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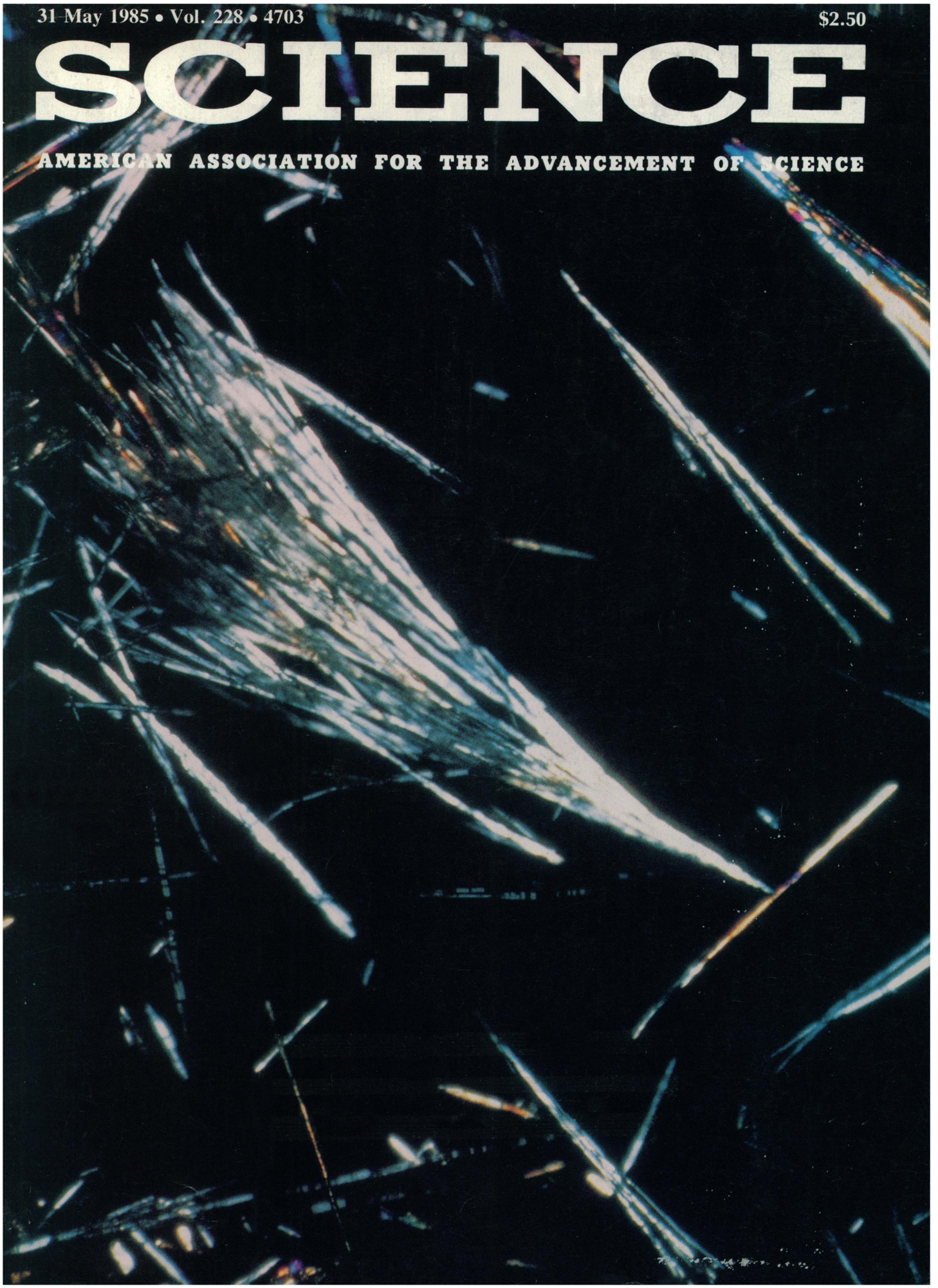

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I think in general, at least for women, relationships and love play too great a role in their lives."

--Cartoonist Lynda Barry, in an interview with co-host Susan Stamberg on National Public Radio's "All Things Considered."

"...the British simply lost the art of cussing a real blue streak." *"The conquering Normans looked down upon the crude Saxons and scorned their language. Then in the 16th century, Henry VIII broke with Rome, and, bit by bit, the British simply lost the art of cussing a real blue streak."*

--National Public Radio's "Morning Edition" commentator John Ciardi, etymologist and poet.

"Now they oppose the humane defense [program] because it is not terrible enough." *"There was a time when... [scientists critical of President Reagan's Star Wars program] opposed the hydrogen bomb because it was too terrible. Now they oppose the humane defense [program] because it is not terrible enough."*

--Physicist Edward Teller, father of the H-bomb, in an interview with co-host Noah Adams on National Public Radio's "All Things Considered."

"...the white male problem..." *"When two or more Democrats get together these days, the conversation quickly turns to what they call the "white male problem"--the fact that Ronald Reagan and Republican candidates all over the country won the overwhelming majority of the votes of white men in the last election."*

--Cokie Roberts, National Public Radio's congressional correspondent.

"I'm high on bein' alive, cause all of my friends are dead...I'd rather be a living legend than a dead legend."

--Rock star Little Richard, in an interview with host Bob Edwards, on National Public Radio's "Morning Edition."

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COVER

Artemisinin (*qinghaosu*) crystals photographed in polarized light (about ×60). The compound, a sesquiterpene lactone containing an unusual peroxide moiety, was isolated initially in the People's Republic of China and recently in the United States from the weed *Artemisia annua*. It has been reported to have excellent antimalarial activity in man against chloroquine-sensitive and chloroquine-resistant strains of *Plasmodium falciparum*. See page 1049. [Daniel L. Klayman, Walter Reed Army Institute of Research, Washington, D.C. 20307-5100]

Lightwave technology

Three years from now, 40,000 simultaneous phone conversations between the United States and Europe will be possible. A new telecommunications cable is about to be installed under the Atlantic, and conversations will be transmitted as lightwaves sent in pulses along thin optical fibers. This is just one application of lightwave technology. Kogelnik describes the rapid changes that have taken place in this field (page 1043) and details technological advances beyond those used in the new transatlantic cable.

New-old antimalarial drug

The therapeutic value of a plant that has been used medicinally for over 2000 years has recently been verified in China. The history of *qinghaosu* (QHS) and its use in treating malaria in China are reviewed by Klayman (page 1049). QHS is derived from a plant similar to western sagebrush and to the herb tarragon. According to Chinese literature, QHS cures even the most intractable cases of malaria. Its most dramatic effect is seen in humans with cerebral malaria: it can reverse potentially fatal comas within 12 hours. Derivatives of QHS may be even more effective than QHS itself and less toxic than traditional antimalarial drugs. Quinine, also naturally derived, has been the most important antimalarial for centuries. In the 1930's, chloroquine and other synthetic drugs related to quinine were developed, but many cases of malaria today are caused by parasites resistant to chloroquine.

Ocean-atmosphere cycle

Major climatic changes (among them droughts in southern Africa) and biological catastrophes (such as the destruction of the Peruvian anchovy industry) during the winter of 1982–1983 were attributed to the pervasive influences of the El Niño–Southern Oscillation cycle. The essential interactions of wind, sea levels, and sea-surface temperatures (page 1085) occurred in the tropical Pacific, but their effects were felt globally. The cycle has reappeared irregularly since the first recorded El Niño event in 1726. On average, successive events occur every 4 years, although intervals of 2 to 10 years are known. Cane and Zebiak have developed a model that reproduces the major features of the recent event as well as earlier events and accounts for the irregular recurrence of the cycle.

Legumes and bees

Flowering plants in the legume family (peas, clover, and alfalfa) first appeared on Earth 70 to 75 million years ago and gradually diversified into subfamilies. One, the Papilionoideae, today depends primarily on bees as pollinators. New fossil evidence presented by Crepet and Taylor (page 1087) suggests that early specimens of Papilionoideae may also have been reliant on ancestral bees. Contemporary Papilionoideae have petals resembling butterfly wings (hence the name), ridged surfaces that provide traction for bees, and pivoting lateral petals that facilitate the pickup and delivery of pollen. They also have highly specialized structures for reproduction and the elaboration of pollen. Enclosed structures protect the pollen and nectar of the plants and impose on them a requirement for a specialized pollinator. These and other characters are found in the fossil specimens, which are older than other recorded Papilionoideae fossils. Mimosoideae legumes in this collection are also older than other known specimens of their subfamily. This new evidence indicates that the diversification of legume subfamilies was already well under way 60 million years ago.

Pine tree and predator

A remarkable photograph on page 1089 shows two pinyon pine trees growing 62 meters apart that look entirely different. One (the shrublike tree) is heavily infested with a stem-boring moth, while the other (the upright one) is not. The effects of this predator go beyond architectural changes. Whitham and Mopper have found that the moths preferentially destroy thick shoots at the top of the tree, and this "pruning" results in compensatory growth of lateral shoots. Because lateral and bottom shoots typically produce male structures while top shoots produce female ones, infested trees become functional males. This disrupts the normal mechanisms for reproduction and can have serious consequences for wildlife in the pinyon's environment. The pinyon jay, for example, eats and disperses the seeds, but will avoid infested trees. Without the jay, fewer seedlings will be started.

Seizure control

Quiet, refractory periods follow epileptic seizures. During these intervals, patients may be subdued and disoriented but, for a time, they may also be less susceptible to a subsequent convulsion. A substance that may be active in the induction of refractory periods has been found by Tortella and Long (page 1106) in the cerebrospinal fluid of rats minutes after a seizure. The substance is similar to known opioids. When rats are treated with it, they succumb much more slowly to seizures. This substance may provide clues to the natural mechanism of seizure-quenching and could be useful in treating epilepsy and other brain dysfunctions.

31 May 1985, Volume 228, Number 4703 SCIENCE

A Good Word for Realities

Last week I discussed the delusions that provide incentives for successful publishing and editing. Now it is time to consider the realities of the system that was inaugurated in January to speed the process of reviewing manuscripts at *Science*. It is too soon to make a final evaluation, but the preliminary signs give reason for optimism.

The Board of Reviewing Editors has been extremely diligent. With few exceptions they have returned manuscripts within 48 hours of receiving them and that has meant that more than half the manuscripts are returned to authors in about 2 weeks. Because members of this board (they are listed on the masthead) are asked to judge the interest, not the detailed methodology, of a paper, they can evaluate papers in a broad area surrounding their immediate expertise. (It is in a subsequent in-depth review that the data will be examined in detail.)

For an interdisciplinary journal like *Science*, even a 35-member board cannot cover all areas. When the subject is completely outside the expertise of any reviewing editor, the editorial staff of *Science* consults individuals in the appropriate field for an ad hoc opinion. A few authors have been concerned that a manuscript on computer systems might be reviewed by a geologist; that has not occurred. Therefore, no author should be deterred by the absence of a familiar name on the masthead. If there are repeated needs for ad hoc opinions, new reviewing board members will be added in the appropriate areas.

After the initial screening of manuscripts, papers that received high rankings for interest from the reviewing board are sent to in-depth review and those with lower rankings are returned to the authors. In addition to the rankings, we must also consider factors such as the need to balance subject matter so that the journal is truly interdisciplinary.

Since about 60 percent of the manuscripts are returned to authors promptly, and this releases more people to concentrate on the second stage of the reviewing process, we expect that the in-depth review can be speeded up. Our goal is to publish manuscripts within 3 to 4 months. The slow step here is the in-depth review. Referees, being at the forefront of their fields, are usually busy; we respect the time dilemma but urge them on through telephoned entreaties of unbelievable pathos and urgency. We note, however, that some of the delay in publishing is frequently caused by authors who fail to complete revisions in an expeditious manner. Although occasionally there will be reason to accelerate publication of a particular manuscript, in general we plan to publish all manuscripts in the order received. A modus operandi in which an Olympian editor (obviously all wise) feels free to revise publication schedules at will has some appeal, but routine publication with all deliberate speed seems fairer.

In evaluating the reviewing process, we have developed several additional procedures that may be of interest to authors. If two manuscripts are received within 2 weeks of each other on essentially the same subject, both will go out to in-depth review and, whenever possible, be published back to back. Manuscripts on the same subject that arrive much later will be returned promptly without review so that the authors may submit them elsewhere.

One might say, "So far so good." Those may also have been the words of the man who jumped off the Empire State Building as he fell past the 46th floor. We shall keep working on the system until a soft landing is assured.

—DANIEL E. KOSHLAND, JR.