

Newsday

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Throwing Stones in Academia

By Dan Fagin

Staff Writer

No, it's not an all-out war between two of the leading authorities on the natural history of Long Island. Let's just say relations are icy.

Les Sirkin and John Sanders tell two very different stories about the great glaciers that shaped Long Island, and neither geologist is shy about calling the other's ideas foolish -- though the cutting remarks are never delivered directly, since the two rarely speak to each other.

The nicest thing that Sirkin, a 64-year-old research professor of earth sciences at Adelphi University, has to say about Sanders is: "John may be a great gadfly, but I don't think he's making an enormous impact on glacial geology."

Sanders, meanwhile, complains that Sirkin won't even consider evidence that his ideas might be wrong. "You can't dig with him and you can't ask questions. Now what does that tell you?" said the 71-year-old Sanders, a retired geology professor at Barnard College who is now affiliated with Hofstra University.

Their dispute is a personal one, but it also shows just how much of Long Island's history must still be written in pencil.

The biggest and oldest local controversy is over when, and how many times, ice sheets descended from Canada to form hills, lakes, cliffs, and every other familiar feature of Long Island.

That century-old argument would be easy to solve if rocks could be dated in the same way as fossils. But the standard technique of figuring out a fossil's age by measuring the decay of radioactive elements such as uranium and carbon-14 only works on bones, plants, or anything else that was once alive.

Instead, geologists study cliffs and other places where layers of rock are visible, and search those layers for buried shells, charcoal and other organic material that can be dated. They also ponder indirect evidence: fossilized pollen that shows whether the climate was cold enough for glaciers, and grooves cut into bedrock that reveal which direction the ice sheets moved.

Sirkin believes only two glaciers ever reached Long Island. He gives two possible dates for the first glacier, either 150,000 or 60,000 years ago, and thinks it covered at least the North Shore and probably additional areas before retreating into Canada.

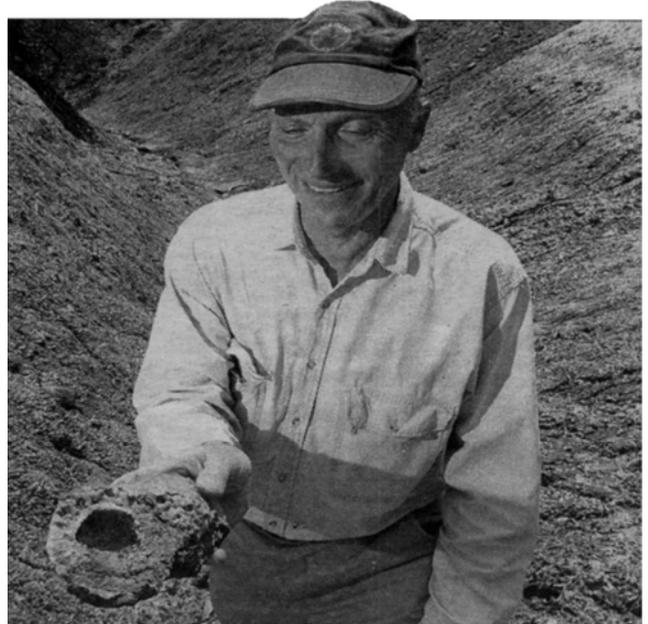
The second glacier was here just 22,000 years ago, he says, and stopped halfway down Long Island, depositing a ridge of bulldozed rock -- a moraine -- stretching from Queens to Amagansett and continuing eastward toward Martha's Vineyard. As it retreated, the same glacier formed a second series of moraines near the North Shore, including the elevated spine of the North Fork, according to Sirkin. Sanders gives a very different version. He believes that glaciers reached present-day Nassau and Suffolk Counties at least four times, that the two moraines were formed by different ice sheets, and that the last time ice was in either county was about 100,000 years ago. The 22,000-year-old glacier cited by Sirkin never made it south of Connecticut or east of Queens, according to Sanders.

A clear majority of geologists in the region agrees more with Sirkin than Sanders, who acknowledges that his own ideas conflict with what he calls the "prevailing dogma," which is also the version cited in Newsday's articles about Long Island history.

But Sanders isn't quitting. He and a Hofstra colleague, Charles Merguerian, continue to organize field trips, for amateurs and professionals alike, that are aimed at refuting Sirkin's ideas and boosting their own.

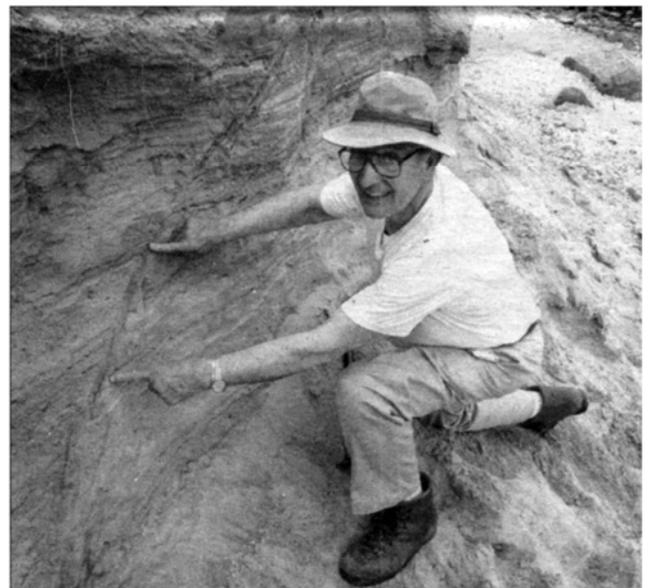
Sirkin, meanwhile, has also been busy trying to reach a wider audience, through a series of newly published books he has written about local geology.

Sanders bought one copy. But, so far, Sirkin hasn't signed up for a field trip.



Newsday Photo/Bill Davis

Adelphi's Les Sirkin examines a concretion - a solid mass harder than surrounding rock - he found in a clay bed at the Port Washington sand pit. Below, John Sanders of Hofstra shows a line in a Montauk cliff that he says indicates a shift in the land.



Newsday Photo / Jessica Brandi Liland