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Letters

Fermat's feat still mysterious

It was inevitable that SCIENCE NEWS would address itself to the "breakthrough" achievement of Andrew Wiles in "proving" Fermat's famous "last theorem" ("A curvy path leads to Fermat's last theorem," SN: 7/3/93, p.5). Wiles' work has made headlines, been on television, and startled both the academic and pop culture communities.

But wait a minute! His triumph comes after 300 years of labor by generations of mathematicians, some of whom had computer technology at their disposal, and the proof is admittedly bulky, difficult, and hard to understand (and, some would say, not yet completely proved at all).

Fermat, working alone, noted that he had a wonderful proof, a bit too much for the margin of his notebook. I submit that Wiles may have achieved a breakthrough, but that he, and we, have not broken through the subtle barrier that separates Fermat's understanding from our own.

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Cover: This computer simulation shows what can happen when a pair of stars (red and yellow) meets up with a single star (blue), shown entering from the top. After a complicated series of interactions, a new binary pair (red and blue) forms and the yellow star is ejected. (Image: Steinn Sigurdsson, E. Sterl Phinney/Caltech)
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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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What *was* that elegant proof? That's the achievement that deserves the headlines.

Stephan Chodorov
Kent, Conn.

Sidelights on RP research

A few background facts may be helpful in evaluating the report on the effect of vitamin A on retinitis pigmentosa (RP) progression ("Vitamin slows advancing blindness from RP," SN: 6/19/93, p.390).

First, RP is a slowly progressing disease: It takes decades to go from the first signs of field loss to tunnel vision. That is why any treatment having even a small effect can be helpful. It is not certain, however, that there are no side effects to the long-term intake of high-dose vitamin A — 2.5 times the recommended dietary allowance for adults — and RP patients considering taking the supplement should be made aware of this.

Second, the Harvard researchers selected RP patients in early stages of the disease. Since several studies in our laboratory and elsewhere have found that the average total field

loss rate in RP is 15 to 17 percent per year *once visual-field changes become apparent*, the data suggest that many of the patients in this study had not even started losing parts of their visual fields. Berson's remark that electrical recording "can detect changes that may take 10 to 15 years to confirm through visual-field tests" implicitly acknowledges this: Both tests can monitor loss of retinal function, but in different stages of the disease.

Berson's use of the ERG (electroretinogram) to measure degeneration limits the validity of his group's conclusions to patients with early RP. It is not known what the effect of vitamin A or E, or both, would be on patients with more advanced RP. The answer to that question, as well as to the question of side effects, may be available in India, where high-dose vitamin A supplements have been given to RP patients for over a generation.

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