

SCIENCE NEWS®

The Weekly Newsmagazine of Science

Science Service Publication
Volume 147, No. 10, March 11, 1995

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SCIENCE NEWS (ISSN 0036-8423) is published weekly on Saturday, except the last week in December, for \$44.50 for 1 year or \$78.00 for 2 years (foreign postage \$6.00 additional per year) by Science Service, Inc., 1719 N Street, N.W., Washington, D.C. 20036. Second-class postage paid at Washington, D.C., and additional mailing office. **POSTMASTER:** Send address changes to SCIENCE NEWS, P.O. Box 1925, Marion, Ohio 43305. Change of address: Four to six weeks' notice is required — old and new addresses, including zip codes, must be provided.

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Editorial and Business Offices:
1719 N St. N.W., Washington, D.C. 20036
(202-785-2255)

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Letters

Deciphering the noncode

Perhaps the "language" of the "noncoded" DNA ("Does nonsense DNA speak its own dialect?" SN:12/10/94, p.391) is understood by a special class of proteins whose job is to suppress and express genes in a sequence written in that language. That would explain the existence of this DNA and why it is sometimes positioned in the middle of a gene. It has to occupy that position to do its job properly.

*Theodore J. Blinder
Havertown, Pa.*

I have been a computer operating-systems programmer for almost 20 years. Needless to say, I've pored over many a memory dump of computer programs in machine code in order to debug them.

I noticed a similarity between executable programs and your description of coding and noncoding DNA. DNA seems to have the same

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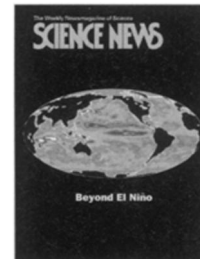
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Cover: Measurements of ocean height by the TOPEX/Poseidon satellite from November 1994 reveal a red band of elevated water along the equator in the Pacific. The bulge reflects excessive warmth in the area, caused by this winter's El Niño. New studies suggest that a general warming of the tropical Pacific in recent decades explains the global warming trend during the same period. (Image: Jet Propulsion Laboratory)



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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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basic function as a computer program — to perform a given task using coding instructions and noncoding data.

Could the noncoding DNA perform the same function as the data sections of executable computer code?

The actual coding portion of a computer program is virtually unreadable by humans, on sight, but the data portion is often littered with human-readable English words.

It seems logical to me that DNA would require instructions and data that the instructions process. For example, DNA unique to a species would carry basic instructions on how to create a particular molecule, but the noncoding portions would carry data to specify how often that molecule is created, depending on environmental requirements.

It could very well be a coincidence that there are similarities between computer programs and DNA, but I thought you might be interested.

*Mary Kay Padilla
Palmer Lake, Colo.*

Mind the music and the step

The idea that a different part of the mind handles small numbers is no new idea to musicians ("Small amounts go down for the count," SN: 11/5/94, p.293). Each bar of music is broken into two or more groups of two or three beats.

For instance, the marching meter 6/8 is broken into two groups of three, each group counted as one beat. Thus while the musician "counts" 1..2., the "subitizing" part of the mind effortlessly counts 1..2..3..1..2..3.. Indeed, counting would get in the way in such strange meters as 10/4 and 13/4, which are "counted" as 3-2-2-3 and 3-3-2-2-3.

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MARCH 11, 1995

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