SCIENCE NEWS®
The Weekly Newsmagazine of Science

A Science Service Publication
Volume 138, No. 11, September 15, 1990

SCIENCE NEWS (ISSN 0036-8423) is published weekly on Saturday, except the last week in December, for $34.50 for 1 year or $58.00 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, 231 West Center Street, Marion, OH 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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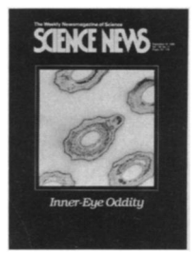
231 West Center St., Marion, OH 43305
For new subscriptions only, call 1-800-247-2160.

This Week

Research Notes

Articles



Cover: Mounting evidence suggests that curious, fluid-bathed sheaths surrounding the retina's light-sensing rods and cones play crucial roles in vision. This cross-section reveals five ring-shaped cone sheaths that were chemically stained to glow in ultraviolet light. (Photo: Joe G. Hollyfield)

Departments

Letters

Food feedback

Regarding "Synthetic membranes smell and taste" (SN: 8/4/90, p.79), I've long believed it's not a coincidence that the same parts of the body that sense chemicals (taste and smell) can also absorb chemicals directly into the bloodstream. This seems likely to be a feedback mechanism that affects taste and smell.

If it's true that appetites are specific hungers (e.g., that we desire salt because our bodily salt supplies are getting low), then there must be someplace in the taste and smell processes where the chemical contents of food in the mouth (or odors in the nose) are compared with those of the blood. How could we feel we've eaten enough of a needed substance if its blood levels aren't raised until the intestines absorb it? There would have to be an immediate absorption mechanism so that the local chemical contents of blood in the mouth, nose and/or brain would approximate what the systemic contents will eventually be once the food is absorbed by the intestines. Otherwise, we would overeat some substances to a potentially fatal extent.

But where does the comparison take place? Since some very simple animals have few neurons but nevertheless have the ability to taste, it's conceivable that the comparison could be a function so primitive as to occur in the taste buds themselves.

Steve Seaquist
Temple Hills, Md.

Altruism: A simpler explanation?

It has been argued in your Letters column (SN: 7/7/90, p.3; 7/14/90, p.19) that cooperative human society developed because altruism is a higher brain function, and alternatively that such a brain function evolved because cooperative societies made it advantageous. Although I am not a sociobiologist, altruism has always posed a problem for my own field — economics — as well. I wonder whether this entire discussion is both too narrow and aimed in the wrong direction. Altruism is not the only form of behavior that begs a natural explanation, and a more correct explanation may turn out to be much simpler.

C.S. Lewis once noted that human societies have shared two experiences with remarkable consistency. The first is a universal awareness that there is a standard of "good" behavior that ought to be adhered to, differing in cultural details but always sharing basic principles such as courage, honesty, faithfulness, fairness and a willingness to set aside one's interests in favor of others when necessary. The second is an equally universal (and discomforting) awareness that one's everyday behavior usually fails to live up to that standard. Lewis argued that this seeming paradox could only mean that the perceived "ought to" standard was neither biologically instinctive nor culturally impressed, but was both external to and higher than all natural experience.

Looking to sociobiology for an explanation of altruism, then, would be like studying diesel engines in order to learn why buses keep to a certain schedule: You may learn a great deal, but not what you really want to know.

Peter H. Shaw
Irving, Texas