



The Observer

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Sea quest

Don Comb starts to build his ocean library

Once in a blue moon, you run across a person so interesting that your reflexive state of bilious envy wilts in the face of his talent. Don Comb is one.

There are, in business, geeks who come up with ideas and predators who devour market share. Rarely do both surface in one person. Bill Gates is an exception. Fidelity chief Ned Johnson is another.

Comb represents a third type who walks a road less traveled. He is a brilliant scientist and great businessman who stays small when he could be large, who has flown under our radar for three decades. A man who created a cooperative for scientists with a sumptuous profit-sharing plan and day care for their kids. A man as drawn to art as he is to restriction endonucleases, to ocean sailing as much as hunting with a bow and arrow. A man who stuns you with his philanthropic vision.

What we've got here is a mensch.

Comb's latest venture is a show stopper. He has created a nonprofit called the Ocean Genome Legacy Foundation that sports two Nobel Prize laureates on its board. The goal is to create a permanent library of DNA from as many marine species as possible and make this genome archive available to the public at cost. Last year, he hired another smartie, marine biologist Dan Distel, to run the outfit.

This audacious project is the first of its kind on such a scale focusing exclusively on the ocean, says Distel, and the challenges are immense. For starters, no one's quite sure anymore how to define a species. And there could be anywhere from tens to hundreds of millions of them, so you pick your shots.

"This is not Noah's Ark," he says. "But you can't protect things if you don't know they exist. How do you know what you've lost if you don't know what you've got?"

That said, he adds, "This is a NASA-scale project. We can create a model for other organizations to look at, improve on, build on. We'd like to see a network of

other organizations involved."

"The ocean is so important," adds Comb. "This is where evolution occurred. I've seen what's happened in Bermuda to the reefs. They're dying. It's happening all over the world. When a species goes extinct, you lose a lot of information." He pauses. "Someday, I believe we'll be able to bring some back."

(Through another nonprofit he founded in 1982, the New England Biolabs Foundation, Comb helped create a marine sanctuary in the Caribbean waters off of St. Bart's that has restored marine life decimated by overfishing.)

Distel will rely on the kindness of strangers for the task ahead. This means asking marine labs around the world to send him species samples. OGLF staff will then isolate each genome, which is the total DNA of the organism. Part of it will be frozen in perpetual storage and the rest used to make DNA libraries of it that other scientists can use. It will probably be sent out as freeze-dried powder in a tiny plastic container with a bar code on top with relevant collection data.

At 78, Comb finally turned over the reins of New England Biolabs, the privately-held company he founded more than 30 years ago, at the beginning of July and returned to the pure research he loves. NEB was a trailblazer in the discovery and commercial production of enzymes used in DNA cloning, and it remains a world leader in the field. (Trust me, the Observer will be in the weeds if he wades any further into enzyme territory.) He has made a fortune along the way. Could have made much more but stayed committed to science. "Small is beautiful," he says of his 225 employees. "We live off the royalties to do research."

The company, which has an office in

Beijing, sells its products across the globe. It also supports labs in Third World countries like Cameroon and Vietnam that are often staffed by scientists who did post-doctoral work at NEB.

Comb will now focus on histones, "the protein DNA is wrapped up in," and continue work against filariasis, the horrific disease that produces elephantiasis and often blindness. He is also involved in a new company, BioHelix, founded last year by NEB scientists to commercialize DNA amplification technology. (Don't ask.)

Comb is a Detroit kid who got salt-water in his veins. He had never eyeballed an ocean before coming to Harvard Medical School in 1962, where he got hooked on sea urchin embryos. Spent a lot of time studying coral reef life at the Bermuda Biological Station for Research and taught at the med school until, facing a bleak tenure freeze, he said the hell with it and started NEB in Beverly.

It's been a lively month. After shedding his CEO title, Comb raced with his son from Marblehead to Halifax. A few weeks ago, NEB moved into a new campus in rural Ipswich anchored by an elegant laboratory building and an astonishing solar aquatic waste-water treatment facility. OGLF will move this fall into cutting-edge quarters in a refurbished carriage house on the property.

Meanwhile, Comb's other foundation, NEBF, continues to make small grants in developing countries to projects that educate people through art about the environment and social change. Very cool.

God only knows what this man will dream up next.

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