Letters

Page Charges and Copyright Infringements

I would like to see more details of Shilling's survey of 362 journals ("Journals fear damaging decline in page charge revenues," 22 Nov. 1968, p. 884) in which the collection rates for page charges ranged "from roughly 50 percent to more than 80 percent."

Perhaps psychology journals are different. Some are free (including those published by the American Psychological Association). However, regarding those for which a page charge is made, I have never received the impression that I had an option of paying or not. The implication was that the articles were not scheduled for publication until payment was made. . . . When I was a graduate student, neither my university administration nor my department would pay my publication costs—I would have appreciated an optional levy!

DAVID LESTER
Department of Psychology, Wellesley College, Wellesley, Massachusetts

It is a pity that we are incapable of examining two rather obvious problems simultaneously. These are the shaky and spurious concept of page charges—an obviously unreliable form of subsidy—and the ubiquitous question of copyright infringement.

The Committee to Investigate Copyright Problems Affecting Communication in Science and Education, Inc. (CICP) reported, in a study sponsored by the U.S. Office of Education, "that at least one billion pages of professional and scholarly copyrighted material were reproduced on a singlecopy basis by libraries in this country" (*1*, *2*). Thus, it appears that a potential source of legitimate income, sufficient to take up much of the inherent deficit in journal publishing, is lost. If a nominal 2 cents per page copying charge could be assessed against each copier, $20 million or more would be available for redistribution to the journals. This may be thinking the unthinkable, but, as Boffey notes in his 22 November article, "editors seem to shy away from direct federal subsidies for fear it would lead to government control of the journals." Yet it does not seem right that journal managers lament the loss of page charge income while not making every effort they can to assure a reasonable royalty for each photocopy made of the journal articles.

GERALD J. SOPHAR
Institute for Scientific Information, 7315 Wisconsin Avenue, Bethesda, Maryland 20014

References

1. G. J. Sophar and L. B. Heilprin, *Report of Project No. 70793* (Office of Education Bureau of Research, Dept. of Health, Education, and Welfare, Washington, D.C., Dec. 1967).
2. P. M. Boffey, *Science* **160**, 1324 (1968).

Uranium Standards

On behalf of the International Commission on Radiation Units and Measurements, we would like to draw your attention to the following problems. For a long time, natural uranium has been used as a radiation source for standardizing purposes. Recently, it has been found that some of the analytical grade uranium compounds on the market have a uranium isotopic ratio which deviates substantially from the natural ratio. For standardizing and other purposes, this can cause considerable confusion. We, therefore, would like to recommend that (i) for purposes of radioactive assay, uranium metal, uranium oxide, and other uranium compounds should be available with the uranium isotopes present in their natural ratio; and that (ii) when the uranium isotopes are present with an isotopic ratio other than the natural one, this fact should be stated on the preparation (even if the actual ratio can not be given numerically).

A similar requirement may be necessary in the case of other elements when the isotopic ratio in the preparation is not the natural one, such as lithium.

LAURISTON S. TAYLOR
International Commission on Radiation Units and Measurements, 4201 Connecticut Avenue, NW, Washington, D.C. 20008

Homeostasis of Information in American Embryology?

Is it because they have been seduced into accepting as basic the static ideas of homeostasis and information (instead of the dynamic ones of homeorhesis and algorithm) that so many American embryologists seem so much to enjoy flogging dead horses? It was rather unnerving to find Robert DeHaan recommending (15 Nov. 1968, p. 784) a symposium volume entitled *Epithelial-Mesenchymal Interactions*—incidentally, a very interesting book—on the odd grounds that it offers "the greatest excitement [of] watching traditional ideas succumb to the force of new techniques and concepts," one of these traditional ideas being that induction is an instructional event. This idea disappeared, on this side of the Atlantic, almost a third of a century ago, when it was shown that the classical phenomenon of the induction of neural tissue in the amphibian gastrula can be carried out by substances such as methylene blue [Waddington, Needham, and Brachet, *Proc. Roy. Soc. London Ser. B* **120**, 173 (1936)]; and we formulated, on this experimental basis, a theory of the "masked evocator" which is logically almost isomorphic with the noninstructional theory of enzyme induction in bacteria advanced by Jacob and Monod in 1961. I should have thought by now the excitement was wearing a little thin.

C. H. WADDINGTON
Department of Genetics, University of Edinburgh, Edinburgh, Scotland

Japanese Students Curb Oceanographers

By invitation of the Oceanographical Society of Japan, the 2500-ton U.S. oceanographic research vessel *Silas Bent* was scheduled to visit Maizuru, Japan, where the society's fall meeting was held 18–22 November 1968. In the eyes of the Japanese, the major flaw of the *Silas Bent* is that she is operated by the U.S. Military Sea Transport Service under the technical direction of the U.S. Naval Oceanographic Office. Therefore, as a reflection of the Japanese spirit of antimilitarianism and partially in protest against the *Pueblo* incident, a group of about 50 students at Kyoto University faculty of fisheries, also located at Maizuru, wrote a letter to the Oceanographical Society stating

their objections to the planned visit of the *Silas Bent*. Thereupon, just 3 days before the meeting was to begin, the society hastily canceled its invitation to the *Silas Bent* in order to prevent a threatened student riot.

Subsequently at the meeting many oceanographers informally expressed their disappointment at being deprived of an opportunity to explore the *Silas Bent*—a modern research vessel currently operating in Asian waters and one which has made very extensive and interesting oceanographic studies. "Student power" had effectively destroyed an important aspect of the meeting for 800 members of the society and also, because of the last minute nature of the protest, had prevented the members from even conducting a referendum of their own wishes in the situation.

The implications of this incident are ominous. Until now, oceanography has enjoyed a most cosmopolitan atmosphere. Many countries invite foreign oceanographers to participate in their oceanographic expeditions. International cooperation has been our theme. We cannot afford to quibble about political differences as we study oceans which are truly international and under the jurisdiction of no one country. I hope oceanographers everywhere will join to preserve the peaceful immunity from national controversy which it has had heretofore.

P. KILHO PARK
Department of Oceanography, Oregon State University, Corvallis 97331

Albert Tyler

Albert Tyler, embryologist and professor of biology at the California Institute of Technology, died 9 November 1968 in San Marino at 62. Tyler was the first student to receive a Ph.D. in biology at the Institute, and he was the last graduate student of Thomas Hunt Morgan. His career spanned the years which witnessed the transformation of experimental embryology, a branch of classical zoology, into modern developmental science, whose strongest influences come from genetics and molecular biology. Tyler actively participated in this metamorphosis. Although thoroughly familiar with classical embryology (especially of marine invertebrates) and to an unusual degree appreciative of the historical foundations of contemporary biology, he welcomed novel approaches and new ideas. He was among the first to apply modern physiological and biochemical methods to the study of development. His first paper embodying this approach, "On the energetics of differentiation," was published in 1933 following a period of postdoctoral work in Warburg's laboratory.

Tyler's name is also closely associated with the chemistry and physiology of the fertilization process and with the fertilizin-antifertilizin theory. He and his students extended and refined Lillie's original hypothesis and proposed plausible mechanisms for the main features of fertilization. These concepts stimulated fruitful studies on reproduction in higher organisms and helped create the field of "immunoreproduction." During the last 10 years Tyler became involved, with characteristic drive and enthusiasm, in studies of the macromolecular events during embryogenesis in the sea urchin. He was especially interested in "masked messenger RNA," the synthesis of which he correlated with the onset of embryonic determination. He was convinced that informational RNA would some day be clinically useful, and he performed numerous experiments basic to that ultimate achievement. Related to the masked messenger concept was his interest in the properties and developmental role of cytoplasmic DNA, which he explored actively during his last years.

Tyler was a former president of the American Society of Naturalists and the Society of General Physiologists. He had a long association with the Marine Biological Laboratory at Woods Hole, of which he was a trustee for 14 years, and was active on numerous government committees and in the World Health Organization.

As former students or associates, we have lost a dear friend, and science has lost a devoted scholar.

N. H. HOROWITZ
California Institute of Technology, Pasadena

CHARLES B. METZ
University of Miami, Coral Gables, Florida

JORAM PIATIGORSKY
National Institutes of Health, Bethesda, Maryland

LAJOS PIKO
Veterans Administration Hospital, Sepulveda, California

JOHN D. SPIKES
University of Utah, Salt Lake City

MARTYNAS YCAS
State University of New York, Syracuse