EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT SEX AROUND NORTH HAVEN BUT WERE AFRAID TO ASK

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North Haven Library
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I want to welcome all the Prurient Puritans of Penobscot Bay to the North Haven Library. To quote Groucho Marx, before I speak I have something important to say, please support the Library.

My title has a hopefully well-chosen preposition, the word 'around'. I'll be talking about sex 'around' North Haven, not necessarily 'in' North Haven or 'on' North Haven. And I'll be talking about the sex lives of more than just us humans. What I want to explore is whether we can learn from our fellow creatures anything about our reproductive patterns and then maybe draw some conclusions about whether and how we should try to govern human sexuality.

Let's talk about our favorite crustacean — the lobster. There are lobster males and lobster females. Half of lobster females can reproduce by

age 10, the same as human females. Like the human female, the female lobster produces eggs, sparsely at first and then with more and more fecundity but unlike the human female she does so until she dies.

There is no lobster menopause. Only one wild animal species is known to have menopause: the short-finned pilot whale. Menopause is an evolutionary biological mystery — why is the female programmed to stop reproducing and live on and on? The theory seems to be that women who stopped reproducing at a certain age were able to devote more time and energy to her existing children and get them and then their children to adulthood. This led to more what biologists call reproductive success. Menopause is one of many reproductive strategies that humanity has evolved to have, because it works. Those mothers who stopped producing eggs at age 40 or 45 ended up with more offspring surviving and more grandchildren surviving and so on. The moral of the story is that not reproducing helps reproduction.

Back to our female lobster. Lobsters don't need grandmothers like we do to have them to North Haven for the summer or to take the kids when we parents are sick of them. As with most animals, the female lobster is the

choosy sex. She chooses which male to mate with. True for humans? You decide. The female lobster goes out trolling to find a mate, in her finest shell wearing only her perfume — her pheromones. A Pheromone is an odorless scent that conveys genetic and immune system information to the opposite sex. The lobster, male and female, gives off pheromones in their urine, so there is a lot of peeing near and at each other. Yes, golden showers. Humans also give off pheromones. We can't smell it but we subconsciously detect it and process the information that tells our brain whether someone is a good genetic fit for us to produce children. We want a mate who is enough genetically dissimilar so that our offspring have a good variation in their immune system to ward off pathogens. We are in what biologists call the genetic arms race. We are in a biological race against pathogens — germs, viruses, diseases that can kill us unless our immune system wards them off, and a good genetic mix of parental immune systems build stronger immune systems in the children, and thus greater chances of survival. Natural selection will favor parents who have a good sense of pheromones and who make use of the information. This is why incest is not a good idea.

So our female lobster goes out giving off her pheromones searching for the perfect mate. This process begins in adolescence, the search, not the

sex. Sex comes later after a long courtship. Aren't lobsters refreshingly old fashioned? The adolescent males and females hook up, live together for a few days or a week or two but don't mate. They are testing each other for compatibility. They reunite a year or two later or more for the real thing.

Where does the female find the male? In his cave, but instead of watching the Red Sox, he's watching the red legs passing by! Some things never change. How does the male get tenancy in his cave, because there aren't that many caves on the ocean floor or protected places under the rocks? Like most other species where the females are the choosy sex, the males fight each other for dominance. Male lobsters have horrific fights, it's the WWF for real, with the males ripping each others claws off, dismembering each other, until the loser crawls away and the biggest, meanest, toughest lobster claims his cave and sends out his pheromones. The female drops by and checks him out.

What exactly is she checking out besides his pheromones? His size, and in particular, the size of his crusher claw. Yes, even in lobsters, size matters. The crusher claw is the equivalent of the peacock tail. It is an indicator of health and genetic quality. The crusher claw can be half of the

lobster's body weight. If he can carry that thing around he must be made of the right stuff. Anatomically, males have big shoulders to carry the claws and female have big body cavities to carry the eggs. So, if they like each others pheromones and the female likes his claw, the female moves into the cave or hole under the rock on the ocean floor.

The male blocks the entrance to the cave and guards her to prevent any other guy from getting in. They pet, and nuzzle, and stroke each other with their antennae and claws. After a week or two of this the female finally takes off her clothes. This guy is patient! She begins her striptease. It lasts 15-30 minutes. She molts her shell and with it goes her old seminal receptacle, so that if she had had a sneaker with another lobster his sperm is now sayonara. This insures for the big male that the little lobsters they are about to produce are his. This is what is called paternity certainty. Guys can never be sure, until the advent of DNA tests, whether the children they are raising are in fact theirs. This is the main male reproductive quandary.

So, the female lobster molts. They wait half an hour for the new shell to begin to reform. Then they nuzzle and cuddle and rub claws and antennae for 15 minutes of gentle foreplay, because she has no shell, and then wham!

The male turns the female over onto her back and they have lobster sex missionary style, with the male on top.

The male lobster, lucky guy, or lucky girl, has not one but two penises, or swimmerets or gonopods. So do some reptiles. The female has one receptacle, akin to a vagina. The male's two swimmerets prop open the female pouch and send in the sperm and then seal the opening of the pouch to prevent the sperm from escaping, or another male from getting in. Copulation lasts a grand total of eight seconds. Then they eat her old shell. I've heard of edible underwear but this is ridiculous.

Biologists wonder why the human male needs all that sperm. All you need is one. Well, the male lobster needs every bit of his if he has 100,000 eggs to fertilize at one shot.

They stay together for a week or two and then the female leaves when her shell is sufficiently hardened. Fertilization doesn't happen immediately. The female will store the sperm for as little as 10 weeks and up to 2-3 years and she can fertilize multiple broods with the same sperm. Mating and spawning are thus separate. When she is good and ready she will extrude her

eggs and fertilize them. After fertilization she will carry her brood for the next 9-13 months. She will aerate them and groom them and keep pollutants and parasites off them. She will then release the eggs and that's it. Motherhood over. No need for parenting or grandparenting. It is sink or swim, eat or be eaten for the lobster larvae. An older lobster can release up to 100,000 eggs. A female lobster will vary the number of her eggs by her health and the conditions of the environment around her. She will produce the right number of quality eggs to preserve her health and insure the best chance of her brood's survival. More offspring is not necessarily better for survival.

So, that's the lobster system. Except it doesn't always work that way. If on her way home or walking around the neighborhood the female meets another big, husky dominant male, whose pheromones she likes better or who has a bigger crusher claw, she will shed her eggs and start over with the new male. She self-aborts the pregnancy. Females of many species have a built-in abortion switch. Or if she hasn't fertilized the eggs yet, she will copulate with the new guy and let his sperm compete against each other for the privilege. Again, very common in the animal kingdom.

As for the Dad, a new female has moved in shortly after the old female moves out. It is serial monogamy for the males. The women are lined up outside his cave. They don't fight each other, overtly. The females stagger their molts in the order of their hierarchy. No synchronized menstruation, as has been found in college dorms. What of the non-dominant male lobster? Researchers have found that the subordinate males sometimes dig a hole behind the big guy's cave and when he is out foraging for his inseminated mate, he sneaks in and they have sex, plowing his way through the hardened plug that the big guy has put in her receptacle to keep his sperm in and any other sperm out.

So, the lobster system, a dominant male, many willing females. Polygyny. Ahhhh. We see this all over the animal kingdom.

President Calvin Coolidge and his wife Grace visited a farm one day and were taken around on separate tours. Mrs. Coolidge, passing the chicken pens, inquired of a supervisor whether the lone rooster was sufficient, given the many hens in the chicken flock.

"Yes", the man said, "the rooster works very hard."

Mrs. Coolidge then asked, "Really? The rooster works very hard? Every day?"

"Oh, yes," the man said. "Dozens of times a day."

"Interesting!" Mrs. Coolidge replied, "Be sure to tell that to the President!"

Some time later the President, passing the same pens, was told about the roosters - and about his wife's remark. "Same hen every time?", the President asked.

"Oh, no, a different one each time," the supervisor replied.

"Tell that," Coolidge said, "to Mrs. Coolidge."

Let’s talk about one more species around North Haven — the puffin.

The puffin reaches maturity earlier than the lobster — age 5. They come back to the island where they were born or to a neighboring island and begin to check out places to burrow and more importantly the opposite sex.

Some birds like the bluebird also nest under trees and other hidden places and since there are more females than available nesting sites, the females fight for them, like for the houses with the best views on North Haven. Puffins fight too — female versus female and male versus male, though biologists are cautious to speculate exactly what they are fighting about. In picking a nest, they check out the food supply, nests and predators — the black back gull, not us, being the main predator. The puffin sees safety in numbers if a predator appears; hence they are colonial and breed together, although they don't otherwise cooperate like we do socially and economically.

What do the puffin look for in the opposite sex? Like the peacock and the lobster, there is a telltale indicator of genetic fitness — the beak. Its size, again size matters, and color (including ultra violet color) and ridges give off genetic information as to the puffin's fitness. The beaks are grey in winter (to better hide from predators) and become bright only in mating season in the spring to show off to the girls and vice versa. If a puffin can survive a North Atlantic winter despite the handicap of a big beak, then he must be in good shape. The puffins court by rubbing beaks together, quite aggressively. The male will bring fish to the female proving his worthiness. Puffins have

an extra bone in their jaws which allows them to open their bill and to keep both mandibles parallel. This allows them to hold a whole row of fish without the ones near the tip falling out. Because the puffin has to get into the air, the beak is less than 1% of its body weight, unlike the seafloor-bound lobster.

By age 4 they have found a mate and they move in together. They are engaged and testing the relationship. Again, the female chooses the male, as in the rest of the animal kingdom. Males often fight each other for the privilege.

By age 5 the female starts producing eggs — one egg at a time, like us, as opposed to thousands at a time for lobsters, never two eggs.

Sex is a cloacal kiss where the male gets on the female back and twists his tail under the female's tail, rubbing their genital together. They do it at sea. It lasts a few seconds, even less than the lobster. Don't these animals have any fun? Sometimes they do. If the water is rough it is difficult to balance in position, so repeated attempts may be made.

The egg is extruded a week later. Incubation lasts 42 days. Each parent will incubate the egg. The egg is large, about 30% of the female's weight. It takes a huge investment to produce this egg. 90% of eggs hatch. If one parent dies, the survivor will abandon the egg and start over with a new mate. If one parent dies after the chick is born, the survivor abandons the chick. It takes two parents to hatch and raise a puffin. Both parents bring food to the nest in varying proportions.

The chicks are born in June. With global warming they were born earlier this year. The chick becomes a fledgling in 6 weeks normally, depending on the food supply. 90% of chicks make it to fledgling. The parents stick with the chick until it is mature enough to head off to sea on its own at the end of the summer. 80% of puffins live to be 2 years old. 95% of parents survive the winter and come back every year. They breed until they die. No menopause for the puffin and no grandparents helping out.

Birds are studied because, like us, they pair bond. 90% of birds form pair bonds but only 3% of mammals do. 50% of the pair bonding birds do it

only for one season, enough to get the chick to survive on its own. In humans this is about 4 years, hence the 4 (not 7) year itch.

Usually puffins are monogamous, usually we are too. The oldest recorded pair has been together 18 years. If one mate dies, the survivor takes a year off in mourning and then re-mates the following year. Some puffins divorce. The biologists are collecting DNA samples now and will do a study of EPC—extra-pair copulation to see how many of the puffins fool around. Birds are relatively easy to do DNA testing on with a small drop of blood, because unlike virtually every other vertebrate its blood is nucleated, i.e. the nucleus with the DNA info is in every red cell. The only other mammal with nucleated blood is the camel.

In songbirds, 90% of females have born chicks unrelated to the 'father' who is feeding them. This study has been replicated for virtually every bird species that "mate for life". Well, they may marry for life but they don't restrict themselves to just one sexual partner. Even the sainted swan fools around—one in six signets are the product of a dalliance. The bird, mammal, reptile, or crustacean reproductive system doesn't have our rules. Adultery, fooling around, cuckoldry, cheating, infidelity, betrayal — the

number of words in the English language reveals how important the concept, or the fear, is. But as one biologist said, “it isn’t cheating if there are no rules to break”. And in the animal world, except for ours, there are no rules to break. As Mae West said, ‘to err is human and it feels divine.’ In humans, since you all want to know, in U.S. DNA testing almost 30% of children tested were not the child of the putative father. That figure, however, is produced by men with suspicions or by court orders. The anonymous testing results are nearer 3%. It varies by location and one seaport in England had a 30% figure.

The main benefit of fooling around for females is genetic diversity in your children, varying the gene pool of your offspring, and thus giving your offspring a greater chance that at least one will survive a plague or pathogen or environmental spill. It is a matter of quite literally not putting all your eggs in one basket, or as Dorothy Parker said, after having an abortion after a unpleasant fling with Charles MacArthur, ‘this is what you get when you put all your eggs in one bastard’.

The puffin, like other birds and animals will take a breeding season off if the food supply is low. The puffin instinctively balances the resources needed to survive and those needed to reproduce.

You might recognize some similarities and dissimilarities with the human reproductive system.

Every reproductive system involves: finding a mate, ovum formation, egg production, copulation, to laying the egg or getting pregnant (our egg production is somewhere between the lobster, 100,000 at a pop and the puffin, one a year), to hatching or birth, to child rearing and parenting, and then doing it all over again. It is entirely natural to stop the process at any point where it would be detrimental to the passing down of genes. Mammals absorb embryos, the grizzly bear and kangaroo do this if conditions are not right for reproduction and survival.

The human reproductive system is the outlier; it is the unusual one, probably because we are the unusual species. The average animal would not recognize our sexual habits. We have sex in private! We have sex all the time! All year round, whether the female is ovulating or not, whether she is

too old to reproduce, and while she is already pregnant. Men don't even know when a prospective mate is ovulating. There are no overt signals.

The rest of the reproductive system is totally abnormal. We pair bond, unlike most other mammals. Both sexes parent, it is unheard of for male mammals to parent. We live in a shared economic community. In humans, unlike nature, half the pregnancies are unintended. Half of these end in abortion. For you golfers out there who aren't sure what an abortion is, it's an ovarian mulligan.

Humans share physiology and behavioral characteristics with the animal kingdom: we exude pheromones, women are the choosy sex, males compete for dominance, we have an adolescence, and males are keenly interested in paternity certainty.

Humans share reproductive issues with the rest of the animal kingdom. We reproduce in an environment and we vary our reproductive effort and output by the environment, is there a good food supply, are there predators, what's the weather like, what are the prospects ahead, do my current offspring need my effort, should I delay childbearing to a better time,

how's my heath, my children's health, finances, my parent's health, are my mate and I getting along, have things changed since I got pregnant? These are the questions that women and men, consciously and subconsciously, ask themselves when they are preparing to mate and have children. Animals have evolved to deal with these issues instinctively. We don't go looking for a mate, fewer or no eggs are produced, sex doesn't happen, a season is skipped, we use contraception, we have an abortion, in some societies children are abandoned. Women have always had the choice whether or not to parent the children they have born. This is the decision point at the end of the reproductive continuum. The issue for human society is whether and how to move the point on the continuum where women have the choice whether or not to reproduce: do we require women to marry, some societies do, do we ban contraception, some do, ban abortion, some do and some don't, or ban infanticide, all do that.

What do women say when they have abortions as their reasons: their partner split, no money, not the right time, career, education, don't want to be a mother yet. All these add up to women pursuing their particular reproductive strategy in their ecological niche. To reproduce they need to give birth at the right time when they are in the right health, with the right

partner and in the right circumstances. Reproductive freedom, including abortion, makes this possible. Reproductive freedom is therefore just as important to those who want to give birth as it is to those who don't want to. We must be on the side of both. In fact women, and men, want to do both at different stages of their lives.

We, like the lobster and puffin, have evolved to reproduce in a particular ecological niche. Remember, Darwin said it's not the smartest that survive or the strongest, it the fittest, meaning the most adaptable to the particular environment. Sometimes it is pure luck — do you escape the Ice Age, does the meteor hit the dinosaur habitat, will we survive global warming?

The biological and moral answer is that reproductive freedom enables humanity to reproduce successfully. Family planning and abortion enable women to time, space and plan their children to give the mother the best chance of surviving childbirth and to give the best chance of children being

born healthy and surviving. That is why my grandmother was so right in 1916 when she said that every child should be a wanted child.

The biggest threat to the survival of women and children throughout human history has been death in childbearing. Even today 500,000 women die annually from pregnancy related causes. By the way, puffins and lobsters don't die in childbirth. They have a different ecological niche with other problems to worry about. The risk factors for humans are well known: the births are spaced too close together, she is too young, she had had multiple births already, she is malnourished, anemic, or has high blood pressure or diabetes. Even then doctors do not know which woman will be threatened in childbirth. In the U.S. 40% of pregnancies have complications. In poorer countries the threat is greater. In the African nation of Mali, there is an expression: "A woman who gives birth opens her own coffin."

A woman's survival depends directly on her ability to control pregnancy and childbearing. Children's survival depends on their condition at birth, their parent's survival, especially their mother's survival, and the nurturing they receive from their parents. Children need to be timed and

spaced for survival. There are limits to how many children parents can raise and nurture.

When a woman dies in childbirth, it is likely that the child she is carrying will die as will the children she already has. The World Health Organization estimated recently that when a mother dies prematurely there is a 3 to 10 times greater chance that the children she already has will not survive to adulthood, because she is not there to care for them.

Natural selection favors women who control their childbearing, because then they maximize the chances of their own and their children's survival. It is an evolutionary rule that not every pregnancy should result in birth. Sometimes parents must conserve their energy and resources for the children they already have or will have later.

This is why 46 million women a year say no to childbirth when they are pregnant. Successful reproduction is not a random event. It requires strategies and making tradeoffs. My grandmother was more right than she knew when she said that "every child should be a wanted child". Because

wanted children have a greater chance of survival. Women know this and that is why birth control and abortion are universal.

So, how is North Haven doing in the sex and reproduction department? About the same as the rest of Maine.

First, North Haven is not an island unto itself. This island is accessible so there is a long history of people moving in and out. One quarter of North Haveners were born outside of Maine. There is one peculiarity here-- the sex ratio, the ratio of males to females. North Haven is 51% male. Usually the U.S. is 51% female. Of those over age 18 on the island, there are 151 males and 134 females. Vinalhaven doesn't have this ratio, it is like the U.S. This could be a combination of differential birth ratios and migration. In birds it is the female's egg that determines the sex of the chick, unlike humans where it is the male sperm chromosome. Well-fed female birds tend to produce daughters and less well-fed birds produce sons. Female birds need good health to produce those big eggs. Less healthy guy birds can still get a mate in a pair bonding system. What could cause the sex ratio imbalance on North Haven?

I suspect out-migration. The median income for males is twice that for females, $30,000 versus $16,000, perhaps a reason for females to leave the island. Nationally the gender gap is about 25%. Are women leaving for more opportunity? I suggest, a la Chicago, that the minimum wage for females be raised to $30,000 a year.

Another difference between here and the rest of the country is teen pregnancy. There is none. Age of menarche is about 11 ½ - the same as the mainland. The local experts think that the average age of first intercourse is 15, as opposed to 16 in the US, but this is anecdotal. The trend is going older though. There is virtually no teen childbearing here and a small number on Vinalhaven, but those are in 18-19 year olds. Maine had the 46th lowest teen pregnancy rate in the country. There were 700 teen pregnancies in 2000 in Maine among teens under 18, with 360 births (a little over half), 240 abortions (a little under 30%) and 100 miscarriages (a little under 20%).

There is a comprehensive sex ed program at the school and condoms are available. There is time where the kids get together and sort out sexual issues with a counselor. They learn all about contraception and abortion, as well as abstinence. There are STD's on the island, mainly HPV and herpes.

The kids use the Pill, then Depo (the Patch is a problem if you are wearing oil cloth lobstering or you are perspiring) and then condoms. They get their contraception in Rockland at the Maine Family Planning Association behind the Library. There are a grand total of 25 condoms sold per year at the market. Presumably the rest are bought on the mainland.

The problem isn't the teens on North Haven, it's the adults. The big sex question on the island….is North Haven disappearing?

Population has plummeted on North Haven. In 1860 there were 951 people on the island. There were 381 in the 2000 census, a drop of 60% in a century and a half. Vinalhaven dropped from 1667 to 1235 in the same period, a drop of only a quarter. The low point for North Haven was 1990 with 332 people. The out-migration is traditionally attributed to the Civil War and the opportunities the boys discovered out west or in the big cities. Interestingly records indicate that the lobster haul was almost as large then as now and began falling in the late 19th century, maybe as there were fewer lobstermen.

Fecundity on North Haven, as in the rest of the country, has taken a nose dive. Beginning in 1836, Melzar and Sarah Waterman had 11 children spaced 20 months apart on average. This was not unusual. When it didn't make any difference as to child survival and attainment of status what kind of effort the parents put in, like on 19th century North Haven, where no matter how many kids you had they were going to be fisherman or farmers and a certain percentage were going to die as children anyway, then parents had lots of children.

Now, the average woman in Maine has 1.8 children, it is about 2.0 nationally, but the white childbearing rate is virtually identical in Maine as nationally. It is the larger Hispanic population nationally that makes the difference. Parental investment now makes a huge difference in the health and survivability of children and their status, since they are so expensive to raise, therefore, parents have fewer children.

So we need more sex on North Haven! As my grandmother said when asked how often one should have sex, she responded without missing a beat, "Twice a Day".