on several occasions to verify the safety of our route, particularly in the ice-free waters of Cache Point Channel, the narrowest part of our passage. It should be understood that there is no coastal pilotage established for Canada's Arctic waters and I am not a qualified pilot, although a naval navigation specialist by training. But I did have previous experience on this route so I was able to put the Captain's mind at rest.



Credit: Nigel Greenwood

On 2 September 2017 members of the crew of *Xue Long* have their photos taken in Lancaster Sound with Devon Island to their backs.

The initial part of the ship's voyage through the NWP took us across Baffin Bay and past the community of Clyde River to a position off the northeast coast of Baffin Island. In this vicinity for a day we ran a number of parallel survey lines in deep water outside of the ice edge. This was a cooperative endeavour between the ship's scientific staff and the two embarked CHS hydrographers to gather multi-beam sonar data to supplement CHS's bathymetric database. Occasionally the ship would stop to calibrate its equipment with a Sound Velocity Profile (SVP) cast, but otherwise the passage was 'continuous and expeditious.' Some suggestion has been made that the ship passed inexplicably close to the site of Canada's experimental Northern Watch surveillance site at Gascoigne Inlet, but there is no merit in that suspicion: the ship followed my tracks westbound, biasing the starboard side of Lancaster Sound and occasionally adjusting for ice avoidance, but otherwise executing the passage without diversion. Likewise, the suggestion of *Xue Long* charting potential submarine routes is without foundation: the route we took was too shallow at one point for any submerged transits, and this much would have been amply evident from the most cursory examination of open-source navigational charts.

My daily routine generally involved a morning discussion of the route and anticipated ice conditions with the Captain and the representative of the Chinese National Marine Environmental Forecasting Centre. Actually there appeared to be two Captains onboard: the ship's current Master (Captain Zhu Bing) and a senior Captain (Vice Chief Engineer Captain Quan Shen) in charge of the new icebreaker building program. It was with the latter that I had several discussions regarding the requirements for passage through the NWP, reporting to NORDREG, and the functions of the Arctic Ice Regime Shipping System (AIRSS) which governs access to Canada's northern waterways.

Surprisingly, the senior officers seemed completely incurious about my background and former rank. I was not probed about Canada's armed forces or surveillance of the North. Indeed, in some ways they did not have to, for it was evident: nearly every day we were hailed by some government vessel or aircraft. It started with radio calls from a CP-140 Aurora aircraft in Baffin Bay, followed by hails from HMCS *Kingston* in Lancaster Sound, HMCS *Edmonton* off Cambridge Bay, and over-flights of miscellaneous patrol aircraft of both the Royal Canadian Air Force (RCAF) and Environment Canada in Larsen Sound, Victoria Strait, Dolphin and Union Strait, and the Beaufort Sea. In addition we spoke to two Canadian Coast Guard icebreakers and several other ships en route to exchange ice conditions. Given the limited English of the bridge



The author poses with *Xue Long*'s Captain Zhu Bing on the ship's bridge.

watch-keepers, I generally managed these communications if it appeared that language difficulties would impair understanding. It was clear from Transport Canada's occasional prompts to update track and AIRSS intentions that they also were following our progress carefully.

While the senior officers of the ship were friendly and professionally focused, the junior members evinced more blatant curiosity. It started with gentle, naïve questions that were easy to answer: yes, I had been a naval officer; yes, I had been a Captain; yes, I had fired weapons. Then came the skill-testing questions: could I demonstrate the use of the sextant? How did I plot a fix on the chart? The mate most active in these questions was somewhat of a naval aficionado: he wore an olive-green flight jacket festooned with patches of various cruises. But his quizzing was politely constrained and stopped once he had satisfied himself that I really was a navigator!

Most of my discussions on the bridge were with the two Captains and the Ice Forecaster. I lent the latter my copy of the National Research Council book *Identifying Old Ice in Summer*, and talked her through the key indicators. For all of them I explained the functioning of the AIRSS risk-assessment guide to navigating in ice, emphasizing that complying with this guidance was a condition of passage through the NWP other than conforming to the older, more restrictive Zone-Date system of limited navigational windows for ships of different ice-classes. It quickly became apparent that the two Captains had a view of the ship's ice capability that exceeded the limits of a Type A. Captain Zhu Bing related that the ship had maintained eight knots through two metres of ice across the Russian North and had at one time experienced up to four metres of ice. It took several sessions of explaining AIRSS to get them to accept this as a formal risk-assessment guide to be

used for their benefit in providing freedom of movement in the NWP, and that my advice would be shaped by the constraints of their assigned ice-class.

Throughout the voyage I was constantly impressed by the ship's connectivity to the internet. This was not only evident by my own ease in accessing the Canadian Ice Service's products through the ship's wifi, but was manifest in the evening migration of crew members to the bridge in order to call home to Shanghai on their cellphones. This gave me the opportunity, as in the mess hall, to size-up the crew. The total onboard for this voyage was 97, with about two-thirds of those being scientific staff. Many of the crew were young (20s, early 30s) and about 30% of them were female. Strangely, the scientific staff seemed more regularly and consistently attired in the grey-blue uniform and red jackets of the CHINARE¹ than the crew. Only occasionally did I see the ship's officers in uniform, events usually associated with photo opportunities. The Captain himself was normally in very casual civilian clothes and once when he was more splendidly uniformed in whites, he explained ruefully that he had to appear on a video-linked media interview.

The senior officers and bridge watch-keepers had a tentative working grasp of English, but otherwise communication was rather limited. This did not stop the crew from engaging me to their full capacity on the bridge or in the mess. When having more technical and detailed discussions with the Captains, and in addressing the 'Arctic University' (an all-hands brief on Arctic history, operations and sovereignty that I gave in the ship's lecture room to a crowd of about 60), a translator rendered my words into Mandarin. The ship's doctor, doing a locum from his day job as a trauma surgeon in Shanghai, was particularly proud to share with me his few words of French. This officer was also my guide to the unrecognizable pleasures of the mess hall. Food was served buffet-style in a large mess seating almost the whole crew at once. It consisted of a bewildering and plentiful array of very traditional cuisine, ranging from perfectly bland steamed rolls to exciting Schezuan curries. I was able to stomach the curried pigs' intestines, but at the point that the doctor was unable to identify a dish and declined it, I followed his lead.

On 3 September *Xue Long* experienced the heaviest ice of her transit of the NWP, just south of Bellot Strait. Earlier in the day we had passed two yachts and a tug in a bay in the vicinity of Cape Eyre, and at 0800 we sighted south of the Tasmania Islands the CCGS *Sir Wilfrid Laurier* (out of Victoria), which later passed within a couple miles of us. By 1000 we had slowed to five knots to enter a regime of 5-6/10ths of Old and Thick First Year ice.² Momentarily there was great excitement on the bridge as two polar



Xue Long encounters heavy ice in Victoria Strait. 3 September 2017.

bears were sighted on the ice about a mile to starboard – no knowledge of Mandarin was required to understand the sentiments of the crew members who flooded the bridge to get a fleeting glimpse!

From this point on we navigated carefully down the east side of Larsen Sound, Franklin Strait and Victoria Strait, endeavouring to stay in ice regimes of less than 5/10ths concentration. CCGS *Des Groseilliers* was spotted by radar and Automatic Identification System (AIS), escorting MV *Rosaire des Gagnes*, one of the ships out of Montreal that is tasked with resupply of northern communities. As the day worn on, the visibility diminished periodically in fog and mist and, with the equinox approaching, night descended so that navigation by searchlights was necessary. Eventually a full moon rose to the south, reflecting off the dead calm sea to illuminate the ice ahead of us. By 1900, we had exited to open water with only occasional ice in small remnants. Skirting some more ice to starboard and detouring east of Jenny Lind Island to avoid ice in Icebreaker Channel (naturally!), this was the last ice with which we had to contend until we reached the Beaufort Sea on 6 September.

Scientific Cooperation Suspended

On the morning of 4 September we were overflowed by an Environment Canada surveillance aircraft and shortly afterwards we were hailed by HMCS *Edmonton*, requesting us to heave-to and be ready to disembark our Canadian scientists. This came as a complete surprise to my colleagues who had anticipated staying to disembark at Sachs Harbour on Banks Island just as we exited the NWP. A few hasty satellite phone calls to Ottawa by the DFO representative confirmed that this was indeed the order, much as it seemed to conflict with the objective of partnering with the Chinese scientists throughout Canadian waters. So, with some misgivings, my Canadian colleagues quickly collected their things and departed.

This episode caused some consternation among our hosts, and then some amusement: the authoritative voice that had announced itself as ‘warship Edmonton’ came chugging out of Cambridge Bay an hour later in the form of a diminutive patrol ship totally devoid of any visibly threatening armament. The Captain of *Xue Long* interrupted his intelligence collection long enough to turn to me, with some mirth, to query: ‘this is a warship?!’ For once, the missing 40mm Bofors might have been more effective than a 50-calibre gun.

Once the awesome Arctic presence of the RCN had departed, we resumed our voyage with me now the sole Canadian onboard (but not acting as a representative of the Canadian government). Early on 5 September we passed through Cache Point Channel, the narrowest part of our passage. Recalling the senior Captain’s concern, I made a point of being on the bridge to verify the navigation. The mate on watch was able to show me the parallel index function on the ship’s (American) Sperry radar, but it was not clear that he was either experienced in its use or inclined to employ it. I did this for him and proved the accuracy of the GPS in this singularly critical part of the navigation.

Safely past this challenge, we continued in ice-free waters until encountering the Beaufort ice-pack west of Banks Island late on 6 September. We had our last communication with our shadow at this point, with Canadian Patrol Aircraft 111 calling at 1030 to wish *Xue Long* ‘best wishes for your return voyage to home port.’ After about five hours of transiting loosely scattered second- and first-year ice, we regained open water and headed northwest for a series of CTD drops (a water-sampling process for oceanographic analysis), having exited the NORDREG area in the early hours of 7 September.



“All hands to dumpling stations” in the Dolphin and Union Strait.

Arctic Basin and Alaska

Over the next few days we worked our way steadily west to a position about 76 N 170 W, in which general area we ran parallel survey lines for the succeeding seven days. During this time the days got progressively darker with the approach of the equinox, aided by the disorienting daily retarding of clocks to achieve Beijing time well ahead of the anticipated return to home waters. From 9-19 September the ice edge as reported by the Alaska Sea Ice Program (ASIP) continued to migrate north to its seasonal minimum extent. It was clear that the season was about to turn, however, as we had several days of high winds, with negative temperatures and blowing snow.

During this period one of the scientists fell down a ladder and broke his arm, necessitating some discussion with the US Coast Guard (USCG) regarding possible options for disembarking. As this request was managed through the ship's agent in Nome, there was some misinterpretation of requirements, resulting in a preliminary plan to stage a helicopter medevac off Kotzebue. The urgency of the matter did not require such efforts so we were again directed to our initial destination of Nome, Alaska, where the USCG would meet us with a boat transfer. En route to this rendezvous we were hailed by both USCGC *Alex Haley* with a detailed query, and also by the Russian Border Services. As we had taken care to remain on the US side of the demarcation line in the Bering Strait, we ignored the latter.

Finally we arrived at Nome, where we were made to anchor 15 nm off the port, a seemingly excessive measure of security for the announced landing of three persons. During this procedure *Xue Long* was subject to intense scrutiny by USCG boat, ship and helicopter assets, which were in turn just as closely observed from the Chinese side.

Silence and Arctic Rumbings

In the two years since I finished the *Xue Long* voyage I have often wondered what it meant, either to the Chinese or to the Canadian government (which had spent some effort to track the ship). Had Canada been satisfied that this was a benign voyage, free of a hidden Chinese agenda for the North?

Perhaps the situation would be different now. Many countries have responded to projections of an ice-free Arctic with renewed efforts in polar research, and eco-tourism expeditions have also continued to add to the traffic in the North. Canada, China and the United States have either launched or announced plans for new icebreaking vessels, while the export of liquified natural gas from the Russian Yamal gas fields in very strongly ice-capable tankers has set a new bar for independent cargo-carrying operations

on the NSR. And the increasing military capability and focus of several Arctic states (and 'near Arctic' states) has been conflated with incipient competition and conflict. The last, particularly, has been given credence by the increasingly aggressive postures of China and Russia, both in diplomatic behaviour and in practical operations in their own areas of interest. Is any of this a threat to Canada's sovereignty in the NWP?

Strangely, it is Canada's southern neighbour which seems most intent on upsetting the status quo in this respect. The words of the US Secretary of State at the Arctic Council of early May 2019 seemed to repudiate publicly the accommodation arrived at with Canada in the 1988 Arctic Cooperation Agreement. He starkly characterized the Canadian claim on the NWP as 'illegitimate' and, while avoiding the term 'climate change,' he suggested the steady retreat of sea ice would enable Arctic trade routes to rival the Suez and Panama Canals. Previously on several occasions the Secretary of the Navy has spoken of freedom of navigation patrols (FONOPS) in the NWP, and shortly before the Arctic Council meeting had reiterated this intent in terms that made clear he had not just misspoken.



On 22 August 2017 HMCS *Edmonton*'s crew secure lines as the ship departs Nome, Alaska. In around two weeks' time, they rendezvous with *Xue Long*.

Credit: Cpl Andre Maillet,
MARPAAC Imaging Services



Xue Long lies at anchor off Nome, Alaska, on 23 September 2017 at the conclusion of its westbound voyage through the Northwest Passage.

Canada has appreciated for some time that the US agenda for global engagement through strategic maritime mobility requires it to challenge the limiting claims of some coastal states. While not signatory to the UN Convention on Law of the Sea, the United States relies on navigational demonstrations to establish and defend rights of transit through customary maritime law. The NWP is thus seen in some ways as a test case for the access that the US Navy seeks to guarantee elsewhere. But it is hard to see merit in the newly aggressive US stance regarding the NWP. Is this a matter of ‘killing a chicken to scare the monkeys,’ to use a Chinese proverb? As Winston Churchill might have said: some chicken ... some monkey! The Russians and Chinese might be amused to see the United States dominate its closest ally and trade partner, but they know that such exercise of US geopolitical realism does not represent the higher stakes at play in their own part of the world.

So will we see a FONOP in the NWP shortly and, if so, conducted by whom? For many reasons, this is fraught with great practical and diplomatic risk. The possibility of failure to pass through and the likelihood of incurring damage to a thin-skinned warship could be seriously embarrassing, and more so if (Canadian) icebreaker services are called upon to extricate the ship from a difficult situation.

But let us say that the FONOP is conducted and Canada does not successfully oppose this, either practically or diplomatically. What will be gained? Will China and Russia rejoice in further damage to the spirit of cooperation among Western states, or quietly and gratefully accept that the United States has just delivered a *laissez-passer* for their own nuclear submarines to transit the NWP? Either way, they are unlikely to modify behaviour with respect to their own core interests on the basis of this marginally relevant demonstration. And the United States will

have impaired North American collective defence for no clear gain. Once again, Barbara Tuchmann could be adding examples to her thesis in *March of Folly*, in which she documents various states’ pursuit of policies contrary to their own interests.

As the 2019 northern navigational season starts, I reflect upon this voyage of *Xue Long* and what has happened since. The record-breaking voyage of *Crystal Serenity* in 2016 encountered very little ice, while setting a new bar for numbers of luxury cruise passengers transiting the NWP. The subsequent voyage in 2017, just before *Xue Long*’s, encountered much more ice but if the ship had attempted this the year after it might have been disappointed in a different way: 2018 was the 11th heaviest ice coverage in Victoria Strait in 50 years and very few NWP transits were completed that year. So the consequences of global climate change, although undeniable (by most people!) and verifiably dramatic in the Arctic, are by no means reliably progressive on a year-by-year basis. This means that Arctic navigation will continue to be challenged by uncertainty, serious risks and danger for those unprepared for the variable, harsh and austere environment. 🍷

Notes

1. This is the abbreviated expedition name used by Chinese Arctic and Antarctic Administration for both the Arctic and Antarctic.
2. Ice ‘regimes’ are characterized by concentration (in 10ths of surface coverage) and type. Thick ‘First Year’ ice is full-season growth up to about 1.7 metre thickness. Ice that survives one summer becomes ‘Second Year’ and after another summer ‘Multi-Year’ ice. Second Year and Multi-Year ice (both ‘Old’) is not only thicker but becomes less saline, and thus harder and more dangerous. 6/10ths SY/TFY ice is about the limit of *Xue Long*’s Type A assigned ice-class.

Nigel Greenwood is a retired naval officer who previously served as Deputy Commander of the RCN and until 2012 as Commander Maritime Forces Pacific. He is a licensed Master Mariner who, apart from ice navigation, consults in operational risk assessment under the banner of Greenwood Maritime Solutions Ltd.