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COVER: The first color photo of the surface of Venus was taken last month by the Soviet Venera 13 spacecraft, whose landing site is marked by arrow on this partial radar altimetry map of the planet. Also shown are the locations of the six other Veneras that have touched down there since 1972. See p. 248. (Radar data from the Pioneer Venus orbiter, reduced by P.G. Ford and G.H. Pettengill of MIT, compiled by E. Eliason and H. Masursky of the U.S. Geological Survey. Lander locations: Vernadsky Institute, USSR.)

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LETTERS

Prime rules and anecdotes

I enjoyed your article about prime numbers (SN: 3/6/82, p. 158). There is one interesting side note I thought amusing. Your cover depicts the number "561" and asks whether it is prime or not. Also, your cover explanation notes that "561" is a pseudoprime and that it masquerades as a prime in that it satisfies Fermat's theorem. Just by looking at the cover and before even reading either the article or the cover explanation, I knew immediately that "561" was indeed not prime at all.

There is a simple rule for particular numbers that can tell you very easily whether they are prime. These numbers are of any length of digits providing that the sum of the digits is a multiple of three (3). In the example on the cover of your magazine, "561" has, for the sum of its digits, the value of 12. Since 12 is a multiple of three, "561" is therefore *not* prime but rather a composite number. It was interesting that you picked such a number that satisfies this rule.

I am a student at the State University of New York at Buffalo. I find that for many instances I learn more from your magazine articles than from most of my textbooks, and the information is always up to date. Keep doing such a great job on your publication and happy 60th anniversary to you.

Joseph E. Margaron
West Seneca, N.Y.

I enjoyed very much Ivars Peterson's article on prime numbers. Many years ago I heard an amusing anecdote about primes which readers may find entertaining. The fictional account involves a chemist and a mathematician (other professions may be substituted for the reader) and went something like this:

Said the chemist, "All odd numbers are prime numbers." Said the mathematician, "No they are not." "Let's see," said the chemist, "1 is odd and it is prime; 3 is odd and it is prime; 5 is odd and it is prime; 7 is odd and it is prime; 9 is not prime, but 11 is." "But what about 9," said the mathematician, "your theory must be wrong, then." "No," said the chemist, "my theory is not wrong; 9 is just an experimental error."

James H. Cragin
Hanover, N.H.

A broader perspective

In your recent article "Connective tissue perspective" (SN: 2/20/82, p. 124), you made the statement about collagen that "this protein [is] found in all multicellular organisms..." This is, of course, not true because there is no collagen in plants nor has it been found in the fungi. I think what you meant to report was that collagen is found in all metazoan organisms.

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For the purposes of your article, which deals primarily with connective tissue disease, this error is of little or no consequence. However, from an evolutionary point of view, it is of major importance. Because collagen has not been found outside of the animal world (metazoans), any theory about the origin of the Metazoa must be able to explain this important protein's appearance. One of the unique features of collagen is the presence of two amino acids not normally found in other proteins: hydroxyproline and hydroxylysine. It is these amino acids that are the key to the origin of collagen and related proteins in plants. The connective tissue perspective is broader than just disease in mammals.

Kenneth M. Towe
Washington, D.C.

Of boars and budgets

Everytime I see an article or letter bemoaning budget cuts in science, hard as I try, I can't help but be reminded of the Black Forest story of the animal trainer and the wiley old boar. It seems that for years the local villagers had been unsuccessfully trying to capture the boar to use for their own ends. One day an old animal trainer who summered in the area sauntered into town with the boar at his heels. After the boar had followed him into a specially prepared pen, the amazed townspeople asked how he'd done it. He explained that he'd merely gone into the woods everyday and dropped food where the boar was sure to find it. After awhile, the animal forgot how to forage for himself and became dependent on the trainer for his food.

And there you have it. But what happens when the trainer discovers he can no longer afford to feed his menagerie? The boar of science is perfectly capable of feeding itself; it just has to remember how. You need only reflect that nearly the whole basis of western economy from agriculture through electronics to biotechnology is directly based on science to realize the tremendous value science represents. People will voluntarily invest their money as they have in the past. (Remember Genentech stock sales [SN: 10/25/80, p. 261].) It isn't appropriate, seemingly or necessary for science to depend for support on government money wrestled for the most part from involuntary taxpayers.

For those who believe investment and out and out donation funding won't work, remember the Viking Fund (SN: 1/17/81, p. 36). It would of course work better if people had more of their hard-earned money to voluntarily donate and invest. Isn't that in fact what budget cuts and tax cuts are all about?

Rick White
Las Vegas, Nev.

Correction: In "DSDP: Rethinking the accretion model" (SN: 4/3/82, p. 231), the age of the present tectonic system in the Pacific should have read 25 million years.