The History of Antarctic Exploration

The Beginnings

The history of Antarctic exploration includes national and international politics, social change, scientific and technological advances, economics and even the exploration of the Arctic.

Although the first humans explored its interior only a 100 years ago, interest in the continent has existed for thousands of years, and some15th century maps included Terra Australis Incognita, the "Unknown land of the South".

Ancient Greece	About 2500 years ago it was believed a large southern continent must exist to balance the land of the northern hemisphere - being a mystical mix of treasures and strange animals.
1520	The European explorer Ferdinand Magellan circumnavigated the world, discovering the 'Magellan Strait' between South America and Tierra del Fuego.
1578	Francis Drake discovers the 'Drake Passage', even further south.
1739	Jean-Baptiste Charles Bouvet de Lozier discovers remote Bouvet Island (54°S 3°E)
1768 - 71	James Cook explores Tierra del Fuego and searches for 'Terra Australis Incognita'
1771 - 72	Yves-Joseph de Kerguelen-Trémarec discovers the Kerguélen Islands (49°S 70°E)
1773	Cook reaches 71°10'S, the closest point yet to continental Antarctica, but states that Terra Australis Incognita does not exist. He claims South Georgia (54°S 37°W) for Britain, due in part to the numerous seals and whales.
1819	William Smith discovers the South Shetland Islands (62°S 58W) which he claims for England
1820	Russia sends an expedition lead by Fabian Gottlieb von Bellinghausen which crosses the Antarctic Circle (66°S) several times, a feat not achieved since Cook's voyages.
1820's on	Sealing and whaling by Britons and Americans becomes widespread, but for commercial reasons actions and places remain secretive.
1830's	The race for Antarctica begins in earnest as countries rapidly claim land and resources. The search for the south magnetic pole also begins, with • America sending Charles Wilkes • France sending Dumont d'Urville • Britain sending James Clark Ross Intense national rivalry is evident when D'Urville and Wilkes sight each other, but Wilkes quickly changes course and disappears into fog. Today it remains unknown which of these two first sighted the Antarctic continent.

Sealing and whaling

Southern seals were nearly brought to extinction as European governments eagerly sought furs to trade with China - a situation made worse by the ease at which seals could be killed and processed. By comparison whaling was more dangerous but by the mid 19th century whales too were close to extinction as the demand for whale oil (for street lighting) and then whalebone (for corsets, umbrellas) soared. Initially whalers used hand thrown harpoons from row boats, but in 1870 Norwegians developed harpoon-cannons fired form faster and larger 'mother ships' where the processing could be done directly. These technological

D'Urville's ship the 'Astrolabe' trapped in ice. While scientists collect data the crew collect ice.

advances were soon adopted by other countries and as whale oil found new uses (lubricants, margarine) the demand for whales grew even further.

During the 1900's Britain, realising the importance of this whale resource, assumed control over parts of the Southern Ocean and started selling whaling licenses. Most of the licenses were sold to Norwegians, who in 1904 established a whaling station at Grytviken on South Georgia - a station that became so successful it did not close until the 1960's. With 2.7 million whales slaughtered between 1900 and 1930, many governments now saw the need to protect whale species, however it was not until 1945 that the International Whaling Commission (IWC) was established, with the intention of providing for the ".the orderly development of the whaling industry".

The Heroic Era

The 'Heroic era' of the early 20th century actually involved the exploration of both poles, but is misinterpreted as meaning the southern expeditions of Roald Amundsen, Robert Falcon Scott and Ernest Shackleton. A better sense of the range of expeditions to Antarctica at this time, can be gained from the following table:

Year	Expedition leader	Nation
1899 - 00	Adrian Gerlach	Belgium
1898 - 00	Carsten Borchgrevink	Great Britain
1901 - 03	Robert Falcon Scott	Great Britain
1901 - 03	Erich von Drygalski	Germany
1901 - 03	Otto Nordenskjöld	Sweden
1902 - 05	William Spiers Bruce	Scotland
1903 - 05	Jean-Baptiste Charcot	France

The benefits of international research

Today's international cooperation in polar regions began in 1882 - 83 with the first International Polar Year, an event which aimed to survey polar temperatures and airflows to better understand the world's climate, weather and ocean conditions. However with most interest being in northern hemisphere shipping and commerce only a few Antarctic observations were made. In 1895 at the International Geographic Congress in London a similar data gathering exercise for the southern hemisphere was promoted, especially by Germany's Georg von Neumayer and England's Sir Clements Markham. Consequently a surge in Antarctic research followed.

Despite political tensions, especially between Germany and Britain, scientists saw some advantages of internationally cooperating in Antarctica as it produced significant benefits, with included:

- encouraging peace between nations.
- shorter and more southern trading routes, as sail gave way to steam powered shipping.
- new products and inventions which were often supplied free, for trial on Antarctic expeditions.
- supporting national pride and opportunities. In particular the new German Empire saw a great danger in a repeat of Britain's domination of the important fishing waters of the North Sea, which had led to an 'arms race' between the two navy's and extensive propaganda campaigns.

The race to the pole

Despite the best of intentions the spirit of international cooperation quickly faded and nations simply focused on being first to reach the South Pole, as can be seen in the following timeline of expeditions:

Time	Expedition Leader	Nation
1907 - 09	Ernest Shackleton	Great Britain
1910 - 13	Robert Falcon Scott	Great Britain
1910 - 12	Roald Amundsen	Norway
1911 - 12	Wilhelm Filchner	Germany
1911 - 14	Douglas Mawson	Australia
1911 - 12	Nobu Shirase	Japan
1914 - 17	Ernest Shackleton	Great Britain

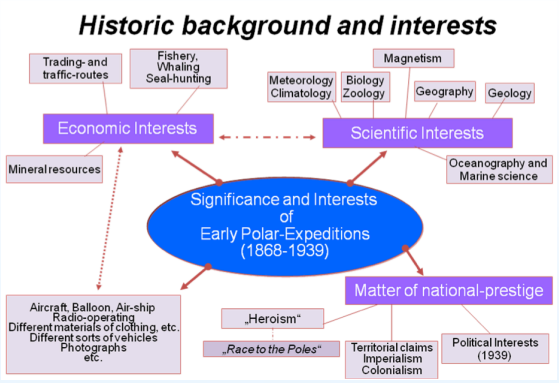
The race was won of course in 1911 by the Norwegian Roald Amundsen, who clearly saw his expedition as a sporting event and one that would help Norway to establish its own, unique national identity.

Led by Englishman Robert Falcon Scot, the second party to reach the pole arrived in the same year but ironically the circumstances of the death of the five men on their return journey almost over-shadowed Amundsen's considerable achievement.

With the South pole 'conquered' the next challenge became to traverse Antarctica, from one coast to the other across the icecap. With national pride being a prime motivation this was attempted in 1914 - 17 by Anglo - Irish explorer Ernest Shackleton. Although the expedition failed, Shackleton's leadership and the perils of their return from Antarctica forms one of the epic stories that typifies this heroic age of polar exploration. However it should also be remembered that this era of polar 'adventuring' also produced significant advances in scientific knowledge.

Following World War One Antarctic expeditions were postponed until the late 1920's, and even the traverse of Antarctic (see following) did not occurr until 1957.

Adapted from material by *Ursula Rack, University of Canterbury* by *Donald Reid, iMatters.co.nz* in association with *Gateway Antarctica, University of Canterbury.*
Curriculla: Science L4 - 8, Social Studies L3 - 4, Geography L6 - 8. History L5 - 8.
Images: NOAA,H. Ponting, Public Domain. Ursula Rack.



The reasons for polar research.
Dotted lines show interrelationships.

Between the wars

The horrors of WW1 coincided with rapid technological change, in particular the development of aircraft especially those that could transport both goods and people. Backed by national pride, these advances in aviation allowed a new aerial conquest of Antarctic.

1928 - 29	Hubert Wilkins attempts aerial photography to survey the continent but the results were disappointing, however it did however provide a new method of exploration.
1929	Richard Byrd makes the first flight to the South Pole. Following Amundsen's path he achieves in just under six hours a journey that had taken them three months.
1939	Germany mounts the 'Schwabenland Expedition' which (like Britain, USA, Norway and Australia were doing) aimed to claim parts of Antarctica. To establish a national presence German nationals were parachuted onto the ice.

After World War Two

In 1946 the United States Navy staged 'Operation High Jump' which was one of the greatest expeditions to Antarctica consisting of thirteen ships, twenty three aircraft and over 4700 men. It was a clear sign from the USA of their interest in the continent, as well as providing a deeper scientific knowledge of the continent's interior.

The last 'old style' expedition was the 'Commonwealth Trans-Antarctic Expedition' in 1955-1958 when English explorer Vivian Fuchs led a party from the Weddell Sea, heading first for the pole. At the same time a New Zealand team (including Edmund Hillary) left the Ross Sea, to prepare the way for Fuchs to continue across the continent. However somewhat controversially the Ross Sea Party reached the pole before Fuchs, effectively 'stealing his thunder' but generating national pride within New Zealand. Even so the crossing of Antarctica by the TAE was still a considerable achievement and it had taken almost thirty years since Shackleton's attempt to accomplish.

After WWII the question of claims to areas of Antarctica needed a solution and in 1957 the Antarctic Treaty was created allowing only peaceful, co-operative research on the continent. As a consequence from the 1950s many countries built scientific research stations (eg 1957 New Zealand's Scott Base) which, along with new scientific tools, brought a greater knowledge of Antarctica and its influence on world.

Task: See next page

Task: The History of Polar Expeditions

Introduction

The history of Antarctic exploration includes national and international politics, social change, scientific and technological advances, economics and even the exploration of the Arctic - factors that can be traced through the images of each era.

What to do

The material above is arranged in the order events happened (chronologically) and explains why they happened.

1. Using **only the clues within each image**, match it to one of the seven headings in the material. To inspect an image more closely the URL (web address) of the image is provided.
2. For each image state what the clues are. Give at least two for each image.

Relevance

- Polar exploration was heavily influenced by world events.
- Polar exploration changed with technological change.
- The way polar expeditions were recorded also tracks these changes.

A

upload.wikimedia.org/wikipedia/commons/d/d7/Siberian_ponies_on_board_the_Terra_Nova.jpg

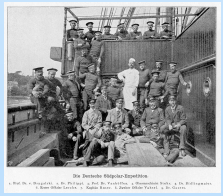
B

www.eoearth.org/files/123901_124000/123908/LAstrolabe_Zelee.jpg

C

www.bibliotecapleyades.net/tierra_hueca/esp_tierra_hueca_3.htm

D



www.coolantarctica.com/images/Gauss2a.jpg

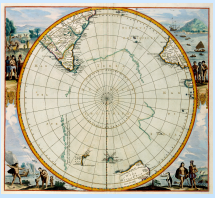
E

upload.wikimedia.org/wikipedia/commons/7/75/Steam_Yacht_%27Terra_Nova%27.jpg

F

upload.wikimedia.org/wikipedia/commons/a/a7/NATHANIEL_B._PALMER_1998.jpg

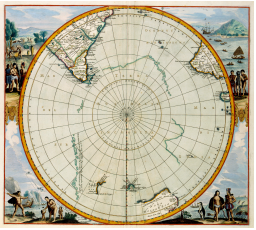
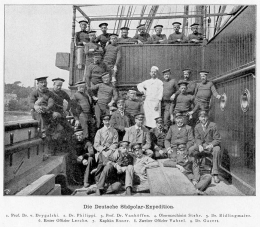
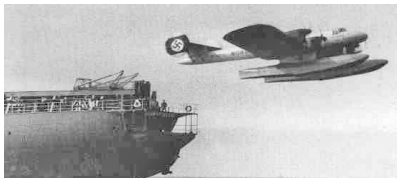
G



upload.wikimedia.org/wikipedia/commons/7/74/Terraaustralis.jpg

Headings	A to H	Two pieces of evidence from the image.
The Beginnings		
Sealing and whaling		
The Heroic Era		
The benefits of international research		
The race to the pole		
Between the wars		
After World War Two		

Task answer: The History of Polar Expeditions

Headings	Image	Evidence
The Beginnings		Imagined map. Imagined data. Continent incomplete Drawn
Sealing and whaling		Painting. Two sailing ships. (Astrolabe, Zelee) Polar waters Penguins
The Heroic Era		German caption with Drygalski. Ship design. HMS Gauss
The benefits of international research		Steam and sail Terra Nova Siberian ponies Title
The race to the pole		Dog teams Steam and sail power
Between the wars		Technology Flag, Swastika
After World War Two		Colour photo Ice breaker