THE GETTING OF MATERIALS FROM THE SEA AND ATTITUDES ABOUT IT

Responses to animals being hunted and killed for food: Many peoples respect living things that are non human and ritualize the killing of animals in terms of their response.

The Inuit for example treat a captured whale as a respected guest with the harpooner's wife bringing offerings to the whale.

Japanese traditionally named whales they caught and inscribed their names on Buddhist memorial plaques and read them off during the memorial services along with the people who died in the villages that year.

GREEK SPONGE DIVERS

Video

https://www.youtube.com/watch?v=3oANxVmgc9E

Problems of diving. Pressure – One atmosphere increase for every 33 feet (10 meters).

Kinds of diving:

Free diving – no equipment

Snorkel – can keep face in water and breathe through tube not possible at any great depth

SCUBA – self contained breathing apparatus – air (not oxygen) carried on diver. Limited time – tanks only hold so much air. The deeper you go the faster you use it..

Hard Hat or commercial diving: Stay under long periods of time.

Dangers of Scuba and Hard hat is rapid ascension which can cause decompression sickness or disease aka "bends' or "caissons disease" which has to do with

Decompression **sickness** (DCS; also known as divers'**disease**, the bends, aerobullosis, or **caisson disease**) describes a **condition** arising from dissolved gases coming out of solution into bubbles inside the body on depressurisation.

Decompression tables

Film is about history of diving and development if disease as a result,

JAPANESE AMA

The Japanese like the Greek sponge diving areas, have little arable land, hence they use the sea the way the Americans use the prairies and the Great Plains. There is a great deal of dependence on food from the sea.

Video

https://www.youtube.com/watch?v=nZbRTl-SpHM

Non fiction films are sometimes called documentary films, but they are biased in favor of what the director wants to say. Think about the films about the Greek sponge divers and the Japanese AMA The first stress history and economy, the second cultural tradition and ecological concerns.

Japanese dive for food, but found pearls in them on occasion. Pearls are caused by certain shellfish having an irritant appear inside the shell (often a sand grain). The animal secretes a material over it, which becomes the pearl. Different shellfish may produce pearls with different shapes and colors.

This also spawned a whole development of Pearl diving, Development of cultured pearls.

Men are in most countries, the divers. So Japan is unusual in that it is the women who dive. Note the comments about pearl diving at the exhibit in the Hall of Ocean life on the lower level that shows the men diving for pearls.

Physical Problems in Free Diving.

One of course is the change in pressure. The deeper you go the greater the pressure. Since you are diving with no breathing apparatus the pressure of the water pushes in and the pressure inside, being much less as you go deeper, cannot match it and the air becomes denser.

Another problem, perhaps more obvious is that in free diving the bodily functions alter when you are unable to breath. For one thing, the heart slows (a condition known as bradycardia). Veins in extremities constrict so that oxygen goes to vital parts – heart, lungs and the spleen which stores red blood cells contracts releasing those cells into the blood stream. For most

people staying under water (just your head for example) is not possible for more than a minute.

THE BAJAU

The Bajau—an indigenous group of people living on islands near Indonesia, Malaysia and the Philippines are among the best free divers on the planet.

They dive on a daily basis – often as deep as 230 feet down as long as 13 minutes to spear fish and other sea life. Sometimes they spend 60% of the day diving. They have evolved some biological changes which allow them to do this.

Generally speaking, people who live in particularly low oxygen environments have a gene mutation which prevents the body from having too many red blood cells in the blood stream since this can cause medical problems. Excess red blood cells thicken your blood, slowing its flow. They also cause complications, such as blood clots, which can lead to a heart attack or stroke. This is usually found in people with a disease called Polycythemia

vera (pol-e-sy-THEE-me-uh VEER-uh) is a slow-growing blood cancer in which your bone marrow makes too many red blood cells

However, the body rightfully responds to being at high altitudes by doing two things: Increasing the amount of hemoglobin in the blood and the number of red blood cells, since they are the ones that contain oxygen. Being able to suppress that means that you thrive in those conditions without the potential negative health effects.

Unlike the Tibetans who are in LOW oxygen areas, the Bajau are moving from a state of normal atmospheric oxygen to no oxygen. So a larger spleen that can contract and eject red blood cells at a moment's notice would be what is needed and this is what happens. The median size of a Bajau person's spleen is about 50 percent bigger that the same size organ in neighboring peoples. There seems to be some evidence that a hormone (PDE10A) from the thyroid is also involved. This gene is linked to some control of the size of the spleen.

Interestingly enough, seals, marine mammals that spend a good deal of time under water also have disproportionately large spleens. More than half os some whales have as many as 14 spleens! The accessory organs showed up in 13 species, including humpback whales (*Megaptera novaeangliae*), minke whales (*Balaenoptera acutorostrata*), short-finned pilot whales (*Globicephala macrorhynchus*), melon-headed whales (*Peponocephala electra*), and Guiana dolphins (*Sotalia guianensis*). Only a single specimen of a pygmy sperm whale (*Kogia breviceps*) had just one spleen.

So people fish and they take things out of the ocean. When people catch fish, it is called fishing. Certain commonly taken animals like crabs are caught in traps and nets and we often say "crabbing" as the method. With the getting of wild mammals the word generally used is "hunting" So whales and seals and other sea mammals are generally hunted as opposed to "fished"

What caused species to become endangered? Is it just over fishing of the species or the deliberate destruction of its food supply?

This approach was taken with the American Bison when the US Government felt that encouraging the killing of huge numbers of the animal would take away the food supply from the Indians.

Extinctions are always going on. These are called “background extinctions” During some periods there as mass extinctions when large numbers of organisms go extinct at roughly the same time. There are generally thought to be 5 of these with a possible sixth happening at the moment,

End Ordovician, 444 million years ago, 86% of species lost
Late Devonian, 375 million years ago, 75% of species lost
End Permian, 251 million years ago, 96% of species lost
End Triassic, 200 million years ago, 80% of species lost
End Cretaceous, 66 million years ago, 76% of all species lost

These seem to the result of some sort of catastrophe (meteor/asteroid strikes, huge volcanic eruptions. etc.)

There are number of organisms that are on the verge of extinction or of becoming endangered. There are also a number of organizations which have formed in response to this situation. They are be divided into two groups that have developed which are involved with various aquatic problems. Some are highly specific – looking for example, to protect oysters, watching out for horseshoe crabs save the whales. There are 2 main divisions – environmentalists and animal rights groups. They are often both involved in similar issues, but sometimes from different perspectives. In some cases “animals rights activists” objected that animals have

the right to stay alive. Environmentalists often argue that removal of a species from a system is ecologically damaging.

Whaling

Whales fall into two basic groups – toothed versus the baleen whales. Some, like the North Atlantic Right Whale are close to extinction but others are not.

Whaling is a specialized form of going after marine life. Along with sealing, which is generally not done in the water by many cultures but on the land, whalers plied their trade in the open ocean. The whales being extremely large animals the work is dangerous and whales have been known to sink rather large ships.

Whaling has occurred in many parts of the world. Nordic cultures in Europe, the United States, Native populations in the Americas NW Coast and Inuit for example) Bequia in the Caribbean , Pacific Islanders, Japan are some of the cultures involved.

https://www.amnh.org/exhibitions/whales-giants-of-the-deep

https://www.youtube.com/watch?v=TS2u0ivo9Zc

In virtually all cultures involved in whaling the whales have not only supplied a great deal of food (a single whale can feed seven villages), and other materials but are often involved in artistic representation.

Painting, sculpture, performance and other arts often have depictions of whales

https://www.youtube.com/watch?v=Mz9OkG_BlRM

In Norse poetry with its "keenings" A **kenning** is a metaphorical phrase or compound word used to name a person, place or thing indirectly. The ocean is known as "the whale road".

Whales were hunted by many countries for food, but in the US largely for oil rendered from blubber. Natives in the Americas hunted whales pre and post contact. Early European whalers started on Long Island – there is still a whaling museum still there. It was not unusual for more than half the whalers to be Natives. Later Nantucket and New Bedford in New England

became significant with Basque whalers becoming involved. Later San Francisco became significant.

Whales have been seen as the "totemic" animal for the animal rights movement. They are probably more discussed than any other animal which is endangered, so they need to be discussed here. While activists groups are in two main groups, the International Whaling Commission has defined three kinds of whaling – aboriginal, scientific and commercial.

Aboriginal whaling deals with the taking of whales by indigenous populations. Scientific whaling deals with taking of whales for the purpose of scientific work. Commercial whaling is everything else.

These categories while apparently clearly defined, clearly are not. Who, for example constitutes an aborigine? Since almost everyone is agreed that humans evolved initially in Africa, people constitute an alien or invasive species everywhere else in the world.

SCIENTIFIC WHALING

The next question has to do with scientific whaling. What does the scientist do with the whales they have taken scientifically?

Since the meat is edible it can in fact be sold as food. So how does anyone evaluate the importance of the scientific work? Many argue that the Japanese are pretending to do scientific whaling, they are just getting around the ban on commercial whaling.

Similar comments have been made by some American politicians about the amount of money given out in grants to American researchers for “idiotic” research projects – despite the fact that in both countries there is a review process on grant applications. So Japanese scientific whaling has been attacked by ”Save the whale” and other groups on the grounds that they don’t think there scientific research is scientific research. Recently, Bill Gates has been giving awards and terminating them mid-stream when things weren’t to his liking.

In post-modern theory, there are "narratives". Narratives constitute what a person believes or thinks happened. That is, it is their story of an event. In post-modernism there are no facts, just narratives and the important questions has to do with whose narrative is believed. The underlying idea is that people who are seen as "powerless" are not believed, whereas post

modernism claims to “empower” the powerless - that is to say, everyone's narrative is equally "valid". This can lead to having to believe both "a" and not "a" at the same time. Aristotle said "Don't talk to people like that".

ABORIGINAL WHALING

One of the first things to be aware of is that the image of aboriginal whaling is that aborigines do not hunt the same way they used to. The romanticized image of the Inuit going out in kayaks using hand held harpoons. Even in the famous film Nanook of the North (1922), where Robert Flaherty tried to show “aboriginal seal hunting” as done by the Inuit in “traditional” style. Aboriginal whaling is involved with “natives” who took whales as part of their survival in harsh climates like the Arctic where Inuit whales.
But even in some of the shots Nanook (not his real name) is shown with a harpoon but on the ground his rifle is evident. This is involved in a kind of “romanticism” of native peoples. Inuits have been involved in a kind of hunting which is involved with a money economy for nearly a century. They need money to buy bullets, gas for motors and so on. So the question of aboriginal whaling or sealing is much more complex, Things which are significant in the culture may have had some changes but the role of the institution in the culture may be significant. In effect this is akin to the the UN claiming that forcing prisoners to do something against their religion is “torture”.

The MAKAH Whaling Case

The Makah, a Wakashan speaking group of Indians who live in Washington State were allowed by a treaty in 1855 to be allowed to hunt animals they regularly hunted. This included whales which were taken in the Pacific. At one point, when the California Gray Whale had dropped to unprecedented low numbers, the Makah voluntarily gave up whaling.
By 1999 the whales had made a remarkable come back and were removed from the endangered species list, the Makah decided to take one whale a year. This was vehemently objected to by animal rights groups (but not in environmental groups.

There are restraints on the hunt. The International Whaling Commission permits four cartridges in whaling: .458 Winchester Magnum, .460 Weatherby Magnum, .50 BMG, and the .577 Tyrannosaur, which the Makah fired in the 1999 hunt.

Like the Inuit case, this is not a matter of needing the whale for food, but for something more complex in terms of cultural maintenance. People

(especially aboriginals) maintain this desire to control their cultures is an example of "cultural imperialism"

The Makah reservation had a number of problems from animal rights groups which included warnings made by firing shotguns at the signs indicating the reservation boundaries. This was unnerving since Sea Shepherd had been involved with terrorist acts in various parts of the world already. In addition, there was some difficultly over the appearance of a Canadian ship arriving in the area where the Makah were going to take the whale since there was no response from the American government toward the "invasion". In Sept. of 2007: five members of the Makah Tribe went, hunted and killed a gray whale in the Strait of Juan de Fuca in a hunt that was not authorized by the tribe nor NOAA. There are a number of provisions and restrictions defined in the tribe's application which were violated and hence the hunt was unauthorized. Both the tribe and NOAA made statements condemning the unlawful hunt.

BEQUIA - St. Vincent and the Grenadines
This is one of the few places that allows whaling. Whaling was an industry in Bequia for more than 140 years Now they are allowed four whales during the four-month season from February to May. Whales are scarce and they are not always able to take even four. The whales are used for food (which tastes like very lean beef) and for some homemade remedies (homeopathic). Humpback whales were taken here.

JAPAN
Japan also poses a problem for "aboriginal" whaling. While there are Ainu and Ryukyuan peoples who seem to be in Japan longer than the "Japanese" some date the arrival of the Japanese themselves as far back as 30,000 years ago – making them in Japan longer than the Inuit have been in the arctic or the Makah have been in Washington State. So are the Japanese entitled to aboriginal status as well?
Traditional whaling in Japan was developed by a samurai and the entire hunt was organized like a military venture. There were interesting rules some of which were ecological – Japanese were not allowed to hunt female whales with calves which would result in the death of the calf as well and thereby potentially damage the stock. Basically it was done in a few villages Wada Ura in Chiba and Taiji in Wakayama prefecture. Later Ayukawa in the north was involved.
The Japanse said a whale can feed seven villages and whales that were killed had memorial plaques made for them and were mentioned in Buddhist funeral ceremonies for the dead.

The traditional whale hunt involved having a look out who sighted the whale and then relayed the sighting to the town
Everyone involved with the whale hunt got a percentage of the meet so some of the boats involved contained elderly and very young people

The Japanese came finally to have basically 2 kinds of whaling – that which took place in coastal waters and that which took place in the Antarctic

The Japanese had stopped whaling during WWII when whaling vessels were converted into war ships. After the war there were serious food problems in Japan which resulted in the US advocating that the Japanese return to whaling as a source of food. Dieticians have argued the meat is healthier than other meats in that it is very low in cholesterol
Once the whaling bans were being discussed, the Japanese argued (among other things) there were going to be major layoffs and the US suggested that the Japanese use the whale ships to deal with red meat from the US. Recall that there are also Eta or untouchables in Japan whose status had been legally removed. As compensation the Eta have been given the jobs that deal with meat which others cannot do. There are not enough "ETA" to handle that much work so that failed as well.

While the anti-whaling crew insists that the Japanese Scientific whaling is a front to get whale meat for the rich, although there is no real evidence for that at all.

Iceland

Iceland had also taken whales. In their last whale hunt, one Icelander had all the meat frozen and it is sold to one restaurant in Iceland so the Icelanders would always be able to eat whale meat.

Archaeology

Archaeology is that discipline which studies cultures from the past through their material culture. Archaeology is largely a set of techniques that involve looking at materials that people from the past have been left behind.

Archaeologists are often historians, (often specializing in areas like the classicists who deal with ancient Greek and Roman times or Egyptologists who are interested in ancient Egyptian cultures. They are also found in anthropology and are involved in studying cultures from prehistoric times to the recent past. Archaeologist can excavate sites where there have been pre

humans and even battlefields of recent wars. Archaeologists do not ignore written materials if they are there, but they are generally associated with "digs". The development in the field has largely been in terms of techniques.

In all archaeology though, the basic tenets are the same. Sites need to be excavated carefully. Usually a grid is constructed and careful records are kept and every object found has to be documented not only as to what it is (if known) but also where it was found and any other information about it.

Sites also have to be protected against vandalism and theft. Many artifacts (anything made or unmade by people) may have monetary value and so there are people who take artifacts and sell them. The problem is that the thieves of the stolen goods do not document where they were found not only in latitude and longitude, but also in depth and in association with other materials. This is in a sense a different problem on an underwater site than one on the land.

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There is a great deal of "interpretation" about the material. In some cases interpretations have been completely wrong and have been reinterpreted later on. There were stones with holes in them, which were called "banner stones". They were thought to be stones which were group markers. Later it was determined they were "shaft straighteners". Comparative work led to the finding similar items in other cultures. If no such item can be found, the problems become greater. Proving the symbolic part of culture is often close to impossible. Typically archaeologists have used the term "religious" for objects which seem to have no "practical" or "utilitarian" value. But in more recent times, there has been a tendency to avoid such designations unless there is strong evidence. There is a field of archaeology that deals with "maritime archaeology". Some of maritime archaeology deals with "underwater archaeology" which is the "sexier" part of the field in that the archaeologists here deal with sites underwater, such as sunken ships. The archaeologist have to be trained as divers as well as archaeologists. Not all

“maritime archaeology” deals with underwater digs. Many archaeological site are on the land and deal with areas around maritime centers.

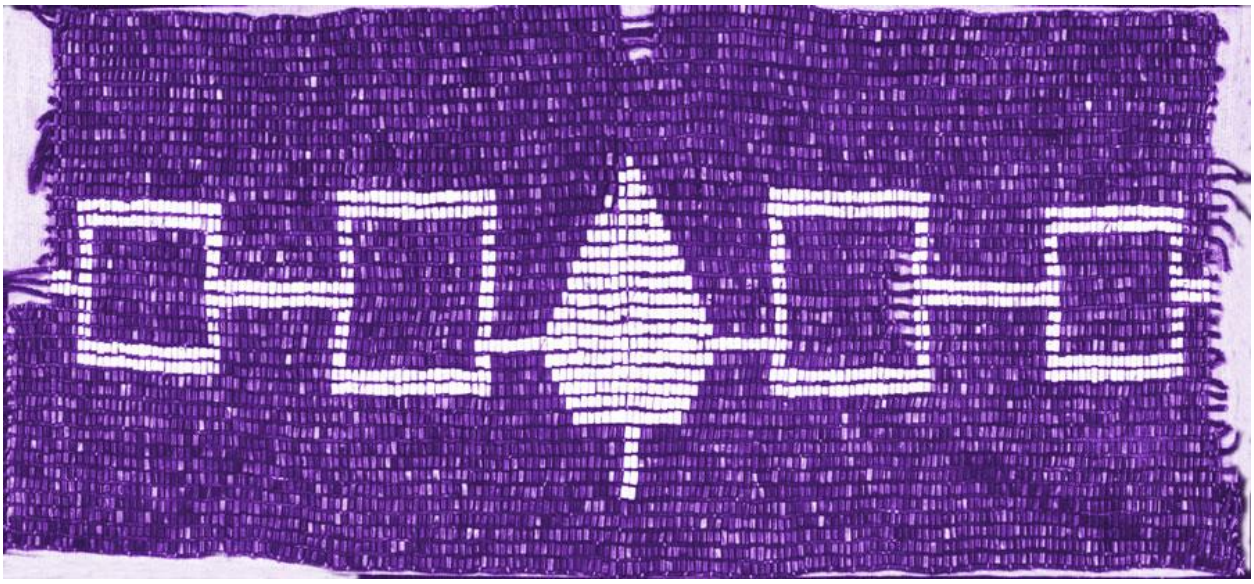
Sometimes maritime material becomes available in “digs” which may give clues to trade routes. Archaeologists digging in the Ohio Valley for example in cultures from the Adena (circa 1000 BC to 200 BC) and Hopewell (circa 200 BC – 500 AD) periods These are mound builders and built such cities as Cahokia (from 800 to 1400)

At some sites in the Ohio Valley have abalone shells in them. This implies there was some contact with cultures are the west coast which have access to abalone.

Abalone shell

Shells have many uses in addition to eating the creatures in them

NE Woodlands Indians made a kind of bead known as “wampum” from shells.



The purple from the quahog

Quahog: Mercenaria Mercenaria

White beads were made from the North Atlantic channeled whelk shell: Busycon carica.

This gastropod is used as food and can also be used as a musical instrument

The conch shell can be used same way in the Pacific and other parts of the world where the shell is found. The Inca used them and in the picture below the shell is used to announce the arrival of the queen

On occasion, the shell is used as a musical instrument in symphony orchestras. (La Noche de los Mayas by Revueltas)

https://www.youtube.com/watch?v=YuQoYY5Cv8o

at 1:09

https://www.youtube.com/watch?v=tilj0iNz1_g

at about 20:10

Rattles are also possible, made by either arranging shells so they hit one upon the other as happens with these from the NW Coast

Turtle shell rattles are made by using the “shell” of turtles (although not sea turtles). These are typical of the Iroquois). This one is mounted on a deer hoof.

Shells are also used for decoration on clothing sometimes for decoration and sometime for the sound they make.

This calabash rattle is decorated with cowrie shells

These are dentalium shells on a dress from the North Plains

Dentalium is a large genus of tooth shells or tusk shells, marine scaphopod molluscs in the family Dentaliidae Like wampum, which served as a kind of money, dentalium shells were used as a kind of money among the Chumash on the NW Coast. The shells were used in Europe as a source of alkali. Shells, aside from the animal within them, have many uses as money, decoration and musical instruments.

Discussions of religion have led us to questions of food and non food taboos, mythical stories and mythical animals, ghost ships and mystery ships. Now we look at some rituals that have to do with baptism, purification and changes of status – rites of passage or transition

POLLUTION PROBLEMS

There are many forms of pollution to be considered:
Plastic
PCBs
Micro beads
Heavy metals
Radiation
Oil

These are just some.

Things "break down" or "degrade" as a result of many things. Biodegradable means that living organisms like bacteria. Some things are photodegradable – break down by light. In all cases though, the degrading progress requires the degrading force be there. For example in some areas where biodegradable materials have been placed, the bacteria are not present and so things like lettuce leafs which should break down rapidly do not.

Oil which can be broken down by some bacteria last because the bacteria exist in sufficiently small quantities that they cannot possible consume all the oil

One has to remember that the "degradability" of anything is contingent on the appearance in sufficient quantities to degrade it. (see the pamphlet on the "notes" page or go directly to

http://userhome.brooklyn.cuny.edu/anthro/jbeatty/CORESEA/images/trash.pdf

Much of the material moved into the ocean by people or natural forces, winds up in the gyres in the middle of the oceans. It has been thought that it will take decades to clean it, and it will have an astronomical cost. However a young man in Europe has come up with a possible solution.

https://www.youtube.com/watch?v=8K5isWrsDjY

Plastic

Plastic presents problems in terms of degradation, which doesn't happen, since although it is a biological product it has been so altered that it no longer breaks down like that. Whereas oil is even biodegradable thanks to some bacteria, plastic is not. It leads to concerns since plastic bags and can containers are trapping animals and are sometimes eaten by them which they mistake for food, Seat turtles are fond of jellyfish which the plastic bags often resemble. The plastic may be eaten and cause blockages in the digestive tract and cause the animal to die. Plastic is common place and bags, plastic plates, utensils and such often find their way onto the beach where people picnic. This also happens with bottles, both plastic and glass.

Microbeads
Microbeads are solid bits of plastic less than I millimeter in size (0.0393701 of an inch) The occur in personal exfoliating cleaning products such as shampoo, toothpaste and the like.

The Microbead-Free Waters Act of 2015 phased out microbeads in rinse off cosmetics as of July 2017. Because of the small size they can pass through sewerage treatment plants and move on into various bodies of water.

Their impact is largely on fish that develop behavioral problems like the inability to smell predators (or perhaps ignoring the smell of predators)

Birds have been known to eat them and this produces problems for them and other animals up the food chain that eat them.

PCBs (Polychlorinated Biphenyls)
These are chemicals made by humans and do not occur naturally. For 50 years (1929 - 1979) they were made in the US, then their production was outlawed. Because they exhibit non-flammability, chemical stability, high boiling point and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications including
Electrical, heat transfer and hydraulic equipment, plasticizers in paints, plastics and rubber products, pigments, dyes and carbonless copy paper and other industrial applications. They can accumulate in different organisms some of which are used for food by people, hence bio-magnification is a possibility. They may be cancer producing. There is evidence to suggest they impact the immune system as well as the reproductive systems
among other things.

Heavy Metals (Not the music groups)

Heavy metals include cadmium, mercury, lead and arsenic, all of which appear in the World Health Organization's list of 10 chemicals of major

public concern. Other examples include manganese, chromium, cobalt, nickel, copper, zinc, selenium, silver, antimony and thallium
Thallium had been claimed a “Wonder Drug” for pregnant women who were suffering from insomnia and morning sickness. However, a large number of children (over 10,000) whose mothers had used the drug were born with birth defects which included being born with shortened arms and/or legs, or no arms or legs at all. Many died young and only fewer than 3,000 were still alive in 2011.