Chapter 2: The Arctic worlds

Extract from the Film Home by Yann Arthus Bertrand (2009)

Text from the video:

All over the planet, the poorest scrabble to survive on scraps, while we continue to dig for resources that we can no longer live without. We look farther and farther afield, in previously unspoiled territory and in regions that are increasingly difficult to exploit. We’re not changing our model. Oil might run out? We can still extract oil from the tar sands of Canada. The biggest trucks in the world move thousands of tons of sand. The process of heating and separating bitumen from the sand requires millions of cubic meters of water. Colossal amounts of energy are needed. The pollution is catastrophic. The most urgent priority, apparently, is to pick every pocket of sunlight. Our oil tankers are getting bigger and bigger. Our energy requirements are constantly increasing. We try to power growth like a bottomless oven that demands more and more fuel.

It’s all about carbon. In a few decades, the carbon that made our atmosphere a furnace, and that nature captured over millions of years, allowing life to develop, will have largely been pumped back out. The atmosphere is heating up. It would have been inconceivable for a boat to be here just a few years ago. Transport, industry, deforestation, agriculture. Our activities release gigantic quantities of carbon dioxide. Without realizing it, molecule by molecule, we have upset the Earth’s climatic balance. All eyes are on the poles, where the effects of global warming are most visible. It’s happening fast-very fast. The Northwest Passage that connects America, Europe and Asia via the pole is opening up. The Arctic ice cap is melting. Under the effect of global warming, the ice cap has lost 40% of its thickness in 40 years. Its surface area in the summer shrinks year by year. It could disappear before 2030. Some predictions suggest 2015. Soon these waters will be free of ice several summer months a year. The sunbeams that the ice sheet previously reflected back now penetrate the dark water heating up. The warming process gathers pace. This ice contains the records of our planet. The concentration of carbon dioxide hasn’t been so high for several hundred thousand years. Humanity has never lived in an atmosphere like this. Is excessive exploitation of our resources threatening the lives of every species? Climate change accentuates the threat. By 2050, a quarter of the Earth’s species could be threatened with extinction. In these polar regions, the balance of nature has already been disrupted.
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Off the coast of Greenland, there are more and more icebergs. Around the North Pole, the ice cap has lost 30% of its surface area in 30 years. But as Greenland rapidly becomes warmer, the freshwater of a whole continent flows into the salt water of the oceans. Greenland’s ice contains 20% of the freshwater of the whole planet. If it melts, sea levels will rise by nearly seven meters.

But there is no industry here. Greenland’s ice sheet suffers from greenhouse gases emitted elsewhere on Earth. Our ecosystem doesn’t have borders. Wherever we are, our actions have repercussions on the whole Earth. The atmosphere of our planet is an indivisible whole. It is an asset we share. On Greenland’s surface, lakes are appearing on the landscape. The ice cap has begun to melt at a speed that even the most pessimistic scientists did not envision 10 years ago. More and more of these glacier-fed rivers are emerging together and burrowing through the surface. It was thought the water would freeze in the depths of the ice. On the contrary, it flows under the ice, carrying the ice sheet into the sea, where it breaks into icebergs. As the freshwater of Greenland’s ice sheet gradually seeps into the salt water of the oceans, low-lying lands around the globe are threatened.

Source: Yann Arthus Bertrand, Film Home, 2009.

Questions:
1. Present the document.
2. Find what part of the Earth is mentioned in that video.
3. Find three forms of exploitation of the Arctic resources.
4. Find three consequences of Global Warming and exploitation of Arctic resources on the Arctic region according to Yann Arthus Bertrand.
5. Try to find three questions we are going to answer during the lesson.
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Political map of the Arctic region:
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Case study: The North of Canada, between natural constraints and exploitation of resources:

Source 1: The Arctic worlds:

Source 1: The Arctic worlds:


Source 2: Arctic resources:

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Resources in the Arctic
Arctic region defined as in Arctic Human Development Report:
Alaska (US); CA - Yukon; Northwest Territories; Nunavut; Nunavik, Quebec; Labrador; Greenland; Iceland; the Faroe Islands; NO - Nordland, Troms, Finnmark; SE - Norrbotten; FI - Lappi, RUS - Murmansk, Nenets, Vorkuta (Komi); Yamalo-Nenets, Nordk & Igarka (Krasnoyarsky Kray), Taımyr; Sakha (13 northernmost subregions), Chukotka

With a seemingly insatiable demand for oil and gas, the world constantly needs to find new supplies. With current oil reserves coping with increased pressure from emerging markets in China and India, the Arctic and its seas are seen as being of crucial importance.

US oil giant Exxon Mobil, which this week signed a multi-billion dollar deal with the Russian company Rosneft to explore the Russian Arctic, described the area as "among the most promising and least explored regions for oil". Experts have known the region is rich in oil and gas reserves, but it didn't realise how much potential until 2009.

In new findings that year, the US Geological Survey estimated the Arctic may be home to 30% of the planet's undiscovered natural gas reserves and 13% of its undiscovered oil. [...] The figures speak for themselves, explaining why the world's biggest oil firms are clamouring for a piece of the Arctic action. But the environmental impact of any widespread drilling to the region is a key worry for green campaigners.

Access to the region in the event of any oil spill would be severely compromised, especially in the winter months where only 20% of the region can be accessed by boat. [...] "All the information we have is that an Arctic oil spill would be impossible to clean up," said Greenpeace spokesman Ben Stewart. “There are challenges and restrictions to

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1 to make a hole in something, using a drill (= faire un forage)
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exploration - the climate will mean drilling will be restricted to certain parts of the year” said Nick Gellatly, Oil analyst, Wood Mackenzie

[…] Other issues include the lack of a deepwater port to remove large quantities of any oil extracted - the nearest facility is nearly 1,000 miles away.

Drilling for oil in some areas of the Arctic could cause toxins such as arsenic, mercury and lead to be released into ocean waters, according to the Natural Resources Defense Council.

It wants uniform rules for all countries seeking oil or permitting a third party searching for oil within their own territorial waters.

The World Wildlife Fund also has grave concerns about any pollution - and how it can be cleaned up.

According to its Oil Spill Response Challenges in Arctic Waters report, Arctic conditions can impact on both the probability that a spill will occur from oil and gas operations and the consequences of such a spill.

The same conditions that contribute to oil spill risks (including lack of natural light, extreme cold, moving ice floes, high wind and low visibility) can also make spill response operations extremely difficult or totally ineffective.


Source 5: Competing to appropriate the Arctic:

Lomonosov Ridge: Russia argues that this underwater feature is an extension of its continental territory and is looking for evidence.

Source: BBC news, August 31st, 2011.

Source 6: Securing Canadian claims on the Arctic:

The ongoing transformation of the Arctic is as startling as it is unprecedented. Global warming is having a dramatic impact on the Arctic environment, resulting in warmer temperatures, melting ice and the opening of previously ice-covered waterways. Consequently, the Arctic is becoming increasingly accessible to a number of different actors who are descending upon the Arctic with varied, and not mutually beneficial, agendas.

2 Répandre, renverser, ici dans le sens de « marée noire ».
3 extremely unusual and surprising.
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As an Arctic nation Canada is not immune to the consequences of the transformation taking place in the Arctic. Various actors come to the Arctic as its increasing accessibility encourages both exploitation and development of this important region. Control of the Arctic will yield⁴ significant benefit to the country wielding⁵ this control. As challenges to Canada’s command of its Arctic region have been made in the past, it is not inconceivable that disputes to Canada’s control of its Arctic will be made in the future. Numerous Arctic states now assert their Arctic interests. In addition to Canada, the United States, Russia, Iceland, Denmark, Finland, Sweden and Norway, all seek to bolster⁶ their various Arctic claims. Even non-Arctic states such as China, Japan and South Korea have become very active in the region. Their claims vary from resource exploitation and development, to division of the Arctic seabed, right of transit in the Northwest Passage and interests in the Arctic. As the various actors advance their claims, the potential exists for a serious challenge to emerge for Canada’s sovereignty and security in its Arctic.

Given the transformation of the Arctic, and the consequent challenges to Canadian Arctic sovereignty, the protection of Canadian Arctic sovereignty is essential to the provision of Canadian Arctic security, and vice versa. Sovereignty and security are not mutually exclusive concepts; they are interdependent. The core of Canadian Arctic sovereignty is the federal government’s ability to control what happens in the Canadian Arctic, while Arctic security is the Canadian government’s ability to respond to all forms of threats that arise⁷ in its Arctic region. The government cannot control activity that takes place in its Arctic region in the absence of any ability to enforce⁸ against threats that arise and, similarly, the government cannot respond to threats in the region if it does not have control in the region.

[...]

In order to enforce and ensure its sovereignty and security in the Canadian Arctic, our government must act now to take the following steps:
- First, Canada must improve its decision-making process on Arctic affairs. It needs to create a Cabinet committee, chaired by the Prime Minister, which is focused solely on the Arctic. Only by ensuring that the Prime Minister is continuously engaged in Arctic issues will attention to the region be maintained.
- Secondly, we must improve Canadian surveillance and enforcement capability. Only the ability to know who is in our Arctic region and what they are doing there will allow us to control those actors and their activities. Outside actors will be unable to operate in the Canadian Arctic undetected or unrestricted. In order to achieve this capability, the Canadian government will have to provide the financial resources necessary to acquire, build and maintain the infrastructure and equipment.
- Finally, Canada must cooperate better with its Arctic neighbours. Cooperation with other Arctic states, particularly the United States and Russia, will be essential to develop an international Arctic framework that will serve as a guideline for rules of engagement. [...]


Source 7: Port Churchill port facility:

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⁴ to produce or provide something, for example a profit
⁵ to have and use power, authority.
⁶ to improve something or make it stronger
⁷ Develop, appear.
⁸ To make sure that people obey a particular law or rule.
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City of Port Churchill

Oil Storage

Wheat silo
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Source 8: Demographic map of the Arctic:

Source: Canadian census, 2006
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Source 9: Recognition of Canadian Arctic Native populations:

Nunavut (from Inuktitut: ᓲᓇᕗᑦ) is the largest, northernmost and newest territory of Canada. It was separated officially from the Northwest Territories on April 1, 1999, via the Nunavut Act and the Nunavut Land Claims Agreement Act, though the boundaries had been contemplatively drawn in 1993. The creation of Nunavut resulted in the first major change to Canada’s political map since the incorporation of the new province of Newfoundland and Labrador in 1949.

Nunavut comprises a major portion of Northern Canada, and most of the Canadian Arctic Archipelago. Its vast territory makes it the fifth-largest country subdivision in the world, as well as the largest in North America. The capital Iqaluit (formerly “Frobisher Bay”) on Baffin Island, in the east, was chosen by the 1995 capital plebiscite. Other major communities include the regional centres of Rankin Inlet and Cambridge Bay. Nunavut also includes Ellesmere Island to the far north, as well as the eastern and southern portions of Victoria Island in the west and Akimiski Island in James Bay to the far south. It is the only geopolitical region of Canada that is not connected to the rest of North America by highway.

Nunavut is both the least populous and the largest in area of the provinces and territories of Canada. One of the most remote, sparsely settled regions in the world, it has a population of 31,906, mostly Inuit, spread over land area the size of Western Europe, Mexico, or Indonesia. Nunavut is also home to the northernmost permanently inhabited place in the world, Alert. A weather station further down Ellesmere Island, Eureka, has the lowest average annual temperature of any weather station in Canada.

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Source 10: Protected areas in the Arctic:

Source 11: Chasing Ice, 2012:
http://www.theguardian.com/environment/video/2012/dec/12/chasing-ice-iceberg-greenland-video

I. An environment with a lot of constraints but progressively integrating itself in the global world.

Questions:
1. Find the different kind of environmental constraints are present in the Arctic region and particularly in the North of Canada (video of the introduction, sources 2, 4 and 7).
2. What kind of resources are exploited in the North of Canada and in the Arctic region (sources 1, 2, 3 and 4)
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3. Explain what consequences and difficulties the exploitation of such resources could cause (video of the introduction, sources 1, 2, 3 and 4).
4. Explain how Global warming could bring new form of resources for the Arctic. (video of the introduction, sources 1, 2, 3 and 4).
5. Find the different means used to export resources out of the Canadian part of the Arctic? Find the main difficulties to do such a thing in the North of Canada? (sources 1, 2 and 7)

II. Coveted resources cause tensions between a large number of actors
Questions:
1. Prove that there are challenges between Canada and other states of the Arctic region about some borders and some part of the North Pole (sources 1 and 4).
2. Explain why the Arctic region is so coveted (sources 1, 4, 5 and 6)
3. Are only the countries bordering the Arctic Ocean interested in the resources from the Arctic (source 4)?
4. Find different actions the Canadian government decided to do in order to protect its sovereignty on the Canadian part of the Arctic (sources 5 and 6)
5. Prove that the Arctic is facing tensions between several actors for the exploitation of resources and for the protection of environment (video from the introduction, sources 4 and 11).
6. Except the Canadian government, government from other countries, who are the other people involved in the life in the Arctic? Are there independent? (sources 9 and 10).

III. The Arctic, a stake in the world balance
Questions:
1. Find three arguments explaining why the Arctic is so important for the survival of Earth and the human kind (video from the introduction and source 11)
2. Find the different international organisation created in order to protect the Arctic and to rule its exploitation. (source 1, 4 and 9)
3. Explain why the Canadian government insist on the necessity to organise an international co-operation regarding the Arctic exploitation and organisation (source 6)
4. Explain which international organisation that could be the arbitrator of the future of the Arctic and how could it do it? (sources 4 and 6)
5. Explain what kind of protection Canada, the Nunavut and the Arctic council organised in order to protect the Arctic region from an environmental and biodiversity catastrophe (sources 10).