

Controversies

THE 9.2 MILLION DOLLAR SILENCE

The truth of the adage "Silence is golden" was adequately demonstrated this past summer by actions of the United States Congress. This particular silence adds up to about one-and-a-half tons of gold at the current market price. It is the 9.2 million dollars destined for implementation and dissemination activities that was removed from the National Science Foundation budget by Congress. That money would have been used to support institutes, workshops, and other training sessions for teachers during the 1976 fiscal year. Scientists and educators who had planned to submit proposals to the National Science Foundation for workshops and summer institutes can save their time, and teachers inquiring about such activities will now know that the response will be negative.

Why has Congress refused to provide needed funding to update American teachers in current content and modern methodology, and what has silence to do with it? These questions can be answered by following a series of events, some of which reached the public press, television, and radio, and some of which could have been less carefully orchestrated because they received less publicity. The initial attacks on NSF were instituted by Senator William Proxmire (D-Wis.), who followed what seems to be his annual practice of selecting research projects with somewhat humorous titles as examples of wasteful research. Representative Robert Krueger (D-Tex.) castigated this type of activity when he said, "One of the easiest undertakings is to use a public forum to bring general nonunderstanding to bear on scientific research, in order to bring to that research, public ridicule." While research scientists could be cautioned to select titles for projects that more properly reflect their value, responsible members of Congress should at least look beyond the titles for the substance of the research. Exploiting unfortunate titles out of context and equating them with low comedy for publicity purposes does nothing to increase the public understanding of science, nor the scientific community's sympathy with Congress.

Teachers and educators not involved in scientific research should not be complacent about the attacks on the research arm of NSF, for when attackers are surrounding the fort, it does little good to protect only your side of it. What is good for science in general is good for science education, and what aids science education aids the scientific enterprise. To assume anything else is to have faith that only one Siamese twin will die from bubonic plague.

Early in 1975, Representative John B. Conlan (R-Ariz.) began a series of attacks on the educational programs of NSF that will undoubtedly still be continu-

ing when this article is published. While Proxmire's pressures on NSF were mainly playful political publicity prods, Conlan represents a vocal, organized, well-financed, ultra-conservative group consisting not only of some of the same individuals who have pressured for the removal or modification of evolution in biology textbooks but also a number of persons evidently oriented toward the same type of fundamentalism. Conlan's attack initially was directed against "Man: A Course of Study" (MACOS) and what he considered public subsidization of "morally sick texts." Mr. Conlan accused MACOS of teaching students adultery, bestiality, cannibalism, female infanticide, incest and murder, senilicide, wife swapping, sexual promiscuity, and spying on fellow students and their own families. Here again, biology teachers might feel that they could safely ignore what could be regarded as a tempest in a teapot about a socially oriented curriculum at grade levels different from those at which biology is normally taught. However, as has been clearly delineated by Garrett Hardin, you can't just do one thing. Our concerns for ecology, the environment, and the human state all emphasize that a change in one part of a continuum can affect all parts.

Conlan's attacks on MACOS have now escalated to attacks on NSF educational activities in general, but specifically the curriculum development and dissemination and implementation aspects of the educational program. Conlan has elicited congressional supporters, including Representative Robert Bauman (R-Md.), who proposed an amendment that would not only control development and implementation of curricula, but would require a monthly list of proposed NSF grants that would then be either killed or approved by Congress. Olin D. Teague (D-Tex.) has supported Conlan and has appointed his own eight-member science curriculum implementation review group to advise the House Committee on Science and Technology, which he chairs. Most of these eight, undoubtedly in keeping with the downgrading of peer review, have had no meaningful background in either curriculum development or implementation and dissemination activities, and only three are identifiable as having any sympathy toward education and modern science. The review group seems overwhelmingly stacked, both geographically and philosophically, to support positions taken by Representatives Teague and Conlan.

These positions are also supported by the following factors:

1. A segment of the commercial publishing industry that feels that the federal support of curriculum development activities constitutes unfair competition. This is in spite of the fact that curriculum develop-

ment projects are distributed by this same commercial sector. Admittedly none of the materials created by NSF-funded development projects could have or would have been supported by the commercial sector.

2. A rising tide of antiintellectualism and antisocialism. One need only look at West Virginia, Tennessee, and California for recent examples of partisan attacks on textbooks and curricula. Locally, these have not been particularly successful. The transfer of the censor role to the national scene would make such a priori censorship much easier.

3. A disenchantment with education on the part of certain officials of the National Science Foundation, by whom the sentiment has been expressed that less than 10% of the budget seems to induce 90% of the problems.

4. Conflicts in an age of transition between those desiring to maintain the status quo and those who believe change is necessary to face the future effectively.

These four factors combine to exacerbate the problem and to transpose it from one that is subject to reason to one that is charged with emotionalism and partisanship. Therefore, one can expect to hear more quotations out of context, more misrepresentations, and more specious arguments against all federally produced curricula. Conlan, in a July 22, 1975, statement before the Subcommittee on Science, Research, and Technology, revealed his bias against sex education, this time as represented by the ISIS curriculum. Indicative of his feeling is the statement:

I say this because one of the sex "minicourses" now being pilot tested called "Human Reproduction" itself achieves a new height in science porno literature. There is some material, including prurient questions aimed at mixed classes of tenth-grade boys and girls, that I cannot bring myself to quote here in this public hearing.

Sex, value judgments, social implications of science, evolution, and other topics of current interest would be expunged from American schools if Representative Conlan had his way. His group seems to be determined to remove sex as a proper topic for schools.

Unfortunately, most members of the scientific and educational communities reading or seeing on TV the reports of these congressional activities are tolerantly amused and take refuge in the concept that it can't happen here. Even more unfortunately, while they were clucking in amused disbelief, it *has* happened here. In 1968, \$55,300,000 was available to the National Science Foundation for precollege educational purposes. Today, \$5,500,000 is available for precollege education improvement in the sciences. Education was 30% of the NSF budget in 1968; today it is less than 10%. At the same time that national assessment data have shown decrements in scientific knowledge in the school-age and adult population of the United States, appropriations to mitigate this decrement are being reduced or eliminated. Some people have been foolhardy enough to charge that federal spending on education has been in vain because the science scores have gone down. The facts, however, indicate that because such a negligible amount of money was spent to

Reports on NSF-congressional relationships that contain much additional information for those interested can be found in the following:

- ANON. 1975. House orders monthly review for NSF. *Science News* 107:253.
- BOFFEY, P. M. 1975. Social-science curriculum under fire in Congress. *Chronicle of Higher Education* 10(6):5.
- . 1975. House votes restraints on the NSF. *Chronicle of Higher Education* 10(9):3.
- . 1975. Controversial curriculum's developers face tax probe. *Chronicle of Higher Education* 10(13):3.
- . 1975. Peer review under attack. *Chronicle of Higher Education* 10(14):1.
- RUSSO, N. F. 1975. NSF, social science, and psychology: implications of the MACOS controversy. *Aperiodically: a Report from the APA Clearinghouse on Pre-College Psychology* 5:3.
- SCHAAR, K. 1975. Congress debates curriculum. *American Psychological Association Monitor* 6(6):1.
- . 1975. MACOS: the controversy continues. *American Psychological Association Monitor* 6(7):1.
- SHAPLEY, D. 1975. Congress: House votes veto power on all NSF research grants. *Science* 188(4186):338.
- WALSH, J. 1975. NSF: Congress takes a hard look at behavioral science course. *Science* 188(4187):426.
- . 1975. NSF peer review hearings: House panel starts with critics. *Science* 189(4201):435.
- ZERKEL, F. H. 1975. Amendment threatens NSF grant procedures. *Chemical and Engineering News* 53(16):17.
- . 1975. NSF probes its science curriculum efforts. *Chemical and Engineering News* 53(25):13.
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prepare teachers to handle these new scientific materials, only 8-10% of our schools use NSF materials prepared for grades K-6, and half of the American schools don't even teach science at those grades. Instead of eliminating money for implementation activities, the amount should be greatly increased so that American teachers may become acquainted with new trends in methodology and new content and return to classrooms confident and competent to handle materials that had been beyond their ken.

Similarly, more—not less—money should be available to develop new curricula that the private sector is incapable of producing because of the time, money, and risk involved. Federally funded curriculum developments present only alternatives and models to add to the options available to American school districts. To the charge of federal domination of curriculum content, therefore, one can only respond that the individuals making this charge are not familiar with the way our school systems operate. In no other nation in the world is there such regional and local autonomy in the selection of classroom materials as in the United States. Only by failure to provide new alternatives are systems and districts forced to choose from a limited number of options. The MACOS program, for example, has been selected by 1,700 schools in 47 states who find it fills an educational need not satisfied by any other curriculum. Should these and other schools desiring alternatives rather than echoes be provided with such alternatives?

The situation is serious. Politics is intruding on science and education. The Lysenko affair in the Soviet Union provides a classic case study of what happens when politics mixes in science, for in that

Because the average citizen is unfamiliar with congressional structure, a list of Senate and House Committee members directly responsible for actions concerning the National Science Foundation is given below. You may write to senators, care of the Senate Office Building, Washington, D.C. 20510 and to representatives, care of the House Office Building, Washington, D.C. 20515.

Senate Special Subcommittee on NSF
(Labor and Public Welfare Committee)

Democrats

Edward M. Kennedy (Mass.),
Chairman
Claiborne Pell (R.I.)
Thomas F. Eagleton (Mo.)
Alan Cranston (Calif.)
Walter F. Mondale (Minn.)

Republicans

Paul Laxalt (Nev.)
Robert T. Stafford (Vt.)
Richard S. Schweiker (Pa.)

**Senate Subcommittee on
HUD—Independent Agencies**
(Appropriations Committee)

Democrats

William Proxmire (Wis.),
Chairman
John C. Stennis (Miss.)
Mike Mansfield (Mont.)
Birch Bayh (Ind.)
Lawton Chiles (Fla.)
J. Bennett Johnston (La.)
Walter D. Huddleston (Ky.)

Republicans

Charles Mathias (Md.)
Clifford P. Chase (N.J.)
Hiram L. Fong (Hawaii)
Edward W. Brooke (Mass.)
Henry L. Bellmon (Okla.)

**House Subcommittee on Science,
Research, and Technology**
(Science and Technology Committee)

Democrats

James W. Symington (Mo.),
Chairman
Don Fuqua (Fla.)
Walter Flowers (Ala.)
Mike McCormack (Wash.)
George E. Brown, Jr. (Calif.)
James H. Sheuer (N.Y.)
Tom Harkin (Iowa)
Jim Lloyd (Calif.)
Christopher J. Dodd (Conn.)
Tim L. Hall (Ill.)
Robert Krueger (Tex.)
Marilyn Lloyd (Tenn.)
Timothy E. Wirth (Colo.)

Republicans

Charles A. Mosher (Ohio)
Marvin L. Esch (Mich.)
William Ketchum (Calif.)
David F. Emery (Maine)

**House Subcommittee on
HUD—Independent Agencies**
(Appropriations Committee)

Democrats

Edward P. Boland (Mass.),
Chairman
Joe L. Evins (Tenn.)
George E. Shipley (Ill.)
J. Edward Roush (Ind.)
Bob Traxler (Mich.)
Max S. Baucus (Mont.)
Louis Stokes (Ohio)
Yvonne Burke (Calif.)

Republicans

Burt L. Talcott (Calif.)
Joseph M. McDade (Penn.)
C. W. (Bill) Young (Fla.)

country the science of genetics and genetic education was retarded for three decades by political coercion. The United States has a science and technological development second to none, and educational advances that have set standards throughout the world. Neither American students nor American teachers should be denied the opportunity to be exposed to new technology, new science, and new pedagogy. The fact that Congress itself wishes to set classroom parameters is a crushing vote of no confidence in the American science teacher and vitiates the American faith in the good sense of its citizenry.

While it is understandable that the careful orchestration of events in Washington that reached a crescendo in July found most teachers away from their schools and not easily brought up-to-date, it is now time for teachers and teacher organizations to make their presence felt. The silence of the scientific and educational communities has been deafening, and Congress—a political animal—responds to its constituency. Congressmen pay close attention to the wishes of their constituents. When either a feeble response or none at all is engendered by a given issue, the congressman understandably feels that it is either of no interest to his constituents or, at the very least, that there is no opposition to it. When, however, an outpouring of constituent sentiment for or against a proposal before Congress reaches the desk of your representative, he becomes immediately cognizant of the controversial nature of the proposed bill.

The effect of constituent opinion is demonstrated by reactions to a proposal to ban religious broadcasters from using channels reserved for education on the ground that the "back to the Bible" programs are not educational. This proposal was made in December. Since that time, an estimated 750,000 letters, primarily against the ban, reached Washington. Predictably, the proposed ban was not implemented.

If scientists and educators are concerned about national control of local school systems and the decline in support for science education improvement at a time when scholastic achievement in science is declining, then making their concerns known is the most effective way to prevent further declines in federal support of either science or science education. Both individuals and organizations must make appropriate representations rapidly. Silence will be considered approval. Apathy is consent. Only action can prevent further erosion of federal support for science and science education and effect continued support of needed programs for both students and teachers.

The supporters of the status quo have made their impact felt during this period. It is now time for scientists and educators to drop the "Let someone else do it" philosophy, take pen in hand, and write to the appropriate congressmen to express their feelings about this matter. This has been a 9.2 million dollar silence. The next silence you don't hear could be even more expensive.

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