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This Week

- 4 The Moon's Tug Stretches Out the Day
- 4 Appeals panel reverses fraud finding
- 5 Combined forces create Southwest drought
- 5 Right brain takes memories personally
- 6 Antioxidants: Confirming a heart-y role
- 6 Pressuring potassium to react with nickel
- 7 Enzymes may turn paper, grass into fuel
- 7 Sleuths probe mystery of parasitic infection

Research Notes

- 11 Astronomy
- 11 Behavior
- 15 Biomedicine
- 15 Science & Society

Articles

- 8 Visions of Europa
- 12 Ten Thousand Cloud Makers

Cover: With 10,000 large commercial jets plying the skies, scientists are starting to wonder how aircraft exhaust affects the atmosphere and weather. For instance, contrails from jets add to cloudiness, as seen in this false-color image taken at 65,000 feet by NASA's high-altitude ER-2 research plane. A young, sharp contrail runs diagonally to the upper right of the image, whereas an older, parallel contrail appears more diffuse. Lower clouds are also visible. (Image: NASA's Ames Research Center)



Departments

- 2 Books
- 3 Letters

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Letters

Protective eyewear for preemies?

Could some kind of goggles protect premature babies' eyes from excessive oxygen ("Pinpoint cold saves sight, not acuity," SN: 4/20/96, p. 244)? If goggles in themselves weren't enough, one could pump nitrogen into them.

Many animals are born with eyes closed and open them after they've had time to develop. Could this protect them from premature exposure to oxygen?

The 32 percent blindness rate for eyes treated by cryotherapy is a ghastly figure. As you say, we have to hope methods can be improved.

Forrest Curo
San Diego, Calif.

Oxygen enters babies' eyes through the blood stream, not the air, so goggles wouldn't solve the problem of excess oxygen. —The Editors

Keeping time

When two clocks show the same time at the same instant, they are synchronized; when two clocks run at the same rate, they are synchronized ("Keeping the Beat," SN: 4/13/96, p. 236). One term has to do with the time displays, the other with the frequencies of the oscillators that determine the clocks' rates.

Thus, when the two pendulums "remained precisely in opposite phase," they were synchronized. The clocks driven by the pendulums may or may not have been synchronized.

John R. Vig
Fort Monmouth, N.J.

Mickey Hart, the drummer for the Grateful Dead, describes a similar synchronization phenomenon in his book *Drumming on the Edge of Madness*. A room full of untrained drummers, each beating out a pulse, will eventually end up in sync with each other.

Preston Gardner
Palo Alto, Calif.

Melatonin's role in sleep

Your report on the existence of a retinal biological clock separate from the brain's sleep-wake system illustrates a laudable degree of sharing of knowledge among scientists ("Eyes possess their own biological clocks," SN: 4/20/96, p. 245). Moreover, Menaker's hope of applying this new knowledge to our current understanding of pathologies of the eye should be a signal for ophthalmologists to join in studying the possible effect not only of supplemental melatonin, but also of melatonin deprivation due to lack of sleep. Could it be that the proverbial night owl loses more than a good night's sleep?

More generally, if melatonin is produced during the sleep process and melatonin is essential for normal sleep, does the time actually arrive when, indeed, we cannot sleep because we do not sleep?

Zuria F. Austin
Austin, Texas