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Introduction to this Newsletter Issue

Hello again! Welcome to my newsletter. I hope you enjoy it or at least find it amusing. Or, perhaps, even irritating?

If you do not wish to receive more issues, please let me know via email.

I occasionally bring up issues that are

someone else's point of view, but are points that I think should be discussed.

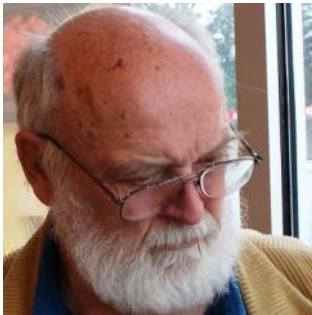
If you have other views, I would be happy to include your comments in the next Fred-Talk, with or without your by-line. Send me an email.

Potable Water Pamphlet

I have been offering a brief lecture on potable water at **Hatfield Marine Science Center** in Newport, Oregon over the past ten months. The subject examines what potable water is, why it is necessary for human life, and where it is found.

If you would like a copy of the pamphlet that I give to the audience, just send a request to fgduerr@gmail.com and I will email the copy to you. If you are at the Hatfield Marine Science Center, ask at the main desk for your free copy.

By the way, the photograph below is of my favorite biologist. The location is Last Man Lake in Northern Minnesota.



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Evolutionary Biology

A question in [Quora](#) asks, "If primates, dolphins, birds, octopuses or elephants have been around longer than, or just as long as Homo sapiens, why have they not evolved sentient, creative, neo-cortex brains with superior intelligence by now?"

Robert Frost, engineer/instructor at NASA answers, "Because they didn't need to. Evolution is not about moving towards a target. Evolution is about adapting to the environment in ways that increase odds of reproduction. Not including recent destructions of habitat by man, elephants are just fine as they are. Dolphins are just fine as they are. Primates are just

fine as they are."

I like the answers to the question, but, with the following cognates, I take exception to some of the implied suggestions. Organisms do NOT evolve because of some innate teleological NEED. In addition, I do not think intelligence ensures survival. Mankind, elephants, and dolphins can be "fine" as long as they don't destroy their habitat.

Mankind's superior intelligence has not solved the problems of widespread disease, insufficient supplies of food and water, hyper-aggressive behavior, and over population.





Otis Freeman Curtis
drawing by
By I. B. Streblov

Portraits of Eminent Scientists — *Otis Freeman Curtis*

I have a personal collection of drawings of historically eminent scientists. I intend to post a drawing along with information about one of the scientists with each newsletter. These pictures will become part of my book, "History of Biology", in process.

Otis Freeman Curtis (1888–1949) was a Professor of Botany at Cornell University. He was born in Sendai, Japan, the son of a Congregational Church minister. Also primarily a teacher, he published about 30

papers dealing with vegetative reproduction, translocation, temperature and water relations of plants.

He also wrote a textbook on plant physiology, emphasizing the effect of sunlight on plants and the non-importance of transpiration in controlling temperature in plants.

His teachings emphasized "reading between the lines" and not relying solely on rote memorization.

Books I Read Recently — *The Fall of the Faculty*

I was very fortunate to have attended a university during the end of a "golden era" in education. Faculty mostly controlled the universities and colleges. Emphasis was placed on scholarship and teaching. For example, the University of North Dakota formally declared that its emphasis was tri-fold: "Teaching, Research, and Service To The Community".

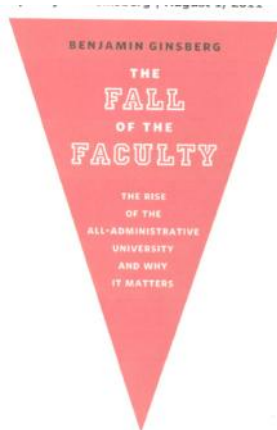
The institution primarily funded faculty salaries and research from state, tuition, and philanthropic sources. These funds, commonly called "hard money", were not temporary, but guaranteed continuing employment during faculty tenure. Additional funds, commonly called "soft money", and obtained from federal, private and other sources, were of a temporary nature and generally lasted until the end of a project. Obtaining a soft money grant was not the prime objective of the university, nor a requirement for continued employment.

Faculty tended to communicate with each other in a non-competitive manner. This attitude was fostered with their graduate

students, who frequently helped each other on projects. In some cases, permanent friendships were formed that, in my case, have lasted as long as 50 years.

In the years following the 1960's, federal funds became more available for faculty research, and the faculty was encouraged by the university administration to apply for these funds. The universities generally obtained about 50% of the awarded grant monies, called overhead, for their own purposes. Administrators tended to increase their own salaries, hire more assistants and office help, and then rank the professorial portion of the university according to the professor's ability to acquire more grant money. Academic scholarship pursuits tended to take second place in importance to keep the grant income stream flowing.

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Books I Read Recently, continued

I have a daughter who receives over a million dollars per year in federal funds. About 80% of the monies are overhead monies for her employer and 20% for salaries for herself and her staff. If she does not get a grant renewal, then all salaries stop. Furthermore, she cannot apply for renewals of old grants during her regular working hours. She writes her grant proposals during evenings at home and on weekends.

To summarize, scholarship and teaching are the mainstay of academic life for faculty members. However, administrators consider faculty research and teaching to be the means to generate revenue, not ends in themselves. Administrators increasingly consider academic institutions as businesses.

1988 Interview of Isaac Asimov by Bill Moyers

There is a weekly newsletter called *Brain Pickings*, written by Maria Popova. Much of what follows came out of her 2014/04/07 newsletter.

She discusses a book called *A World of Ideas*, by Bill Moyers. In particular she discusses an interview with Isaac Asimov. Bill Moyers asked Dr. Asimov about difference between science and religion. Asimov replied that one main difference is religions deal with what adherents consider FACT. There is no need to question what they conceive as a closed subject. Facts are Facts!

However, a problem arises when different religions claim their FACTS are the real ones.

A scientist deal with the unknown, searches for new facts, and is willing to alter beliefs to explain new discoveries.

Asimov summarizes, "That is really the glory of science — that science is tentative, that it is not certain, that it is subject to change. What is really disgraceful is to have a set of beliefs that you think is absolute and has been so from the start and can't change, where you simply won't listen to evidence. You say, 'If the evidence agrees with me, it's not necessary, and if it doesn't agree with me, it's false.' This is the legendary remark of Omar when they captured Alexandria and

All of the above is my personal preface to the subject of an excellent book by Dr. Benjamin Ginsberg, Professor of Political Science, Johns Hopkins University. The book is called *The Fall of the Faculty, the rise of the all-administrative university and why it matters*. The book is published by Oxford University Press (2011), and is now out in a second edition and on Kindle.

In the book, Dr. Ginsberg points out that between 1997 and 2007, the number of administrative and support people per hundred students increased 103% at Williams College; 111% at John Hopkins; 325% at Wake Forest University, and 351% at Yeshiva University. The book discusses and makes suggestions on reversing this "troubling reality".

asked him what to do with the library. He said, 'If the books agree with the Koran, they are not necessary and may be burned. If they disagree with the Koran, they are pernicious and must be burned.' Well, there are still these Omar-like thinkers who think all of knowledge will fit into one book called the Bible, and who refuse to allow it is possible ever to conceive of an error there. To my way of thinking, that is much more dangerous than a system of knowledge that is tentative and uncertain."

Asimov also argues that science is strongly motivated by morality and a generosity of spirit. In religion, often ego consumes good will. He gives the following examples:

"I think it's amazing how many saints there have been among scientists. I'll give you an example. In 1900, De Vries studied mutations. He found a patch of evening primrose of different types, and he studied how they inherited their characteristics. He worked out the laws of genetics. Two other guys worked out the laws of genetics at the same time, a guy called Karl Correns, who was a German, and Erich Tschermak von Seysenegg, who was an Austrian. All three worked out the laws of genetics in 1900, and having done so, all

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1988 Interview of Isaac Asimov by Bill Moyers, continued

three looked through the literature, just to see what has been done before. All three discovered that in the 1860s Gregor Mendel had worked out the laws of genetics, and people hadn't paid any attention then. All three reported their findings as confirmation of what Mendel had found. Not one of the three attempted to say that it was original with him. And you know what it meant. It meant that two of the, Correns and Tschermak von Seysenegg, lived in obscurity. De Vries is known only because he was also the first to work out the theory of mutations. But as far as discovering genetics is con-

cerned, Mendel gets all the credit. They knew at the time that this would happen. That's the sort of thing you just don't find outside of science."

Some years ago an elderly woman told me that religion was an absolute must for people. "Without it", she continued, "I might rob and kill people!"

I don't believe morality needs religion.

No domain is more susceptible to human egotism than religion.

Mark Twain

Food for Thought

When he was exasperated, my father frequently said, "Genug ist genug!" in German, or "enough is enough" in English. Both phrases sound similar and mean the same thing. The French say something that also sounds somewhat like *genug*. It is "*un oeuf est un oeuf*". But that means "an egg is an egg".

My thought really is, "How much is enough"? In addition, that brings me to another question, "Which came first, the chicken or the egg?"

The prelude above may not match what comes next, but hopefully is satisfactory.

Over the centuries, humankind has puzzled over the formation and occurrence of children. People knew, in a general sense, that it probably had something to do with the mating of a man and a woman. Beyond that, people only speculated on how this process occurs.

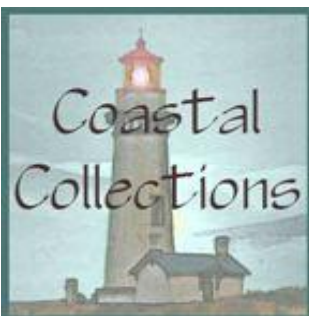
Some cultures considered the woman to be a vessel or container that receives the prospective new life from the man. Her role was to incubate this new life in her womb. Other cultures, while recognizing that progeny

contain attributes from both parents, considered that attributes from the father dominate attributes contributed by the mother.

About 100 years ago with the advent of genetic science, educated people began to think that each parent contributes attributes in equal measure to the offspring. Approximately 60 years ago, scientists discovered that the genetic material was Deoxyribose Nucleic Acid or DNA. The consensus at that time was that DNA controlled inheritance and furthermore that DNA was only found in the nucleus of the egg or sperm of the parents.

With the 1960's, scientists have discovered DNA in the mitochondria of a cell. Since only the egg contains mitochondria and whereas the penetrating sperm does not contribute functional extra nuclear mitochondria, one could consider that if DNA is the genetic material, then the offspring would have more genetic information from the mother than from the father.

Now, if that does not give you food for thought...



Diana and I have somehow acquired several thousand books on a multitude of subjects. Click on the image at left to take you to our website, where you can search our inventory of books for sale at Biblio.com.

I have written a small, 54 page primer on water. It is designed to

give basic information to the general public. It is available at Amazon.com as a paperback book (**Water**, by Fred Duerr), **ISBN: 1482773872**. and as a Kindle, **ASIN: B00CM13K5A**.

Click on the book image to the right to take you to my page on Amazon.com.

