The OAS Newsletter
Empowering Young Women to Achieve in Science, Engineering, and Research

Testimony of Elizabeth Obara, Director, The B-WISER Camp of The Ohio Academy of Science. Presented to The United States Senate Committee on Governmental Affairs, The Honorable John Glenn, Chairman. Tuesday, July 7, 1992, NASA Lewis Research Center, Cleveland, Ohio

Mr. Chairman, members of the committee, friends, and colleagues. My name is Elizabeth Obara. Since 1987 I have been a science teacher at Dublin High School, Dublin, Ohio. Prior to that, I taught for 22 years in Indiana, Germany, and Ohio. As a classroom teacher—on the front line of education—I am particularly pleased to accept your invitation to appear before you today to discuss the B-WISER Institute, a summer science camp and follow-on program which empowers young women to achieve in science.

The mission of The Ohio Academy of Science, a non-profit organization of those interested in science and technology, is to empower curiosity, discovery, and innovation by stimulating interest in the sciences and technology, promoting and supporting research, improving science education, disseminating scientific knowledge, and recognizing and publicizing high achievement in attaining these objectives. Through its Junior Academy, Senior Academy, and Central Office, The Ohio Academy of Science provides support activities, runs annual meetings and science fairs, and publishes a journal and newsletter that report developments in science, engineering, technology, and education.

In a special report entitled “Minorities in Science” in the April 15, 1991 issue of Chemical & Engineering News, Joseph G. Danek of the National Science Foundation wrote, “We have created artificial situations in which there are no alternative pathways to successful careers except for children to do well in a very short window that begins at the seventh grade. To keep up, science will have to attract more minorities and female students.”

The B-WISER Institute is a creative and effective response to these issues.

What is The B-WISER Institute?—The Buckeye Women in Science, Engineering and Research Institute?

The B-WISER Institute is an educational partnership of The Ohio Academy of Science, WIEMSCO (Women in Science, Engineering and Mathematics Consortium of Ohio), and the College of Wooster. This year-long program consists of the B-WISER summer science camp at The College of Wooster for seventh grade female students, and a follow-on research internship for students under the supervision of professional women in science in colleges and universities, government and industry. This program is supported in part by a grant to The College of Wooster from The Ohio Board of Regents from funds available under the Eisenhower Science and Mathematics Education Act.

The purpose of the B-WISER Institute is to enhance the interest of 100 seventh-grade girls in physics, chemistry, biology, geological sciences, computer science, and math. The institute consists of three activities: (1) a summer B-WISER camp at the College of Wooster, (2) a year-long internship for each of the 100 research interns with the EXEMPLARS, who are women in science identified by The Ohio Academy of Science, and (3) a career workshop for the 100 research interns, their parents, and their supervising EXEMPLARS.

This program builds on efforts of an existing partnership between The College of Wooster and The Ohio Academy of
Tropical Forests and Biological Diversity Command Global Attention

Tropical forests and their biological diversity are still in jeopardy despite momentum over the last ten years at the international and national policy and planning levels to preserve them. The major underlying cause of deforestation and species extinctions—lack of alternative employment opportunities for rapidly growing populations of tropical countries—remains.

So concludes the congressional Office of Technology Assessment (OTA) in a document released in May. Combined Summaries: Technologies to Sustain Tropical Forest Resources and Biological Diversity, is a reprint of the summaries of two earlier assessments, with new data and issues and approaches that have arisen since the first printing. Since the publication of Technologies to Sustain Tropical Forest Resources (1984) and Technologies to Maintain Biological Diversity (1987), congressional concern with international environmental protection has increased markedly, says OTA. And, because of the biological richness of tropical forests, the issues of tropical forest loss and species loss are inseparable.

Most visibly, perhaps, forests and biodiversity have become principal subjects of debate in international arenas such as the General Agreement on Trade and Tariffs and the June 1992 United Nations Conference on Environment and Development. OTA points out that important questions in codification of international agreements to protect biodiversity and forest ecosystems will include balancing national authority to manage resources with global needs to access genetic resources and secure a stable environment, apportionment of funding for intensified conservation and management efforts, and distribution of financial benefits to affected communities.

Significant progress has been made in mobilizing international assistance funding and in coordinating and focusing international conservation efforts since OTA's earlier assessments. But development of practical methods for management and conservation of forests and biodiversity has been slow, says OTA.

Still associated with poverty in tropical developing nations, the loss of tropical forests is now linked with potential disruption of regional weather patterns and global climate. Reduction in biodiversity not only impedes communities from diversifying their development options, but it also may preclude development of some new products and processes that could support global advances in agriculture, medicine, and industry, according to OTA.

Inappropriate logging and conversion of land for agriculture and other purposes have been major underlying causes of deforestation in tropical forests.
Plant Biology Students Win Beatley Awards

Six graduate students in the Plant Biology Department at The Ohio State University received monetary awards for botanical research at the department's Annual Honors and Awards Banquet. The students are:

Robert Klips
Kathleen Cochrane
Devi Choesin
Elizabeth Esselman
Brent DeMars
Tao Sang

Mr. Charles Beatley of Alexandria, Virginia, and Dr. Tod F. Stuessy, Director of the OSU Herbarium, presented the awards at the event, held at the Holiday Inn on the Lane, Columbus, Ohio.

The awards represent the annual proceeds from the Janice C. Beatley Fund, established by Charles E. Beatley and Mary A. (Beatley) Jordan.

The Beatley fund is a memorial endowment in recognition of their sister, Dr. Janice C. Beatley, native Ohioan, who took her Ph.D. degree in plant ecology in 1953 in the Botany Department, OSU. This fund provides a permanent endowment which generates interest money awarded for field research to graduate students in the plant systematics and plant ecology programs within the Department of Plant Biology. Dr. Beatley was known for her field floristic-ecological research in southern Ohio and at the Nevada Atomic Test Site in the western United States.

Ohio Schools and Teachers Receive Governor's Awards for Excellence in Youth Science Opportunities

Nearly 80 Ohio schools and teachers were selected by The Ohio Academy of Science to receive Governor's Awards for Excellence in Youth Science Opportunities for their accomplishments during the 1991-92 school year.

Special Governor's Award certificates will be issued by the Ohio Department of Education.

The program was initiated by The Ohio Academy of Science in cooperation with The Office of The Governor and the Ohio Department of Education to recognize schools and teachers who stimulate student scientific research and who extend science education opportunities beyond the traditional classroom activities.

To qualify for the Governor’s Award, each school conducted a local science fair with 25 or more students, sent one or more of these students to one of the Academy’s 16 district science days, and involved students in one or more youth science opportunities beyond the classroom such as State Science Day, visits to museums, mentorship programs, and extended field trips.

This program continues a strong partnership in education programs between a private organization like the Academy and State government, according to the Academy.

Now in the first year of its second century, The Ohio Academy of Science empowers curiosity, discovery, and innovation by stimulating interest in the sciences and technology, promoting and supporting research, improving science education, disseminating scientific knowledge, and recognizing and publicizing high achievement in attaining these objectives. The Academy’s more than 2,000 members are employed in industry, government, colleges and universities, and public and private schools in Ohio, other states, and in several foreign countries.

Tropical Forests...

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of forestland to unsustainable agriculture continue to cause degradation of ecosystems, declining fisheries, and disruption of rural economies. Increasing numbers of people are exposed to disasters such as landslides from denuded hillsides, flooding from sediment-laden rivers, and high winds and storm surges from deforested coastlines. Developing country debt burdens, property rights, and military conflicts impede efforts to protect remaining forests.

Although efforts to identify potential new foods, pharmaceuticals and other chemical products are intensifying, few protected areas have been established to safeguard the genetic precursors of currently important economic crops, says OTA.

Ecotourism has grown into a major economic rationale for preservation of species and ecosystems throughout the world, but economic or political disruption and difficulties in directing revenues to local communities render protected areas and their species vulnerable.

OTA finds that new approaches, policies, and programs hold promise for tropical forest conservation and biodiversity protection. Development assistance organizations are increasingly coordinating their activities. International agriculture research organizations are beginning to include forestry and agroforestry in their mandates.

Copies of Combined Summaries: Technologies to Sustain Tropical Forest Resources and Biological Diversity are available at the OTA publications office (202) 224-8996.

Zoology Section Targets Support to Students

Section A (Zoology) members voted unanimously, at the May 2, 1992 meeting in Akron, to restrict the use of the Zoology fund to helping undergraduate and graduate students defray the cost of page charges in The Ohio Journal of Science. To be eligible, the papers must have originally been presented at a meeting of The Ohio Academy of Science and, in the case of multiple authors, the student must be first author.
Empowering Young Women . . .  
Continued from page A

Science for B-WISER, the Buckeye Women in Science, Engineering and Research Camp held on June 9-14, 1991. The camp is a team-taught, hands-on, residential experience using the well-equipped classrooms and facilities of The College of Wooster. Most of the 18 faculty members at the camp are pre-college teachers well known in Ohio for their ability to affect student attitudes and learning in science and mathematics. Moreover, the B-WISER Institute taps the talents of nearly 100 of the over 250 EXEMPLARS, who are volunteer women in science, engineering, and mathematics for the Ohio Academy of Science.

The research interns—young women entering eighth grade in the Fall of 1992 (seventh-graders during the school year 1991-1992)—will be approximately 21-22 years old and ready to enter the work force or graduate school by the year 2000. Therefore, it is very important that we begin training our young women now for full participation in mathematics and science to avert the predicted future shortage of talent.

The goals of the B-WISER Institute are:
1. To develop student content knowledge in specific sciences and math.
2. To develop student skills in the process of scientific investigation and research methods including selecting a research topic, developing testable hypotheses, devising tests and collecting data, and drawing conclusions.
3. To enhance student awareness of career possibilities and requisite qualifications for careers in the scientific disciplines.
4. To generate enthusiasm for science and a sense of participation in scientific discovery.
5. To facilitate student assessment of potential skills and abilities for science careers.
6. To place 100 young women research interns with professional women EXEMPLARS so that the research intern may work on a science project with the role model/mentor throughout the 1992-1993 school year.
7. To enable the research intern to present her project for judging at local, district, and state science days at the end of the year-long scientific experiences with the EXEMPLAR.
8. To hold a one day career conference in the Fall of 1992 with research interns, counselors, financial aid experts, and college admission officers from Ohio colleges and universities.
9. To prepare three Early Alert Tip Sheets to Careers in Science, Engineering, and Mathematics on the topic of admissions testing, scholarships available, and youth science opportunities such as The American Junior Academy of Science, the Westinghouse Science Talent Search, and the International Science & Engineering Fair.

As a result of participating in this year-long Buckeye Women In Science Engineering and Research Institute, the research interns will do the following:
1. Include additional science and mathematics in their choices for high school classes.
2. Continue doing scientific research during high school, either with the EXEMPLAR role model or with another scientist.
3. Present her science project for judging at local, district, and state science days.
4. Be able to know where to apply for research funds, and then receive them.
5. Be more knowledgeable about scientific careers and the ways in which to access them.

7. Plan for a career in science, engineering, or mathematics when she enters college.

The B-WISER Institute will build on an existing partnership and extend the camping experience into a year-long research internship through the engagement of EXEMPLARS of The Ohio Academy of Science. The 250 currently active EXEMPLARS represent more than 140 cooperating employers including such well-known companies as Adria Laboratories, American Electric Power Service Corporation, Ashland Chemical, B.F. Goodrich Company, Battelle Memorial Institute, BP America, Chemical Abstracts Service, Columbia Gas of Ohio, Dow Chemical USA, DuBois Chemicals Inc., E.I. Dupont de Nemours & Co. Inc., Ferro Corporation, NASA Lewis Research Center, Ohio Power Company, Procter & Gamble, Ross Laboratories, Scott Fetzer Company, SofTech Inc., The General Electric Company, The Kroger Company, The Timken Company, Toledo Edison, etc.

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The Ohio Academy of Science  
Call for Nominations - 1993

Deadline: February 1, 1993

The Committee on Nominations solicits nominations from The Ohio Academy of Science membership for the following positions to be considered for the 1993 election:
1. President-elect, 1993-1994
   The President-elect shall be Member of long standing and a Fellow, and shall have rendered signal service to the Academy. In addition, the President-elect is one who has achieved a recognized position in a field of scientific, technological, or educational endeavor.
2. Executive Committee, six positions:
   • Government, at-large two year term, 1993-1995
   • Government, at-large one year term, 1993-1994
   • Industry, at-large two year term, 1993-1995
   • Industry, at-large one year term, 1993-1994
   • Academia, at-large two year term, 1993-1995
   • Academia, at-large one year term, 1993-1994

At-large members of the Executive Committee shall be persons interested in science, engineering, technology, or education and who hold continuing membership in The Ohio Academy of Science.

Complete nominations for each position should include a statement of support by the nominator, a brief biographical sketch of the nominee, a current address, and telephone and FAX numbers for the nominee.

Nominations should be sent to Dr. John F. Schaff, Past-President and Chair, OAS Nominations Committee, College of Education, The University of Toledo, Toledo, Ohio 43606.

All nominations must be received on or before February 1, 1993.

At the 1992 B-WISER Camp at The College of Wooster, there were 100 students from more than 72 schools in 36 of Ohio's 88 counties. Urban, rural, public, and non-public schools were well represented.

The staff for the B-WISER Institute consists of Dr. Ted Williams, Project Director for The College of Wooster; Mr. Lynn E. Elfen, Assistant Project Director for The Ohio Academy of Science; Elizabeth Obara, B-WISER Camp Director; Dr. Lois A. Cook, B-WISER Camp Assistant Director, and Dr. Nadine K. Hinton, Evaluation Consultant.

Mr. Chairman, although my remarks today have focused specifically on the B-WISER Institute, I respectfully request, on behalf of The Ohio Academy of Science, that you leave the record of this hearing open until July 10, 1992 to enable the Academy to submit additional written testimony relative to the questions concerning systemic change in education.

Although more detail will be submitted in the additional written testimony, I do want to point out now a specific change in Federal law which authorizes the creation of many more programs like the B-WISER Institute. One of the problems with the legislation which authorizes the Eisenhower program is the bias against not-for-profit organizations like science academies, science centers and museums, and other community-based organizations. At this time, the Academy cannot receive funds directly from the Eisenhower program; we are forced to use academic institutions as fronts for proposals. This is a disincentive to creativity and innovation in program design and administration. It impedes the proposal development process, puts up barriers to inter-institutional cooperation, and imposes additional administrative costs on an already overburdened system. The Academy feels that the competition for Federal grants should be wide open—the best ideas and programs should be funded without a built-in administrative filter.

In conclusion, the Academy feels that the B-WISER Institute empowers young women to achieve in science. In his book, entitled The Best of Success, Wynn Davis writes, "Power comes from knowing how to do something. People with power are people who know how to get things done. And sometimes knowing how to do something is virtually the same thing as having done it. So when we educate ourselves, we build power to accomplish our goals."

The B-WISER Institute will help young women achieve their goals in life.

The B-WISER Institute is an empowering experience.

Thank you for the opportunity to testify today before your committee. I will be pleased to respond to your questions concerning the B-WISER Institute.
Recollections of Rudy

Gary L. Floyd, Dean
College of Biological Sciences

Ladies and Gentlemen: I am here as a friend and colleague, not because I am Dean. I want to share with you some of my recollections of this man and hope in some way I can add to this commemoration of his life and his many contributions to his department, to the college, to the library, to the University, to the state, and to science. Rudy’s life made this tribute, this celebration, very easy for us. He accomplished so much and in the most unobtrusive manner. This kind, gentle, caring man served so many of us, and gave so unselfishly of his time and energy. He did everything quietly and efficiently, serving on about every committee for about every organization from the departmental level through national societies. Even in retirement, Rudy was the President-Elect of The Ohio Academy of Science and the president elect of the Friends of the Libraries, and so on, and so on. Others will mention specifics of his service. And what patience! He refused to let the complainers that we sometimes have to tolerate in this business bother him, or affect him at all.

In a dean’s office, you look to certain strong, stable faculty members who will say “yes” to a request for their services, in a sense, even before you tell them for what or why. Rudy was one such faculty member. There was never any hesitation on his part to respond to a request for assistance or service. He worked at being a strong, stable faculty member. He was available to all of us who wanted to talk to him about any issue, including those who sometimes have to tolerate in this business bother him, or affect him at all.

I’m sure most of you know of his contributions when he was with us. We shall miss his thoughtful counsel and his enthusiasm for life, science, and books. It took me some time to determine what I might say to you this afternoon. I remolded, let’s say, a recitation that I like very much. I have called this recitation, In Memory of Rudy.1

In Memory of Rudy

You have now left us, but we still remain/
To walk life’s road alone/Our thoughts of you
will live again/Of all the happy days
we’ve known/In spring we’ll watch roses
ger and watch the lilacs fade to blue/In
early autumn when brown leaves fall/
We’ll catch a glimpse of you./You have
now left us, but we still remain/To recall
the many books you’ve sought/Each one
you’ve touched along the way/Is now a
hallowed thought/We’ll hear your voice,
we’ll see your smile/Though blindly we
may grow/The memory of your helping
hand/Will carry us onward, we know./
You have left us, but we still remain/To
continue with your plan/Although
shadows may appear, and pain,/Your
name will live as a great man/We’ve known
so much happiness/We’ve had our cup of
joy/And memory is one gift we have/
That death cannot destroy./You have
left us, but we still remain/To ask you one
more thing to do/As you hear us call your
name/Walk slowly down that long, long
path/That we may walk the same/As you
go down that lonely road/We’ll want
to know the steps you’ve taken/For some
day, we too, will follow you.

1 Adapted from a recitation, Should You Go First and I Remain, which is used in country music with the song, "Beyond the Sunset; taken from the Hank Williams, Sr., version. The original poem written by Albert K. Rowsell. Rosey Reflections. Published by the author, Pittsburgh, PA. 1945, pp. 78-79.
Emanuel D. Rudolph receives congratulations from Ralph Boerner, Plant Biology Banquet, Columbus, May 1990. (Photo: R. L. Stuckey)

seemed to be able to ask a good question at virtually any kind of seminar. He was able to converse about nearly every subject in biology, and science for that matter, with some degree of expertise. He loved rational thinking; he loved getting to the bottom of it. He delighted in tracing the history of any topic to its absolute, earliest origin. This mild-mannered scholar made his mark in a grand professional manner.

I thank all of you for coming to this commemoration. I wonder if Rudy knew how much he was appreciated and liked by all of us; I hope he did. Rudy was a most highly valued member of the College of Biological Sciences. He will be missed.

Thoughts After
Dr. Rudolph's Passing
Ralph E.J. Boerner
Chairperson
Department of Plant Biology

Our first thoughts after the passing of a valued friend and respected colleague are for the things the person did to attain his own professional achievements, and for the dedicated and valuable service to their university, their profession, and to the broader society in which we live. In Rudy's case, these trappings are relatively easy to enumerate.

He taught university students the basics of botany, and the excitement and continuity of the history of biology during parts of four decades. He touched the lives of hundreds and thousands of students in ways only they can know.

Rudy's research on lichens of the arctic, antarctic, and temperate zones was widely published and highly regarded. So greatly was this work respected that both a genus of lichens and an antarctic glacier were named in his honor.

His research on the history of botany, of botanists (particularly women), and of books about botany and other sciences was equally respected among his contemporaries.

Rudy served the university in a number of important and responsible leadership roles, as director of the Institute of Polar Studies (the forerunner of the Byrd Polar Center) and as the director of the interdisciplinary graduate program in Environmental Biology (now Environmental Science). He willingly assumed the chairmanship of the Botany Department at perhaps the most turbulent and divisive time in its history. Under his gentle but firm hand, the department returned to stability, grew in productivity and national stature, and entered the age of molecular biology.

Though his contributions to science, university, and society were considerable, they reflect only what he did. As such, they do not completely tell the story of who he was. I think I will miss him more for who he was.

Rudy was the single most peaceful and gentle person I have had the privilege to know. There was not a shred of mean spirit in him. Though he, like others who have served in university leadership positions, suffered frequent attacks on his integrity, honesty, and credibility, he always responded with a chuckle, a shrug, and turn of the cheek. He was not given to negativism, nor to vengefulness, nor to vindictiveness.

Rudy cared deeply about people; not just the many close friends he and Ann made, but people in general. I'll give you just one example of the many that could come to mind. Each year they opened their home on Thanksgiving to new faculty, visiting professors, or students from other countries and cultures—just to show that someone was there who cared and who wanted them to feel and experience the warmth and human sharing that that holiday represented.

Rudy was a bastion of integrity, stability, and calm when we needed him most. If the offices and halls traveled by the world's leaders could be populated with peaceful, gentle souls like Rudy, the conflicts that continue to plague us would certainly be a thing of the past. He calmed the storm, fostered compromise, and treated everyone's opinion with respect, even if he didn't agree with it. He kept to the high and moral road in everything he did.

We will miss him for the many things he did, and more so, for the way in which he did them. Many poets have fashioned phrases which revolve around the concept that every person's death diminishes those around them. We are all richer from having known Rudy, and keenly poorer from his passing. He will be remembered and missed.

Polar Researcher and Administrator
Kaye R. Everett
Professor of Agronomy
Department of Agronomy and Byrd Polar Research Center

I would first like to express my sympathy to Rudy's family and colleagues, both present and not present; and my own sorrow for the loss of, and my respect for, a colleague and friend of more than 30 years.

Rudy's involvement with the polar regions began in the mid 1950s while a doctoral candidate at Washington University, St. Louis. There, together with Dr. Carroll W. Dodge, he studied the taxonomy of lichens on Heard Island in the sub-Antarctic collected by an Australian expedition. In 1961 Rudy left a teaching position at Wellesley College to accept a dual position with the Department of Botany and the newly-chartered Institute of Polar Studies to help build a multidisciplinary presence within that group. Within a year, with grants from the National Science Foundation, he began pioneering studies of lichen ecology and phycology at Cape Hallett, Antarctica, that continued through 1964. There he produced the first and possibly the only vegetation map of any part of the continent.

From 1966 through 1968, Rudy supervised a botanical survey along the Marie Byrd Coast. In the Antarctic summer of 1968-69 he studied fungi in the McMurdo Sound region.

During these years, Rudy established a solid record of scholarship and developed the trust and administrative skills necessary to become the third Director of the Institute of Polar Studies, following Dr. Colin Bull, who took over the Chair of the Department of Geology. Rudy became director of an institute that was about to undergo (for want of a better term) an identity crisis; the result of severe budget cuts at NSF (the Institute's chief benefactor) that were, in fact, a result of the Vietnam War, and a restructuring of the NSF's research objectives and funding strategies.

At home, an increasing desire existed among the scientific staff for increased University financial support for the Institute and academic recognition. Had the tiller passed to hands less steady, we would surely have founded and the Institute may have ceased to exist. During Rudy's four-year term as Director, he worked to have the Institute included in NSF block funding, significantly expanded the library, and tirelessly promoted the Institute's image on campus, within the community, and nationally while maintaining his commitment to the Department of Botany.

He found time in 1970-71 to participate directly and through graduate students in the International Biological Programs' study of the Tundra Biome at Barrow and...
Prudhoe Bay, Alaska. He was elected a Fellow of the Arctic Institute of North America and served on its Board of Governors and as chairman of that body. He served also on numerous Federal Agency boards and committees, and on the National Academy of Sciences Polar Advisory Panel.

Subsequent to completion of his term as Director of the Institute in 1974, Rudy assumed the chair of the Department of Botany in 1978. Yet he continued to play a significant role in supporting and promoting Polar science and the Institute of Polar Studies (subsequently to become the Byrd Polar Research Center). He and his wife Ann were prime movers in the creation of the Friends of the Institute.

Rudy has left a legacy of scholarship, leadership, and support within the Byrd Polar Research Center and to the extended community of Polar Science and history. He will be missed!


Upon Rudy's Death
Richard Goldthwait
Professor Emeritus of Geology
First Director, Institute of Polar Studies
(Deceased 7 July 1992)

If ever there was a quiet, sincere worker and thinker boosting the Institute of Polar Studies, it was Rudy Rudolph. He, more than any other faculty, promoted its interdisciplinary and interdepartmental cause. To all of us, Rudy's passing is a sudden tragic loss.

Heaped upon the more natural but quick loss of his wife, Ann, earlier this past year [26 April 1991], the Byrd Polar Research Center has lost two of its most vigorous, popular academic boosters since its start in 1960. Nobody could ask for more ideas and vigorous support.

Rudy was picked originally as the best expert in a widely-related field, lichenology, for exploration of that unknown in Antarctica during the Geophysical Year. He was receiving accolades, medals, and positions (like president of The Ohio Academy of Science) which were long overdue.

Rudy's love of library was expressed in many ways, and to the benefit of most scientists. Many important collections were organized, thanks to him. No more friendly and enthusiastic companion could be asked. Long may his accomplishments live.

Loyal Friend of University Libraries
William J. Studer
Director
University Libraries

University Libraries would have to look far and wide to find a friend more committed and loyal than Emanuel Rudolph. Rudy and his late wife, Ann, were founding members of the Friends of the Libraries, and he served on its Board of Directors from its beginning in 1975, and as its president from 1978 to 1980. He had returned to the Board in 1992 and at the end of May had just been elected as President for 1992-93. However, his involvement in the Friends of the Libraries never depended upon his holding an office or having an assigned job.

For years he served on the Friends Book Sale Committee and donated many hours to sorting and pricing books, and to working at the sales, where he knew and talked with the majority of the acquirers. Rudy always found books of his own to donate and books to buy. Ann liked to say that Rudy would donate books to the sale and then buy them back during the sale.

Since Ann's death last year, Rudy had done more traveling than had previously been his custom, but when he was in town, he made a practice of daily visits to the Biological Sciences Library and the SBX Bookstore. His retirement had not changed his habit of coming to campus each day, and he was a familiar figure at the Main Library and in the Friends office.

Both Ann and Rudy were avid collectors, primarily of Ann's famous buttons and of Rudy's many books, but they also collected antiques, prints, and artifacts. They made their home a veritable library/museum, available to groups sharing their interests. The Student Book Collectors Contest, sponsored for the last 10 years by the Friends of the Libraries, was a project proposed and enthusiastically supported by the Rudolphs. Rudy was determined that Ohio State's undergraduate and graduate students would be introduced to the joys of collecting, and would be encouraged to take seriously the avocation

Emanuel D. Rudolph studying lichens in Antarctica, 1963.
that meant so much to him. He had long ago determined to give his fine collection to the University Libraries, and he liked to remind students that thoughtfully built collections take on an increasing monetary value. Rudy helped plan and raise funds for these student contests, and this spring served as a judge for the 1992 event.

The interest he and Ann shared in collecting and in libraries led them in a variety of directions. In the early years of the Friends of the Libraries, they helped organize a collectors group which presented several programs each year that gave other friends and collectors an opportunity to get together to share their treasures, to swap stories about amazing "finds," and to wax enthusiastically over experiences common to the search. Out of this group came many of the leaders of Friends and donors to University Libraries. Rudy helped establish other friends groups on campus, notably in the Byrd Polar Research Center. Ann, of course, was an active member of the Friends of the Historic Costume Collection. Rudy's experience in the Friends of the OSU Libraries resulted in his representing library interest on the State of Ohio Friends of the Library Board, the Ohio Library Foundation Board, and the Ohioana Library Board.

No matter how many titles he held or assignments he took, Rudy was never too busy for us. Several years ago, a broken pipe located in the ceiling of a basement room in Main Library, where book-sale books were stored, poured water down on the floor and the boxes stored there. A frantic call went out for students, Friends members, or anyone to help. In minutes, Rudy was in the library, sleeves rolled up, wading through the water to help salvage what he could.

Rudy's commitment to the causes he cared for—the Libraries; the University Press and its fine-arts subsidiary, Logan Elm Press; the Byrd Polar Research Center; his college and department—was deep and abiding. He was a willing, available, and staunch advocate. Shortly after Ann's death last year, he made arrangements that will result in almost all of their entire estate coming to one or another part of this university, and the collections he and Ann loved so much will permanently benefit the university and its many constituencies.

We in the University Libraries and the Friends have lost a dear and great friend; a friend whose memory will live on indefinitely into our futures. We shall miss Rudy very much.

In closing, I want to refer to a Shakespearean metaphor that I find particularly fitting. In act 1, scene 2 of The Tempest, Prospero speaks of his pretentious brother, Antonio, who covets the dukedom of Milan; but of himself he says, "Me, poor man, my library is dukedom large enough." We're certain that Rudy was Prospero's kindred spirit, and that his library was domain large enough.

Remarks
James D. Lawrey
Associate Professor of Biology
George Mason University

We have been hearing of Rudy's library, and I thought it might be of note to show you the last three books that he purchased: One is a polar book, one is a science book, and one is a children's book. They represent the three major portions of his book collection. He purchased these three books in Wooster before attending the Academy meeting.

We have been receiving a number of letters from his friends throughout the country. A paragraph in a letter from one of his graduate students follows: "I will remember him as a kind and generous teacher who saw the best in everyone and every situation. Both he and Ann had an easy grace and good humor, and I have always felt obligated to them for taking care of me early in my career at Ohio State. I shall remember with great fondness the evenings spent at their home among the books and buttons."


Remarks
Ronald L. Stuckey

The task that has fallen upon me is to settle Rudy's estate. That is what he asked me to do. I did not know it was going to be so soon.

In going through some of his papers, I found out something about him I did not know. In August, the month of their wedding anniversary, Rudy wrote a poem to Ann each year from 1971 to 1990. Now, if poems are supposed to rhyme, his did not. The poem I have chosen to read is titled Twelve. Other poems in the file are also titled by numbers, such as Ten and Twenty. Poems with numbers as titles were written in the year counted from 11 August 1962, the month and year of their wedding. The poem Twelve is as follows:

Twelve

Seeds in growing, cells in dividing, chromosomes in splitting/ DNA in replicating / All done in hidden ways. / So is love a growing thing in hidden ways. / Bats from caves, blackbirds from trees, pin cherries from the earth, / cotton from poplar catkins, / All expanding in sudden ways. / So is love an expanding thing in sudden ways. / Light of sun, warmth of flame, excitation of nerves, folding of mimosa leaves, / All moved in silent ways. / So is love a moving thing in silent ways. / Land for water, shell for nut, wall for spore, membrane for cell, / All encompassing in wondrous ways. / So is love an encompassing thing in wondrous ways. / Oxygen for lungs, blood for heart, water for roots, protein for life, All used in needed ways. / So is love a used thing in needed ways.

E.D.R.

Recollections of a Wonderful Life
Lynn Edward Elfiner
Chief Executive Officer
The Ohio Academy of Science

Dear members of the family, friends, and colleagues of Emanuel D. Rudolph: On behalf of The Ohio Academy of Science I wish to share with you for a few moments my personal recollections of the wonderful life of our colleague and good friend, Dr. Rudolph.

Rudy first joined the Academy in 1962 and was elected a Fellow in 1965. I suspect that I first met Rudy in the early 1960s when, as an undergraduate at The Ohio State University, I would see him in the hallways or library at the B&Z building. Soon after I graduated from OSU, I became active with the History of Science meetings of The Ohio Academy of Science where Rudy was always involved. In 1969, he served as vice president of Section B, Plant Sciences.

Recently, Bob Boyce of OSU stopped by our office and dropped off some historical files. Included were the abstracts from our 1966 History of Science Meeting. At the meeting, more than a quarter of a century ago, Rudy discussed "Molecular Biology: Retrospect and Prospect." He presented the thesis that molecular biology would take its place as one of the divisions of the biology of the future, rather than replace or encompass all of the other divisions as some were claiming at the time.

Rudy served as a visiting scholar for the Academy and later as associate editor of The Ohio Journal of Science. He was always active with our necrology committee and provided much of the behind-the-scenes work for our Centennial Celebration including the publication of a Centennial Note on plant science in The Ohio Journal of Science. His commitment to the Academy was demonstrated by ensuring that all members of the OSU Department of Plant Biology became Second Century Founding Members of The Ohio Academy of Science.

It was only recently that Rudy arranged for me to meet with Professor Merritt Roe Smith at MIT. Dr. Smith remarked to me that Rudy had the unusual ability to bridge the gap between the worlds of the scientist and the historian. Rudy had agreed to assume several key leadership positions with the Academy. He helped us write our mission statement—a document of central importance to our future. This spring he was elected President-Elect. He was also chairing our Marketing and Communications Committee and had planned to assume a major role in helping

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us launch our Industrial Council.

On a more personal note, I especially appreciated the fact that Rudy became a friend of my daughter Amy, who has been doing research on lichens. I know that one of the books Rudy gave her will have lasting value to her.

All of the above is by way of saying that Rudy was a man of service; a true friend of science and society.

At this time, I believe it is important for us to remember the words of Albert Schweitzer, who said, "There is no higher religion than human service. To work for the common good is the greatest creed." In these difficult times we must draw strength from our friends and colleagues and from the good memories of Rudy. In closing and in consolasion I want to read to you the uplifting words of Max Ehrmann, entitled Desiderata:

Go placidly amid the noise and haste and remember what peace there may be in silence./As far as possible without surrender be on good terms with all persons./Speak your truth quietly and clearly; and listen to others, even the dull and ignorant; they too have their story./Avoid loud and aggressive persons, they are vexatious to the spirit./If you compare yourself with others, you may become bitter or vain, for always there will be greater and lesser persons than yourself./Enjoy your achievements as well as your plans./Keep interested in your own career, however humble; it is a real possession in the changing fortunes of time./Exercise caution in your business affairs; for the world is full of trickery./But let this not blind you to what virtue there is; many persons strive for high ideals; and everywhere life is full of heroism./Be yourself./Especially, do not feign affecion,/Neither be cynical about love;/for in the face of all aridity and disenchantment it is as perennial as the grass./Take kindly the counsel of the years, gracefully surrendering the things of youth./Nurture strength of spirit to shield you in sudden misfortune./But always in truth, in honor, in compassion, in love; for the world is full of trickery.

Good Afternoon: I first met Rudy and Ann at Friends of the Library meetings at OSU, like many of the rest of us did. He had many book collecting interests, and that is what I know best since we were both really into books. And even though he liked arctic, history, science, botany, and nature, his first love, in my opinion, was teaching the history of science to children.

Rudy would collect books about anything to do with science and children. He used to marvel at how years and years ago they were all moral lessons. Then he would study them and find that as the years and centuries turned, children started getting science rather than morals. I also believe that he wrote some papers on this subject.1,2,3,4 I know he did speak on them.

As has been mentioned, Rudy was very good about collecting books. I think he reached over 50,000 books recently. He also collected prints, and he could name any book, any scientist, and any print. If you showed him a print with no identification on it, he could say that it came from such-and-such a book, even though it was from the sixteenth, seventeenth, or eighteenth century. It was just phenomenal! He was very good on offering his knowledge. If you had something and were not sure about it, he would look at it and give some advice, and always he turned out to be right.

Rudy has been a customer in my store for many, many years, as he has been a customer, I think, in all of the bookstores in Columbus, and I imagine in all of the bookstores in Ohio. He got dealer book catalogues from around the world, and I think, of every book ever printed, he probably was the most knowledgeable.

I enjoyed a visit to his house to see his library. I have customers tell me all the time about how they have been to his library and how they enjoyed it, and how they marveled at the number of books. I do not think I have met anyone who said they owned more books, outside of a library. Even though many accomplishments have been stated this afternoon, nobody has mentioned what most people talk about: He and Ann were the couple who bought a house just for their books.

A Second House, Just For Books
Karen Wickliff
Karen Wickliff Books
Columbus, Ohio

Rudy, the Book Buyer
Ed Hoffman
Hoffman's Bookshop
Columbus, Ohio

A couple of months ago, after a meeting we both had attended, I realized that while I had known Rudy as a customer for ten years and a fellow book-buyer for more than fifteen, I had never seen him in the classroom. So I asked him if I could sit in on his class sometime, and in his characteristic blend of modesty, generosity, and brevity, he immediately answered, "Oh sure—if you think you'd like to—Monday through Friday at 2:00." Well, in my characteristic blend of forgetfulness and procrastination, I never did—and of course, I regret it. But, like all of us here, I guess I figured there would still be other quarters, other classes, and other opportunities. Rudy had become a constant and reliable presence in my life, which may be just a nice way of saying I took him for granted.

For those of you who may have known Rudy as a teacher, or colleague, or friend, but not as a frequenter of bookstores, I'd like to describe briefly what his visits to our shop were like. Rudy came in just about every Saturday when he didn't have other commitments. Usually he had walked; nearly always he wore his beret. He'd come in the early afternoon, usually with a small plastic bag of five or six books for trade. If it had been a busy buying week, we'd pull a little stack of books out from under the desk for him to consider as Tina or I looked over his trades. We always felt better when we had a few things set aside for him, and especially so when he found books he wanted and didn't have, which wasn't easy!

As most of you know, Rudy was a legend in the local book trade since he actually did what many have only threatened, which was to buy a second house just for his books. Often the trade was even, or a little money would change hands in either direction. Rudy would examine and page through each potential purchase, occasionally commenting on the quality of the illustrations or research. With college histories, one of his sub-categories, he would look immediately to the index for references to the botany department. Sometimes he would simply pass on a book with, "Oh yes, I have a different edition, but it's close enough." If we didn't have anything set aside, he would usually say, "OK, I'll just look around a little bit," and a few minutes later he'd come around the corner with a small bunch of books he'd found on his own.

He would always ask about our family with honest interest and concern. For our part, we really looked forward to seeing Rudy on Saturdays and missed him when he didn't come in. The next week he'd tell us where he'd been; in recent years it was often St. Louis, since he was writing the history of the Missouri Botanical Garden.
I learned a great deal about books and collecting from Rudy. He was steady and persistent and methodical in the pursuit of good books. He was always friendly, gracious, and cheerful. He collected without coveting, and he cared deeply about the content of the books he purchased.

Since the day of the accident, our son Peter, who knew Rudy from his own Saturdays in the shop, has included him in his night prayers. Last night when he again prayed "God Bless Rudy," I thought how blessed we all were to have known him and how much we'll miss him, in the days and years to come.

Rudy, the Collector
Joseph Ewan
Research Professor
Missouri Botanical Garden
St. Louis, Missouri

Goethe declared, "collectors are happy creatures." Goethe would have known, since his friend Humboldt collected 11,164 books. Rudy collected books, nearly five times as many as Humboldt. I remember Rudy and a coterie of his friends chortling over their happy acquisitions in 1953 at the bicentenary of the publication of the *Species Plantarum* by Linnaeus, at Madison, Wisconsin. Rudy, however, collected not only books but also seasons of field experience about the South Pole, collecting lichens. And he collected records of men and women which he lifted from obscurity of long-forgotten letters, diaries, the deliberations of Garden trustees, and so on. He collected valued students at Wellesley and Ohio State, informing and encouraging them.

Today we open a cabinet of treasured memories. Coleridge wrote that "friendship is a sheltering tree." We gather beneath Rudy's tree, saddened but happy for his wonderful, sheltering friendship.

Rudy, the Botanist and Librarian
Connie Wolf, Librarian
Missouri Botanical Garden
St. Louis, Missouri

My introduction to Rudy was through the CBHL, which is the Council on Botanical and Horticultural Libraries. Several years ago Rudy offered to host the CBHL annual meeting here at Ohio State University. From that time forward, I was in contact with him about many of the arrangements to be made for that meeting. The meeting was May 20th, exactly one month before Rudy's death. Many of the CBHL members have told me how happy they are to have had a chance to meet Rudy in his home state and to meet the people with whom he worked, and especially to visit his library. One of the nice events of this year's meeting was a visit to his library in his two homes.

Rudy's introduction to the Missouri Botanical Garden, where I am the librarian, was in the 1950s, when he was a member of the staff of the library and herbarium and a student at Washington University. Since that time he has been a real supporter of the Missouri Botanical Garden, and often returned for the annual Systematics Symposium in the fall, the Henry Shaw dinner, and also to give some invited talks to the students at the Garden. He most recently had come these last several years in his capacity of working on the history of the Missouri Botanical Garden. He had just finished most of the research for that project. Those of us in the library were really fortunate to have him come and to see his scholarship, his understanding, his patience, and his willingness to work with us, and to be a part of what was going on in the library. All of us at the Missouri Botanical Garden and all of the members of the CBHL do extend their sympathy to his family, to his many friends, and to his colleagues.

Tribute to Professor Rudolph
Lucy R. Sibley
Professor and Chairperson
Department of Textiles and Clothing
College of Human Ecology

Colleagues and members of the Rudolph family, I would like to thank the organizers of this memorial for giving me the opportunity to speak, and I am honored to be able to represent the Department of Textiles and Clothing and the Friends of the Historic Costume and Textiles Collection from the College of Human Ecology.

Professor Rudolph exemplified and supported the Collection. She understood the need to develop this repository of significant examples of historic textiles and clothing because historic objects in the collection, including buttons, represent decisions made by people about their environments. As such, the Collection serves as a research and instructional support to the departmental programs. At her sudden death, Professor Rudolph asked that memorials to her be contributed to the endowment fund for the Collection. In this way he secured a lasting tribute to her memory in an area of special interest to her.

The idea that each of us makes a difference in the lives of other people is one with special significance for Emanuel Rudolph. He made a difference for the future through his commitment to
Our Friend, Rudy
Paul and June Fullmer
Professors Emeritus of English and History, respectively
Family friends
We meet to console each other on our loss of Rudy, and we meet grudgingly because we do not want Rudy to be gone. At first, when we learned of his injury, we were disbeliefing, then hopeful that somehow he would survive. When the sad word of his death came on June 22 our small hope shattered and we were angry at what the fates had dealt to him and to us. Our anger found varied expression. His printed obituary, however long, seemed stunted. It never mentioned, for example, that Rudy had been elected to Phi Beta Kappa as an undergraduate, or that he had been elected to Sigma Xi. It neglected to say that Rudy had held a post doc. at the University of Wisconsin, served in the Army, taught at Wellesley, or that he had made at least seven trips to the Arctic and the Antarctic. In our anger at the necessity for the announcement, we momentarily forgot that there are space limitations placed on any newspaper account. In our anger, too, we railed because at first glance his obituary did so little to convey the passion that was in Rudy.

Rudy's passion was books and collecting them. His collecting concentrated in three areas: the Antarctic, botanical books, and natural history books written for children. He was an especially keen collector of alphabet books, placing his chief emphasis on those printed in this country. How could a newspaper notice reveal the depth of his passion, or the joy Rudy took in building his collections? How could one possibly convey his zeal, his energy, and the hours he spent at it as he carved his library from book sales, from the Goodwill, from estate sales, from the Volunteers of America, from catalogs, from bookstores, from used book dealers, in short, from every possible source he could locate? And how to relate Rudy's joy as he showed you his newest find on his return from what Ann always called "his Saturday rounds?" I think it was maybe about fifteen years ago that Rudy told us he realized that he was seriously infected with the collecting bug when he sent his first overseas cable to a London book dealer.

In time, our anger dissipated. As our shocked grief changed to mourning, we began to remember other things about Rudy. Books were Rudy's passion, but there was far more to him than that bald statement might admit. A passion for collecting books could scarcely account for the warm friendships he and Ann sustained over half the globe.

We meet to console ourselves at Rudy's death, but we meet, too, to celebrate the special gifts that he brought to us. Rudy charmed with his good humor and good will, he was, in short, a fine and easy-going man. He was always cheerful, and kind. He was just. He was, to use a term now in some disfavor, a liberal. He was helpful. He was the embodiment of all that is implied by the term "collegial."

Anyone who ever sat on a committee which Rudy chaired—and this room must be filled with many who did just that—will remember the quiet control he exercised and the almost shrewd way in which he guided a group to a consensus both sensible and sane. It was a rare talent which we can learn from as well as remember. On encountering a particular egregious piece of academic nonsense or a difficult knot of bureaucracy, his temporary response was, "Oh well, fun and games." But that remark was usually prelude to an action or a small speech which Rudy devised to cut through the bureaucratic knot. Courteous, patient, and kindness were Rudy's hallmarks.

Rudy, once he made up his mind on a question, clung to his conclusions. By his lights, the only appropriate dessert after a good meal was apple pie with two crusts; he liked all fruit, but thought fresh ripe apricots were close to heaven; he would accept Jello in a salad, providing it did not have in it "those little marshmallows." Wearing a tie meant wearing a tie tack, sometimes a silver lichen, at other times a little silver figure from Alaska. His favorite joke was a gentle witticism he called his "Leonardo story" or his "Last Supper joke." It was a one-liner: "Will all those who want to be in the picture please sit on one side of the table."

Memories crowd in from the close friendship June and I shared with Rudy and Ann for more than a quarter of a century. I recall that once he told us why he had come to be a botanist. "As a boy of fifteen he was so bored by school that he found a group of elderly bird watchers and regularly joined in their Saturday morning excursions to New York city parks and cemeteries. In college he elected botany as a way to continue those field trips. He eventually became a lichenologist to extend their range.

So, finally, as we meet to console ourselves for losing him, we meet also to celebrate our friend. The phrase "gentleman and scholar" truly applies to Rudy as does Chaucer's description of his poor scholar whose only treasure was books, "and glad did he learn and gladlie teach." We mourn Rudy's passing; we celebrate him as a gentleman and as a scholar. We are, as in Coleridge's words, "sadly misused" by his death.

Our Library Neighbor,
Dr. Rudolph
Bruce Leach, Head
Biological Sciences Library

My name is Bruce Leach. I am the Head of the Biological Sciences Library on campus. I am here because I feel like a neighbor.

I met Dr. Rudolph while I was interviewing for my position here. (He was a member of the search committee.) During one of the interview sessions, he asked if I had a book collection. Since I didn't know him, I made the mistake of saying yes. When he asked me how I had it cataloged and if I had it arranged in any special manner, I realized that he was not your typical professor.

You heard Bill Studer say what a great friend Dr. Rudolph was to University Libraries. Well, he was particularly good friend to us in the Biological Sciences Library. From the way he conducted himself on a daily basis (I think we saw him nearly every day), it was obvious that the Library was very important to him. I have one example: One method we use to acquire books is to have dealers send us books, according to a subject profile, automatically as they are published. We can keep what we want and return the remainder. A new shipment is available for suggestion by faculty and selection by librarians first. Rudy devised to cut through the bureaucratic knot. Courtesy, patience, and kindness were Rudy's hallmarks.

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