distinguished paleontologist whose textbook had been widely used for so many years that many Council members had literally grown up with it. "No mathematician, astronomer, or social scientist, no matter how good, would stand much chance in that electorate in competition with Al Romer," Wolfle says. In an effort to give all disciplines a fair share in AAAS leadership, the association has long had an unwritten policy that opposing candidates should be chosen from roughly the same discipline. This deliberate "rigging" of the election ensures that the biologists don't vote their own into office every year.

The AAAS has a fairly substantial budget, but it is not a particularly rich organization. It has only a small endowment, valued at about $1.2 million, plus a building fund valued at close to $1 million. The largest single gift it has ever received totaled $360,000. The 1971 budget predicts revenues of just over $5 million, of which about $2 million are expected to come from advertising in *Science* and another $2.3 million from dues and subscriptions to *Science*. These revenues support a variety of activities, of which the most important, in terms of funding and effect, are the publication of *Science*, the holding of an annual meeting, and certain educational ventures. Each of these activities has achieved notable success and is currently grappling with perplexing problems.

Publishing *Science*, the weekly journal of the AAAS, has long been the most obvious function of the association. For most members, it is the only tangible reward for AAAS membership and their only link with AAAS affairs. By the end of last year, *Science* had attained a paid circulation of about 163,000, which makes it one of the bigger scientific publications in the country, though far from the biggest.

The magazine seems to have improved tremendously under the editorship of Philip H. Abelson, an eminent geophysicist who took over in 1962 and has since gained a reputation for rather daring, iconoclastic, and occasionally arbitrary leadership. It was not too long ago—back in the 1950's in fact—that the magazine was often forced to scrape the bottom of the barrel to find anything to print. Howard A. Meyerhoff, who was AAAS administrative secretary from 1949 to 1953, recalls that there were persistent problems in finding a topflight editor and that, consequently, he found himself acting as de facto editor for long periods of time. On one occasion, he recalls, he was so short of material that he rushed into print with an unrefereed lead article that was later roundly denounced by his own edi-

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Hippocrates' Physic

Last week the American Physical Society (APS), meeting in Washington, considered the question of whether physicists should adopt a Hippocratic oath—a pledge parallel to that of the medical profession—to shun activity that could harm human life. But the result of this soul-searching seemed to be the rather discouraging conclusion that oaths and pledges are no open sesames to professional morality.

The principal proponent of the oath idea was Charles Schwartz, professor of physics at the University of California at Berkeley, who also petitioned the APS to reword its statement of purpose making its goals the "enhancement" of "life" as well as the advancement of physics, and, in addition, to set up an APS ethics committee.

But these proposals, which were the subject of lengthy discussion at an evening panel session, didn't get very far. Schwartz's formal petition did not gain the necessary 300 signatures for it to be taken up as formal business. The 2300 physicists attending the meeting seemed much more concerned with the bread-and-butter issues posed by their crisis of escalating unemployment and dwindling research support.

The meeting had its share of radical antiwar feeling that has characterized most scientific meetings in recent years. Before Edward E. David, Jr., science adviser to President Nixon, gave a wrap-up speech on unemployment at the final banquet, a young man from Scientists and Engineers for Social and Political Action, mustachioed, blue-jeaned, and headbanded, took the microphone briefly to denounce him. A statement protesting David's presence and threatening to disrupt his speech, was circulated at the banquet. APS officials then announced that, instead, an antiwar speaker would be permitted after David's talk: Pierre Noyes, Professor of Theoretical Physics at the Stanford Linear Accelerator got up and called for David's resignation from the government as a defense against his "possible prosecution," along with the rest of the government, for Vietnam "war crimes."

But introversion, not outcry, was more common at the meeting. In their discussion of the Hippocratic oath idea, the scientists mainly picked apart the practicality of oath-taking.

Only a subgroup of scientists, who refuse war work already, will take such an oath, said Anatol Rapoport of Cornell. Two years ago, Rapoport was chairman of an American Association for the Advancement of Science committee which made a survey of scientists' views on ethical matters and found that only 7 percent were willing to take such a pledge, although 52 percent "favored" some sort of code.

Schwartz, who was pushing for the oath, admitted it might not prevent people from building bombs. He had tried making such a pledge a prerequisite for a seminar last spring, he said, and, although most of the students were willing to go along with the idea, one interpreted the oath to mean that it was permissible to build bombs if he thought "it would help people."

A younger scientist at the discussion maintained that the only way scientists would be moral was "through the salvation of Jesus Christ."

The physicists—1500 strong at the oath session—picked apart the Hippocratic oath itself. "It corresponds to the ethics of the medical profession, but I seriously doubt that it actually determined them," said oath opponent Raymond Bowers, a Cornell physicist. And, in its classic form, the oath includes a ban on abortion—a proviso now largely outmoded. The scientists argued that abortion was like bomb-building: it may be "bad" of itself, but the society as a whole can decide that it is for the common good.

The only good an oath can do, they agreed, was to raise the current low

torial board. "I knew the editorial board would reject it, but I needed a lead article in a hurry," he said. "No one was submitting anything."

On another occasion, Meyerhoff recalls, he and a member of his editorial board were "hauled before" a committee at the National Academy of Sciences and "caught hell" for authorizing publication of a technical article that the Academy group regarded as nonsense, or perhaps even a hoax. Meyerhoff says the Academy group also seemed to think the AAAS was trying to generate publicity for the article. Meyerhoff says he and his colleague "told off" the inquisitors, and the accusations against them were, by and large, withdrawn. But he adds: "It was one of the bitterest meetings I've ever faced. I was astounded at the vigor of the attack on us." Officials at the Academy seem to have no recollection of the 20-year-old incident. But it seems unthinkable today that an Academy group would presume to summon the editor of *Science* to face such an inquisition.

The rise in the prestige of *Science* can be charted in a number of ways. For one thing, the journal now has no trouble attracting material. Whereas the editorial function used to consist largely of weeding out the kooky articles and printing the rest, now even much competent material must be turned down. In 1970, *Science* rejected 70 percent of the articles submitted and 75 percent of the technical reports.

Another measure of progress is that *Science* has become one of the most quoted and widely read journals in the world. Eugene Garfield, who directs compilation of the *Science Citation Index*, has provided "very preliminary figures" which suggest that, during the last quarter of 1969, *Science* was the sixth most frequently cited journal on his list—a notch behind *Nature* and still further behind such specialty journals as *The Physical Review* and the *Journal of the American Chemical Society*. Interpreting these data is tricky, and often one journal ranks higher than another mainly because it prints more material. Thus, while *Nature* was cited more often than *Science*, a given article in *Science* was more likely to be cited than a given article in *Nature*.

The goal of *Science*, as enunciated by Abelson, is to "provide reliable information about the most important things happening in science and to science and involving science." In particular, he says, the magazine tries to present "significant information—if the readers want fun and games and amusement and excitement, they can get a paperback."

Science is actually several different magazines combined under one cover.

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level of morale among physicists. They didn't mention—but should have—that even his famous oath didn't keep Hippocrates from being the subject of a raging controversy over the credit and authorship of his main publication, the *Corpus Hippocraticum*, in 400 B.C.

—D.S.

To Cure Cancer

The proposal to divest the National Institutes of Health (NIH) of cancer research and set up a separate, massively funded National Cancer Authority (*Science*, 5 March) has generated a curious battle of influence in the Senate, with biomedical scientists on one side and the general public on the other. So far, the scientists are winning.

The proposal (Senate bill S.34) is based on the recommendations of the panel of consultants convened last year by the then Senator Ralph Yarborough (D–Tex.). When Senator Edward Kennedy (D–Mass.) introduced the measure at the beginning of the current session of Congress, it appeared certain to pass the Senate. But public and private opposition to the separate authority from several prominent life scientists, as well as from NIH officials and the Nixon Administration, has reduced the bill's chances of even surfacing from Kennedy's own subcommittee on health. A recent survey of subcommittee members by *Drug Research Reports* indicated that only four senators favored the plan. Three are definitely opposed, while the remaining seven remain undecided.

If, however, the senators relied on their mail to determine their votes, the measure would pass the entire Senate by acclamation. Spurred by public relations efforts of the American Cancer Society to equate the separate authority with a possible cure, thousands of citizens have written their senators demanding they vote for Kennedy's bill.

The biggest boost to the letter-writing campaign came from syndicated columnist Ann Landers. Instead of the usual advice to the lovelorn, Miss Landers devoted an April column to a plea for public support of the separate authority. Declaring that "Government grants for medical research have virtually dried up," the columnist told her readers that "Today you have the opportunity to be a part of the mightiest offensive against a single disease in the history of our country. If enough citizens let their senators know they want Bill S-34 passed, it will pass." According to Senate aides, most senators received well over 1000 letters and telegrams within a few days of the Landers column.

Another aspect of the anticancer effort has been the publication of several popular articles suggesting that cancer research has progressed to the point where the infusion of a massive amount of research support (like $1 billion annually) could bring rapid breakthroughs. A lengthy cover story in the 22 February issue of *Newsweek* concludes that "Taken all in all, the advances made in cancer research and therapy add up to the most hopeful view of the future that has ever been possible."

Even "America's Oldest Magazine," *The Police Gazette*, offered its contribution to the campaign to cure cancer. In the May issue, an article entitled "Cancer Miracles" (between "The Pill Can Turn Marriage into a Sex Nightmare" and "Why I Can't Live with Zsa Zsa") listed "A further heartening development: a special Senate report has recommended doubling federal spending on cancer research to $400 million within one year with a goal of a billion in a few years."

"Thus," concluded the *Police Gazette* article, "while cancer is far from licked at this writing, we do seem to be coming down the home stretch in vanquishing this dreaded enemy."

—R.J.B.