19th Century attempts to sail through the frozen North-West Passage from the perspective of the 21st Century

Roger J. Braithwaite
Glaciologists do a lot of digging and/or drilling
Our modern construct of “Arctic” includes the Inuit who are/were superbly adapted to their environment.
I wish my young friend could be here to give this talk!

We Inuit were nearly excluded from past exploration of the Arctic but we must be fully involved in any future developments.
It took 100’s of years to draw this map!
Think of all the poor souls who sailed into rivers and bays thinking that they might lead to NW Passage.
INTRODUCTION

This iconic voyage through the remote Northwest Passage follows in the footsteps of the early Arctic explorers such as Franklin, Amundsen and Larsen, as we explore the archipelago of islands and channels that create Canada’s high Arctic region.
<table>
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<tr>
<th>Era</th>
<th>Description</th>
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<tbody>
<tr>
<td>16-18 C</td>
<td>attempts o reach the “Riches of the Orient” by an easy (?) route. Not very well documented.</td>
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<tr>
<td>17-19 C</td>
<td>Commercial exploitation of marine mammals for oil and whalebone. Not very well documented.</td>
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<td>Late 19 C &amp; early 20 C</td>
<td>increasing use of Inuit travelling techniques and/or small ships for exploration. Very well documented.</td>
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<tr>
<td>Mid-20 C</td>
<td>Establishment of bases by ice-breaking ships. Recruitment of Inuit to modern society (for good or bad?). Very well documented.</td>
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<tr>
<td>Early 21 C</td>
<td>Tourist cruises to the Arctic. Widely advertised!</td>
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<tr>
<td>Mid-21st C</td>
<td>Possible exploitation of hydrocarbons and minerals in a “warming arctic”. Hot topic on Internet.</td>
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LATE 18 C
Geography of mainland N. America was reasonably known
Any NW passage must be through the ice-filled Arctic islands
Should have know that this would not be easy!
SEA ICE - EASTERN ARCTIC

Strong seasonal variation superimposed on long-term trend of shrinking sea ice.
If you want to sail the Northwest Passage, you need to get into Baffin Bay and then sail west until you hit open water along the north coast of North America. Even today this is only possible in August-September.
LOSS OF FRANKLIN EXPEDITION – DEFINING INCIDENT OF 19 C ARCTIC EXPLORATION

The lost expedition 1845-8
Two Royal Navy warships and 129 officers and men lost (almost) without trace

Ships spent 1845-6 winter comfortably at Beechy Island where 3 crew died and were buried. Ship got stuck in the ice in summer 1846 and had to be abandoned in 1848.
HMS *Terror* or *Erebus*

- **Captain's cabin**
- **Steering wheel**
- **Captain's bedroom**
- **First Lieutenant's cabin**
- **Galley stove**
  - Included desalination plant
- **Bow**
  - Reinforced with iron plates to break through ice

**Propeller**
- Could be removed if ice threatened damage

**Sail room**

**Engine**
- Railway locomotive capable of 25 horsepower built into hold

**Iron water tanks**

**Boiler**
- Heated ship by sending hot water through network of pipes

Manchester Geographical Society, Manchester, 9 March 2016
I joined a cruise of the NW Passage in August 2015
On the cruise we really felt that we were following in Franklin’s footsteps
HARD LIFE ON A 19 C DISCOVERY SHIP

- Risk of getting stuck in the ice or sinking
- Lousy food
- Close company of rough hairy sailors
FATE OF THE FRANKLIN EXPEDITION

- After abandoning ship the crew marched south on the sea ice pulling boats on make-shift sledges.
- They would have died in their tracks. We hope that most of them maintained Naval discipline and their Christian belief to the end.
- Many search expeditions found traces and heard stories from the Inuit.
LOOKING FOR FRANKLIN

Search for the lost Franklin expedition resulted in new geographical knowledge, including walking through the NW Passage!

Completion of NW Passage by small ship waited until early 20 C
WHAT HAPPENED TO FRANKLIN?

• Great public interest
• Still relevant question for Canadian sovereignty
• Perception there is some kind of “mystery”
• Found one sunken ship in 2014 and may soon find the other
• They may have left messages that we have not yet found but their bones provide some clues!

The Final Days of the Franklin Expedition: New Skeletal Evidence
ANNE KEENLEYSID,1 MARGARET BERTULLI2 and HENRY C. FRICKE3

(Received 19 June 1996; accepted in revised form 21 October 1996)
Our summary will have to be, then, that the crews of the *Erebus* and *Terror* perished as victims of the manners, customs, social outlook and medical views of their time. An antecedent cause of the scurvy was that failure to adapt themselves to local conditions which derived from the mental environment of their country, social class and time.
Stefansson has form! He was the clown who failed to help the crew of *Karluk* when it got stuck in the ice.

He was an anthropologist so travelling with the Inuit was part of his research methodology. His “friendly Arctic” concept not very useful for discovery scientists making systematic measurements.
FATE OF THE FRANKLIN EXPEDITION - MY OWN ANALYSIS

• I am not satisfied with Stefansson's explanation that “the English class system killed them” or that “they ignored the friendly Arctic”

• In the next few slides I examine the intellectual and institutional background to the expedition.

• Who explores?

• Why explore?
THE ARCTIC EARLY 19 C – WHO EXPLORES?

Native People
• Well adapted to Arctic but not considered much.

Fur traders
• Familiar with winter travel. Trade war between British and Canadian companies. Overstretch for Russian traders. Low profit margin. Risk adverse.

Whalers and sealers
• Familiar with sea ice. Adverse to long-term investment. Content to follow year-to-year fluctuations.

Canadian and US Governments
• Still nascent. Busy with local (southern) concerns

Royal Navy
• Eager for new missions. Employment for officers. PR. New maps. Geographical knowledge
DISCOVERY OF NATURE

Spirit of Exploration Since early 19 C (totally out of context!)
And so … ask not what your country can do for you, ask what you can do for your country.
We do these things not because they are easy but because they are hard
— President John F. Kennedy, 1961 & 1962

Exploration increasingly done less for personal fortune and more for fame, science, religion and empire
Early 19 C Science was “data collection”

Observations should be made all over the world in geomagnetics and meteorology. Alexander von Humboldt was plotting first isotherms
V.—Communications on a North-West Passage, and further Survey of the Northern Coast of America. Received by the Committee of the Royal Geographical Society appointed 8th February, 1836, to examine them. Read, 23d February, 8th and 22d March, 1836.

(From Sir John Barrow, Bart.)

"London, February 15.

The Committee having been pleased to ask my opinion regarding a further attempt to effect a North-west passage from the Atlantic to the Pacific, I cannot hesitate to state frankly what my sentiments are, and briefly on what my hopes of success are founded, should such an attempt be made.

I may observe, in the outset, that the honor and reputation which England has acquired among the continental nations of Europe, for her successful exertions in extending our knowledge of the globe, both by sea and land, has very naturally created in the public mind an ardent desire, now that we are happily in the midst of profound peace, that further endeavours should be made to complete what has been left unfinished. The expression of this feeling, which I believe was never dormant, has now found a central point to make itself heard, by the establishment of the ‘Royal Geographical Society,’ among whose objects and duties is that of receiving and considering such plans and proposals for enlarging the sphere of geographical knowledge as may be brought under its notice.

There have probably not been any voyages or land journeys which excited a more lively interest than those for the discovery of a north-west passage, and those expeditions that were sent out for completing the geography of the northern coast of North America. The renewal of these expeditions is the object that recently urged itself on the attention of the Geographical Society. That portion of the land survey which is still required, being detached parts contiguous to others that are known, would not be of difficult or uncertain accomplishment; and there are grounds sufficiently strong for believing that the question of the practicability of a north-west passage, after the experience that has been acquired, will scarcely admit of a doubt. If this be so, as I shall presently endeavour to show that it is, I think the Committee will agree with me that England would be held altogether inexcusable,—that she would justify subject herself to the ridicule of the world,—were she to suffer any other nation, by her own indifference, to rob her of all her previous discoveries, by passing through the door which she had herself opened: for, be it observed, the honor would descend upon him who first stepped over the threshold, and not on him who led the way to it—just as Vasco de Gama has run away with the honour of having discovered and passed the Cape of Good
In 1836, Richardson, Franklin, Beaufort and John Ross all advocated the “small boat” approach.

In 1836, Barrow argued for the “big ship” approach. There were so many push-pull factors for this approach that the later Franklin expedition used “big ships”.
METHODOLOGY OF FRANKLIN EXPEDITION

• Big ships as platforms for mapping and instruments
• Several senior officers with scientific qualifications (FRS!) and junior officers that can be trained
• Lots of specialists including 10% catering staff
• Sail as far west as possible in a favourable summer
• Overwinter in the ice, which will (hopefully?) move in the right direction
• Continue sailing west in the following summer
• Take enough food and fuel for several years
• Get to Hawaii for “R and R”!
RECIPE FOR DISASTER

• No plan B or pre-positioned rescue parties
• Could sail far west in an especially good summer
• High probability that following summer will not be so good so ship may not get free again
• Several years food and fuel may not be enough
• Too many “useless” mouths in the worst case for survivors to live off the country
• My conclusion is “inter-annual variability of sea ice killed the Franklin expedition” © R. J. Braithwaite, 2016
THIS ALL HAPPENED 168 YEARS AGO. WHO CARES?
CONCERN ABOUT THE FUTURE

Under Global Warming the Arctic might be more accessible for hydrocarbon and mineral prospecting. Many people would like us not to make all the old mistakes in the Arctic. The Arctic isn’t open yet but you could join Greenpeace just in case!
THE NEW NW PASSAGE

In view of present oil prices, is exploration of the Arctic for oil and gas resources really rational?

Might present advocates be driven by irrational factors, for example romantic visions of conquering nature rather than living with it?

• The oil tanker Manhatten sailed through NW Passage in 1969
• Needed a lot of help from icebreakers
• Concern that some people believe that this can be done as a matter of routine
• Recipe for new disaster?
Where did the sea ice go?

It’s all seasonal variation. I never believed all that Global Warming stuff.
There is a modern airport a few miles from where Franklin’s men died.
Gee! Doctor Roger that was a great talk!
Any questions?