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Cover: New computer simulations are shedding light on how stars explode as type II supernovas. In this graphic, the star's dense core has collapsed, and a rebounding shock wave has stalled at the red-yellow boundary. Yellow denotes material falling onto the core, while red and green indicate neutron-rich gas, some of which bubbles up, helping to revive the wave. The turbulent bubbling creates huge tsunamis, denoted by the red-purple-blue interface. In 10 milliseconds this star will explode. (Image: Adam S. Burrows, John C. Hayes, Bruce A. Fryxell)



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Science Service, which publishes SCIENCE NEWS, is a nonprofit corporation founded in 1921. It gratefully accepts tax-deductible contributions and bequests to assist its efforts to increase the public understanding of science, with special emphasis on young people. More recently, it has included in its mission increasing scientific literacy among members of underrepresented groups. Through its Youth Programs it administers the International Science and Engineering Fair, the Science Talent Search for the Westinghouse Science Scholarships, and publishes and distributes the *Directory of Student Science Training Programs for Precollege Students*.

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## Letters

### Poetry in motion?

"Hubble telescope eyes a younger universe" (SN: 10/29/94, p.278) inspired the following:

There was a stargazer named Hubble,  
Who said, "We expand like a bubble."  
But finding the rate,  
Was a source of debate,  
Dissension, contention, and trouble.

Ronald W. Angel  
Bellevue, Wash.

### The long end of the string

"Molecular Computing in a DNA Soup" (SN: 11/12/94, p.308) reminded me of a problem I heard about a number of years ago. Briefly, the problem is to find the longest path through a network of connected nodes.

One ingenious approach involved modeling the network using segments of string the same length and connected in the same way as the network. The solution is then found by a simple, two-step process.

First, hold the network in the air by any end

point. Next, grab the end hanging down the farthest and hold the network up by it. The longest possible path is the one from the end you are holding to the end hanging down the farthest. The path is easily determined by examining the "tight" path through the network.

Despite the elegance and simplicity of the "string" solution, I have never seen it applied to real network problems, much less to general computing. After reading your article and listening to some of the more "hyped" reports in the general press, I am similarly at a loss as to the applicability of the DNA solution.

Frank Lawlor  
Austin, Texas

### The operation was a success, but . . .

A study of the effects of scraping plaque out of the carotid arteries reported a 55 percent reduction in strokes ("Artery Surgery Slashes Risk of Stroke," SN: 10/8/94, p.228). This was calculated from the ratio of the rate of strokes for those treated (4.8 percent) to those not treated (10.6 percent).

The article also mentions that side effects of stroke or death affected about 3 percent of the patients.

In light of the side effects, the calculated 55 percent risk reduction is misleading. The stroke death rate of 3 percent should be added to the post-treatment rate, making the comparison 7.8 percent versus 10.6 percent, for a 26 percent reduction in strokes resulting from the treatment.

While this may still justify the procedure, we should be concerned about how common it is in evaluating medical treatments to ignore side effects. This seems to be formalizing the old gag "that the operation was a success, but the patient died."

Keith Baker  
Silver Spring, Md.

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