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nabt NEWS & VIEWS

NSB Commission Meets

The Commission on Precollege Education in Mathematics, Science and Technology of the National Science Board met for the first time on July 9th and 10th. Co-chaired by **William T. Coleman**, lawyer and former Cabinet member, and **Cecily Cannan Selby**, biophysicist and Board chairman for the North Carolina School of Science and Mathematics, the Commission has 20 members, drawn from diverse backgrounds. Comedian and former teacher **Bill Cosby** is probably the best known member. **Dr. Paul DeHart Hurd** was among those addressing the first meeting.

Despite increasing national dependence on science and technology, our youth are receiving less science education today than they received ten years ago. Coupled with a decreased federal role in education, the situation seemed ominous enough for the NSB, the National Science Foundation governing body, to develop a plan of action directed to all sectors of society for improving education in science, mathematics, and technology. Their goals include enlarging the pool of well prepared and motivated students who will pursue careers in the sciences; raising the quality of science and math education generally, thereby giving more students the option of choosing science-oriented careers; and improving science literacy of all students.

The Commission has a difficult job because of the mixed signals emerging from NSF. Budget cuts in science and engineering education and elimination of the Science Directorate speak louder than a prestigious commission. Science-related associations, including NABT, are maintaining a supportive but wait-and-see attitude. **Jerry Resnick** will serve as our liaison to the Commission.

The Commission has divided its work into three phases. The first phase is "problem definition" and was the subject of the first meeting. The second phase, "identification and analysis," will examine current successful practice leading to improved educational quality; assess the wisdom of expanding such efforts; and identify the scientific needs of various sectors. This phase is expected to be complete by December

1982. The final phase is identified as the "action plan development" phase. The Commission plans to wind up its work in December 1983.

Four Task Groups have been organized within the framework of Government, Education, Facilitators, and Employers or Recipients. They are concerned respectively with the roles and responsibilities of government; identification and analysis of exemplary approaches; solicitation of the views of facilitating organizations; and development of educational goals by future employers. NABT will be working with the Facilitators Task Group and has provided copies of *New Directions in Biology Teaching*, edited by **Faith Hickman** and **Jane Butler Kahle**, for their use.

NABT members are invited to prepare brief statements describing good educational practice as related to the three goals listed above. They should be sent to **Jerry Resnick**, who will assemble and present them to the Commission. His address is: 2750 Homecrest Avenue, Brooklyn, NY 11235. But do it promptly so that they will be available for the December 16th meeting of the Commission.

FLASH!

Dr. Cecily Cannan Selby, co-Chairman of the national Science Board's Commission on Precollege Education in Mathematics, Science and Technology, will speak at NABT's national convention. Her presentation will deal with the crisis in science education and how the Commission she co-chairs hopes to deal with it. It will be given on Saturday, October 16, at 1:30.

Dr. Selby is a biophysicist and has been long involved in education. She was Headmistress of the Lenox School in New York, where she also taught science; served as trustee of Massachusetts Institute of Technology, Woods Hole Oceanographic Institute, and the Cornell University Medical College; and is presently Chairman of the Board for the North Carolina School of Science and Mathematics in Durham. Dr. Selby has also served as National Executive Director of the Girl Scouts of America. She resides in New York City.

BSCS—Past, Present, Future

The science education crisis of the late 1950s determined that a scientifically knowledgeable population was a national goal. To this end, a number of groups were set up to improve education in science and mathematics. Upon the recommendation of the National Academy of Sciences National Research Council, the Biological Sciences Curriculum Study was established in 1958 with the goal of improving biological education at all levels. It began with the preparation of materials for tenth grade biology, which was the first, and unfortunately, frequently the last, contact the bulk of American citizens had with a scientific discipline. As the textbook then, as now, largely constituted the curriculum in most schools, the best way to update content and incorporate new pedagogy was through the development of new texts. The textbooks of the period primarily consisted of classical systematics and morphology, with almost no mention of the important developments of the 20th century. The most popular text of the day did not even include the word "evolution," and human reproduction was not to be found.

The first experimental editions of BSCS materials appeared in 1960. After two years of testing with thousands of teachers and over 100,000 students, they appeared in their first commercial editions in 1963. Initially, 50% of American high school students used BSCS materials directly and within a few years 100% were exposed to the content and pedagogy of the BSCS as authors and publishers modeled their works on the successful BSCS program. Of all of the curriculum studies established in the late '50s and early '60s, only the BSCS remains, because its personnel made a commitment to education that could not be served by a transient organization which developed a single product and then disappeared. Over the years, the BSCS has contributed programs from kindergarten through college. It has dealt with students as varied as the educable mentally handicapped and the gifted and talented. It has used every variety of delivery system, from printed materials to games, models, a full spectrum of audiovisual components, television, and now computer-assisted instruction. It has interpreted biology in the broadest possible way, and years before it became popular, was concerned with interfacing science, society, and technology.

BSCS has been a highly stable organization over the years. **Arnold Grobman**

served as director until 1965. **William V. Mayer** has served from 1965 to 1982. This year, effective August 1, he has retired from the directorship and **Dr. Jack L. Carter**, former associate director of BSCS, former editor of *ABT*, and professor of biology at Colorado College, has assumed the duties of BSCS director. In addition to a change of leadership, BSCS, long associated with Boulder, Colorado, will be moving to the campus of Colorado College in Colorado Springs. There it will retain its autonomous structure and continue its research, development, implementation, and dissemination activities. BSCS will be working closely with the faculty of Colorado College to maximize its mission. Effective September 1, all communications directed to BSCS should be sent to The Biological Sciences Curriculum Study, The Colorado College, Colorado Springs, CO 80903, (303) 473-2233.

William V. Mayer

People and Places

NABT Vice-President **Jane Butler Kahle's** new book, *Double Dilemma: Minorities and Women in Science*, has recently been published by Purdue University. Former *ABT* editor **Joan Creager** says of the book, "On one level, (the book) describes the participants and program of a National Institute of Education grant in advanced training and research. . . . On another level, the book addresses the myriad of obstacles facing minority students in science, minority colleges in the South, and minority women in academe." (163 pp., \$5.95)

Former NABT President **Edward Kormondy** has moved on to a new position as Vice President for Academic affairs, California State University-Los Angeles, as of October 1.

Ed has passed on a newspaper clipping noting that **Jane Abbott** of Waterville High School, ME, narrowly escaped serious injury when her hot-air balloon struck a 12,000-volt transmission line and fell to the ground. Jane did receive a broken ankle in the accident.

American Biology Teacher Projector Center editor **Charles Barman** has taken a new job at Horace Mann Laboratory School, Northwest Missouri State University, Maryville, MO.

And, *ABT's* Biology Today editor **Maura C. Flannery**, has recently been promoted to Associate Professor of Biology at St. John's University, Jamaica, NY.

Finally, **Manert Kennedy**, formerly with Biological Sciences Curriculum

Study, is now Director of the Center for Education in Science Technology and Society, School of Education, University of Colorado, Boulder. **Faith Hickman**, also formerly with BSCS, is Associate Director. CEST's purpose is the encouragement of interdisciplinary efforts in Colorado and nationwide. Faith will continue as audiovisuals editor of *The American Biology Teacher*.

Sequel

The Winter issue of the SEQUEL newsletter, published by the Purdue University School of Science, was devoted to Evolution. It contains papers originally presented by faculty members at a forum held in April of 1981. **Dean Allen Clark** provides this comment: "However, I do believe that science courses in public schools should be restricted to science as it is understood and practiced by leading scientists and educators. Responsibility for the content of science courses should rest with the education community." Which, of course, is the NABT policy.

Now that we have piqued your interest, you will be pleased to know that each NABT member has been sent a copy of this special issue of SEQUEL, as a service to the biology community. **Jane Butler Kahle**, NABT Vice-President and Purdue faculty member, is responsible for making the arrangements with the School of Science for this valuable mailing.

Region IV News

Biology educators, as well as science educators in general in Minnesota, are becoming more and more concerned by the trend to have the biology-trained teacher teach and become the all-purpose science teacher in the secondary schools. Licensure in Minnesota has just become functional as we implemented the rule of 20% of the baccalaureate degree in the major, 10% in physical science, and 10% in Earth science. Due to this broad background it appears the biology teachers are being assigned classes in chemistry, Earth science, physics, etc. Certainly the students are being shortchanged and the teacher placed in a stressful position. Strategies will have to be developed to upgrade these "overstretched" teachers and, of course, to alleviate the shortage of qualified teachers.

John C. Coulter
Region IV Coordinator

Around the Affiliates

South Carolina Association of Biology Teachers (SCABT) will hold their Fall meeting at the Hyatt Regency Hotel in Greenville, SC October 28-30. The meeting, which is being held in cooperation with two other science organizations this year, will have as its theme "Science is Elementary" and will feature **Dr. Lynn Margulis** as a speaker on Microevolution.

NABT's Committees Do The Work

Jane Butler Kahle of Purdue University chairs two committees this year in addition to her busy schedule as NABT's Vice-President. The Materials Review Committee, newly formed this year to evaluate materials (other than books) for possible NABT endorsement or distribution, consists of Kahle and members **Ann Haley-Oliphant**, St. Louis, MO; **David P. LaPierre**, Logansport High School, IN; and **Paul Hummer**, Frederick, MD.

The Honorary Membership Committee, which each year selects a distinguished biology professional to be honored by NABT as an honorary member, consists of Kahle, **Jane Abbott**, Waterville Senior High School, ME; **Jack Lepley**, Fort Benton High School, MT; and **Bernice Coar Cobb**, Miles College, Birmingham, AL.

New Video Tape Available

Our videotape lending library has a new one-hour color tape entitled, *Date-line Reston: Creationism and Biology Education*. It features **Wayne Moyer**, NABT Executive Director, in two half-hour interviews conducted by **Rollene Wells**, a Fairfax County (VA) teacher, for Warner-Amex Cable TV.

In the first interview, Dr. Moyer discusses the nature of truth in science and how it differs from that of religion. Evolution (a fact in the sense of being a verifiable observation) and natural selection (an explanation of how evolution occurs) are considered in terms of a modern tenth-grade biology course. During the second interview, Dr. Moyer reviews the case of Liberty Baptist College, owned by Jerry Falwell's Thomas Road Baptist Church, which has applied to the Virginia Commonwealth Board of Education for certification of its graduates to teach biology in the public schools.

Rollene Wells has been hosting an interview show for several years, and teaches English as a second language in Fairfax County, Virginia.

The tape may be booked in advance by letter or phone by calling NABT's Reston office (703) 471-1134. Rental fee is \$10, outgoing postage paid.

NABT Elections for 1982

The Nominating Committee consists of three people, each serving a three-year overlapping term, with one new member appointed by each incoming President. This year's committee consists of **Tom Mertens** (Chairman), Ball State University, IN; **Julia Riggs**, The Victoria College, TX; and **Sandy Wiper**, Newton North High School, MA. They are charged with nominating two people for each office to be filled, which this year includes Vice-President (President-elect), Director-at-Large; and Coordinators for Regions II, VI, and VII.

In mid-October an election ballot and descriptive paragraph for each candidate will be mailed to all voting members (Active, Emeritus, Retired, Honorary, and Life Members). The ballots are returnable to the NABT Reston office by *November 15* and will be counted by the Election Teller, **Ron Smetanick**, Thomas S. Wootton High School, MD. The results will be published in early 1983.

Here is the slate selected by the Nominating Committee:

Vice-President (President-elect):

David Lopath, Morgan High School, Clinton, CT

Marjorie King, Jefferson Parish School Board, Gretna, LA

Director-at-Large:

Donald Dean, Baldwin-Wallace College, Berea, OH

Dennis Gathmann, Lakeland College, Mattoon, FL

Coordinator of Region II:

Robert Pultorak, Gloucester County College, Sewell, NJ

Donald Emmeluth, Fulton-

Montgomery Community College, Johnstown, NY

Coordinator of Region VI:

Donna Bentley, Alabama State Dept. of Education, Montgomery, AL

C.J. Probst, Jr., University of New Orleans, LA

Coordinator of Region VII:

Les Burgwardt, Basic High school, Henderson, NV

Bill Futrell, Wyoming Dept. of Education, Cheyenne

Announcements

The Faculty Exchange Center, a non-profit, faculty-administered program, helps arrange teaching exchanges on the college and university level and house exchanges for purposes of study and travel for teachers and administrators at all levels of the educational profession. The current roster of members will be made available to new members upon registration. For more information send a stamped, self-addressed #10 envelope to: Faculty Exchange Center, 952 Virginia Ave., Lancaster, PA 17603.

The Soil Conservation Society of America is sponsoring a conference entitled "Acid Rain: A North American Challenge," on October 25-28, 1982 at the Ramada Inn in Burlington, VT. Contact: Walter N. Peechatka, SCSA, (515) 289-2331.

It's Not (Always) Our Fault!

Readers occasionally complain that we carry announcements of events too late for them to register or attend. Occasionally we have been guilty of delay, but usually it's not our fault.

As with any publication, a certain amount of lead time is needed for a timely announcement to be published. Often, the lead time we need just isn't reflected in the announcements we receive. For instance, when preparing the material for this issue (in mid-August for publication in October), we found announcements of interesting meetings, conferences, requests for proposals, etc. which were received in our office within the last week or so which have deadlines of October 1. There is no way we can give these important items the distribution they deserve in time to be useful to our readers.

If you are the one responsible within your office or organization for getting information to us, please give us enough time to publicize it in a timely manner. For our part, we'll try to eliminate delays at our end.

Our Readers Respond

In the Spring issue of *News & Views* we asked our readers to let us know their feelings about the form in which *N&V* should be published. Of 5,429 newsletters mailed, we received 102 responses as of the date of this writing (mid-August). While a 1.8% response rate is considered good in direct mail

(Continued on p. 445)

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News and Views

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surveys, it hardly constitutes a valid statistical rate in scientific terms. However, it does show that our readers do care about their newsletter and have strong feelings about its format. (Percentages do not add to 100% due to rounding.)

64.7% of the respondents favored the prototype issue, a 16-page offset printed newsletter to be published three times a year. Reader comments included: "I don't always read my *ABT* immediately . . . I would prefer . . . a separate publication." "Reducing it to 3 issues would be fine, but do not incorporate it in *ABT*." "Dynamic solution." "Prefer current *News & Views* . . ."

22.5% of the respondents preferred inclusion of the newsletter within *The American Biology Teacher*. (Note: As mentioned in the September issue, the NABT Board has decided to go with this format for budgetary reasons.) Readers in this category were sympathetic to our monetary concerns: "If *News & Views* can be incorporated into *ABT* without necessitating an increase in the subscription price of that journal, that is what should be done . . . in times when money is as tight as it is now, all of us have to forego . . . some of the little luxuries. . . ." "If it is important enough to be printed, it should be a part of the regular journal." "I can see no strong argument for separating this from *ABT*." "If this saves money due to printing and mailing cost, do it." "Present economics preclude any other choice. Perhaps at some future date the two could be separated again."

Only 9.8% were in favor of a tabloid format. One reader commented: "newsprint doesn't save very well." However, another said, "(the material) is ephemeral matter which does not require more than an ephemeral format." A reader commented, "I believe the tabloid format will be less expensive. Please

do not incorporate into *ABT* if that means sacrificing other material." "Tabloid is most economical! *News & Views* will lose its character and news appeal when incorporated into the (*ABT*)." "Keep it cheap and informative." "Save money whenever possible."

A few (4.9%) were undecided between the tabloid format and the 16-page prototype. A typical comment: "Whichever is less expensive!"

Throughout the comments received, one thing was clear: *News & Views* readers appreciate the newsletter and want it continued. Many readers emphasized their satisfaction with *N&V* in general, and expressed special delight with the format and content of the Spring prototype: "The issue just received is excellent. . . ." "This was the best *News & Views* that you have published." Several readers were concerned that Scientific Integrity be kept up: "Scientific Integrity is my favorite feature." "I wish you wouldn't cut Scientific Integrity by so much. It covers a lot that *Creation/Evolution* doesn't." "Keep up the information on the creationism controversy!"

Some readers also commented on the lateness of the Spring issue. The reason for this was that, in an effort to cut costs as much as possible, we tried a new typesetter/printer which caused unavoidable delays. We learned our lesson!

Lab Notes From ABLE

The Association for Biology Laboratory Education is now in its fourth year and just finished its fourth workshop in biology laboratory teaching.

Proceedings of the first two meetings are available in hard cover edition, edited by Jon Glase of Cornell University. They contain a wealth of information and lab techniques, organized under the general categories of zoology, botany, cell biology, genetics, physio-

logy, and ecology. Published in hard cover editions as "Tested Studies for Laboratory teaching, Vols. I and II," they are available for \$19.95 each from: Kendall/Hunt Publishing Company, 2460 Kerper Boulevard, Dubuque, IA 52001

While expensive perhaps for individual purchase, they would make excellent department reference books, especially where Advanced Placement courses are offered. Volume III, proceedings of the 1981 conference, is in preparation, with plans to publish it in a less expensive soft cover edition.

Membership in ABLE is open to those involved in post-secondary level biology laboratory instruction, for an annual fee of \$10.00. Inquiries may be directed to current president Don Fritsch, Biology Department, Virginia Commonwealth University, Richmond, VA 23220.

NABT Position on Scientific Integrity

The procedures and processes of science are well defined within the discipline. The facts and theories of science have been established through experiment and synthesis of subject, peer review, and acceptance for validity within the scientific community. Materials that do not meet the test of science or are not directly derivative from the accepted norms for the discipline should not be a part of the science curriculum.

Science deals with material things and the consequences of their application. As such, it is not in conflict with other means of knowing about the universe. There are those who see the facts and theories of science as a threat either to their belief systems or to their interpretations which may be at variance with scientific data. While science is moot on these issues, attempts are made to intercalate into the scientific

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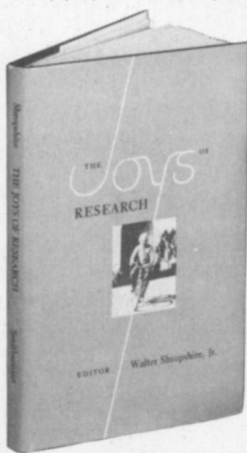
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enterprise conclusions neither based on scientific data nor verified by the scientific process. These conclusions, arising outside the field of science and resulting from ignoring or misinterpreting scientific data, have no place in the science classroom as a part of the body of scientific knowledge.

The NABT, through its obligation to biological education, will make every effort to educate the public as to the unscientific nature of efforts to equate non-science with the scientific enterprise. NABT will resist attempts to place non-scientific dogma into the classroom as science. Wherever such efforts are attempted, NABT should correct the record and provide adequate scientific evidence designed to allow decision-makers full access to the facts by means of which to judge the efforts to intercalate non-scientific material into science classrooms or to remove or change the data of science to accommodate a given set of conclusions derived from outside the scientific enterprise.

The credibility and usability of science depends upon maintenance of the integrity of science as a discipline. While no feature in this policy is to be construed as preventing the full range of applications of science and the elucidation of its social and humanistic implications, there is an obligation to insure that the scientific data thus used is both accurate and derived within the accepted procedures of the discipline. Without the maintenance of the integrity of the initial data with which one works, any subsequent applications or derivations may be ill-conceived and of little service to the human enterprise.

NABT has an obligation to maintain the integrity of biology as a scientific discipline. To this end it must act to resist efforts to include in science classrooms materials derived outside the scientific process. It must insist that the data and concepts of science as presented to students meet the accepted standards of the discipline, and data which can best be described as parasitic (creationism, astrology, anti-germ theory, etc.) cannot be condoned as science within classrooms.

(Adopted by the Executive Committee Oct. 23, 1980)

Publications and Teaching Materials

Annual Science and Technology Report to the Congress, 1981, published by the Office of Science and Technology Policy in cooperation with

the National Science Foundation, is now available from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. Price is \$6.50. Request stock number 038-000-0504-9.

A manual describing how University/Industry cooperative research centers work and how to get one started has been published by the National Science Foundation's Division of Industrial Science and Technological Innovation. The *Practice Manual* is available free from Louis G. Tournazky, Division of Industrial Science and Technological Innovation, National Science Foundation, 1800 G. Street, N.W., Washington, DC 20550.

Software Evaluation

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mathematics, 1906 Association Drive, Reston, VA 22091. \$3.50. About 85 p. (Contains 12-15 short articles on computers in education. Some are oriented toward precollege mathematics, but many of the points made are applicable to other disciplines.)

[Unknown Authors]. 1981. *Using microcomputers to teach science*. Cambridge Development Laboratory, 36 Pleasant Street, Watertown, MA 02172. \$10.00 per booklet. 50 p. per booklet. (Crovello has not seen these, but the publisher provides this information: "One of the 50 page booklets gives a general overview of the topic, including hardware, software, and sources of further information. The other focuses on the various ways of using microcomputers to monitor and control laboratory experiments. These booklets will help both high school and college science instructors make more informed decisions on what hardware and software to buy.")

Human Sciences Program

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ignorance. Can we stem this tide? Will we make our voices heard in order that the fresh air of openness may again reach the minds of our offspring? We have no choice. We must.

References

SNOW, C.P. 1961. *The two cultures and the scientific revolution*. New York: Cambridge University Press.