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## Letters

### Metaphoric musings

The problem with metaphors ("Metaphor in Immunology," SN: 10/18/86, p.254) is not the problem of metaphor, but the problem of *which* metaphor. Our consciousness is so grounded in metaphoric thought that little can be understood without it.

That changing metaphors would solve many of the problems discussed by Joanne Silberner in her article is illustrated by an example from George Lakoff and Mark Johnson's book *Metaphors We Live By*. A problem in our daily lives, including a disease, can be viewed in several ways. Western thought generally equates problems with *puzzles*: They can be solved, if we can find a way. This is true in many cases, and this way of looking at problems may have something to do with our culture's rapid technological advances, but as Silberner points out, the puzzle metaphor leads to problems in medicine — not to mention in interpersonal and international relations.

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Cover: The region of the Mandelbrot set shown here represents the results of repeatedly computing the values of a mathematical expression over a range of points, each time substituting the answers back into the equation. This picture was generated in 250 seconds by the Massively Parallel Processor, an experimental computer being used at the NASA Goddard Space Flight Center for image processing and a variety of other applications. Other computers would have taken all day to generate such a picture. (Photo: NASA Goddard)



## Departments

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A better metaphor for such problems is the one used unconsciously by many other cultures: the *chemical* metaphor. In this view, a problem may be solved in the way sugar can be dissolved in water. The important difference is that the solution is not permanent — under the right circumstances, the problem can come out of solution to surround us again. Indeed, the reappearance of a problem can be natural, not the failure to find the correct way to solve the puzzle.

Peter A. Lemettais  
Houston, Tex.

"Metaphor in Immunology" surprised me in that no one, not even Fred Karush, has taken the larger view. The similarities we see going from one field to another, which are being called metaphors, exist because each is a special case of a larger principle existing in information theory.

A not-so-humble example from the past is evolution. Evolution in biology represents the

special case. We speak of other things, machines, ideas, ecologies, etc, evolving . . . and they do for the same reasons organisms evolve. But there are other, more recent examples. The self-nonsel self principle of immunology is the same as the ingroup-outgroup principle of sociology. Going farther, the principle of closure — the change in the embryo at or near birth, dividing the world of proteins into self and nonself, which to accept and which to reject — is a general principle. Nations, religions, social clubs and even computer programs exhibit this phenomenon. It is no mere human metaphor.

Winfield Massie  
Waverly, Va

In the letter "Metaphoric misconceptions" (SN: 11/22/86, p.323) psychiatry professor Donald W. Burnap mistakenly refers to "the ship plows the sea" as a metaphor. The fact is

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## Books

**Books** is an editorial service for readers' information. To order any book listed or any U.S. book in print please remit retail price, plus \$1.00 handling charge for each book, to **Science News Books**, 1719 N Street, NW, Washington, DC 20036. All books sent postpaid. Domestic orders only.

**Confronting AIDS: Directions for Public Health, Health Care, and Research** — Committee on a National Strategy for AIDS. A chapter summarizing the committee's major findings and recommendations introduces this Institute of Medicine/National Academy of Sciences report. The present understanding of the disease and the current status of the AIDS epidemic is then laid out and the epidemic is projected into the future. The report examines the measures available now that could alter the course of the epidemic — the only immediate one is education of the public. Discusses the implications of the epidemic's projections for health care of AIDS patients. Identifies areas of research critical to better prevention and treatment and looks at the international aspects of HIV infection and AIDS and the U.S. contribution to solving those problems. Natl Acad Pr, 1986, 374 p., paper, \$24.95.

**The History of Statistics: The Measurement of Uncertainty before 1900** — Stephen M. Stigler. The story of how the discipline of statistics was formed, of how, according to the introduction, a logic common to all empirical science emerged from the interplay of mathematical concepts and the needs of several applied sciences. Harvard U Pr, 1986, 410 p., illus., \$25.

**The Indoor Naturalist: Observing the World of Nature Inside Your Home** — Gale Lawrence. Many of the things that walk, fly or grow in a house are described here, from pets and common houseplants to yogurt, bread mold, mildew, fruit flies, cockroaches, clothes moths and silverfish. Natural materials used in the home are discussed, such as witch hazel, corks, brooms and erasers. Fascinating little-known facts are included — for example, Captain Bligh brought the first heart-leaved philodendron to England in 1793; gerbils first arrived in the United States in 1954; and Joseph Priestley, in his 1770 book, *A Familiar Introduction to the Theory and Practice of Perspective*, recommended the use of rubber to erase pencil lines. Prentice Hall, 1986, 210 p., line drawings by Adelaide Murphy, paper, \$10.95.

**Masks of the Universe** — Edward Harrison. The theme of this book, writes the author, is that the universe in which we live, or think we live, is mostly a world of our own making. Harrison examines some universes of the past, such as mythic, geometric, medieval and mechanistic universes. In discussing the modern physical universe, he shows how our ideas on certain aspects have changed and are still changing. Our modern physical universe, the author explains, is just the latest conceptual scheme that almost certainly will be discarded and replaced with another and possibly more resplendent model. Originally published in hardback in 1985. Macmillan, 1986, 306 p., illus., paper, \$9.95.

**1987 Yearbook of Astronomy** — Patrick Moore, Ed. This yearbook includes monthly star charts and 1987 astronomical phenomena for both the northern and southern hemispheres. The articles that follow the annual astronomical information cover a variety of subjects, with emphasis on stellar and galactic astronomy. Norton, 1987, 223 p., color/b&w illus., \$16.95.

**Understanding Arthritis** — Irving Kushner, Ed. This Arthritis Foundation book begins by providing a general overview of arthritis. Tells what may occur in the body when this condition develops, describes the accepted treatments and unproven remedies for arthritis and offers ways of coping with its emotional and financial effects. Goes on to focus on the 16 most common forms of rheumatic disease, including osteoarthritis, rheumatoid arthritis, lupus and gout. Originally published in hardback in 1985. Scribner, 1986, 290 p., illus., paper, \$9.95.

**Weeds in Winter** — Lauren Brown. A well-illustrated book for identifying common dried herbaceous plants as they are found in winter. It is organized by plant families and provides a key for identification. Includes the most common and the most spectacular dried herbaceous plants that are found from the Atlantic Coast west to Minnesota, Iowa and Missouri and south from Quebec and Ontario to Virginia and Kentucky. Originally published in hardback in 1976. Norton, 1986, 252 p., illus. by the author, paper, \$7.95.

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that the verb "plow" has multiple meanings, one of which is "to move or cut through," as a ship cuts through water.

When metaphors are good enough, they are included literally in the language and cease to be metaphors. On the other hand, when they are bad enough, they may be symptomatic of pathological thinking, such as the "metaphoric thinking" of schizophrenics who take their metaphors literally because they lack the "reality testing" to distinguish adequately between the similar and the identical.

To "walk on water" is an acceptable metaphor, but people who try to do it literally are locked up for their own good. On the other hand, certain insects and reptiles do it (by exploiting surface tension and viscosity), so, in the final analysis, it all depends on whom you're talking about!

Kenneth J. Epstein  
Chicago, Ill.

### On thin ice

"Glacier surge: The view from space" (SN: 11/8/86, p.292) is a far from accurate account of the Hubbard Glacier's advance. A glacier surge is a rapid increase in glacier velocity (3 to 100 times normal velocity) that is short-lived and comes to a rapid conclusion. The surge is accompanied by a transformation of the glacier surface into a chaotic mess of crevasses and ice pinnacles.

The average velocity of the Hubbard Glacier determined from aerial photographs was 7.9 meters per day in 1973-74 and 8.1 m/day in 1982-83. Each spring the velocity in-

creased to at least 12 m/day. The average velocity for the Hubbard Glacier this year is in the vicinity of 10 m/day. The maximum spring velocity was 14 m/day. This is not a significant increase in glacier velocity.

Aerial photographs of the Hubbard Glacier in 1948, 1962, 1974, 1984 and 1986 indicate no change in this glacier's always-chaotic surface, due to its unusually fast average velocity. Maynard Miller in 1962 reported an advance of a similar scale that was not a surge but a continuation of the Hubbard Glacier's normal advance. It is evident that the Hubbard Glacier, which has advanced 2.3 km since 1899, is merely continuing this advance, not surging.

This misnomer must be cleared up quickly, as the Hubbard Glacier will block off Russel Fjord again in the future.

Mauri S. Pelto  
Dept. of Geological Sciences  
University of Maine  
Orono, Maine

Your points are well taken. In fact, at the November meeting of the Geological Society of America (GSA) in San Antonio, Tex., Larry Mayo of the U.S. Geological Survey (USGS) in Fairbanks, Alaska, remarked that while many of the glacial tributaries to the Hubbard recently surged, the Hubbard itself did not. The SCIENCE NEWS story was based on an interview with a scientist at Mayo's office and on a USGS press release. According to a USGS spokesman contacted recently, "Hubbard Glacier has been advancing at an accelerated rate, but is not considered to be surging. Initial use of the word surging in a general sense in earlier reports was not formally corrected until the GSA meeting in November."

—S. Weisburd

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