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.
I follow in the steps of Sir John Franklin’s expedition 1845-8

Quotation for Dr Braithwaite
Northwest Passage East to West
Departing on 12th August 2015

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>
<thead>
<tr>
<th>Time Period</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>16-18 C</td>
<td>Attempts to 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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<tr>
<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>
</tr>
<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>
</tr>
<tr>
<td>Early 21 C</td>
<td>Tourist cruises to the Arctic. Widely advertised!</td>
</tr>
<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 known that this would not be easy!
Strong seasonal variation superimposed on long-term trend of shrinking sea ice
SEA ICE - WESTERN 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**
- **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 tank**
- **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 KEENLEYSDIE,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
Sir John Barrow (A Royal Navy Official!) argued for a new expedition to find NW Passage

This will crystallize as the 1845/8 Franklin Expedition

Barrow took it for granted that the expedition will be carried out by ships of the Royal Navy
ARCTIC ACTORS IN EARLY 19 C

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!
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?