

## INTD255: Midterm 1

### Early Antarctic & Oceanographic Exploration:

1. Captain James Cook was in the British Navy & he mapped many islands in the Pacific Ocean. He sailed around the globe twice. He was the captain of the HMS Resolution which was the first ship to go south of the Arctic Circle. He recorded a lot of the arctic coastline.

2. They had tracked Venus passing the sun from one point and sailed to Tahiti to track the transit from another perspective to figure out the size of the sun & how far away it was. This mission was really to scope out the islands in the south pacific to see if England could colonize.

3. a)  $T^2 = r^3$

$$T^2 = (9.22)^3$$

$$\sqrt{T^2} = \sqrt{7100}$$

$$T = 84.26 \text{ years}$$

b)  $T^2 = r^3$

$$(1.88)^2 = r^3$$

$$\sqrt[3]{3.53} = \sqrt[3]{r^3}$$

$$r = 1.52 \text{ AU}$$

c) The observation of the transit of Venus in 1769 helped accurately calculate the observer's longitude which helped with future navigation. Longitude was almost impossible to correctly determine before this. Astronomer Charles Green now had a much more accurate picture of our universe and the size of our solar system.

4. The Belgica: This was mostly a scientific voyage. No one had spent extensive time in Antarctica until this voyage. They stayed for a full winter season. The whole trip was over a year long.

The Fram (with Nansen): Fridtjof Nansen attempted to reach the North Pole but was ultimately unsuccessful. He did reach the furthest North latitude at the time, though.

The Gjoa: This was the first expedition to navigate the North-West passage.

The Discovery (with Scott): The goal was exploration and scientific discovery. They learned so much about species in the polar regions as well as learned about weather & climate and magnetism.

5. The Dorset and the Thule are both cultures native to the North American Arctic. There were many ways that these cultures thrived in their environment. They ate seal meat which contained all the nutrients they needed, they made clothes that suited the cold and much more. They had thousands of years to build adaptations to their environment but they also discovered what worked to make them comfortable.  
The Dorset culture is believed to have gone extinct before the 1600s and their land was adopted later by the Thule.
6. The Chinook are a group of indigenous people from the Pacific Northwest of America. Captain Cook met them in Hope Bay.
7. It's practically impossible to imagine a world without cultural exchange. Think it is the only way to fight fear of outsiders but there has also been a lot of damage caused by this.  
I think it's a valid question to wonder if since, if not all people would have been better off, if people had never explored. Globalization has resulted in the loss of many cultures to make way for larger, homogenous ones.  
I believe much of a culture is behavioral adaptation. Over thousands of years, a group learns to live in their environment but if we can all live anywhere, who has a right to anywhere? And that is where earth started to become ownable property.

Land was never meant to be a possession but you have to own it or someone will take it from you. I think many early explorers were very selfish and gullible. I can understand a drive for novelty but at what point is it excessive? When's it time to just go home?

### Survival Skills: Work, Energy, Food & Physics

$$1. (100\text{g pemmican} = 575 \text{kcal}) \times 20$$

$$2\text{kg pemmican} = [11,500 \text{kcal}]$$

$$2. \text{carb} = 4 \text{ kcal/gram}$$

$$[125\text{g of wheat crackers}] = 500 \text{kcal}$$

$$3. W = \mu mgd$$

$$W = (0.1)(1000\text{kg})(9.81\text{m/s}^{-2})(5\text{km}) =$$

$$[4905 \text{ joules}]$$

$$4. [490.5 \text{ joules per dog}]$$

$$1 \text{kcal} / 4184 \text{ joules}$$

$$[8.53 \text{kcal} = 1.48 \text{g of pemmican per dog}]$$

(This doesn't seem right because how would you feed a dog 1g but the math seems right?)

5. Vitamin deficiencies like scurvy & malnutrition because processed food loses nutrients over time. (by processed I mean dried or canned)

### Navigation: Distance, Time, Speed, Longitude & Latitude

$$1. S = R(2.5 \text{ degrees})$$

$$S = (3963.1 \text{ mi.})(2.5)$$

$$2. [S = 9907.75 \text{ miles}]$$

$$2. \frac{400 \text{ km}}{6375 \text{ km}} = \frac{(6378 \text{ km}) \theta}{6378 \text{ km}}$$

$$\theta = 0.063 \text{ degrees}$$

3.  $s = (6378 \text{ km})(1.5 \text{ degrees})$

$$s = 9,567 \text{ km}$$

4. 480 nautical miles

### The British, The Norwegians, and Cultural Exchange

1. The English were stubborn and faced tough losses because they didn't think to seek help from native cultures familiar with similar terrain. The Scandinavian expedition got information and help from native cultures on clothes, transport and survival in the cold.  
- This was one of the benefits of cultural exchange. Survival at the south pole would have been practically impossible without the collaboration.

2.

1. Underwear
2. Ice sledges
3. Seal meat
4. Baggy clothes to prevent wind chill
5. Blubber as fuel?

3. Their main role was finding.

4.

- a) They attached their packs to their shoulders and dragged it.
- b) The Norwegians used techniques from Indigenous people including sledges & dogs.

5. Hypothermia, malnutrition, drowning, getting lost or stuck.

6. Ronald MacDonald who took a dingy to the shore of Japan ALONE looked very similar to the Japanese and gained their trust & taught them English. He also opened their minds to outsiders & trade.

7. I think this quote puts responsibility on people in power to learn from the past. Our political climate today is a prime example of a government body neglecting that responsibility. We have seen time & time again what happens when someone with powerful connections is not stopped while on a rise to power for selfish reasons. Putin, Mussolini, Mao Zedong, Hitler, Stalin, there were signs before all of these men took power but people only tried to stop them after the fact. The Nazi movement would have gone very differently if Hitler had never been awarded such unilateral control, given, Germany was in a very vulnerable economic period. I think we should be able to rely on the other 2 branches of our government but they are surrendering to the one. We should be learning from history but Trump's goal of worsening education is well underway.

### Exploration Achievements:

1. Norway had been owned by a few nations and wasn't independent yet so an achievement like that promoted patriotism.
2. He was the first to cross it despite the Franklin expedition reaching it but not surviving.
3. They reached the furthest point South! But they barely survived the conditions.
4. Most navigation relied on compasses so finding those magnetic points would help in mapping and navigation.

### Survival & Psychology

1. A primary emotion is one that every person is born with, it is naturally occurring while a secondary emotion is learned and conditioned until it becomes reflexive.
2. Secondary emotions are learned from defense situations and experience. A firefighter will instinctively know to protect their mouth and nose around a fire because they learned that most people who die in fires do so from smoke inhalation.

that whole thought would cross their mind,  
they'll just cover their mouth without thinking.

### Reflections

1. The artifacts show what life was like before Western Interference. It is a large chunk of a culture's history before it was tampered with.
2. I read Sal Khan's book The One World Classroom (not good) and there is a chapter about learning styles. He said there was a time in recent history where the smartest minds on the planet believed only about 20% of the world was even CAPABLE of learning how to read. It helped me adopt a mindset that everyone can learn anything they open their minds to learn. I truly don't think there is anything I can't learn. Some things might take me longer, but I could do it. Almost 87% of the world can read today and that is because no one is predisposed to knowing more. We all start as a blank slate and some people learn quickly while others don't but the end result is just about the same.