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COVER: The struggle against infinities was a recurring battle in the development of particle physics theories. The history of physics, one hopes, is likewise finite, neither zero nor indeterminate. Victor F. Weisskopf speaks at the International Symposium on the History of Particle Physics. See p. 10. (Photo: Fermilab)

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LETTERS

A maybe on ape talk

Can apes use language (SN: 5/10/80, p. 298)? The answer seems to be both yes and no, depending on how one defines "language" and "use."

Better questions would be: At what stage in the evolution of "thinking" and communication are apes? Comparing apes with man, what are the features of man's communicative behavior; what are the features of apes' *natural* communicative behavior; and what *new* communicative behavior can apes learn from man? What are the motivations and functions of apes' *intentional* communications in their natural environment, uninfluenced by man? Can apes learn new social interactions, new motivations and functions for communication through association with humans, or be taught them directly? How do apes' sensory and motor capabilities compare with man's? What are apes conscious of? Can apes pair, or group, pictures on the basis of perceived similarity? If they can, what kinds of similarities are they capable of perceiving? What level of complexity can they handle in such pictures? For what communicative functions can apes use abstract signs or symbols? Can apes learn to *comprehend* abstract signs or symbols (including spoken words and sentences) for a wider range of concepts and functions than they can *use* in their own communications? Can apes use *syntax* in their own symbolic combinations? (Note that in commands, requests and expressions of want, presumably the most common kind of spontaneous ape communication with humans, a specific word order is not ordinarily necessary for *comprehension*. There can be no confusion of subject and object in "banana, ape, eat." *Reporting or describing an event*, however, often involves two nouns, either of which could be subject or object — John, Mary, hit — and therefore *requires* a syntactical or morphological method of making a distinction. Do apes naturally communicate reports and descriptions? Can they learn to do so?) Can apes comprehend the role of syntax in sentences communicated to them? Can they demonstrate this comprehension by correctly choosing the picture that represents a given subject-verb-object sequence?

Lois L. Willis
White Sands Missile Range, N.M.

Inspirational satellites

May I congratulate Jonathan Eberhart for his exceptionally well written series, "Mapping the Galilean Satellites"! His coverage was both objective and optimistic. I personally found his articles inspiring.

J. Schufman
Aberdeen Proving Ground, Md.

Magnetic questions

Blakemore's remarkable discovery of biological magnetism (SN: 4/26/80, p. 267) poses many fascinating questions, not the least of which is how does a bacterium in the Northern Hemisphere find advantage in traveling north. The suggestion that the downward component of the magnetic field is the important direction seems unsatisfactory in that many alternate mechanisms are available for finding the direction down.

One who lives on a north facing slope, as I do, might readily appreciate my suggestion that by traveling north (across a valley in my case — across a pond for a bacterium) one eventually comes to rest on a southern exposure. Here the grass is in fact greener sooner and longer, an advantage which must be evident to the inhabitants of this slope since they are much more thickly settled than on my side.

In fall it is particularly sad to see the shadows lengthen and the sunlight barely skim my surrounding neighborhood. Winter mornings I look longingly at reflected rays from the more favored neighborhoods across the Allegheny River. I take heart in the fact that soon my pigeons will have learned to fly up into the light, which will not reach their coop, and I hope that by winter their homing instinct will prove more persuasive than other instincts that might lead them to the warmer spots across the valley to the north.

Alfred Bahnsen
Pittsburgh, Pa.

Putting Science News to work

Our family has subscribed to SCIENCE NEWS for many years. We hold it in the highest regard. Now we plan to put it to work.

Our oldest son will be opening his own, scientifically oriented, secondary school here next year. SCIENCE NEWS will be the backbone of the current scientific research material in the school library. To that end, I am in the process of having bound the last five years of your magazine. They will be bound by year, and each volume will include the two semi-annual indexes in the front, where they are easily accessible. There will also be an expandable, separate index volume which will include the indexes for all the years that are bound. Our goal is to make the information as readily available to the young people as we can.

Ann Emerson
Santa Monica, Calif.

Volcano coverage applauded

Thank you for your excellent reporting of the Mt. St. Helens event. It is ironic that we have to read an eastern magazine to find out what is going on in our own backyard. Our local press has neither the inclination nor the ability to report on much more than the human aspects of a volcanic eruption.

A.T. Snyder
Bellevue, Wash.

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