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Cover: Like a Jackson Pollock painting come to life, gold-colored axons from serotonin-producing nerve cells distribute themselves every which way through the hippocampus region in the brain of a healthy rat. Scientists think serotonin's widespread distribution in the human brain may explain the important role this neurotransmitter seems to play in a multitude of mood disorders. (Micrograph: E. O'Hearne, M.E. Molliver/Johns Hopkins University School of Medicine)

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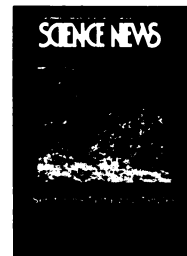
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# Letters

## Carbon confusion

If the carbon in our bodies contained 12 neutrons ("Food Chains: The Carbon Link," SN: 9/9/89, p.168), we would have a mighty short half-life. How about 6 protons and 6 neutrons for a mass number of 12? Carbon-13 and carbon-14 contain 7 neutrons and 8 neutrons, respectively.

C. E. Hunt  
Aurora, N. Y.

As you noted, mass numbers were erroneously substituted for numbers of neutrons. — S. Hart

I enjoyed "Food Chains: The Carbon Link." But I missed out on how the plant's biosynthetic route would affect the ratio of carbon-13 to carbon-12. If the inorganic carbon source (carbon dioxide) has a fixed ratio of the isotopes, wouldn't this be conserved in any synthetic product of the original carbon?

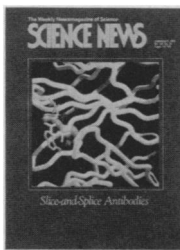
Steven W. Cohen  
Langhorne, Pa.

You raise an interesting point. Plants don't preserve the carbon-12:carbon-13 ratio in the

atmosphere because they discriminate against carbon-13. Carbon-13 weighs more and forms slightly stronger bonds than carbon-12. The extra weight seems to slow its diffusion into cells. In land plants, moreover, the enzymes that first turn atmospheric carbon dioxide into complex molecules use less carbon-13 than carbon-12. And two groups of plants, called C-3 and C-4 plants, use different enzymes to build that first carbon molecule. The result is that all plants contain a lower carbon-13:carbon-12 ratio than does the atmosphere, and C-3 plants contain a lower ratio than do C-4s. — S. Hart

## CORRECTION

Art Olson of the Scripps Clinic and Research Foundation generated the computer image of the catalytic antibody on the Sept. 2 cover. His name was inadvertently omitted from the illustration credit.



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