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## This Week

- 308 Mutated HIV Could Serve as Vaccine
- 308 Tracking growth and flow in microgravity
- 309 Brewing microscopic skeletons in a beaker
- 309 Asian fossils reveal primate evolution
- 310 PCBs' legacy can affect next generation
- 310 Hallucinating brains pose for first scans
- 311 Rat memory skills boosted by steroid
- 311 Thalidomide heals ulcers
- 311 Freeloading flies go legless and wingless

## Research Notes

- 312 Archaeology
- 312 Biochemistry
- 314 Biomedicine
- 314 Paleontology

## Articles

### 316 For the Sake of Sue

Cover: Not just child's play anymore, dinosaur fossils have turned into big business, especially the giant carnivore *Tyrannosaurus rex*. Federal agents seized a unique specimen of *T. rex* 3 years ago in the name of preserving public access to the fossil. But now the specimen, known as Sue, may end up in a private collection. (Drawing: Zhuo Min Lin, age 12, Abraham Lincoln Elementary School, Oakland, Calif. Background photo: Ed Gerken)

### 318 Growing In and Out of Focus

## Departments

- 306 Books
- 307 Letters

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## Letters

### Ediacara: Questions of identity

The oldest animals of the latest Precambrian have been the center of controversy for many years, but the idea that they were actually lichens is unfounded ("The Ediacaran Enigma," SN: 7/8/95, p.28). True, paleontologists can't agree on the exact affinities of some of these soft-bodied fossils, but certainly on anatomical grounds most, if not all, of them were "animals."

The statement that the Ediacaran do not contain any species still extant is a bit misleading. Ediacaran stragglers that survived well beyond the mass extinction at the end of the Precambrian are well documented. By-the-wind sailors (floating, jellyfishlike chondrophores) are a notable example.

*George D. Stanley Jr.*  
*Professor of Geology*  
*University of Montana*  
*Missoula, Mont.*

**Monastersky states that** lichens are algae living symbiotically with either fungi or bacteria. He has it backwards. Lichens are fungi in association with photosynthetic partners, which can be algae, cyanobacteria, or both at once.

By convention, the scientific name of the composite organism applies only to the fungus. The algae and cyanobacteria have their own names.

*Sylvia Duran Sharnoff*  
*Berkeley, Calif.*

### Noise and fuzzy logic

People have used stochastic resonance for decades to enhance a processed signal's coherence ("Using network noise to boost detection," SN: 7/22/95, p.55). Examples include tapping on the face of a meter or compass.

Stochastic resonance is an instance of a branch of mathematics called fuzzy logic. Fuzzy logic includes the mathematics of

obtaining precise results from imprecise, noisy inputs. The process involves a large number of components and some sort of combining engine, such as a "summation center."

This mathematics has been around since 1965, so it should have come as no surprise that, for a large number of components, a processed signal's coherence did not depend upon fine-tuning stochastic resonance.

Another aspect of fuzzy logic systems is that suddenly removing a single component does not degrade system performance much, if at all. If the system is also capable of learning, one might have to disable several components before degradation sets in. This is one of the attractions of fuzzy logic process control systems.

Noise sometimes enhances this adaptive response, which may help explain some of the results reported in "Mimicking the Brain" (SN: 7/22/95, p.63).

*Jay Frederick Ransom*  
*Gainesville, Fla.*