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## Letters

### Faster than the wind

As a weekend sailor, I am amazed by the much-touted ability of the America's Cup sailboats to go faster than the wind both upwind and downwind. "Engineering a Victory on the Water" (SN: 8/27/88, p.136), like other articles I have read, mentioned the fact without revealing how it was accomplished.

I'm still immensely curious how this breakthrough in sailing technology was achieved. If it's as straightforward as, say, a winged keel, is it likely to become available on ordinary sailboats? If so, it's truly revolutionary.

Dale F. Mead  
Cupertino, Calif.

*Sailing faster than the wind is a notable benchmark in monohull sailing, but it sounds trickier*

### This Week

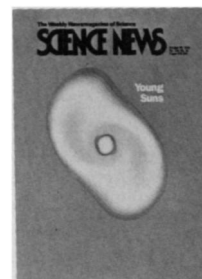
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Cover: One of the fundamental questions in astronomy is why so many stars occur as orbiting pairs (binary stars). Recent observations of young stars are providing important clues for theorists interested in how binary stars form from clouds of dust and gas. This computer-generated image shows a density-contour map of one stage in the collapse of a rotating gas cloud, which may fragment into a binary system. (Image: Alan P. Boss)
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*than it actually is. The truth is that builders worked up to and passed this benchmark simply by making lighter, more stable, aerodynamically cleaner sailboats. Remember that as drag is reduced, a given thrust will push the boat faster, whether the wind producing that thrust is blowing by at 3 mph or 30 mph. So there is theoretically no upper limit to the boat speed/wind speed ratio — for either America's Cup or "ordinary" boats.*

*A sailboat can't, of course, go faster than the wind if traveling straight downwind, but these boats sail at an angle to the wind both upwind and downwind for maximum speed.*

— C. Vaughan

### A question of fairness

I am writing in response to the letter entitled "Risk and Responsibility" (SN: 9/3/88, p.147), in which a reader said she

learned that her children were subjected to increased risk with oral polio vaccine (versus injectable) not for their benefit but for the community at large. I suspect she has not been informed about the rubella (German measles) vaccine. Boys are administered the vaccine for no health benefits for themselves (contracting the disease causes them only mild symptoms of a rash and swollen glands), but to protect their pregnant schoolteachers and other women with whom they might come in contact. (Birth defects are associated with contracting rubella during pregnancy.)

In Australia, all young teenage girls are vaccinated, eliminating the chance of their contracting rubella during pregnancy. This seems a much fairer policy, especially since baby girls inoculated may not carry their immunity into their childbearing years.

Nina Kraucunas  
Fairfax, Va.

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