AAAS–Newcomb Cleveland Prize
To Be Awarded for an Article or a Report Published in *Science*

The AAAS-Newcomb Cleveland Prize is awarded annually to the author of an outstanding paper published in *Science* from August through July. This competition year starts with the 4 August 1978 issue of *Science* and ends with that of 27 July 1979. The value of the prize is $5000; the winner also receives a bronze medal.

Reports and Articles that include original research data, theories, or syntheses and are fundamental contributions to basic knowledge or technical achievements of far-reaching consequence are eligible for consideration for the prize. The paper must be a first-time publication of the author's own work. Reference to pertinent earlier work by the author may be included to give perspective.

Throughout the year, readers are invited to nominate papers appearing in the Reports or Articles sections. Nominations must be typed, and the following information provided: the title of the paper, issue in which it was published, author's name, and a brief statement of justification for nomination. Nominations should be submitted to AAAS-Newcomb Cleveland Prize, AAAS, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005. Final selection will rest with a panel of distinguished scientists appointed by the Board of Directors.

The award will be presented at a session of the annual meeting. In cases of multiple authorship, the prize will be divided equally between or among the authors.

Deadline for nominations: postmarked 15 August 1979

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AAAS–Newcomb Cleveland Prize

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Articles for *Science* may range in length from 2000 to 5000 words. They may be illustrated. They should be written in language suitable for a broad scientific audience, half of whom have Ph.D. degrees.

Articles of general interest or of interdisciplinary interest, or articles that will enable readers outside the author's field to keep abreast of new work in the field are especially appropriate.

Such an article may be a description of a current research problem or of a technique of wide significance, a review of new developments in one field, a study in the history, logic, or philosophy of science, or a discussion of the problems that science raises for other forms of human endeavor, including problems raised by the interaction of science and public affairs and problems in the administration of research, public understanding of science, and science education.

Writing

In writing your article, give primary consideration to the reader and follow the basic rules of narrative prose: speed, economy of words, and clarity. Give the reader a clear picture of the object, event, or idea you have in your mind. Remember that the reader will not be able to make a clear picture from your words if you overwhelm him with detail, and that he will not be able to fill in details if you give him a mere sketch.

Organization. Organize your material carefully, putting a statement of the problem first, supporting details and arguments second. Make sure that the significance of your paper will be apparent to readers outside your field, even if you think you are explaining too much to your colleagues. Present each step in terms of the purpose it serves in supporting your finding or solving the problem. Avoid a mere chronological account of steps, for the purpose of the steps may not be clear to the reader until he finishes reading the paper.

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Use a good bond paper, not "erasable" or thin paper, for the first copy. Submit two additional copies of all text material and three glossy prints of all illustrations. Double-space title, subtitle, author note, summary, text, references (including the lines of a single reference), figure legends, and tables (including titles, column headings, body, and footnotes). *Do not use single spacing anywhere.* Put the name of the first author and the page number in the upper right-hand corner of every page.

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Place title, subtitle, and author note on page 1.

Title. Write a title of one or two lines of up to 28 characters and spaces per line. Begin the title with a word useful in indexing and information retrieval (not "Effect" or "New" or "Observations on").

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Acknowledgments. Place all acknowledgments in a single note at the end of the references and notes.

Summary

Provide on a separate sheet an objective summary of 50 to 100 words indicating the scope and main findings of the article.

Text

Begin the text on page 3.

Subheads. Insert subheads to be set in bold-face type at appropriate places in the text, averaging about one subhead for each three manuscript pages. Keep subheads short—up to 35 characters and spaces. Type them flush with the left-hand margin, using triple space above and below. Use only one other rank of subhead: the indented italic subhead introducing a paragraph.

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Select references to alert readers to the most significant previously published material. Large numbers of citations are less useful to general readers than a short list of well-chosen ones. Citation of earlier review articles will usually provide sufficient recognition of the older literature. References to relevant controversial issues should be included.

Begin the "References and Notes" on a new sheet. Number all references to the literature and footnotes consecutively through the text, then number those in tables and figure legends. No reference should appear more than once in the list. Combine under one number any references that are not cited separately elsewhere in the article. Any reference or group of references may then be cited several times by number only. If references must be cited within notes, cite them by the appropriate number if they are cited anywhere else; otherwise place them within parentheses within the note. For standard abbreviations of journal names, use *Bibliographic Guide for Editors and Authors* (American Chemical Society, Washington, D.C., 1974). If the journal is not listed there, provide the full name. Use the following forms:

Journal: H. Smith, *Am. J. Physiol.* **98**, 279 (1931).
Book: F. Dachille and R. Roy, *Modern Very High Pressure Techniques* (Butterworth, London, 1961), pp. 163–180.
Chapter: F. Dachille and R. Roy, in *Reactivity of Solids*, J. H. de Boer, Ed. (Elsevier, Amsterdam, 1960), p. 502.

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Plan figures for reduction to one of the following widths: 1 column (57 mm), 2 columns (118 mm), or 3 columns (179 mm). Maximum depth, including space for the legend, is 151 mm. Size the lettering in accord with the anticipated degree of reduction. The graph, not the lettering, should be the governing factor.

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Type each table on a separate sheet, number it with an arabic numeral, give it a title, and cite it in the text. Double-space throughout. Give each column a heading. Indicate units of measure (use metric units) in parentheses in the heading for each column. Do not change the unit of measure within a column. Do not use vertical rules. Do not use horizontal rules other than those in the heading and at the bottom. A column containing data which can be readily calculated from data given in other columns can usually be omitted.

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Equations and Formulas

Use quadruple spacing around all equations and formulas that are to be set off from the text. Most should be set off. Start them at the left margin. Use the solidus for simple fractions, adding the necessary parentheses. But if braces and brackets are required, use built-up fractions. Identify hand-written symbols in the margin, and give the meaning of all symbols and variables in the text immediately after the equation.

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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

executive health

the report that briefs you on what to watch

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New research findings . . .

ON WALKING . . . nature's own amazing *"anti-age antibiotic"*!

Not running, not jogging, but *walking* is your most *efficient* form of exercise and the *only* one you can *safely* follow *all* the years of your life!

Today, after some 2000 years, modern medical researchers are demonstrating (somewhat to their surprise) that Hippocrates, "the father of medicine" was right . . . walking is man's best *"medicine"!*

Take one example. At a three-day conference on *Exercise in Aging—Its Role in Prevention of Physical Decline* (held October 27-29, 1977, at the National Institute of Health, Bethesda, Maryland) researchers from across the United States, Canada and Western Europe presented papers on this (until now) largely neglected area of research. As their papers were presented, these important points of agreement emerged:

(1) Walking is the most *efficient* form of exercise . . . and the only one you can safely follow all the years of your life.

(2) Exercise can enable your body to maintain a *vital reserve* which has a protective effect during stress.

(3) Exercised *bones* do not demineralize. As a result they are far less likely to break or lose their range of motion.

(4) Exercised *lungs* still exhibit the emphysema-like changes of age, but are far less diminished in their capacity compared to the lungs of sedentary people.

(5) Exercised *cardiovascular systems* show a similar maximum preservation of function.

(6) The benefits of exercise in preventing or correcting obesity are striking.

(7) Late-onset diabetes is almost entirely reversible by exercise if you are overweight.

(8) Daily exercise permits greater food intake and better blood circulation, thus improving each body cell's nourishment while preventing obesity.

(9) The physically impaired, particularly the arthritic, can perhaps benefit the most from exercise . . .

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Handmade mouse. This tricolored mouse was manufactured by genetic engineering techniques. The hexaparental chimeric animal was produced by aggregating three genetically marked embryos (white, yellow, and black) at the eight-cell stage. See page 56. [Bill Sacco, Yale University, New Haven, Connecticut]

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Archiving Remotely Sensed Data

Since World War II an immense body of data has been obtained by remote sensing techniques. Although intended primarily for military intelligence, these data are an unprecedented resource for systematically studying how human action is changing the earth's environments in a time when these effects are increasing and are often irreversible. Processes of great interest to social and biological scientists and crucial for environmental policy cannot be effectively studied without the synoptic, ongoing records of change these data provide. They are, therefore, a precious and irreplaceable resource.

Deserts, for example, spread as a result of the complicated interplay of a number of processes, including various kinds of human activity. These processes and the ways in which human activity affects them are imperfectly understood. Their study requires repeated observations of such things as vegetation, soils, water, and human settlement and other activity for a large sample of localities. Monitoring for this purpose is now being implemented under the auspices of the United Nations, but its success will depend on the continued accumulation and preservation of the data base derived from remote sensing.

Many other modifications of the biosphere are proceeding rapidly also, with unknown long-term consequences. Long stable ecosystems are being affected in a variety of ways by progressive deforestation, the paving of significant areas of urban watersheds, and the industrialization of agriculture. The problems for which remotely sensed data will be invaluable are proliferating.

A serious threat to this data source arises from the rate at which remotely sensed data are themselves accumulating. The question is now arising of how or whether to preserve them. If thoughtfully drawn plans are not made and implemented soon, this data resource may be destroyed needlessly once its military use has been exhausted.

The problem has two aspects. First, some of the data are in the public domain. Their preservation for future use requires funding, which has not yet been provided, and careful plans for archiving. Second, the greater part of existing remotely sensed data are not in the public domain. The strategic importance of these classified records diminishes with time and will eventually reach the vanishing point. When they become declassified, these data will provide the bulk of the information on which this unparalleled opportunity to study environmental processes rests.

The record suggests that preservation of detailed strategic intelligence files is not often accomplished. Public appeals for their maintenance are awkward, since they are calls for the retention of something whose existence is not acknowledged.

We have arrived at a point, however, where the threats to national and even human existence are no longer largely military in nature. They are coming more and more from the increasing expenditure of energy for peaceful human purposes. What once were long-term processes subject to natural evolutionary constraints are now accelerating rapidly, and natural constraints have been, and continue increasingly to be, altered by human intervention. The vast body of remotely sensed data accumulated since World War II, in both the public and classified domains, is the most important new data source we have for monitoring these processes. Deliberate steps must be taken to ensure that potential benefits vital to our national interest are not wiped out by shortsighted destruction of this burgeoning record.

—CHRISTOPHER L. HAMLIN AND WARD H. GOODENOUGH, *Department of Anthropology, University of Pennnsylvania Museum, Philadelphia 19104*