FPS Kleyne

Peat: I didn't actually start professional biology study until 1968 at the university, I studied there four years in physiology and biochemistry. Before that around 1950 I had heard about Albert Szent-Gyorgi and the lectures - he went around the country doing demonstrations of living tissue and the state of water inside muscles for example. And he could show that the condition of the water as it effected molecules changed instantaneously when a muscle was stimulated or when a nerve was activated. I looked around to see who else was working on that kind of thing and it was utterly neglected by the professional biologists. He happened to have got interested in this line of thinking many years earlier, got his nobel prize working on vitamin C, but his real interest was in how the state of water changes between life and death and different states of energy production So I had that in mind all through the 60s and I taught a biology course in ohio at a little college, and while I was working there, Linus Pauling did some research that lined up with Szent-Gyorgi and he proposed that anesthetics work by altering the state of water in cells. I looked around again and saw that chemical community was ignoring Pauling, even though he had a nobel prize, and these two people were outstanding for their interest in how water lets organisms work. After several years, I decided that despite the established academic science culture lacking any interest in what I wanted to study, I had enough experience with the universities to go through them, and use their instruments to do the research I wanted without getting indoctrinated by their beliefs that everything is governed by genes and molecules and membranes and so on.

K: .....Why do you think they left all of that study behind?

Peat: It was a philosophical doctrine that took over. It related to the mainline medicine - allopathic medicine - and its idea of what an organism is. And the gene people were representing almost a religious line of thinking that hated to admit that organisms were as complicated as they are. They were imposing a system of beliefs all through science. There's a book by someone that I knew in the 1960s called The Cold War in Biology that explains how there was a doctrinaire political campaign going on all through the universities of america to change the thinking and direct thoughts to genetic engineering to make it an industrial medical manageable concept of how organisms work. Where the other people were going directly to the organisms seeing what happens, the mainline thinking wanted to go from factories to doctors to what they could sell. What they were doing was putting the marketing department first.

K: (some shit about marketing and patenting water)
When you look back on it Dr. Peat, do you think that's why they left the water behind? Because it's the primary reason we are alive? You're hearing the word dehydration a lot (yadayadayada I don't understand this woman)

Peat: I think it's a matter of being able to control products. When I was taking my first course in muscle physiology, water was absolutely neglected. The membrane was there to keep the water inside, and the enzymes caused reactions. But the way the

water handled/controlled the chemical reactions was absolutely neglected and the professors didn't want to talk about it. In electron microscopy, my professor had his marvel of how the little parts inside the cell work, and the spaces were so narrow that only a few layers of water would fit between the molecules. But he absolutely didn't want to talk about what was in those spaces. A professor at Univ. of Washington, Gerald Pollack, is demonstrating that-- he has videos available on the internet that are just amazing. He shows that the effect of a surface organizes water and causes water to be in control of things dissolved in it at a tremendous distance out form the surface, which is vastly greater than the areas involved inside the cell. So when you look back at what these professors were doing, they were basically being crazy to ignore the great power of the water inside the cell when Gerald Pollack is demonstrating that it extends out so you can see it in a beaker or in a glass tube.

K: There's a nature to the water, there's a nature to it's function and ..the dehydration effect from birth... And what do you think to analyze that? Because it's been causing a lot of problems that they don't want to go to the nature of the molecule in the cell. A nobel prize winner told me that he spent millions of dollars and it took him 25 years to prove that there was water inside a cell and it didn't go anywhere. Dr. Peat, can you imagine how far we've come in research and "they" don't want to admit that we are made up of water and the research goes into study all these diseases and these symptoms. I think they should go after the water and the dehydration first

Peat: When I was a little kid, I would ask people why the water was blue. And they would say it was the sky reflecting in it. And I was at Crater Lake on a cloudy day when the sky was absolutely gray, and the lake was just as blue as ever. And the whole culture including Science magazine - the journal of the american association for the advancement of science - they were as recently as 1970s publishing articles claiming that basically it was the sky, the way light was interacting with the water. Linus Pauling, way back in one of his text books, said in the properties of water, it's a blue substance. The fact that you can put water in a bucket, and it's blue, it's simply obvious to the eye, but science had this insane need to abstract things to say water basically isn't there, it has only these things that we are willing to assign it, but in fact --

K: .....what is happening to the body, and it's water content.....water vapor...humidity....water vapor...greenhouse gas...carbon dioxide.....influence with body water, water vapor, cloud system...fresh water...aquifer...all over the world...

Peat: The forests are a great stabilizer of the whole water system, ground water and air water depend on the interactions of forests. So deforestation has been causing a terrible change in the water system.

K: And water vapor and cloud system.

Peat: Yeah..

K: Right, right. ....it can be corrected

Peat: -yep-

K: ..and we can go back in and Dr, I truly believe..and you know better than I, and I can give you an example. People are not educated about it. They're hearing always the same thing, they're never hearing that they are water, and the impact on them with the water vapor and the cloud system and the fresh water on the surface. The education has not been what you have said today

Peat: Part of the water system is the trunk of trees. The wood is moist and there are channels so that the moisture form inside the tree comes out into the leaves when the roots are slightly deprived of water. The tree can live by moving the water from inside its trunk. The bigger the trunk is, the greater the reservoir of water to put back into the air. And if you cut down trees that are 5 or 6 feet in diameter and replace them with a forest of trees that are 6 or 8 inches in diameter, they are unstable as regulators of atmospheric water, because there is just a very tiny reservoir available to them. So when the humidity goes down and they aren't able to replenish it from huge tanks of water in their trunks.

K: interrupts and rambles.
They didn't want to have the dead trees cut, which brings in a lot of insects and problems. What happens to the healthy forest when you have dead trees in the forest, and the brush and the insects - what would that do to dehydration of trees?

Peat: Well, the insects come in after the forest is dying basically because the immune system of the tree depends on good nourishment, and part of nourishment comes from the rotting old generations. It's like organic gardening, you put the residue, the corn stalks, chop them up, let them rot, and put them back in the soil, so that the minerals that were taken out of the soil are constantly going back into the soil. If you take a fire, a forest fire will reduce the brush and dead material to ashes, but the ashes feed the soil and the next generation of trees, and keep the cycle going. But if you haul out the lumber and burn it somewhere else and dump the ashes basically into the rivers and ocean, you're polluting the rivers and ocean, and starving the forest soils by hauling that tremendous amount of organic mineral residue out of the forests.

K: Water vapor..water...fresh water.. ocean...fresh water...influence fresh water has on the planet. ....

Peat: Vandana Shiva has some important videos available on the internet. She was trained as a physicist, I think a nuclear physicist, but, she realized that nuclear energy wasn't going to help the health of the planet, but that looking at the water economy was the really important thing. She for many years has been doing videos and movies, documentaries on the importance of saving the water resources.

K: Talk to us about hormones and how they function.

The organism, the structure is mainly a system of protein molecules and fat and nucleic acids, DNA. Those things are in a way peripheral to the basic protein structure, and the protein changes it's electrical properties according to the chemical reactions going on inside. And it can change its acidity or alkalinity according to the metabolism and what you're eating. Ordinary, like a sponge or a bowl of jello, any system with a lot of protein in it, will change the way it holds water according to the degree of acidity and alkalinity. Acidity makes it give up water, alkalinity makes it retain water. The protein itself is on the acidic side but it associates with alkaline metals like sodium, potassium, calcium and magnesium, and these neutralize the acidity of the proteins and they and the metabolism (basically burning sugar in the presence of oxygen) --that energy is what regulates the balance of acidity and alkalinity and in turn its the alkalinity essentially that makes the organism retain water. So edema, where you free or fingers swell up, that is regulated. It's a result of bad metabolism letting your hormones get out of balance - changing the acidity and alkalinity of the whole organism. So instead of the water staying inside cells where it belongs, it falls out of cells and collects in your feet and fingers or whatever is downhill under gravity.
The hormone that is most responsible for keeping the cells hydrated and functional - demonstrating the processes that Szent-Gyorgi went around the country demonstrating in lectures with fluorescent lights showing that the muscle would become luminous when it contracted and dark when it was relaxed. These changes in the state of water are constantly being regulated mainly by the thyroid hormone letting us use oxygen to produce energy. And the thyroid maintains the protective hormones such as progesterone, pregnenolone, testosterone, DHEA. Under stress, or injury, some of the testosterone or DHEA changes into estrogen, which changes the ability to regulate water. It tends to create the edema state. But the edema reverses the functional state of the organism momentarily to put it back into a growth condition so that it can renew the cells - that's its function: once a month there should be a surge of estrogen in a woman's tissues to prepare her for pregnancy and lactation, but if the estrogen persists too long, then the water is out of control throughout the organism and it tends to cause the swelling, headaches, nervous tension, swollen feet and so on associated with PMS, pregnancy problems and so on. Thyroid and progesterone are the most powerful hormones in preserving the proper retention of water in cells..not too much, not too little.

K: .....water vapor.....humidity..... How does an individual know this is all happening?

Peat: The aging process is essentially a loss of water. A baby has an extremely high water content in its tissues, 80 something percent I think, and a very old person it gets down approaching maybe 55 percent. The function decreases along with the water, so a baby has an extremely high metabolic rate and ability to heal tissues. At puberty, the resistance - health, vitality, everything is at a maximum. And after that, everything tends to go downhill. The ability to heal decreases with aging, but all along the water content of the tissue right from conception to death, it's a decreasing percentage of water inside the cell - except the cells -----

K: ....acidity of the body....water....tell us about nutrition - preventing aging harshly.

Peat: There were some studies about 20 or 30 years ago in which if you feed the animal or even the tissue in a dish, if you feed it saturated fat such as coconut oil, the sells of the skin grow in an orderly way, retaining their moisture, keeping the skin plump, firm, and resilient. If you feed them PUFA, they mature very quickly as if under the influence of a vitamin A deficiency or an estrogen excess. They are more susceptible to sun damage, the cells grow slowly and in irregular columns, and the skin overall is thinner. So the sun damage and too much PUFA in the diet makes the skin age and become disorganized prematurely. That got me interested in coconut oil. About 20 years ago I started writing about the biological effects of increasing--

K: What about coconut water?

Peat: It is a great source of minerals. If it's fresh it has very good sugar. And the sugar oxidizes, produces carbon dioxide, and the carbon dioxide is the main power in regulating the alkalinity of cells. It is what moves minerals in and out of cells and in through your kidneys and so on. So fruits, orange juice is an ideal source of carbohydrate because it has its own minerals in it - same as coconut water. And milk is a good food...cheese...because of the high mineral

K: You're not anti-dairy?

Peat: No, because of the high value of the calcium content and the low ratio of phosphate to calcium. Because phosphate is an age accelerating thing. A diet high in meats and nuts, for example, has a serious excess of phosphate and a deficiency of calcium. And calcium is one of the best things for stimulating the rate of metabolism and preventing obesity. People who drink milk regularly are a very slim population in proportion to the amount of calories they consume. There are a couple of studies in which dementia is much higher in populations that don't drink any milk.

K: I also want to ask you about aging eyes, infant eyes and your research. Tell us about what you were learning about eyes.

Peat: I especially got interested in how the transparency of the cornea lens and vitreous humor, how that works, when I was in Mexico at Lake Patzcuaro. The fish there were transparent, at least they used to be, I think pollution is changing it. In the market they would pile up fish that were the size of small trouts and even some 8 inches long, others about the size of a cigar - where you could read a magazine cover right through the fish. Absolute transparency. That got me interested in the issue of what makes the sclera or the cornea or the lens able to be transparent even though it has relatively little water. It's a very tough, hard rubbery tissue. And the state of the water is so organized and you have to think about Gerald Pollack's research to think about what organization can mean to water, the molecules are lined up such that the quantum energy is organized as it moves through. Theres another very important website - Mae-Wan Ho - called 'ISIS' The Institute of Science in Society. She writes about the

coherence of organisms involving this quantum level organization of water molecules and she has illustrations of the color continuity right through a whole organism showing that the light has to be organized by the organism as a whole, not by individual random atoms. In the lens and the cornea, what this means that, if for example, you have too much inflammation, estrogen, ultraviolet radiation, anything that excites the tissue too much, it lets the water get disorganized. And the water content increases, just the way edema causes water to accumulate in your feet or fingers where it shouldn't be. The water accumulates in loose form and that's what causes the opacity of a cataract. It's actually too much water because it's out of control and disorganized.

K; Do you think that's because of the dehydration of the atmospheric influence of the eye being dehydrating too quickly because it can't keep up - if there's too much water it's because the water is dehydrating too quickly (??)

Peat: The proteins are dehydrating, they are loosing the control of the water. So the living substance has lost its water, and the water is accumulating in random places.

K: If the water is swelling, it's trying to hold back on the loss of water, so it's dehydrating (??)

Peat: The age pigment is involved, it's what you see accumulating in spots on old people's skin. But it starts any time the tissue isn't getting enough oxygen, to retain its water the way it should. The PUFA become oxidized and form clumps of this dark orange or brown or black pigment. This wastes oxygen and creates a vicious circle so it's definitely accumulating in cells. With enough energy, progesterone and thyroid can energize the cell enough to revers that age pigment. It helps greatly if you use things like milk, orange juice, coconut water, and coconut oil are good. Not--

K: interruption out of time.