

Program—which, after all, is a complex political notion as much as it is a plan to solve a human problem—may lead many astray, but it is absurd to blame the Sloan-Kettering Institute or Alfred Nobel for setting high standards.

EDWARD J. CAFRUNY
*Sterling-Winthrop Research Institute,
Rensselaer, New York 12144*

Unexplained or Esoteric?

In the News & Notes feature "Physical phantasmagoria" (12 July, p. 129) advice that may be misleading is offered to geophysicists and other scientists concerning "worlds to conquer." In the notice of the publication of *Strange Phenomena*—a compilation of "unexplained natural events" by William R. Corliss—at least two phenomena are graced with the description "unexplained," when in fact they are merely esoteric. Although I must confess my ignorance of Barisal guns and mistpouffers, neither the green ray nor the Brocken specter lies outside the scope of present-day science. *Sky and Telescope* has published several excellent accounts of the green ray, most recently in the issue of July 1974 (1). The Dutch astronomer Marcel Minnaert describes the physics of this phenomenon in *The Nature of Light and Colour in the Open Air* (2, p. 58). The optical principles of the Brocken specter are also explained by Minnaert (2, pp. 257–259); it is the result of the faint backward scattering of light by fine water droplets.

ROBERT SHEAFFER
7300 Riggs Road,
Hyattsville, Maryland 20783

References

1. *Sky Telesc.* 48, 61 (July 1974).
2. M. Minnaert, *The Nature of Light and Colour in the Open Air* (Dover, New York, 1954).

Leukemia and Chromosomes

The Research News report by Thomas H. Maugh II (5 July, p. 48) on leukemia is a useful summary. We wish to correct several points and add some information about the cytogenetic research discussed by Maugh.

First, the Philadelphia chromosome, which is found in the majority of pa-

tients with chronic myelocytic leukemia, has been identified as chromosome number 22 (not number 21). An extra chromosome number 21 is found in Down's syndrome (mongolism) for speculating about a possible chromosomal relationship between chronic myelocytic leukemia and Down's syndrome.

Second, our work discussed by Maugh on the genetic immune deficiency disease, ataxia telangiectasia (A-T), has not been on granulocytes. We and others have studied A-T lymphocytes and found (i) an increased tendency to chromosome breakage and (ii) clones marked by a chromosome rearrangement in some A-T patients. The chromosome rearrangements in these clones all appear to involve chromosome 14 and more specifically its long arm. The connection between this cytogenetic finding in A-T lymphocytes and the well-known tendency of A-T patients to develop lymphoid and other malignancies is not yet clear.

Third, the only A-T patient with leukemia whom we have had the opportunity to study (in collaboration with Ray Teplitz at the City of Hope National Medical Center, Duarte, California) has chronic lymphocytic (not myelocytic) leukemia. The leukemic cells in this patient have clearly evolved from a preexisting lymphocyte clone with a number 14 translocation. This provides further evidence for the single-cell origin of chronic lymphocytic leukemia.

FREDERICK HECHT
BARBARA K. McCAW
*Division of Medical Genetics,
Department of Pediatrics,
Child Development and Rehabilitation
Center, University of Oregon Medical
School, Portland 97201*

Copyright Laws

Curtis G. Benjamin's letter (28 June, p. 1331) in support of William & Wilkins' Supreme Court suit against the U.S. government for copyright infringement omits some of the problems on the other side of the fence. Just as publishing companies are faced with the financial squeeze attendant to inflation, so too are academic institutions. While costs have risen, departmental budgets have fallen further and further behind, and now new demands are placed on us to pay for the dissemination of informa-

tion to our students. Publishers seem to be saying that if we are unable to pay, then our students have no right to receive information we deem necessary.

But let us examine this a little further. Funds that made our research possible did not come from the publishers. Nor did the publishers assist us in writing the manuscripts. Indeed, they charge us for reprints, presumably make a profit by selling their journals, and do not reimburse the authors for their efforts. Thus, the author does the fund raising, the thinking, the laboratory work, and the writing, and then the publishers claim ownership, apparently because it may make money for them. And to top it off, they now want us to pay for the privilege of using the articles we have published to teach our own students.

I agree that the copyright laws should be revised, vesting ownership of an article either in the name(s) of the author(s) or the scientific society responsible for publication—but certainly not the publisher.

RALPH D. TANZ
*Department of Pharmacology,
University of Oregon Medical School,
Portland 97201*

Imprisoned Soviet Mathematician

The Soviet Embassy in Washington, D.C., refused to accept a petition composed by the International Defense Committee of Mathematicians for Shikhanovich and Plyushch and signed by more than 650 American mathematicians. "The hostile and slanderous nature of those petitions compels us to reject them and return them to the sender," wrote V. I. Kuznetsov, Second Secretary of the Soviet Embassy, on 8 July 1974. Kuznetsov failed, however, to point out a single inaccuracy in the statement of the committee.

The Soviet mathematicians Yuri Shikhanovich and Leonid Plyushch were arrested (separately) in 1972 on charges of anti-Soviet propaganda were held incommunicado for nearly a year, and were declared mentally incompetent at trials at which they were not present.

It is a pleasure to report that Shikhanovich has finally been released. On the other hand, Plyushch is still confined in a "special" psychiatric hospital in Dnepropetrovsk.

He has been subjected to harsh treatment and involuntary chemotherapy.

ECOPHYSICS: The Application of Physics to Ecology by James Paul Wesley, *Univ. of Missouri, Rolla*. Looking at ecology with a knowledge of physics yields a broad insight into the fundamental mechanisms that actually determine the behavior of an ecosystem. A brief review of thermodynamics is presented in which the concepts of order, complexity and information are clearly delineated because of their relationship to ideas of life. The strategy of how to optimize the utilization of a source of energy realistically at a finite rate is considered for the first time. Life is defined physically, thereby permitting an analysis of the thermodynamic role of life in the ecosphere. Entropy production per unit time and the rate of mass transport yield a necessary measure of the potential of an environment to support life. Since life needs to degrade high utility energy to low utility energy in order to survive, all possible sources of energy are surveyed. Evolution of life is seen to be just part of the general cosmological evolution of the stars, planets and the earth. '74, 368 pp., 39 il., 8 tables, cloth-\$19.75, paper-\$13.75

LIVING CLOCKS IN THE ANIMAL WORLD by Mariam F. Bennett, *Colby College, Waterville, Maine*. Discussions of studies focused on the clocks of animals with which the author has had direct experience emphasize these points: the possible adaptive natures and functions of timing, temporal relationships between organisms and their environments, what has been learned from particular animals, how the knowledge has been gleaned, the aspects of biochronometry elucidated by specific information, what remains to be learned about the clocks of animals, and how such new findings might help solve problems of biochronometry. A summary chapter underlines the unanswered questions about living clocks such as: Are biological chronometers all based on the same phenomena? Are the clocks endogenous? Are they modulated by exogenous factors? How can we explain the time-compensation of living chronometers truly adaptive to their possessors? '74, 236 pp., 53 il., \$11.75

Prepaid orders sent postpaid, on approval

**301-327 EAST LAWRENCE
SPRINGFIELD • ILLINOIS • 62717**

His body has become bloated, and he is unable to read or write. His wife and others feel that his condition is perilous. Plyushch was mentioned in the statement by Sakharov in connection with the latter's hunger strike during President Nixon's visit. There is no doubt that the committee (I) will continue its efforts on behalf of Plyushch.

LIPMAN BERS

*Department of Mathematics,
Columbia University,
New York 10027*

Notes

1. A partial list of members of the International Defense Committee of Mathematicians for Shikhanovich and Plyushch includes S. Agmon (Jerusalem); L. V. Ahlfors (Harvard); M. Berger (Paris); L. Bers (Columbia); A. Borel (Institute for Advanced Study); R. Bott (Harvard); R. Brauer (Harvard); M. Broue (Paris); H. Cartan (Paris); C. Chevalley (Paris); G. Choquet (Paris); J. Dieudonné (Nice); A. Douady (Paris); B. Eckmann (Zurich); S. Eilenberg (Columbia); L. Garding (Lunds); I. Halperin (Toronto); H. Hironaka (Harvard); S. Iyanaga (Tokyo); N. Jacobson (Yale); M. Kuranishi (Columbia); E. E. Moise (Queens); C. B. Morrey (Berkeley); M. Morse (Institute for Advanced Study); Louis Nirenberg (Courant); L. Schwartz (Paris); A. Selberg (Institute for Advanced Study); J. P. Serre (Paris); I. M. Singer (MIT); S. Smale (Berkeley); P. A. Smith (Columbia); D. C. Spencer (Princeton); S. Sternberg (Harvard); R. Thom (Paris); J. L. Verdier (Paris); A. Weil (Institute for Advanced Study); and O. Zariski (Harvard).

Monitoring Medical Care

W. Clarke Wescoe (Editorial, 18 Jan., p. 155) complains about the increasing amount of restrictive legislation against the medical profession. He cites "preoccupation with patients" as a major reason why these restrictions were able to be enacted unchallenged. Wescoe is also concerned because he feels there are no valid studies showing improper use of potent medications by the profession.

The medical profession now suffers legal restrictions because it has failed to adequately audit or monitor the quality of medical care it provides. In addition, the misuse of "potent medication" by the medical profession is thoroughly documented (1). When medical experts are horrified at the misuse of medication uncovered at university medical centers, we can hardly call such studies unexposed to "critical scrutiny." Yet the myth persists among the profession that we all have great knowledge and skill in "pharmacological therapeutics."

If some spokesmen for organized medicine now oppose professional standards review organizations, they should

remember that physicians have overutilized hospital care of patients, and that the profession itself should have been performing some monitoring function in this area right along.

The tradition of the professional person insists that we maintain standards of excellence and provide ways of ensuring such standards are maintained. Obviously, we have not done so. Further, one might suggest that an executive of a pharmaceutical firm could be biased on the issue of what is seen as "overmanagement" of medicine.

M. O. KEPLER

*Department of Community Medicine,
Baylor College of Medicine,
Texas Medical Center, Houston 77025*

References

1. H. R. Lewis and M. E. Lewis, *The Medical Offenders* (Simon & Schuster, New York, 1970), chaps. 12 and 19; P. Stolley *et al.*, *Ann. Intern. Med.* **76**, 537 (1972); H. F. Dowling, *J. Am. Med. Assoc.* **185**, 233 (1963); P. V. J. Macarog, L. Lasagna, J. R. Bianchini, *Clin. Pharmacol. Ther.* **12**, 1 (1971); A. Roberts and J. Visconti, *Am. J. Hosp. Pharm.* **29**, 828 (1972); D. Dunlop, *Med. Times* **100**, 285 (1972); Department of Health, Education, and Welfare, *The Task Force on Prescription Drugs: Final Report* (Government Printing Office, Washington, D.C., 1968); H. Faigel, *Clin. Pediatr.* **9**, 1 (1970); R. Duff *et al.*, *Pediatrics* **49**, 169 (1972).

Wine Capital

According to the short report "The wine industry of California" published before the 1974 AAAS Annual Meeting, San Francisco is the "wine capital of the Western Hemisphere." It should be noted that in the Argentine Republic—which is also in the Western Hemisphere—22,646,629 hectoliters (493 million gallons) of wine were produced in 1973 and that Argentina is currently the fourth largest wine producer in the world.

Mendoza, a western state of Argentina, yields 65 percent of the wine produced in this country, that is, about 320 million gallons per year. Only 240 million gallons are produced annually in California.

Thus, to be fair, Mendoza City, capital of the state that produces annually from 300 to 350 million gallons of wine, should be designated as the wine capital of the Western Hemisphere.

ERNESTO SEVERINO

*Instituto de Investigaciones Medicas,
Universidad de Buenos Aires,
Hospital Tornú, Buenos Aires,
Argentina*