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## WORKS IN PROGRESS

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*Edited by Allen Freeman*

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### Megaliths by a Polymath

Edward Tufte, aka The da Vinci of Data, has spent a career explaining the theory and expression of visualized data. But these days he is pursuing something heavier and not at all theoretical: large, often whimsical sculptures of stone, wood, and steel set on his rural Connecticut property.

Tufte calls his current works megaliths, and there are now some 700 tons of them. “My work in data theory continues in parallel with my sculpture,” he says. “The wonderful thing about big outdoor sculpture is that it lives in the real world. Over the years, I’ve stared at a lot of data visualizations on the glowing flat rectangle of the computer screen. So I love the reality and physi-

cality of joyful artworks residing in nature.”

A professor emeritus of political science, statistics, and computer science at Yale University, Tufte has sold more than 1.5 million copies of books on graphic design and how to obtain the highest information value from data presentation.

Today Tufte crisscrosses the country lecturing on the value of presenting information-rich data simply. He’s drafting what he calls a book-movie—another melding of science and art titled “The Thinking Eye”—about seeing deeply and intensely and then reasoning about what you see. “My work is secretly about making people smarter,” he says. “In some ways, seeing is thinking.”

—TOM BENTLEY



## Fracking Sleuths Apply DNA

Environmentalists list contamination of drinking water first among dangers connected with hydraulic fracturing—fracking—the extraction of natural gas and oil from the ground by digging deep and injecting millions of gallons of fluid into the earth. Fracking fluid, water seeded with sand and a proprietary mix of chemicals, fractures the shale, opening fissures in the rock through which gas can flow to the surface.

Each company's brew of chemicals is a trade secret, thanks to a clause in the 2005 Safe Drinking Water Act that



made disclosure optional. Now a company founded by five students and graduates of Duke University is working on a new kind of disclosure. BaseTrace (also the name of the company) consists of “inert strands of resilient DNA” to be mixed into fracking fluid before it is forced down a well. Because Base-

Trace DNA would be particular to each well, fracking fluid could indicate what company was responsible for any adverse effects.

Companies will be motivated to use it as “an on-site diagnostic tool for quick problem detection,” says Jake Rudolph, a cofounder, and to refute claims of contamination.

The DNA in BaseTrace is reported to be identifiable in low concentrations, so a well's worth of fracking fluid would require only a thimbleful (left) of BaseTrace. The company is testing BaseTrace's survival in harsh environments and looking for a partner to help in field tests. —LEAH JACOBS

