

William and Mary NEWS

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A WEEKLY NEWSPAPER
PUBLISHED for and about the FACULTY, STUDENTS
and STAFF of the COLLEGE of WILLIAM and MARY

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"Spring" takes on a coat of fall leaves as Indian summer finally begins giving way to cooler weather. The sculptures, in the Crim Dell area, were a gift to the College from the Johnson Atelier Institute in Princeton, N.J., through the courtesy of John Zvosec of Mahony and Zvosec Architects of Princeton.

O'Kane Recital Set October 29

The music department will present Kathleen O'Kane, flutist, in a senior recital at 8:15 p.m., Wednesday, Oct. 29 in the Campus Center Ballroom.

The recital will include works by J. S. Bach, Franz Schubert, Francois Doppler, and W. A. Mozart. Miss O'Kane will be accompanied by Kathryn Geraldts at the piano.

Miss O'Kane, a senior music and psychology concentrator from Falls Church, is a member of the William and Mary Band, Sinfonicron Opera Company and publicity chairman for Delta Omicron Honorary music fraternity. She will be orchestral director for Sinfonicron's upcoming production of "The Mikado" this winter. She is a student of Burton Kester.

Accompanist Kathryn Geraldts is a senior music concentrator from Alexandria. She is a member of Delta Omicron honorary music fraternity and the Sinfonicron Opera Company and is studying with Vera Lendvay.

Asbestos, VIMS, Fine Arts, Part of Board Agenda

Asbestos, its potential danger to those who come in contact with it and how to remove the fire retardent were major topics considered by the Board of Visitors at its regular fall meeting Oct. 16-18.

The academic affairs committee of the Board received a report Thursday night from the asbestos hazard advisory committee, chaired by Hans von Baeyer, professor of physics. von Baeyer highlighted the findings and recommendations of the advisory committee, which urged the Board of Visitors to "adopt a resolution which unambiguously commits the College to removal of asbestos from the affected buildings by the beginning of the Spring semester of 1982."

Included with the advisory committee report was a letter from Robert A. Jordan, an industrial hygiene consultant who was on campus while asbestos was removed in maintenance areas in Millington and Morton halls and the Commons dining hall.

Responding to the advisory committee's report, the Jordan letter stated that the asbestos is not a current

danger and that the faculty has overreacted in its response to potential asbestos problems. Jordan supported his claim with an article written by James T. Schirripa, a New York industrial hygienist.

At the request of the academic affairs committee von Baeyer drafted a response to the Jordan letter, disagreeing with both Jordan's and Schirripa's findings. von Baeyer's response was presented to Board members to consider along with the advisory committee report.

The Board also received petitions signed by about 500 students and parents attending the Oct. 11 Parents Weekend. The petitions called for complete removal of asbestos from campus buildings.

After weighing all the material presented to it, the Board, through a position paper by its legislative relations committee, reiterated its intention to seek money from the General Assembly to remove asbestos in academic buildings, but declined to set any deadline for removal as requested by the campus committee. The Board

of Visitors contended that it is the General Assembly's responsibility to provide money for asbestos removal in academic buildings since the college is required to use local funds for such removal in auxiliary facilities. It has been estimated that the cost of the project would be about \$1.3 million.

In its position paper (printed in full on pg 3) the Board states that it will continue to press strongly for state funds to "eradicate the source of this potential health hazard."

Addison Roberts, chairman of the board's academic affairs committee, said that contrary to the views of some, "I believe we're responding very positively to the problem." He added that the commitment to a deadline by the Board to the proposed deadline in 1982 would be "financially irresponsible." Roberts repeated his belief that the asbestos problem at the College is a very serious one.

In other action, the Board learned that the Virginia Institute of Marine Science will be able to repay the state \$400,000 by June 30, 1981, toward the \$7.5 million to \$8 million deficit it

has accrued over the last four or five years.

"Even though the debt came primarily before the College took over the administrative control of VIMS, we feel that it is a moral obligation that we help alleviate some of the deficit," said Paul V. Koehly, acting associate director of finance and administration. Koehly reported that careful handling of the institute's finances this year will result in a surplus.

The Board said it would ask the assembly for \$1.75 million in maintenance and operating funds for VIMS during 1981-82 fiscal year.

In another presentation, Miles L. Chappell, chairman of the department of fine arts, told the Board of the need for a fine arts museum, and members took the initial steps to plan for its construction.

Chappell told a Board committee that the museum would be a teaching tool, exhibition site and conservation center for important items in the College's art collection. (text of the action is carried on p. 7)

Continued on P. 3

Notebook

Foreign Study

There will be a meeting at 3:30 p.m., Tuesday, Oct. 28 in the Brafferton, room 2, for all students interested in any kind of foreign study program. Another meeting on this topic will be held in November for those unable to attend on Tuesday. Students interested in foreign study are encouraged to stop by the Office of Extramural Programs on the third floor of the Brafferton for a copy of Dean Healey's "Guide to Foreign Study Opportunities."

Halloween Classics

The Cinema Classics Society presents a special Halloween showing of two timeless classics of the horror film genre: *The Cabinet of Doctor Caligari* and the original *Nosferatu*. Both are silent, and both are early examples of German expressionism.

Both films will be shown on Sunday, October 26, at 8 p.m. in Millington auditorium. Accompaniment will be provided by Tom Davis at the organ.

Colonial Parkway Reopens

The 6.2 mile section of the Colonial Parkway which has been closed for construction since January 15, is now open to vehicles and bicycles alike.

National Park Service

The National Park Service is now accepting applications for Seasonal Employment (summer) for park aid and park technician type positions. Applications must be submitted no later than January 15 to receive consideration for the summer of 1981.

Applications are available in the Office of Placement, Morton Hall, room 140B.

Michael to Speak

W. H. Michael, Jr., associate director of the Virginia Associated Research Campus (VARC) and special assistant to the director of NASA Langley Research Center, will be guest speaker at a physics colloquium at 4 p.m., Friday, Oct. 24 in Small, room 119. Coffee will be served in the conference room at 3:30 p.m.

Michael will take as his topic "Geodesy and Geophysics of Mars: Results from Radio Tracking Analyses."

Mathematics Colloquium

Carl M. Anderson of the department of mathematics and computer science, will speak on "A Reduction Method for the Solution of Nonlinear Partial Differential Equations," at a mathematics and computer science colloquium at 4:30 p.m., Friday, Oct. 24 in Jones Hall, room 102. Coffee will be served at 4 p.m.

This colloquium is also part of the Tidewater Applied Mathematics Consortium program and is the first Williamsburg meeting of the consortium, an informal dues-free organization which meets from time to time to allow persons interested in applied mathematics in the Tidewater area to get to know one another.

Members will adjourn following the colloquium for cocktails and dinner at the Lafayette restaurant on Richmond Road. Those interested in dinner arrangements should contact Anderson at ext. 4481.

Harem Surgeon

William M. Bickers, Richmond physician and surgeon and author of the book *Harem Surgeon* will speak on "Adventures in Arabian Gynecology," at 8 p.m., Thursday, Oct. 23 in Millington Auditorium.

Orchestra Management

The Orchestra Management Fellowship Program, a project of the American Symphony Orchestra League, offers 12-month fellowships in management training with leading orchestras across the country. It provides full-time, on-the-job training with symphony orchestras, with the music industry, and with the American Symphony Orchestra League. Each participant will receive a \$10,000 yearly stipend, plus funds for travel and relocation.

For further information, ask to see Bulletin 0-13-1 in the Office of Placement in Morton, room 140B, or contact the project director at P.O. Box 669, Vienna, Va. 22180, telephone (703) 281-1230.

Security Agency Exam

The Office of Placement has received bulletins and registration forms for the 1980 professional qualification test for positions with the National Security Agency. The test will be administered Nov. 15, and the close of registration is Nov. 1. For additional information, ask to see the National Security Agency file in the Placement Office, Morton room 140B.

Greeks to Work

Lambda Chi Alpha fraternity and Kappa Kappa Gamma sorority will sponsor a work day on Sunday, Oct. 26. Proceeds will go to both groups' philanthropic projects this year. Members will work for \$3 per hour between 9 a.m. and 5 p.m. on Sunday and will undertake a variety of jobs including window washing, raking leaves, light housework, baking and babysitting.

To contract for workers, call Kappa Kappa Gamma House at 253-4506.

Kerner Report

Washington attorney Isaac C. Hunt will speak on "The Kerner Report: An Update," in a public lecture at 7 p.m., Friday, October 24 in Morton Hall, room 20.

Hunt is a graduate of Fish University, Nashville, Tenn., and the University of Virginia Law School.

Hunt's lecture, sponsored jointly by the Office of Minority Affairs and the Black Student Organization, is the latest in a series of semester-long series of lectures by the two sponsors.

Career Seminar

James Cox, district staff manager, C&P Telephone Company, will discuss working for the Bell System and AT&T at 3 p.m., Tuesday, Oct. 28 at a career seminar in the second-floor conference room in Swem Library.

Students interested in finding out more about the world's largest corporation and who are considering a career in management, marketing, programming or research and development will be especially interested in Cox's seminar. Those planning to attend are asked to contact Mrs. McGrannin the Office of Career Planning, Morton, room 140, ext. 4427.

Public Forum

The public forum on the ethics of In-Vitro Fertilization will be held at 2 p.m., Thursday, Oct. 23, in Millington Auditorium. Speakers will include Dr. Jack M. Rary, director of the Medical Genetics Program, Eastern Virginia Medical School; Walter Wadlington, University of Virginia Law School; and Hans Tiefel, professor of religion. Moderator will be Alan Fuchs, professor of philosophy.

The forum is being funded by a grant from the Virginia Foundation for the Humanities and Public Policy.

Calling Dr. Quincy

The Biology Club suggests its annual autopsy film as a means of getting into the spirit of Halloween.

The medical school film on the techniques of autopsy, will be shown at 7:30 p.m. on Wednesday and Thursday, Oct. 29 and 30.

Admission is free for club members, 50 cents for all others.

"There is no excuse to miss this fantastic voyage through the body human," say the promoters.

Phi Mu Alpha Conference Includes Public Concert

A new composition by American composer Leslie Bassett, commissioned by the national chapter of Phi Mu Alpha Sinfonia, a honorary music fraternity, will be played at a concert in Williamsburg on Saturday, October 25.

The concert, which is open to the public, will be one of the highlights of the fraternity's regional conference here which is being hosted by the College chapter. The concert will be held at 8:15 p.m. in the Williamsburg Presbyterian Church on Richmond Road.

Bassett's new music is a composition for a woodwind quintet. The rest of the concert program will be devoted to performances and presentation of new music by fraternity members.

The fraternity will be meeting here from Friday, Oct. 24 to Sunday, Oct. 26 and will hold meetings at the Minuet Manor and on campus. Wayne Curtis, president and Michael Rogan, vice president of the campus chapter, have been serving as local coordinators for conference planning.

At William and Mary, Phi Mu Alpha Sinfonia has joined with the women's music honorary, Delta Omicron, to form the Sinfonicon Opera Company which yearly presents a Gilbert and Sullivan operetta. Tryouts will be held early in November for "The Mikado," which will be presented January 28, 29, 30, and 31 in Phi Beta Kappa Memorial Hall. Wayne Curtis will be producer.

The partnership of the two fraternities, says Curtis has brought commendations to the campus chapter from Phi

Mu Alpha for a unique arrangement which furthers the aim of the fraternity which is to promote the composition and performance of music by members.

Law Seminar Set Saturday

Undergraduates from colleges across Virginia, the District of Columbia and some schools in North Carolina, have been invited to attend a minority recruitment seminar being sponsored by the Black American Law Students Association, BALSAs, at the Marshall-Wythe School of Law, Saturday, October 25.

The program will begin at 8 a.m. and run until 1 p.m. It will include discussions on law school admission procedures, placement, curriculum preparation for law school, the Law School Aptitude Test, LSAT, financial aid resources and the opportunities for the practice of law in eastern Virginia. Several area lawyers including Bessida White, Jackie Epps, Robert Hagans, Bobby Vassar, Eric Moody, Joyce Melvin and Milton Brown will participate.

Registration will be held in the main foyer of the new law school building and seminar sessions will be assigned to classrooms in the building. Further information may be obtained by calling either Birdie A. Hairston, ext. 4441 or Mary Gallagher, ext. 4540.

Memos on Calendars, Catalogs

1981 Desk Calendars and Stands

The 1981 calendars have been received and are available for issue from the Stores Warehouse. Please order your requirement by the following stock numbers and description.

74-C-123	Calendar Refills: E717, 3-1/2" x 6", flip-over style
74-C-124	Calendar Stands: for E 717 refills
74-C-125	Calendar Refills: E919, 2-7/8" x 3-3/4", flip-over style
74-C-126	Calendar Stands: for E919 refills
74-C-127	Calendar Refills: E958, 5" x 8", tear-off style
74-C-128	Calendar Stands: E958 refills

Stores Catalog

Revised Warehouse Stores catalogs, dated September 1980, are being distributed for the following supply categories: Class 45, Building; Class 44, Plumbing. Old catalogs for these supplies, dated August 1972 should be destroyed.

Supplies listed in Warehouse Stores catalogs must be ordered on Stores Requisition, W&M Form 57C. A separate requisition is required for each commodity class as well as for Xerox supplies and office equipment. You are reminded that the appropriate 6-digit code must be shown in the "Account Charged" block at the bottom of the form.

Additional instructions for ordering from warehouse stock are included with the Catalog of Office Supplies, dated October 1977.

President Graves Reviews Asbestos Program

TO: The College Community

Over the past two years I have received many expressions of concern from faculty members and students regarding the possible hazard to health that can be caused by the presence of asbestos in some of the buildings at William and Mary. I have brought these concerns to the attention of the Board of Visitors.

Members of the administration and of the Board have given careful and detailed attention to, and have taken certain actions regarding, the issues which have been raised. This has been a complex task, because reasonable men and women, both laymen and experts, are not always in agreement as to the precise nature of the health hazard and exactly how best to address it.

There is agreement, however, that asbestos, which was used extensively during the 1950's, 60's, and early 70's as a fire proofing and insulation material in public and other buildings across the nation, was judged by public agencies to be a hazard to health in the late 1960's. As a result, early in the 1970's a decision was made not to use asbestos further for this purpose in construction and renovations in Virginia. Further studies in the 1970's provided further evidence of the hazard to health from the asbestos that was already in public buildings, leading to consideration on how best to reduce this possible hazard. This evidence has led to the concerns, consideration and actions referred to above.

As I have promised several chairmen of academic departments I would, let me summarize what has been done to date, how I assess the situation today, and what I see as the next steps that should be taken to address the health hazard from the presence of asbestos in some of our buildings.

Twice in the past two years, on my recommendation, the Board of Visitors has taken public cognizance of the seriousness of the health hazard, and has adopted resolutions urging the executive branch and legislative branch of state government to take emergency action to provide funds to help reduce the health hazard. The administration, at my direction, through consultant experts, has addressed specifically the question of the seriousness of the health hazard in the affected buildings on campus. The Vice President for Business Affairs has, at my request, appointed a Collegewide Asbestos Hazard Advisory Committee, chaired by Professor Hans von Baeyer, to advise him on the seriousness of the health hazard and to make recommendations to him. I have urged repeatedly the appropriate individuals in the executive and legislative branches of government to undertake studies and to take emergency action to address the health hazard. The Dean of the Faculty of Arts and Sciences has been as responsive as he could, with resources available, to those individual faculty members who have requested alternative office and teaching accommodations outside the affected buildings.

The 1980 session of the General Assembly, in response to the urging of many of us, appropriated \$2,000,000 to address the possible health hazard, statewide. As soon as it was apparent that the College would be allocated a share of this appropriation, the Board of Visitors authorized advance use of these funds to address the possible hazard in the affected buildings, in accordance with the best expert advice the administration could obtain as to degree of hazard. The College's share of the state appropriation now totals \$129,800, based upon state experts' assessment of the degree of hazard across the state and at William and Mary. In addition, the Board allocated \$45,000 in auxiliary enterprise repair and renovation funds to undertake corrective work in facilities not eligible for state appropriations. The College's current correction program, therefore, is now funded at \$174,800.

The asbestos problem is a statewide problem. I believe that the state, at the executive and legislative levels, has a responsibility to address it and solve it with whatever resources it can reasonably make available. I am committed to doing everything I can, both personally and in concert with others, to encourage the state to take further action, on an emergency basis, to address and solve the problem. I am hopeful that further action will be taken at the 1981 session of the General Assembly, through appropriation of additional funds. William and Mary will receive its share of any such appropriation, based upon the state's experts' assessment of the degree of possible hazard.

The asbestos problem is a College problem. I believe that the College, at the level of the Board of Visitors and the administration, has a responsibility to address it and solve it with whatever resources it can reasonably make available. As I have stated above, the experts do not always agree as to the precise degree of hazard that exists, and therefore inevitably there are differences of opinion among reasonable individuals as to exactly what is the nature of the problem and as to precisely how the Board and the administration should address it. At the meeting of the Board of Visitors this past weekend, there was extensive and careful attention given by Board members, administrators, faculty members and students to this question, focusing in large part on the excellent written report of the Asbestos Hazard Advisory Committee, chaired by Professor von Baeyer, who also made an oral presentation to a majority of the Board members and members of the faculty and student bodies.

One of the recommendations of the Asbestos Hazard Advisory Committee is that the Board of Visitors make a commitment now to remove asbestos from the affected buildings by a specific date, regardless of the possible availability of financial resources to do the job. The Board, among its many other responsibilities, has an obligation to provide responsible financial governance to the College. I do not believe that the Board could responsibly make a commitment at this time to a course of action requiring the expenditure of hundreds of thousands of dollars, when it cannot at the same time identify with confidence the appropriate sources of these funds. The College, for the remainder of the 1980-82 Biennium, has already made commitments of all of the financial resources, state and private, now available to it, in an extremely tight budget. Therefore, I could not recommend that the Board take action on this further financial commitment at this time.

However, I believe that the Board and the administration should at the earliest possible date make a commitment to address and solve the problem, as they define it, based upon the best advice they can obtain and the most careful study they can make. To that end, I believe further that the Board and the

administration should make a commitment to seek the financial means necessary to act on this problem, as promptly as possible, from whatever sources as are, in their judgment, reasonable, and appropriate, given their other responsibilities for the College, its faculty and its students.

I believe that the Board and the administration have made these commitments. I personally pledge my own efforts to this objective. I am optimistic that we, working closely with other members of the College community, will be successful.

The Board of Visitors cares deeply about the College; it feels deeply about its governance responsibilities for the College, which are broad and complex. I know that individual Board members are personally concerned about the health and welfare of the members of the College community. I know that they respect and give careful consideration to the views expressed by faculty members and students.

I am hopeful that we have an environment at William and Mary that will allow us to address this issue before us in a spirit of cooperation and understanding.

Thomas A. Graves, Jr.
President

Summary of Board of Visitors' Position on Asbestos Program

The Legislative Relations Committee has reviewed in some detail the situation involving the presence of asbestos materials in some of the College's buildings.

It supports the College's request for additional General Fund allocations to William and Mary to make continuing progress toward the goal of eradicating, as rapidly as funding allows, the source of this potential health hazard.

The Board of Visitors in February, 1979, and again in December, 1979, made requests for State General Fund capital outlay allocations to complete the program on this campus during the 1980-82 biennium. Partly as the result of this action, the Governor recommended--and the General Assembly approved--the first appropriation by the State to begin a program of asbestos removal in all State-owned buildings throughout the Commonwealth.

In July, 1980, before the new State appropriation was distributed to priority locations across the State, the Board of Visitors approved a plan to use College funds--to be in part reimbursed by the State at a later date--to begin such a program on this campus. A General Fund allocation was made to the College applicable only to buildings maintained out of General Fund appropriations. Higher Education Operating Funds--money collected by the College from rents and other revenues--have been appropriated by the Board for work in facilities which are maintained from that funding source, and for which General Fund appropriations will not be available.

In reviewing this history of College and Board responsiveness to the presence of asbestos building materials in older College buildings, which concerns all of those associated with William and Mary, the Legislative Relations Committee noted that President Graves in August renewed the College's request for sufficient capital outlay appropriations from the General Fund to enable William and Mary to address the asbestos problems in all buildings maintained at General Fund expense.

The Committee believes the Board of Visitors and the College Administration have responded effectively to the situation, in a way that will insure the control of the asbestos hazard in College buildings as promptly as funds become available. The Committee is aware this matter is under thorough discussion within State Government and under continuing review by the General Assembly as it seeks to determine how best to expend tax funds to meet the Commonwealth's most pressing needs. The Committee will insure that William and Mary's situation continues to receive appropriate attention by the State, and believes that the General Assembly will continue to take steps to eliminate this kind of potential health hazard throughout Virginia.

Miss Anne Dobie Peebles
Chairman, Legislative Relations Committee
Board of Visitors
October 18, 1980

Weekend Board Meeting

Continued from P. 1

The Board also gave its approval to a memorial to Dr. J. T. Baldwin, Jr., professor of biology, who was responsible for planting much of the campus during his tenure on the faculty. The Dr. J. T. Baldwin, Jr. Memorial Collection of Woody Species was established and a plaque will be placed in the area of the Dawn Redwood. (text of resolution is carried on p. 7)

A preliminary report on capital outlay project recommendations for 1982-84 and the following four years was also presented at the weekend meeting. Phase two of the asbestos hazard correction program was given the highest priority of projects for 1982-84.

Other projects listed for 1982-84 are renovation of Hugh Jones Hall for the School of Education and mathematics and computer science department, renovation of Trinkle and Washington Halls, alterations for the fine arts department teaching studios, phase two of energy conservation renovation and equipment, and renovations at blow gymnasium, the old power plant, the wigwam food preparation area and the pub.

The approved final list of projects, arranged by priority with detailed project descriptions, justifications and cost estimates, must be presented to the State Division of Engineering and Building on Feb. 1, 1981.

Asbestos Hazard Advisory Committee

Report of Conditions, Hazards, Includes Four Recommendations

I Introduction

Every day, it seems, brings news of another environmental pollutant, another carcinogen, another assault on our well-being and safety. Asbestos, cigarettes, toxic wastes, nuclear radiation, fluorocarbons, saccharine, radon, lead, Agent Orange, nitrites, DDT, acid rain, kepone, thalidomide . . . the list is endless. The public is overwhelmed and confused and ultimately responds by ignoring the problems. Industry responds by denying its culpability. Government responds by promulgating regulations which confuse the public further. What is to be done?

The answer is that society must accept responsibility for the problems as the price for the enjoyment of the amenities provided by technology. Thoughtful people must accept the challenge of following the scientific debates, of trying to understand the issues, of making national choices and prudent decisions. Just as the price of liberty is eternal vigilance, so the price of technological progress is continuing informed attention to the adverse effects of technology. It is not enough to blame scientists, or industry, or the government. Nor is it enough to wait for someone else to solve the problems. Every user of the benefits of science is responsible for recognizing and abating its ill effects. This responsibility rests especially clearly with those institutions which, like universities, have easy access to technical expertise.

With this responsibility in mind we have studied the background and have examined the risks associated with asbestos used in certain buildings at William and Mary. Our recommendations based on this examination are contained in the last section.

II Nature and Uses of Asbestos

Asbestos combines the advantages of rock with those of cotton. It is a naturally occurring mineral, and it is found in the form of fibers. Thus it combines the resistance to fire, heat, electricity and chemical action, as well as the strength, of stones with the flexibility and convenience in handling of animal or plant fibers. Asbestos can be woven into cloth, pressed into solid plates, combined with adhesive spray, mixed into cement and fluffed up into loose tufts. In these characteristics it resembles fiberglass, but it occurs naturally and has been used for millennia, whereas fiberglass is synthetic and new.

The term asbestos includes a wide variety of different minerals, but the principal commercial and industrial types are chrysotile (white asbestos), crocidolite (blue asbestos) and amosite (brown asbestos). They are mined in Canada, Russia, Finland, Australia, Bolivia and Southern Africa. The individual fibers which make up asbestos are thin and usually at least three times longer than wide. They range in length from a small fraction of a micron to several hundreds microns. (A micron is one millionth of a meter. A human hair is 50 microns thick.) Their minute size and relatively large surface area permit asbestos fibers to be readily suspended in air. They stay suspended

for hours because small currents of air, caused by circulatory heating or human activity, provide the necessary updrafts. The smaller particles, which constitute the majority of fibers, settle more slowly than the large ones.

Asbestos is sprayed onto structural steel as protection against flames which oxidize and buckle the steel. It is estimated that at least half of the new office buildings built between 1958 and 1970 were fireproofed with asbestos. In 1973 EPA prohibited the use of asbestos fireproofing containing more than 1% asbestos. Asbestos serves as acoustical, thermal and electrical insulation. It is found in brake linings, clutch plates, caulking compounds, asbestos cloth, laboratory table tops and decorative facing stone in buildings. When it is solidly attached it is a useful and versatile material. However, when it is sprayed, cut, sawed, scraped or in any other way mutilated, or when it erodes, fibers are released into the surrounding air. The people most commonly exposed to asbestos dust are asbestos miners, shipyard workers, insulators, and employees of asbestos factories. It has recently been found that inhabitants of buildings which contain sprayed asbestos also inhale asbestos fibers, but in smaller than occupational quantities. Asbestos is so widely used today, especially in brakes, that it has been detected in the ambient air of most American and European cities, and in the water supplies of many communities.

III Detection of Asbestos

The most common method for monitoring the level of asbestos dust in the asbestos industry is the membrane filter method. Measurements are taken by drawing a known volume of air through a filter made of a cellulose ester. The filter is treated chemically to make it transparent and the number of fibers fitting a standard definition of size and shape are counted using an optical microscope. In the United States only fibers with a length greater than 5 microns and a length at least 3 times their diameter are counted. The size restriction was adopted because it was generally believed that only the longer fibers caused asbestos-related diseases. Recently, however, there has been concern expressed over the health-related effects of the shorter fibers as well. Currently the maximum workplace exposure is 2 fibers/cubic centimeter (f/cc) where a "fiber" meets the size restriction stated above.

The membrane filter method has a number of serious shortcomings, to wit:

1) Using the membrane filter method, a single laboratory can achieve a reproducibility of results of not much better than +0.2 f/cc (ref. 1)*. When results are compared with other laboratories, even those with close contact, the differences can approach +1 f/cc. This uncertainty renders numbers below about 0.1 f/cc meaningless.

2) In addition to the uncertainty in the laboratory analysis, the sampling of air with low concentrations of asbestos introduces further uncertainties because of the spatial variation throughout a room and the variation in time at the same spot.

3) Between 50 and 98% of the fibers are too short to be counted and are not detected by the membrane filter method (ref. 2).

For these reasons, exposures are usually separated into two categories:

Occupational Exposure generally exceeds 0.1 f/cc and can be reliably measured. Its health effects are well understood and documented. In April 1980 Dr. Anthony Robbins, Director of NIOSH (National Institute for Occupational Safety and Health) recommended a downward revision of the maximum allowable limit from 2.0 to 0.1 f/cc (ref. 3). He explained that one reason for the recommendation was that 0.1 f/cc is ". . . the lowest level which can be accurately measured." The Virginia Department of Health has adopted a standard that requires medical monitoring of persons exposed to 0.1 f/cc or higher.

Environmental Exposure is generally below 0.1 f/cc. (Occasionally, the 0.1 f/cc level is exceeded in buildings containing asbestos insulation.) Environmental exposure cannot be measured by the membrane filter method because the uncertainties in the measurement are greater than the actual counts. (This circumstance is analogous to a radio broadcast which becomes useless when the static is as strong as the signal.) The meaninglessness of membrane filter measurements below 0.1 f/cc has been underscored by the Environmental Protection Agency which in March 1979 issued a *Guidance Document* for asbestos in school buildings which states that ". . . air sampling is inappropriate to estimate asbestos contamination and exposure. . ." for the circumstances under consideration (ref. 4).

Epidemiologists have begun to turn to electron microscopic techniques for analysis instead of optical fiber counting. These measure asbestos burdens in grams of asbestos per cubic centimeter of air, instead of f/cc. At present the conversion from one measurement to the other is impossible, because fibers vary enormously in size and weight. Electron microscopy is more accurate than fiber counting, but it measures a quantity which is not regulated by law, and not yet correlated with health hazards to the extent that fiber counts have. Furthermore, electron microscopy is too difficult, time consuming and expensive to be routinely used. It is therefore of little help in solving the problem of assessing environmental exposure.

At the environmental levels encountered at W&M the membrane filter method should be used in the following way:

For monitoring asbestos removal operations, the filter method is indispensable. A reading above 0.1 f/cc indicates well understood and documented danger.

Readings below 0.1 f/cc indicate only that occupational hazards are absent. They do not imply an absence of asbestos. A reading of, say 0.01 f/cc measured by the membrane filter method is meaningless and unreliable. It should be reported as "less than 0.1 f/cc" and should not be used to estimate or compare risks.

Instead of the membrane filter

method, the EPA recommends, and the State of Virginia has used, the Sawyer Index.

IV The Sawyer Index

The Environmental Protection Agency has promulgated a standard for asbestos risk assessment in school buildings that is not dependent upon air sampling but depends on whether the asbestos is accessible and on the probability of contact (ref. 4). The guidelines are particularly restrictive for schools because current evidence suggests that children in their growing years may be most sensitive to environmentally-induced cancer (ref. 5).

In order to evaluate whether asbestos exposures are likely the EPA has suggested the use of a rating scheme known as the "Sawyer Index." This index is developed by scoring six factors related to the asbestos containing material: 1, state of deterioration; 2, presence of water damage; 3, degree of exposure; 4, degree of accessibility; 5, level of activity in the space; and 6, whether applied in an air plenum. The sum of these scores is then multiplied by the product of the scores for the asbestos content in the material and the material friability (friability is the ease with which the material crumbles). The final score or index is then taken as a guide for subsequent action. If the index is between 0 and 12, action may be safely deferred; but if it is above 10, the material must be either encapsulated or removed. Encapsulation is generally not cost-effective because sealants tend to deteriorate and re-exposure is likely. Total removal is the method of choice wherever possible.

In assessing the appropriateness of the Sawyer Index for a particular application it is very important to be aware of one inherent limitation: There is no score for the degree of occupancy or the age of the occupants of the space. A negative consequence of this is that a high scoring area that is seldom entered may erroneously appear to be more "hazardous" than a lower scoring area that is occupied by hundreds of students and their teachers.

As an extreme example of this flaw in the Sawyer Index consider a sealed warehouse which is never entered, but which has more exposed asbestos than a classroom building. The Sawyer Index assigns a higher value, and by implication a higher degree of hazard, to the warehouse. This is plainly absurd.

A representative of the State Department of Health evaluated the Sawyer Index for the known asbestos containing buildings at William and Mary (ref. 6). It is significant that in every building evaluated the index is 10 or above, indicating that immediate action is required. Unfortunately, in an apparent attempt to fairly apportion State funds, the Department of Health saw fit to use the Sawyer Index to assign funds based on the magnitude of the scores from a few selected spaces, and further, to restrict the use of those funds to those same spaces. As a consequence of this approach several problems have developed:

1. Many spaces with a potentially great hazard were never surveyed. In most cases only 2 or 3 spaces in buildings with many times that number of total spaces were ever sampled.
2. Only the mechanical spaces within buildings rated high enough to qualify for the limited State funding. These high ratings were due to the fact that the areas did not have enclosed ceilings and were not due to more abundant or more deteriorated material. Unfortunately, the bulk of the funds went to clean up areas that are essentially unoccupied.

3. Lower rating spaces (Index: 20-30), but spaces occupied by hundreds of students daily, were not funded and therefore continue to present a hazard. Worse yet, many of these occupied spaces with water damage and/or missing ceiling tiles would rate at least as high as the mechanical spaces if they had been included in the original sampling.
4. A very large number of students and employees in Jones, Millington and Morton Halls continue to face a considerable and known hazard despite the expenditure of a substantial sum of money to remove asbestos elsewhere.

The Sawyer Index should be used together with an evaluation of the degree of occupancy of a space. Other factors which do not enter the Sawyer Index, and which should be taken into account, include the duration of previous exposure (approximately 13 years in Millington, 10 in Jones, 8 in Morton) and the accelerating deterioration of insulation with time.

The Sawyer Index, just because it happens to be numerical, should not be allowed to substitute for common sense in the process of making decisions about asbestos removal.

V Health Hazards of Asbestos Exposure

The four principal hazards of asbestos exposure are asbestosis, lung cancer, mesothelioma and other cancers.

Asbestosis was recognized by the Romans. Henry Ward Jones, founder of the Johns-Manville Asbestos Company, died of it in 1898. Since the turn of the century protection for asbestos workers in the form of respirators and legal standards has been developed and refined. Legal exposure limits in the past have been designed to protect against asbestosis, and when they are enforced, they do. At environmental levels of pollution asbestosis is very rare.

Lung Cancer is a common disease in America, accounting for about 5% of all deaths. It has been linked to asbestos since the 1940's. Epidemiological studies of large populations exposed to environmental levels of asbestos are just beginning to be made, and no experimental results are available yet, but at occupational levels lung cancer is clearly caused by asbestos. It is reasonable to assume that the occupational experience extrapolates down to environmental conditions.

The relationship between lung cancer and asbestos is complicated by smoking. To disentangle the two effects, Selikoff and his collaborators have studied a group of about 20,000 asbestos workers and a control group of about 70,000 non-asbestos workers (ref. 7). The conclusion of the study was that, compared to those people who were not exposed to asbestos or smoking, smokers are about 10 times as likely to die from lung cancer, and non-smoking asbestos workers about 5 times. Asbestos workers who do smoke are 50 times more likely to die of lung cancer. Other studies corroborate the general conclusion that asbestos is a carcinogen comparable to cigarette smoke, and that in combination the two are deadly.

Mesothelioma is a rare tumor, almost exclusively found in conjunction with asbestos exposure. Among asbestos workers mortality due to this disease may reach up to 16% whereas in the general population it is virtually unknown. It has been found to be associated with non-occupational exposure. A study of households of workers

in an amosite asbestos factory with very poor hygienic controls found that mesothelioma accounted for about 1% of deaths among family members (ref. 8). Chrysotile, the fiber found at William and Mary seems to be significantly less potent in causing mesothelioma than other types of asbestos (ref. 9). The disease has a latency period of 30 to 50 years, and is almost always fatal.

Other Cancers, such as those of the colon and the stomach, are significantly associated with occupational exposure to asbestos, but play a smaller role than the other three diseases mentioned. At environmental levels this proportion is believed to persist.

Relationship Between Exposure and Response. At occupational levels, the relationship between exposure dose and response is well understood. Studies of very large populations at risk give good evidence that the relationship is linear: Mortality is proportional to total exposure. This observation is complicated by variations in dust levels, durations of exposure, age at first exposure, type of fiber, size of fiber, smoking habits, presence of other pollutants and specific cause of death. These and other factors are significant, but they do not spoil the general agreement of the data with the linear hypothesis.

The most conservative assumption is that the linear dose-response relation extrapolates to zero. This implies that there are risks at all levels of exposure, no matter how small, all the way to zero exposure where the response must also be zero. In recommending a lowering of the maximum allowable workplace exposure to the lowest measurable level, NIOSH reconfirmed the finding that "There is no safe exposure limit for asbestos" (ref. 3). The linear dose-response relation also means that asbestos exposure is cumulative: It is the total accumulated burden that counts. What is inhaled today will be added to what is inhaled twenty years from now. Whether the linear hypothesis is correct is not known for sure. At present it is the only reasonably defensible assumption.

Under environmental conditions, it is impossible to measure the exposure. For this reason it is impossible to predict the risks of contracting asbestos-related disease in buildings. Instead, the Sawyer Index was introduced. When properly augmented by a consideration of occupancy, and by common sense, it gives an indication of where asbestos is likely to contaminate the air significantly. Wherever that is, the prudent course of action is to remove the asbestos.

Asbestos fibers are carcinogenic. Cigarette Smoke is a carcinogenic. At high doses they have similar effects. For both, the risks increase with increased exposure. Both are cumulative. The difference between them is that cigarette smoking is voluntary, while breathing asbestos is not: It is possible to refrain from smoking, but it is impossible to escape airborne asbestos. The College has no right to force people to smoke. Similarly, it has no right to force people to breathe asbestos.

VI Asbestos at William and Mary

Six of the College buildings have been identified as having asbestos coating applied to the metal ceiling and steel structural "I" beams as a fire protection and retardant measure during original construction. The buildings affected are: Adair Gymnasium, The Commons Dining Hall, Hugh Jones Hall, Millington Hall, Morton Hall and William and Mary Hall. The estimated cost to entirely remove the asbestos materials and to re-fireproof the steel

structural members, air plenums and metal ceilings is \$1,347,040.

Millington and Morton Halls contain air plenums in each of their corridors that are used to return heated or cooled air to the mechanical equipment room. The air plenums have been coated with asbestos materials which are now friable, causing minute particles to drop and become airborne. This represents a particularly serious hazard because of the large number of exposed people. The estimated cost to remove the asbestos containing materials from and to re-fireproof the air plenums, mechanical rooms and elevator shafts is \$343,058.

During the past summer work began as authorized by the Board of Visitors and approved by the Governor, to remove the asbestos containing materials from the mechanical rooms and elevator shafts of Millington Hall, Morton Hall and the Commons Dining Hall. The project budget for this work was \$139,138.

VII Recommendations

The asbestos problem is an abscess on the body of the College. Leave it and it will swell and flare. Lance it and it will heal. As time passes without action, the exposure of faculty and staff continues, new students are exposed, erosion accelerates, costs for removal inevitably increase with inflation, unhappiness and uncertainty among the occupants of the affected buildings multiplies. The problem will not go away by itself. It will only grow. In our extensive readings and conversations with experts including a State hygienist who reported to the Board of Visitors and one hired as consultant to the College, we have found unanimous consensus that the asbestos should be removed. Since delay only makes matters worse, we think that the prudent course of action is to remove it now. Specifically, we make the following recommendations:

- 1) We recommend that the Board of Visitors adopt a resolution which unambiguously commits the College to removal of asbestos from the affected buildings by the beginning of the Spring semester of 1982.
- 2) Since partial measures can be more hazardous than radical surgery, we recommend that the removal take place for a whole building at a time. This requires complete evacuation and for classroom buildings is practical only during the summer.
- 3) We recommend that the whole faculty collaborate with the administration to find ways of conducting classes and performing research during the clean-up once a definite schedule for removal has been adopted.
- 4) We recommend that in determining priorities the Sawyer Index be used, augmented by considerations of occupancy. Air sampling should be used only in connection with monitoring the occupational hazards to asbestos removal workers. All air sampling measurements below 0.1 f/cc should be considered unreliable.

References

Two useful books are

- Asbestos, Volume 1: Properties, Applications and Hazards*, L. Michaels and S. S. Chissick, eds. (John Wiley & Sons, N.Y. 1979) 553 pages; referred to as *Asbestos*
- Health Hazards of Asbestos Exposure*, I.J. Selikoff & E. C. Hammond, eds.

(New York Academy of Sciences, 1979), 811 pages; referred to as *Health Hazards*

- 1) S. T. Beckett, "Monitoring and Identification of Airborne Asbestos," in *Asbestos*, p. 247.
- 2) Marcus, M. Private communication.
- 3) Press release from HEW dated 17 April 1980.
- 4) U.S. Environmental Protection Agency. *Asbestos Containing Materials In School Buildings: A Guidance Document*, part I, p. 14, 16 March 1979.
- 5) K. Z. Silver, "Asbestos in School Buildings: Results of a Nationwide Survey," in *Health Hazards*, p. 777.
- 6) Marcus, M. Address to the Board of Visitors of William and Mary, 8 July 1980.
- 7) E. C. Hammond, I. J. Selikoff & H. Seidman, "Asbestos Exposure, Cigarette Smoking and Death Rates," in *Health Hazards*, p. 473.
- 8) H. A. Anderson, R. Lillis, S. M. Daum and I. J. Selikoff, "Asbestosis among Household Contacts of Asbestos Factory Workers," in *Health Hazards*, p. 387.
- 9) A. D. MacDonald, "Mesothelioma Registries in Identifying Asbestos Hazards," in *Health Hazards*, p. 441.

Asbestos Hazard Advisory Committee

Eric L. Bradley
Associate Professor of Biology

James J. Connolly, Director
Facilities Planning & Construction

Ervin D. Farmer
Director of Buildings and Grounds

Gerald H. Johnson
Professor of Geology

Ludwell H. Johnson III
Professor of History

Michael Kershner
Planning Engineer & Safety Analyst

Richard L. Kiefer
Professor of Chemistry

Hans C. von Baeyer (chairman)
Professor of Physics

Carter Accepts Report

Dr. Hans C. von Baeyer
Professor of Physics and
Director of VARC
College of William and Mary
Williamsburg, Virginia 23185

Dean Hans:

I am writing to thank you, as Chairman, and the members of the Asbestos Hazard Advisory Committee for your report. I and other administrative officers of the College realize the time and effort which all of you have devoted to producing the report and, in response to your request, copies have been forwarded by President Graves to the Board of Visitors for study and consideration at their meeting on October 16-18, 1980.

Vice President Healy and Dean Edwards have also been provided copies of the report. As you know, the report will be discussed with the Board of Visitors at the meeting of the Committee on Academic Affairs, scheduled for Thursday evening at 8:00 p.m. in the Williamsburg Room of the Hospitality House.

As you and members of your Committee also know, Mr. Robert A. Jordan has been the designated consultant of the College for the Asbestos Hazard Removal Capital Outlay Project which has been underway during the past three months. In that continuing routine capacity, he was provided a copy of your report by Mr. Connolly for his comments. A copy of his letter is attached for you and members of the Committee and I have asked President Graves to distribute it as an addendum to the Report to the Board of Visitors.

Sincerely,

William J. Carter
Vice President for Business Affairs

Jordan on Committee Report

Mr. James J. Connolly, Director
Facilities Planning and Construction
The College of William and Mary
Williamsburg, Virginia 23185

Dear Mr. Connolly:

I have read the *Report of the Asbestos Hazard Advisory Committee* dated October, 1980 and as per your request, have herein stated my opinion as the Industrial Hygiene Consultant of the College.

I would like to preface my remarks by first stating that I do not want to be in a position of minimizing the potential hazard from asbestos exposure. I believe that asbestos should be avoided wherever possible. By the same token, however, I believe that an over reaction to the potential hazard is brewing here. This over reaction may cause (like the boy who cried wolf) an eventual apathy which could cause more problems down the road.

The *Report of the Asbestos Hazard Committee* is well written and I am sure a great effort to collect pertinent data was made. On occasion though, the reader is lead to believe that assumptions are fact and the facts are oftentimes slanted in favor of the reports recommendations. Several examples are as follows:

1. Page 9, sub-paragraph 2 of the report states: "Only the mechanical spaces within buildings were rated high enough to qualify for the limited State funding. These high ratings were due to the fact that the areas did not have enclosed ceilings and were not due to more abundant or more deteriorated materials."

I was told by the individual who rated the buildings that the mechanical rooms received a higher rating because "the asbestos was more deteriorated from vibration and more likely to be disturbed and aerosolized by the activity of maintenance personnel."

2. Page 10, *LUNG CANCER* states: It is reasonable to assume that the occupational experience (with asbestos) extrapolates down to environmental conditions." (low level contamination).

I am unaware of any conclusive evidence one way or the other in this regard. One might use the same logic to say that since a large dose of table salt can be fatal we should not use any amount. My own feeling is that any exposure to asbestos should be avoided. At the same time I must admit that no matter how careful I am I probably inhale asbestos on a daily basis.

I have attached a synopsis of a study conducted by an Industrial Hygienist with credentials far superior to my own. This study concludes that the risk of cancer from low level environmental exposure is negligible. It further concludes that by disturbing asbestos (as in removal) the risk of cancer is increased.

I believe that the truth probably lies somewhere between the position of the attached study and that of the Advisory Committee. That the levels of airborne asbestos in the buildings on Campus do not constitute an immediate threat but require close watching and removal if it begins to deteriorate beyond its present state.

Sincerely,

Robert A. Jordan
Industrial Hygiene Consultant

von Baeyer Responds To Jordan Letter

Mr. A. A. Roberts
Board of Visitors
College of William and Mary
Williamsburg, VA 23185

Dear Mr. Roberts,

At your request I remark on the letter from Mr. Robert A. Jordan dated 3 October 1980.

Jordan's Comment 1: The material deterioration ratings of Morton Hall and of the mechanical spaces are the same. If you look at the rating sheets sent on 1 Nov. 1979 to Mr. S. Barret in Richmond with copies to Messrs. Brickell, Kelly and Mason you will find that the maximum rating for material deterioration in the mechanical rooms is 5. Attached is a copy of one of four pages of ratings for Morton hallways with the same rating in category 1.

Jordan's Comment 2: Paragraph two of page 12 of our report explains that the extrapolation is based on reasonable prudence, not on conclusive evidence. The analogy with table salt is erroneous because it is *known* that a small amount of salt does not cause cancer.

The article by Mr. Schirripa is so flawed as to be worthless. (i) The "five year study" depends on air sampling which has been shown in the last two years to be unreliable. Section III of our report documents this conclusion with references. Furthermore, 400 air samples in 100 buildings over a five year space is insufficient for a study purporting to be scientific. It isn't even sufficient for routine sampling. (ii) What is meant by the last phrase of the first page? (iii) How can you calculate the risk of removing asbestos without defining the method of removal? We contend that the risk of removal depends on the safeguards. If done properly, removal is a very safe operation. (iv) The numbers are wrong. The only dose-response theory known to us, based on occupational exposures, predicts a mortality at least twenty times higher than 112 per million for continuous exposure for forty years at 0.1 f/cc. (J. Peto in *Health Hazards of Asbestos Exposure*, I. J. Selikoff and E. C. Hammonds, eds. NY 1977, p. 202). Mortality refers to *deaths*. The number of *cases* of cancer would correspondingly be higher. We reject the whole calculation, however, because the true exposure is *not* known. (v) The decision whether a calculated risk is negligible or not is not up to a hygienist. It is an individual decision and cannot be categorically stated. Different people are willing to accept different risks. (vi) most serious of all is Mr. Schirripa's claim in the second paragraph of his section on *Test Method* that there are "dose/response data based upon environmental data." This is *not true*. Mr. Jordan can't have it both ways. He admits in his letter that there is no conclusive evidence at environmental levels.

In closing, I urge you to review Mr. Jordan's last sentence. Based on experience at William and Mary, you only have to wait a few months before the asbestos begins to deteriorate beyond its present state. Then even Mr. Jordan advises removal.

Thank you for your continued attention to this problem.

Sincerely,

Hans C. von Baeyer
Director of VARC
and Professor of Physics

TABLE II
EXPOSURE NUMBER CALCULATION

FACTOR	FACTOR SCORE
1. Material Condition	5
2. Water Damage	+ 0
3. Exposed Surface	+ 0
4. Accessibility	+ 1
5. Activity and movement	+ 2
6. Air Plenum	+ 1
SUM (1+2+3+4+5+6)	= 9
7. % Content	2
8. Friability	x 3
PRODUCT (7+8)	= 6
EXPOSURE NUMBER = PRODUCT X SUM	= 54

IEAHC Conference Attracts Prominent Historians

Twenty-five prominent historians, economists and geographers have just concluded a conference on current scholarship in early American History and Culture and held October 9-10 at Colonial Williamsburg.

The focus of the meeting was a book-length essay by John J. McCusker of the University of Maryland and Russell R. Menard of the University of Minnesota, entitled "The Economy of British America, 1607-1790: Needs and Opportunities for Study." McCusker and Menard are both former post-doctoral fellows of the Institute and members of the department of history at the College.

The meeting marked the renewal of

a continuing series of Institute conferences devoted to the examination of needs and opportunities for further study in areas of early American studies such as Indian-white relations, the arts and education. The conference just concluded was held under a contract with the Liberty Fund, Inc., of Indianapolis, Ind.

In addition to McCusker and Menard, participants included Bernard Bailyn, Harvard University; Stuart Bruchey, Columbia University; Lois Green Carr, St. Mary's City Commission; K. G. Davies, Trinity College, Dublin; Thomas Doerflinger, Institute of Early American History and Culture; Richard S. Dunn, University of Pennsylvania; Carville Earle, University of Maryland,

Baltimore County; Stanley Engerman, Rochester University; and Joseph Ernst, York University, Ontario.

Also Robert Fogel, Harvard University; David Galenson, University of Chicago; Robert Gallman, University of North Carolina, Chapel Hill; P.M.G. Harris, Temple University; James Henretta, Boston University; Jonathan R. T. Hughes, Northwestern Univer-

sity; Alice Hanson Jones, Washington University, St. Louis; Gloria Main, Jackson T. Main, State University of New York, Stony Brook; Edmund S. Morgan, Yale University; Jacob Price, University of Michigan; James Shepherd, Whitman College; Richard Sheridan, University of Kansas; and Daniel Scott Smith, University of Illinois, Chicago Circle.



Conference Speakers

Russell R. Menard (l) and John J. McCusker who presented a book long essay entitled "The Economy of British America, 1607-1790: Needs and Opportunities for Study" chat informally during the coffee hour.

Official Memorandum

Increase in SCATS Usage Charges

George A. DesAutels, associate director of the department of telecommunications, has sent the following information to all State agencies and institutions:

The recent reorganization of the Virginia Public Telecommunications Council to the Department of Telecommunications and the attendant restructuring of the financing mechanism for the Department, will result in an increase of the SCATS usage charge of 1.0¢ per minute applied to all SCATS billings. Additionally, the AT&T Company was recently granted a 10.5% increase in certain inter-state services which will also be reflected in SCATS bills.

These increases are reflected in the current billing. It should be noted that SCATS service is still 60% less costly than that of commercial long distance calling.

All users of the College telephone system should note carefully the effect of this announcement on existing departmental budgets and be governed accordingly in their use of telephones.

Your cooperation in holding telephone costs to a minimum is essential, and will be appreciated.

Dennis K. Cogle
Assistant to the Vice President for
Business Affairs

Board Actions

APPROVAL OF THE ACCEPTANCE OF GIFTS AND AUTHORIZATION OF PRELIMINARY PLANNING FOR CONSTRUCTION OF A FINE ARTS MUSEUM

The College of William and Mary in Virginia has numerous objects of art located throughout the College campus and the possibility of having a Fine Arts Museum located on the campus in which to exhibit these objects of art has long interested the College. Recently, the President of the College was approached by a prospective donor who expressed an interest in financing the construction of a Fine Arts Museum.

The College has reason to believe it can obtain sufficient funding in the form of private donations from the above mentioned donor, as well as from other donors, to undertake the research, planning and construction of a Fine Arts Museum.

The President recommends that he be authorized to accept a limited number of major gifts from interested sources, including the above mentioned primary donor, for the construction of a Fine Arts Museum. The President recommends further, that an architect's preliminary plan and a quantitative cost estimate for the construction of a Fine Arts Museum be completed. It has been recommended further that unrestricted private funds be used to proceed with the research and planning for the project and that the gifts, once received, be used, after reimbursing the unrestricted private funds for any expenses therefrom made in connection with planning for a Fine Arts Museum, to continue the research, planning and construction of a Fine Arts Museum.

RESOLVED, That the Board of Visitors of the College of William and Mary in Virginia recognizes the endeavors of President Graves in obtaining non-state financing for the construction of a Fine Arts Museum on the campus and hereby authorizes the President of the College to accept a limited number of major gifts from private sources for the construction of a Fine Arts Museum on the campus for the purpose of exhibiting the many objects of art belonging to the College; and,

RESOLVED FURTHER, That the Board authorizes the selection of an architect, consistent with new State selection regulations, and the preparation of preliminary plans and a quantitative cost estimate for the construction of a Fine Arts Museum; and,

RESOLVED FURTHER, That unrestricted private funds be used to proceed with the research and planning of the project and that the gifts, once received, be used, after reimbursing the unrestricted private funds for any expenses therefrom made in connection with a fine Arts Museum, to continue the research and planning of a Fine Arts Museum.

ESTABLISHMENT OF THE DR. J. T. BALDWIN, JR., MEMORIAL COLLECTION OF WOODY SPECIES

Throughout the years, numerous dedicated William and Mary faculty members have made significant contributions to the academic environment of the College of William and Mary. The late Dr. John T. Baldwin, Jr., Professor of Biology for 30 years, friend of the College, friend of nature and the 1971 recipient of the Alumni Medallion, was one such faculty member.

Dr. Baldwin freely donated his time and expertise to the College. As a result of Dr. Baldwin's plantings, the nucleus of which is outlined in a self-guided tour brochure (separately enclosed) which approximates the walking tour provided by Dr. Baldwin to many local garden clubs, the College of William and Mary is fortunate to have a remarkable collection of woody species on its campus.

The collection, included in which are the tallest Dawn Redwoods in America, was initiated and nurtured by Dr. Baldwin, and today it serves as an inspiration for future plantings, research and documentation.

The Department of Biology has recommended that, in recognition of Dr. John T. Baldwin's contributions to the aesthetic and scientific advancement of the College of William and Mary, the collection of woody species located throughout the campus, as listed in the recently completed catalog, *Collection of Woody Species*, be designated, the Dr. J. T. Baldwin, Jr., Memorial Collection of Woody Species, and that a plaque be placed in the area of the Dawn Redwood designated as species thirty-three (33) in the self-guided tour brochure (separately enclosed) inscribed with the name and following tribute: Dedicated to the Memory of Dr. John T. Baldwin (Class of 1932), Scientist, Educator and Phi Beta Kappa Scholar, Who for Many Years Worked to Provide Future Generations With A Verdant Heritage.

RESOLVED, That the Board of Visitors of the College of William and Mary in Virginia, in recognition of the contributions made to the College of William and Mary by the late Dr. J. T. Baldwin, Professor of Biology, hereby establishes The Dr. J. T. Baldwin, Jr., Memorial Collection of Woody Species, which shall consist of the woody species catalogued in the *Collection of Woody Species*, a Department of Biology publication dated August 1980; and,

RESOLVED FURTHER, That the Board of Visitors of the College of William and Mary in Virginia hereby authorizes the placing of a plaque, inscribed, as recommended by the Department of Biology and the President of the College; and,

RESOLVED FURTHER, That the resolution be spread upon the minutes of the Board of Visitors to constitute an expression of appreciation and the esteem of his colleagues and of the Board of Visitors for the dedicated life of Dr. John T. Baldwin.

Calendar

WEDNESDAY, OCTOBER 22

Faculty Luncheon, CC, Room D, 11 a.m.
Tri Delta Rock-a-thon, CC, Lobby, 3 p.m.
Covenant Players - Reh., CC, Little Theatre, 3 p.m.
BSA, CC Room C, 3:30 p.m.
WMCF, CC Gold Room, 4 p.m.
Women's Forum, CC Room D, 7:30 p.m.
Lambda Alliance, CC Sit 'n Bull, 8 p.m.

THURSDAY, OCTOBER 23

WMCF, CC Gold Room, 7 a.m.
CSA, CC Room D, 8:15 a.m.
CSA, Wren Chapel, 12:45 p.m.
In Vitro Fertilization Forum, Millington Auditorium, 2 p.m.
Canterbury, Wren Chapel, 5:30 p.m.
FCA, CC Sit 'n Bull, 7 p.m.
VARC - Basic Ceramic Repair, CC Green Room, 7:30 p.m.
Parachute Club, CC Room C, 7:30 p.m.
Reducing Writing Anxiety Workshop, CC Room D, 7:30 p.m.
LDSSA, Morton 202, 8 p.m.

Harem Surgeon to speak, Millington Auditorium, 8 p.m.
Covenant Players "Gods Favorite," CC Little Theatre, 8 p.m.
Yoga Class (Asia House), Adair 203, 9:30 p.m.

FRIDAY, OCTOBER 24

Prayer Breakfast, CC Room D, 7 a.m.
Women in Business, Seminar, CC Rooms A&B, 8 a.m.
WMCF, Millington Auditorium, 6 p.m.
Covenant Players, CC Little Theatre, 8 p.m.

SATURDAY, OCTOBER 25

CPA Program, Jones 302, 8 a.m.
Karate Club, Adair Gym, 8 a.m.
Women's Club Swimming Classes, Adair, 9 a.m.
Women's Soccer, (ODU) Field 1, 9 a.m.
Women's Rugby, (UVA), Large Intramural Field, 9 a.m.
Ecclesia, Wren Classroom 201, 9 a.m., also Chapel.
Collegiate Civitan, CC Room C, 11 a.m.
Football Reception, Wren, Dodge Room, 11 a.m.

Sponsors Day Luncheon, CC, Ballroom, 11 a.m.
Phi Mu Alpha Convention, Andrews Auditorium, 12 noon.
Football (Delaware) Cary Field, 1:30 p.m.
SA Movies, William and Mary Hall, 7 p.m.
Ecclesia, Wren Chapel, 7 p.m.
Foreign Film Festival, Andrews Auditorium, 8 p.m.
SBA Dance, CC Ballroom, 9 p.m.

SUNDAY, OCTOBER 26

Phi Mu Alpha Reg. Convention, Andrews Auditorium, 8 a.m.
Women's Rugby, Large Intramural Field, 9 a.m. - Arts Festival, Lake Matoaka, 9 a.m.
"The Quite Riot" - PBK, 3 p.m.
Cinema Club, Millington Auditorium, 7 p.m.
NTSA, CC Sit 'n Bull, 7 p.m.
Reformed Univ. Fellowship, Swem - G1, 7:30 p.m.

MONDAY, OCTOBER 27

Games Discussions, Refreshments, Spanish House, 3:30 p.m.

CSA, CC Gold Room, 5 p.m.
Students for John Anderson, CC Lobby, 5 p.m.
Chess Club, CC Sit 'n Bull, 7 p.m.
Va. Pirg, CC Room C, 7 p.m.
Foreign Film Festival, Bot. Theatre, 8 p.m.

TUESDAY, OCTOBER 28

Student Affairs, CC Room D, 10:30 a.m.
Women's Field Hockey, Barksdale Fields, 2 p.m.
BSA, CC Room C, 3:30 p.m.
Men's Varsity Tennis, (ODU) 3:30 p.m.
Residential Concerns, CC Room D, 4 p.m.
SAC, CC Little Theatre, 4:30 p.m.
Panhel, CC, Room C, 7 p.m.
BSA Academic Affairs, CC Gold Room, 7 p.m.
Collegiate Civitans, CC, Room D, 7:30 p.m.
Covenant Players, Reh., CC, Little Theatre, 6:30 p.m.
CSA, Wren Chapel, 7:15 p.m.
Spanish House, Tertulia, 7:30 p.m.

Classified

FOR SALE

Large, free-standing, insulated Swedish fireplace with andirons and brass-framed screen; several sections of stove pipe as well as chimney pipe with cap. \$150. Set of canvas sails. Evergreen class. \$50. Call Monica at 229-0735 after 6 p.m. (11/4)

BUNDY CLARINET (selmar) used one semester. \$125. Can stop by Univ. Communications or call 253-0034 after 5:30 p.m. (11/4)

SEARS-KENMORE 20" electric range, coppersone, well-maintained. Rapid Preheat; glass oven door; oven and top lights. \$50.00. Call 229-5294.

VIRGINIA OPERA ASSOCIATION SEASON TICKETS - 4 seats, front row, center section for Sunday matinee performance. Call 253-0054 after 5:30 p.m. (10/21)

KINGSPOINT - Two-story home with 2,200 sq. ft. 4 BR, 2 1/2 baths, den with fireplace and built-in bookcases. 3.4 acre wooded lot, large deck. Call 253-0054 after 5:30 p.m. (10/21)

RIDING BOOTS - Superior quality, made in Holland, used only twice. Ladies size approx. 7. 1.2 slim calf. Call Lydia at 253-4260.

MAGNAVOX AM-FM radio-stereo combo: console model. 66 1/2" w x 19 1/2" d x 29" H. Excellent condition. \$150. Call 229-3178 after 5:15 p.m.

FOR RENT

ROOMMATES WANTED to share 3-bedroom house. Call 229-2082 or 229-6534. (10/21)

RESIDENCE - 902 Jamestown Rd. near College. LR, DR, rec. room, basement, fireplaces, porch, sun deck. Renovated, sm. families only, no pets, lease & deposit required. \$350 mo. Call 229-4461 after 4 p.m. or weekends. Available Nov. 1. (10/21)

WANTED

FEMALE ROOMMATE - non-smoker - to share 3 bdrm. apt. w/1 female law student. Private room & bath. \$160/mo. includes gas for heat & kitchen. 1/2 elec. extra. Avail. 10/27. Call 229-3927. (11/4)

USED FLUTE. Please call 229-7825. (11/4)

CHILD CARE HELP WANTED - energetic, responsible female student to be in charge of two pre-teen children in C.W. historic area house irregularly, as needed - late afternoons, evenings, occasional weekends and overnights. Call 253-0200 evenings. (10/21)

RIDE to New York City or Washington, D.C. WANTED: Holidays and Weekends. Will pay costs. Steven G. Orgel, 1st yr. Law. Tel. 229-2099. (10/28)

Female roommate. Upper classman or grad student preferred. All rooms furnished except bdrm. Stratford Hall Apts. Call 229-3651 days, 220-2246 nights.

ROOMMATES WANTED to share 3-bedroom house. Call 229-2082 or ask for Jerry Condit 229-6534. (10/21)

LOST

Gold bracelet with gold flower on Jamestown Road across from Jefferson and its parking lot on 10/5. Please call Karen B. at Ext. 4422. Reward offered.

LOST: Gold watch pen GREAT sentimental value! REWARD!! Lost on W&M buses. Call Kim at ext. 4617.

PAIR OF EYEGLASSES on 9/26 between Morton and Jefferson. Ind. plaid, quilted case - brown frames. Please call Cathy ext. 4410. (10/21)

Set of keys, between 2nd floor of Swem Library and 3rd floor of Jones hall about 12:15-30 p.m. Thursday, Sept. 25. Identifiable by key chain which reads: "AMTRAK'S SAFEST SHOP." "Return postage guaranteed." If found please call Celeste at 229-7482. If you mailed them, please tell me. Reward: your choice of any home baked delicacy.

GREEN RALEIGH 3-speed women's bike. Brown seat, one handlebar grip missing. Reward offered. Call Lily 229-2921 or Ramon 229-2199.

FOUND

CALCULATOR in Jones 307. Call Margaret, ext. 4278 to identify.

ST. CHRISTOPHER'S MEDAL in front of Blow Gym. Call Kevin Doyle at 220-2006 (11/4)

RED GIRLS SCHWINN 10 speed. Call 229-3710. (10/21)

MEN'S CLASS RING in Morton. Call 4451. Larry.

FOUND: RINGS - to describe call Ellen Cloyed at 253-4406. (10/28)

MISC.

CARPPOOL WANTED. Would like to share rides from Richmond (Byrd Airport area) to Williamsburg, Monday through Fridays. Call Mary, 229-1000, ext. 2504.

Interview Schedule

Monday, Nov. 3

The Institute for Paralegal Training
Frederick B. Hill (CPAs)
Aronson, Greene, Fisher & Co.
Alexander Grant

Tuesday, Nov. 4

New England Life
Service Bureau Corp.
Burroughs Wellcome
Fox & Co.
Northwestern Mutual Life

Wednesday, Nov. 5

McPhillips, Lieland & Miller
Auditor of Public Accounts
Westinghouse
Electronic Data Systems

Thursday, Nov. 6

Xerox
Exxon
Central Intelligence Agency
University of Richmond School of Law

Friday, Nov. 7

Milliken

For interviews with companies coming to campus and detailed information on the types of positions available, please contact the Office of Placement, Morton Hall 104, ext. 4604.

Employment

The following positions are open to all qualified individuals; however, current faculty and classified employees will receive first consideration. Except where noted, inquiries and applications should be made at the Personnel Office, 201 James Blair Hall, and not at the department where the opening exists. Call 229-JOBS (229-5627) for an updated listing and 24-hour service. An EEO/AA employer.

CLERK TYPIST C--\$8,600 per year (#30). High school graduate plus 2 years of clerical experience or college. Typing test required. Personnel department. Deadline 10/23.
ASSISTANT for confidential donor, foundation and corporation research, unclassified, part time. \$4.13 per hour (8 hours per week). College graduate, knowledge of state and local area. University Advancement. Deadline 10/23.

CLERK TYPIST B--\$7,190 per year (#357). High school graduate plus one year of clerical experience or college. Typing test required. This is a 9-month position which extends from September 15 to June 15 each school year with a 3-month break during the summer. Admissions office. Deadline 10/24.

CLERK D--\$10,270 per year (#416). High school graduate plus 3 years of clerical experience or college, one year of which must be at a responsible level, equivalent to a Clerk C. Typing test required. Swem Library, circulation area. Deadline 11/3.

CLERK TYPIST B--\$7,190 per year (#11). High school graduate plus one year of clerical experience or college. Typing test required. Office of the Registrar. Deadline 10/24.

MARINE SCIENTIST C, \$20,960 per year (#7) Ph.D. degree in Marine

Science; education on related field or completion of the residence requirements for such a degree, supplemented by two years experience involving semi-independent research in area of specialization. Related experience may be substituted for education on an equivalent time basis. Incumbent will be responsible for the following: planning and directing a comprehensive marine education (K-12) program for the Commonwealth, serving as liaison to the Commonwealth's Department of Education and other national, state and local organizations; developing and supervising the development of new educational services and materials; and preparing papers for publication, writing proposals and seeking funds to support such work. VIMS (Advisory Services Department, deadline 10/29.