Summer 1983

UNIVERSITY OF MINNESOTA

Medical Bulletin

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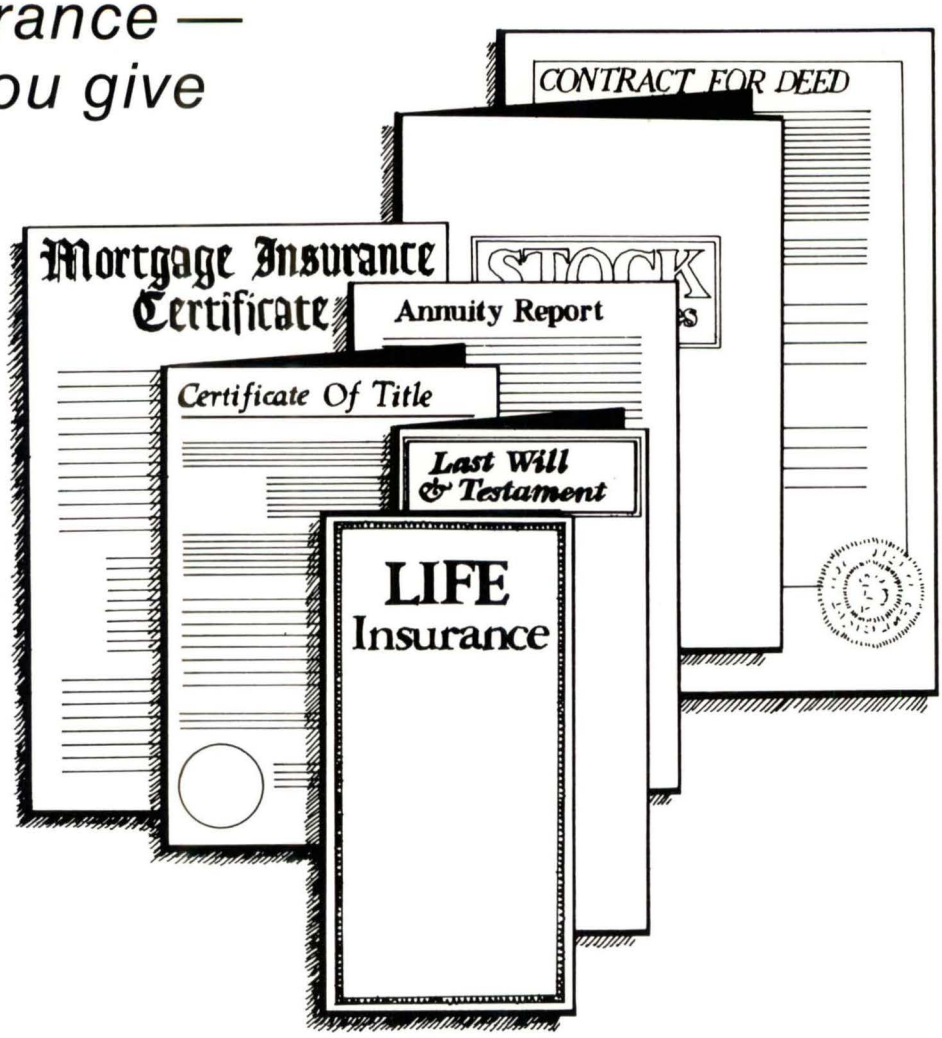
Life insurance — should you give it away?



Despite the negative images it conjures up for some people, life insurance is a marvelously flexible asset, one of the most versatile that you can own. If you have done your estate planning, you undoubtedly have considered carefully the proper place that life insurance should have in that plan.

But have you also considered the part that life insurance might play in your philanthropic planning? Medical alumni and others who wish to help the advancement of medicine through their charitable giving should consider whether life insurance may be advantageous for this purpose.

Life insurance policies often outlive the purpose for which they were originally intended. Perhaps you purchased one to cover a specific need which has disappeared over time, such as an outstanding mortgage or the remaining tuition payments for your child's college education. Or maybe you have smaller, paid-up policies which were purchased for you by your parents when you were very young. Or group policies in which your employer pays the premiums and you name the beneficiaries.

In all of these examples you have an opportunity to make a personally significant gift for medical education and research without giving up additional current income or assets from your estate. You will also receive an income tax deduction for approximately the cash surrender value of the policy.

Younger alumni may find that taking out a new policy, with Minnesota Medical Foundation as the owner and beneficiary, provides a convenient way to guarantee a significant gift for medicine through a series of relatively small annual payments — like giving on the installment plan. And the premiums are fully deductible.

We have prepared a new report which covers both the estate planning and charitable aspects of life insurance. For a complimentary copy of *Life Insurance Creatively Applied*, write the Minnestoa Medical Foundation, 535 Diehl Hall, University of Minnesota, Minneapolis, MN 55455; or use the business reply envelope bound into this issue of the *Bulletin* to request your copy of the report.

Commentary

Editor's Note: We know only too well the magnitude of the decisions physicians make daily in the practice of medicine, and the price tag associated with those decisions. A recent column on the subject appeared in the August issue of Corporate Report Minnesota, and I asked D. J. Tice, managing editor of that publication, if he would permit me to share his column with you. He did. And, I will.

The Miracle Trap
By D. J. Tice

It has been said that those who lived before the turn of the 20th century lived lives more like Julius Caesar's than like yours and mine. Certainly, it is hard in 1983 to imagine what life was like without electricity, or automobiles, or telephones. But no modern marvel more marvelously separates us from our forbears than does the miracle of modern medicine, which routinely saves the lives of people whose diseases could not even be diagnosed 100 years ago.

On page 56, (of Corporate Report) Patricia Grotts tells the story of St. Jude Medical, one of many Minnesota companies in the miracle business. St. Jude's miracle is an artificial heart valve, and the story of its troubled journey to market through a bewildering regulatory maze effectively dramatizes both the degree to which technology has given Man powers once thought God's alone (100 years ago, surgeons could not safely extract a diseased appendix, let alone extract *and replace* a life-sustaining sliver of tissue in a failing heart) and the degree to which such powers burden us with dilemmas — principally the choice between live-saving boldness and life-saving caution — that seem to confound mortal wisdom.

Medical technology may yet present us choices so difficult — so horrible, in fact — that today's regulatory dilemmas will seem child's play. Our scientists' daily breakthroughs promise to prolong the lives of countless people whose

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Cover: Life on the windy, icy slopes of Alaska's Mt. McKinley holds special scientific meaning for two University medical students who recently conducted cold injury and hypothermia research there with grant support from MMF. This is one of Ralph Bovard's photos. The black and white inset photo is of interest not only because June was graduation time, but also because it was only three years ago, identical twins Sandra and Erika Johnson were featured on the cover of the Medical Bulletin.

Update

Medical Foundation approves 30 grants totalling $134,103

The Board of Trustees of the Minnesota Medical Foundation approved 30 grants for medical research totalling $134,103 at its first quarterly meeting of 1983–84 held at 3M's Tarton Park Recreation Center.

The grants were made to faculty and students from the University of Minnesota Medical School and the School of Medicine at the University of Minnesota, Duluth.

John B. Coleman, M.D., president of the Foundation, also announced at the Board meeting that income for the twelve months ending June 30 was $5.1 million, with gifts and grants up by 6.9 percent to $3.7 million over the same period last year. Coleman said, "1982–83 was the most successful money-raising year in the Foundation's 44-year history".

The Foundation awarded more than $800,000 in financial aid to University medical students last year. Total support to the medical schools at both Minneapolis and Duluth campuses for the year just ended was $3 million.

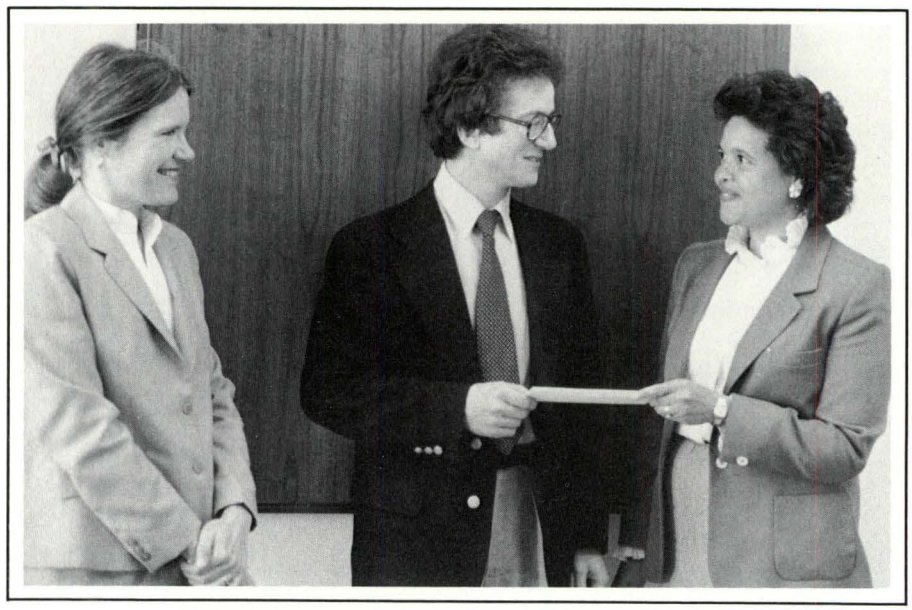
The following faculty members received research grants from the Foundation: Fred S. Apple, asst. professor, Lab. Med/Path, $7,500; Dr. Eileen N. Ellis, fellow, Pediatric Nephrology, $4,000; Dr. Bruce Ferrara, research fellow, Pediatrics, $3,000; Dr. Alfred J. Fish, professor, Pediatrics, $8,000; Dr. Dana E. Johnson, assistant professor, Pediatrics, $7,500; Russell C. Johnson, professor, Microbiology, $6,500; Dr. John D. Mahan, research fellow, Pediatrics, $2,000.

Also, Anne McMahon, postdoctoral assoc., Biochemistry, $5,200; Dr. George Realmuto, assistant professor, Psychiatry, $3,500; Dr. Warren E. Regelmann, assistant professor, Pediatrics, $6,000; Robert L. Sorenson, associate professor, Anatomy, $5,000 and Richard J. Ziegler, associate professor, Medical Microbiology & Immunology (UMD) $5,000.

Special grants awarded were as follows: Dr. A. J. Duvall, III, professor, Otolaryngology, $12,653.76; Dr. Robert W. Goltz, professor and head, Dermatology, $5,000.00; Dr. Stephen Haines, assistant professor, Neurosurgery, $7,250.00; Dr. James B. Howard, professor, Biochemistry, $15,000.00; Dr. Seymour H. Levitt, professor and head, Therapeutic Radiology, $12,500.00 and Dr. F. E. Shideman, head, Pharmacology, $5,000.00.

Twelve student grants awarded by the Medical Foundation totaled $13,500. Recipients and their projects were Elizabeth L. Aronsen, Phase D, $1,200, Spinal Fluid Lymphocytes in Patients with Multiple Sclerosis (MS); Catherine M. Bendel, Phase D, $1,200, Minnesota Prader-Willi Syndrome Study; Paul Bergquist, Phase D, $1,200, An Analysis of Naturopathic Medical Therapeutics in a Scientific Age; Bruce E. DeJong, Phase D, $1,200, An Analysis of Naturopathic Medical Therapeutics in a Scientific Age; Robert S. Figenshau, Phase A, $1,200, Human Renal Cell Cancer in Athymic Mice: Is Tumor Take a Harbinger of Clinical Demise? and Jennifer White Gobel, Phase D, $1,200, Recurrence of Less Common Congenital Heart Malformations.

Also, Susan M. Holt, Phase D, $1,200, The Effect of Treatment Upon Subpopulations of Lymphocytes in Psoriasis and Contact Dermatitis; Nancy L. Johnson, Phase D, $1,000, Influence of Oxygen Tension on In Vitro Fertilization and Cleavage of Mammalian Embryos; Christina M. Pieper, Phase D, $1,200, Visual Contrast Sensitivity and Subjective Color Perception in Huntington's Disease; Jeffrey D. Robinson, Phase B, $900, Review of the Current State of Nuclear Magnetic Resonance (NMR) Imag-



Prudential funds research

Dr. Susan Crutchfield, right, vice president, Medical Services for Prudential Insurance Company, recently presented a check for $6,000 to Dr. Kenneth McClain for his research into cancer in children. Leslie Fox (left), grants writer for the Minnesota Medical Foundation, was also present. McClain's work through the Foundation is a component of an ongoing effort to establish links between viruses and cancer. He hopes to determine how viruses might activate inactive cancer-causing genes in otherwise normal cells. McClain, assistant professor, pediatrics, has extensive research background in viruses that cause cancer in animals.

ing and Clinical Gastroenterology; Penny A. Wheeler, Phase D, $800, Effect of Heparin on Acrosomal Reactions of Human Sperm and its Relationship to Sperm Penetration Capacity and Georgia L. Wiesner, Phase D, $1,200, Minnesota Prader-Willi Syndrome Study.

Cancer predisposition test developed by Yunis

A simple blood test that can show whether some individuals are at high risk for acquiring certain types of cancer is being developed by a University of Minnesota geneticist.

The test, which should be available for routine use within the next year, could indicate whether a person is more vulnerable to assault by cancer-causing chemicals, viruses, radiation or smoking.

Jorge J. Yunis, a professor of laboratory medicine and pathology in the Medical School, recently found that certain "fragile sites" on chromosomes, the gene-bearing bodies in cell nuclei, may act as warning signs for critical rearrangements. When chromosomes break at those sites, a malignant tumor can develop.

Yunis's findings were published in the July 15 issue of the journal Science as part of a major article on chromosomes and cancer.

"Workers heavily exposed to pesticides and insecticides and petroleum and paint products may have a higher risk of developing leukemia if they have certain fragile sites on their chromosomes," Yunis said in an interview.

Smokers with a certain fragile site — located on the short arm of chromosome 3 — may have a higher risk of developing a common form of lung cancer, based on the first indications of a large-scale study Yunis is currently undertaking.

"Now we must confirm the results by testing a large segment of the population," he said, adding that once the test is made more sensitive it may become especially valuable for genetic screening in industry, agriculture and other occupations in which some people are exposed to suspected carcinogens.

Fragile sites on chromosomes were largely curiosities until Yunis made the connection with chromosomal defects and cancer. So far 17 sites have been identified, but Yunis believes that more than 50 eventually will be found, many of them indicating a predisposition to a specific type of cancer.

The presence of a large number of carcinogens in the environment may ultimately prove to be a less important factor in cancer than the genetic vulnerability of some individuals to attack by cancer-causing agents, according to Yunis.

Some fragile sites are inherited, but others are acquired at conception.

MMF awards Boynton scholarships

Drs. Darlene Hall, left and Erika Johnson, right, were awarded Ruth Boynton Scholarships by the Minnesota Medical Foundation during the Minnesota Medical Association's annual meeting in May. Kay Geoffrey, student aid coordinator for MMF, is presenting certificates and $600 checks to the winners.

UMD Family Practice program receives funds

A three-year $174,000 grant to support training in family medicine at the UMD School of Medicine has been awarded by the Bureau of Health Professions in the U.S. Department of Health and Human Services, according to James G. Boulger, associate dean and associate professor of clinical and behavioral sciences.

The funds will be used to develop workshops so practicing family physicians can share their experiences as clinical instructors in the school with future faculty.

"This project will enable the continuance of the already successful Family Practice Preceptorship program," Boulger said.

Levitt named president

Dr. Seymour H. Levitt, professor and head, Therapeutic Radiology, was elected president of the American Radium Society in April at the Society's annual meeting in Savannah, Georgia. Dr. Levitt has been at the University of Minnesota Medical School for 13 years.

Myths about sugar for diabetics studied

Researchers at the University of Minnesota believe that diabetics may be able to eat sugar in their meals more safely than previously thought.

In their study, reported in the July 7 issue of *The New England Journal of Medicine*, Dr. John P. Bantle, assistant professor of medicine, who led the team of researchers on the nutrition project last summer, said the study may signal a change in the basic low, or no-sugar diet now used to manage diabetes.

"In both Type I and Type II diabetics we found that sucrose, when consumed in a mixed meal that also contained protein and fat, did not produce a more rapid rise, a greater peak increment, or a greater area increment in plasma glucose level than did comparable amounts of potato or wheat starch. We see no reason for diabetics to be denied foods containing sucrose as long as weight reduction is not ncessary and provided that sucrose is consumed in controlled amounts in nutritionally balanced meals that also contain protein and fat," said Bantle.

The report in the Journal said, "Our data further support the conclusion that fructose produces less postprandial hyperglycemia than other common types of carbohydrate."

"If you happen to believe, as I do, that life without ice cream is only marginally worth living, our findings might be of some importance to you," said Bantle.

Cover photo presented

N. L. Gault, Jr., M.D., dean of the Medical School, accepts a framed photograph of the late Dr. Maurice B. Visscher from Donald A. Engel, director of development, Minnesota Medical Foundation. The picture, which appeared on the cover of the Spring 1982 edition of the **Medical Bulletin**, *was presented to the Department of Physiology, which Dr. Visscher headed for 32 years before his retirement in 1970. Dr. Gault accepted the photograph for the department.*

Anti-viral drug curbs shingles-related ills

Medical scientists announced recently that a new anti-viral drug called acyclovir effectively stops the spread of shingles in patients with immune system malfunction. Shingles is a sometimes life-threatening condition common in cancer and transplant patients.

In a summary report based on findings at 20 medical centers in the United States and Canada, scientists reported that: "Acyclovir prevented progressive . . . development of (acute herpes) zoster in a significant number of patients and was also associated with fewer treatment failures."

In most people an attack of acute herpes zoster — commonly known as shingles — causes a rash and intense pain. But in one group of patients — those who are immunocompromised — a shingles attack can lead to damage to internal organs such as the liver, lungs and brain. In some cases the virus is life threatening.

In July 1982 a University of Minnesota research group reported in the English medical journal Lancet that intravenous acyclovir accelerates blister healing and pain resolution in patients with normal immune systems.

Dr. Henry Balfour, the head of University of Minnesota Hospitals' clinical virology service and senior investigator of both reports, said shingles poses a significant problem in the treatment of cancer patients, as well as those who have received an organ transplant.

"We estimate that 50 percent of patients with special kinds of cancers, such as Hodgkin's disease, will suffer a shingles attack within a few months to several years following their diagnosis," Balfour said.

"The virus usually results in prolonged hospitalization, but as many as 5 to 10 percent of the patients will be affected by deep organ involvement — the liver, lungs and brain. In some cases, the disease can be life threatening," he said.

A smaller percentage of organ transplant patients — probably 10 to 15 percent — experience shingles, Balfour said.

The multi-center study enrolled a total of 94 patients with approximately half receiving intravenous injections of acyclovir over a period of one week. The remainder of the patients were given a placebo.

"The significance of our findings," Balfour said, "is that the patients who received acyclovir did not suffer any deep organ involvement as a result of the shingles and the virus healed sooner than in the control group."

Goldberg elected president

Dr. Stanley M. Goldberg, clinical professor of surgery and director, Division of Colon and Rectal Surgery at the University of Minnesota Hospitals, has been elected president of the American Society of Colon and Rectal Surgeons.

He took office during the annual meeting held in Boston, June 5–9.

Body wraps trim bank accounts

Persons tired of dieting may be attracted by advertisements suggesting a "body wrap" as a quick way to trim down, but professors at the University of Minnesota say they are worthless and could even be harmful.

"You lose from your pocketbook," said Arthur Leon of the University's Laboratory of Physiological Hygiene. "It just dehydrates a person. The only way to lose weight is to wrap something around your mouth."

The typical pitch from firms that advertise body wraps is that the process breaks down "cellulite" and that a person can lose from five to 15 inches on the first visit. The process varies slightly from one firm to another, but generally the client is wrapped in elastic bandages that have been dipped in mineral oil and then sits wrapped in plastic for about an hour. The price for one session runs about $30.

Leon, director of research in applied physiology and nutrition in the laboratory, said effectiveness claims for the body wrap process have no scientific validity. Furthermore, he said, the wraps could be dangerous for a person suffering from a heart condition or high blood pressure.

The process could be harmful to some persons, Leon said, because the wrap raises the body temperature, causing a loss of perspiration. The loss of perspiration reduces the blood volume, putting additional strain on the heart, which has to beat faster to circulate the remaining blood more quickly to the tissues.

Leon said anyone who contemplates undergoing such a wrap process should check with a physician first, since in the worst instance, a heart attack or stroke could be the result.

Lukasewycz receives Bush fellowship

Omelan A. Lukasewycz, assistant dean for curricular affairs at UMD's School of Medicine, has been awarded a Bush Foundation Fellowship to attend the College Management Program at the School of Urban and Public Affairs at Carnegie-Mellon University in Pittsburgh.

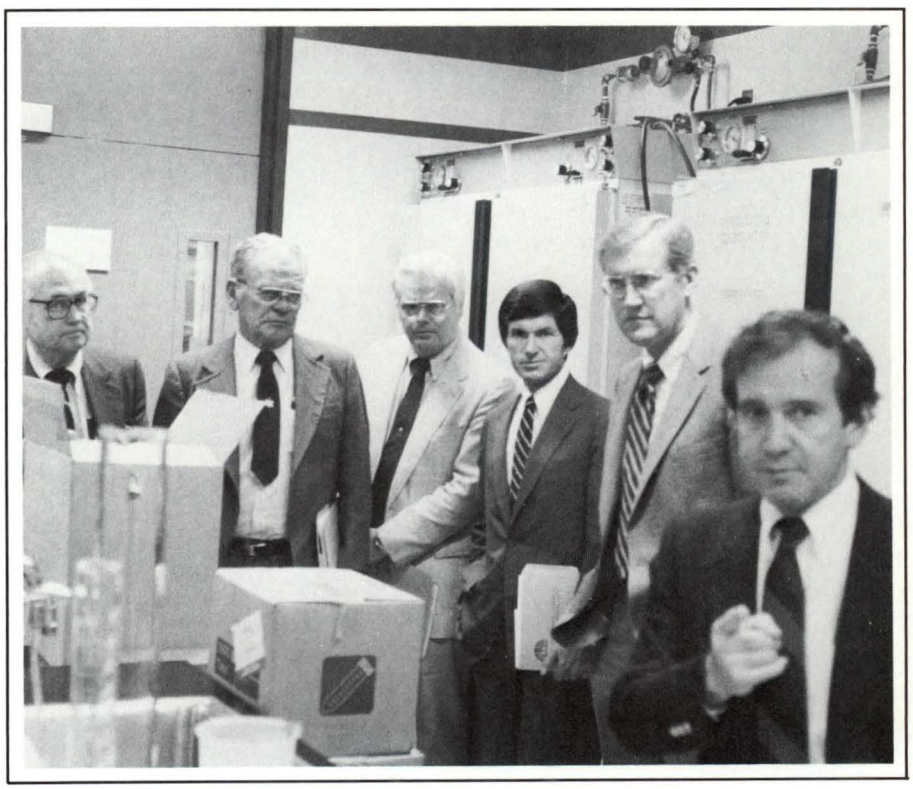
Lukasewycz, who also is an associate professor of medical microbiology and immunology, will attend the program in June.

Lukasewycz has been a member of the School of Medicine faculty at UMD since 1975.

MMF receives 3M grant

The Minnesota Medical Foundation has received a $20,600 grant from 3M to support biomedical education and research at the University of Minnesota Medical School.

"We are pleased that we are able to make this grant because I recognize the special needs of the basic medical sciences at the University in these financially trying times," said Dr. Jerry E. Robertson, vice president of the Health Care Products and Services Group at 3M.



'Meet the Professor' program

Dr. Fritz Bach, right, professor of laboratory medicine and pathology and surgery, appears to be issuing orders to the photographer in this photograph. Actually, he was conducting a tour of his laboratory for some friends of the Minnesota Medical Foundation during a recent 'Meet the Professor' session. On tour with Dr. Bach were, left to right, Dr. John B. Coleman, president of the Medical Foundation; Robert Tucker, Foundation board member; Marshall Everson, chairman of the Medical School's Parents' Committee; Ron DeSellier, a member of the Foundation's investment committee and Eivind O. Hoff, executive director of the Medical Foundation.

Gaviser Award goes to Dr. Carl Arentzen

The first annual Dr. David Gaviser Mount Sinai Surgical Research Award for outstanding achievement in surgical research was presented in June to Dr. Carl Arentzen at the annual dinner honoring chief residents from the Department of Surgery of the University of Minnesota Medical School.

The Department of Surgery, which rotates surgical residents through Mount Sinai Hospital on a quarterly basis, held the dinner in conjunction with the Minnesota Surgical Residents Society at the University's Alumni Club.

Dr. Gilbert Campbell, Little Rock, AR, was named Surgical Alumnus of the Year. He delivered the main talk of the evening.

Dr. John Najarian, head, Department of Surgery, presented certificates for completion of advanced surgery training to 17 physicians who completed their post graduate studies in the Department of Surgery.

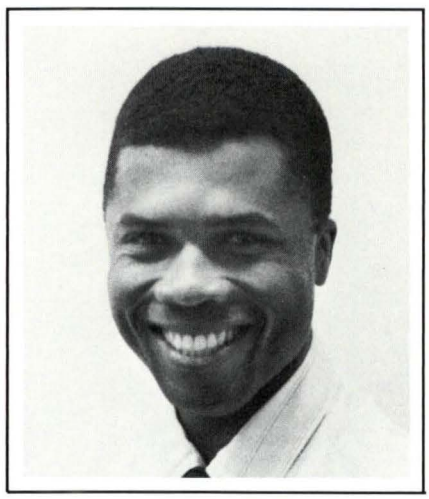
Recipients of certificates were Dr. Carl Arentzen, Wayzata, MN; Thomas Baesl, Toronto, Ontario; William Becker, Ft. Leavenworth, KA; Scott Maizel, St. Paul, MN; Marvin McMillen, NY City; Richard Rucker, St. Paul, MN; Terrence Quigley, NM; Curtis Sheldon, Cincinnati, OH; Kendall Reed, Ft. Sam Houston, TX; Thomas Vanrueden, Minneapolis, MN; Arthur Santos, Salt Lake City, UT; Robert Gifford, Galveston, TX; Jock Simon, Washington, DC; Frederick Herman, Miami, FL; Vendie Hooks, Augusta, GA; James Langevin, Calgary, Alberta and Eric Rolfsmeyer, Sioux Falls, SD.

Free calls for fed docs

According to Carol Ostrow, chief of the University's telephone service, says federal employees who are medical alumni can call the Minnesota Medical Foundation free by using the 'FTS Telephone System.' The number at MMF, for those who wish to call, is 612-373-8023.

Grant will aid blindness research

The Department of Ophthalmology at the University of Minnesota has been awarded a $17,000 grant from Research to Prevent Blindness (RPB) to support scientific research into the causes, treatment and prevention of blinding diseases. The New York-based research foundation has awarded the department more than $158,000 in annual unrestricted grants during the past 24 years.



Hobbs award winner

Josephus Saint Louis, a second-year medical student from Haiti, is this year's recipient of the Delia Tenilla Hobbs Scholarship.

The $1,200 scholarship is awarded annually to a black, second year medical student who has achieved high academic standing. Named for his daughter, it is provided through a gift to the Medical Foundation by Dr. John Hobbs, a 1975 graduate of the Medical School and currently practicing obstetrics and gynecology in Chicago.

Saint Louis did his undergraduate work in biology and physiology at Boston University. A U.S. citizen, he had lived in Boston ten years before enrolling at the U of M. He is a semi-professional soccer player and is primarily interested in how socioeconomic conditions impact on health and health care delivery.

Peterson neurology fellowship awarded

Dr. Kenneth B. Hoj, St. Paul, is the recipient of the 1983 Mary Bizal Peterson Memorial Fellowship in Neurology at the University of Minnesota.

This is the second year the $500 award has been presented. Last year's winner was Dr. Donald T. Starzinski.

The award is presented to a meritorious student beginning a first year residency in neurology at the University. It is made possible by gifts to the Minnesota Medical Foundation by Dr. Edward Nohl Peterson '25 of Virginia, MN honoring his late wife, Mary Bizal Peterson.

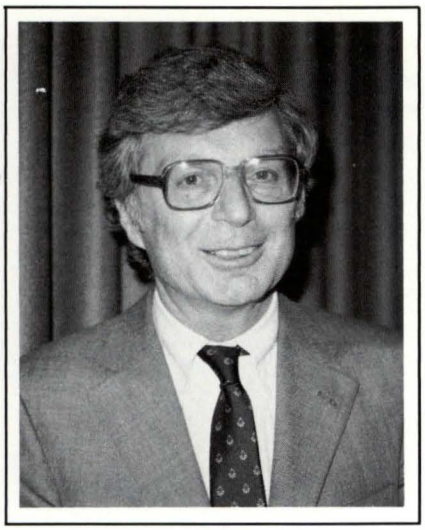
Neil Sedaka headlines 1983 CCRF benefit

The Children's Cancer Research Fund at the University of Minnesota will hold its 1983 "Dawn of a Dream" benefit Thursday, October 6, at Orchestra Hall in Minneapolis.

An exclusive performance by singer Neil Sedaka will begin at 8 p.m. A 7 p.m. reception is also planned.

Jan Humphrey is general chairwoman this year. She will be assisted by Jane Ramsland and Barb Paulson as co-chairwomen. Minnesota North Star Bobby Smith is honorary chairman of the event.

Advance tickets are on sale now. Seats will cost $100, $50, $25 and $15. Contact Gail Gabbert, 1140 Cherokee Rd., Long Lake, MN 55356, or 612-473-3624 for information. Proceeds from the benefit are used to support children's cancer research at the University of Minnesota.



Dr. Moller to head AHA, Minneosta

James H. Moller, M.D., Minneapolis, has been elected president during 1983–84 for the American Heart Association, Minnesota Affiliate. The announcement was made at the Affiliate's 36th Annual Meeting in Rochester.

Dr. Moller, professor of pediatric cardiology at the University of Minnesota Hospitals, has been a Heart Association volunteer for over 10 yeras. During that time, he has served on the board of directors, Heart Disease in the Young Subcommittee, Community Program Committee, Chairman, Heart Health Education in the Young Task Force and member of the Affiliate's Long Range Planning Committee. Moller has also been involved on the national level as a committee member for the American Heart Association.

85 attend meeting of Parents' Committee

More than 85 members of the Medical School Parents Committee attended the June general membership meeting to hear Dr. John Kersey, professor of pediatrics, discuss the University's bone marrow program. The next meeting of the Committee has been scheduled for October.

Promotions and appointments listed

Various departments at the University of Minnesota Medical School recently announced faculty appointments and promotions for the 1983–84 academic year. They include:

IN PEDIATRICS: Dr. George Noren promoted to professor; Dr. Robert Blum, Dr. Stanley Einzig, Dr. James Lock, Dr. Robert O'Dea and Dr. Bill Woods promoted to associate professor; Dr. Blanche Chavers, Dr. Margaret Hostetter, Dr. Tom Kulik and Dr. Debbie Freese promoted to assistant professor; Dr. Elizabeth Braunlin, Dr. Ann Dunnigan, Dr. Greg Elliott, Dr. Bruce Ferrara, Dr. Bonnie Landrum, Dr. Sally Weisdorf, Dr. Gardner Bemis, Dr. Mark Mammel and Dr. Michael F. Sweeney appointed instructor.

IN ORTHOPEDIC SURGERY: Dr. John E. Lonstein and Dr. Alfred F. Behrens promoted to associate professor.

IN SURGERY: Dr. Robert L. Goodale promoted to professor and Dr. Richard Condie promoted to assistant professor.

IN PSYCHIATRY: Dr. Michael K. Popkin promoted to professor.

IN BIOCHEMISTRY: Dr. John D. Lipscomb, Dr. Dennis M. Livingston, Dr. David D. Thomas and Dr. Agnes W. H. Tan promoted to associate professor.

IN OPHTHALMOLOGY: Dr. Herbert L. Cantrill and Dr. Jonathan E. Pederson promoted to associate professor; Dale S. Gregorson, Ph.D., appointed assistant professor.

IN OB/GYN: Dr. Leo B. Twiggs promoted to associate professor.

IN ANATOMY: Dr. Steven C. McLoon appointed assistant professor.

Williams scholarship

Donald Northfelt, right, a second year medical student, received the first annual Dr. George E. Williams Memorial Scholarship in July. The $1,000 award was presented by Mrs. Williams during one of Dr. Albert Sullivan's Phase B classes.

Foundation credited in Leukemia award

Dr. Daniel A. Vallera, associate professor, Therapeutic Radiology and Laboratory Medicine/Pathology, has received the Leukemia Society of America Scholar Award.

The award was presented for Dr. Vallera's immunotoxins research. Specifically, he is attempting to link monoclonal antibodies to extremely potent toxins and use these newly synthesized conjugates to eliminate those cells that cause complications in bone marrow transplantation.

"I know that the support of the Minnesota Medical Foundation and its faith in my ability were instrumental in the Leukemia Society Award," said Dr. Vallera.

About Dr. Vallera's award, Eivind O. Hoff, executive director of the Minnesota Medical Foundation, said, "It does, indeed, prove our 'seed money' concept at the Foundation is working well."

Student achievement recognized

Five medical student achievement awards were presented during the Medical Alumni Society annual meeting in June. The $1,000 awards from the Minnesota Medical Foundation were presented by Board Member Dr. Donn Mosser, (right), to students (L-R) Napoleon Knight, Peggy Naas, Julie Keller, Doris Taylor and Luis Cousin.

GORNICK HERZOG KULIK LIMAS EINZIG VERCELLOTI

Medical researchers receive funds from Heart Association

Sixteen researchers from the University of Minnesota were awarded grants-in-aid and/or fellowships from the American Heart Association, Minnesota Affiliate for 1983–84. The recipients were recently announced at the Minnesota Affiliate's 36th Annual Meeting.

Dr. Charles Gornick received a fellowship and first year grant-in-aid. Dr. Charles Herzog was also awarded a fellowship.

First year grants-in-aid were presented to: Dr. John St. Cyr, Dr. Wayne Shier, Dr. David Thomas, Dr. David Homans, Dr. Ernesto Molina, Dr. John Scheinman, Dr. Jeffrey Schwartz, Dr. Constantinos Limas, Dr. Victoria Iwanij, Dr. Gregory Vercelloti and Dr. Esther Gallant.

The three researchers receiving second year grants-in-aid are: Dr. Stanley Einzig, Dr. Thomas Kulik and Dr. Catherine Limas.

The American Heart Association, Minnesota Affiliate has awarded over $366,000 in fellowships and grants-in-aid to Minnesotan researchers for 1983–84. Other awards were presented to individuals doing heart research at the Mayo Clinic, Veterans Administration Hospital and the University of Minnesota-Duluth.

The American Heart Association and its 55 Affiliates have made a sustained commitment to research over the past 30 years. This commitment has contributed substantially to the declining mortality rate for cardiovascular disease. Over the last 12 years, the Minnesota Affiliate and the American Heart Association have invested almost $10,000,000 to support over 500 heart research projects in Minnesota.

LIMAS SCHWARTZ SCHEINMAN GALLANT MOLINA SHIER CYR

Profile

Burke Memorial Award presented to physician for bringing first aid basics to school kids

Thanks to Dr. Jean O. Lundgren of Minnetonka, more than 600 Hopkins, Minnesota School District children have been introduced to the basics of first aid.

In recognition of her community service project, Lundgren has been awarded the Leonard P. Burke Memorial Award from the Minnesota Medical Foundation. The award was established in 1978 by the Burke family, in memory of the late Dr. Burke.

Burke was a graduate of the University of Minnesota Medical School, and practiced as a family physician in New Jersey. Lundgren was selected from more than 40 University of Minnesota family practice residents for the honor.

Lundgren, who has finished a three-year residency at the Methodist-University Family Practice Clinic in St. Louis Park, is the mother of a seven-year-old son and was somewhat led to her project by him.

"I have worked in orthopedics during my residency rotations and seen adults come in with badly swollen ankles. They had soaked the injured ankles in warm water rather than treating them with ice as they should," said Dr. Lundgren. "At the time I wished I could give basic first aid instruction to adults."

Then, a few weeks later, her son, Poul, came home from school with many ideas and enthusiasm gained during fire prevention week. "He wanted a fire escape from his room and to practice fire drills," she said. "I realized what an impact the teaching during fire prevention week had made. "I thought if I could teach the kids some simple first aid, it would help them and they would carry a lot of it home to mom and dad."

Working with the Hopkins District head nurse, Aiko Higuchi, Lundgren arranged to visit first, third and fifth grade classes at Gatewood, Alice Smith and Katherine Curran elementary schools last winter.

DR. JEAN O. LUNDGREN
With her 'teaching assistant' Charlie

"Mrs. Higuchi inspired me to use an attention-getting device, and I found a monkey hand puppet. I also developed flip charts," said Lundgren.

The children were very responsive and, on a return trip by Lundgren, scored very well on a follow-up quiz she gave. The first graders averaged 86 percent, she said, third graders about 92 and fifth graders about 96 percent.

Some of the tips Lundgren gave to the school children?

* Call 911 for serious emergencies
* Treat burns with cold water
* Apply direct pressure to a bleeding wound
* Always tell your parents when any animal has bitten you
* If you're bitten by a human, you'll probably need to go to the hospital for a stay
* When an injury causes swelling, put ice on it

Lundgren has joined her physician husband, Alston Lundgren, in practice in Eden Prairie, MN.

A Bulletin Feature

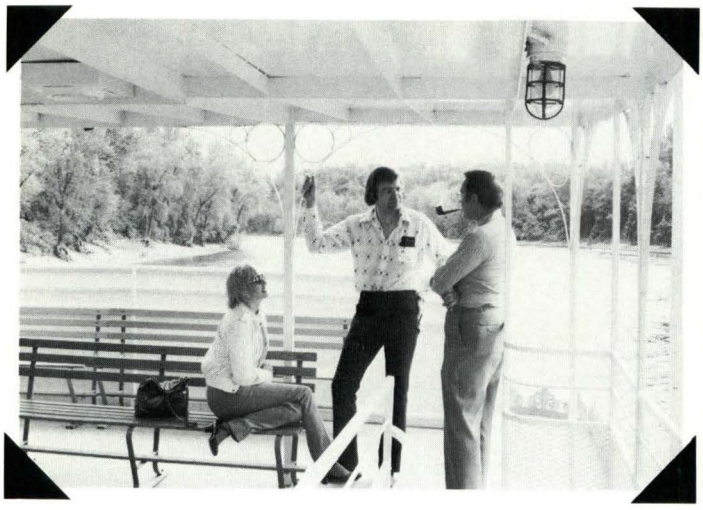
Gopher Medical Graduation '50th Reunion Photo Album

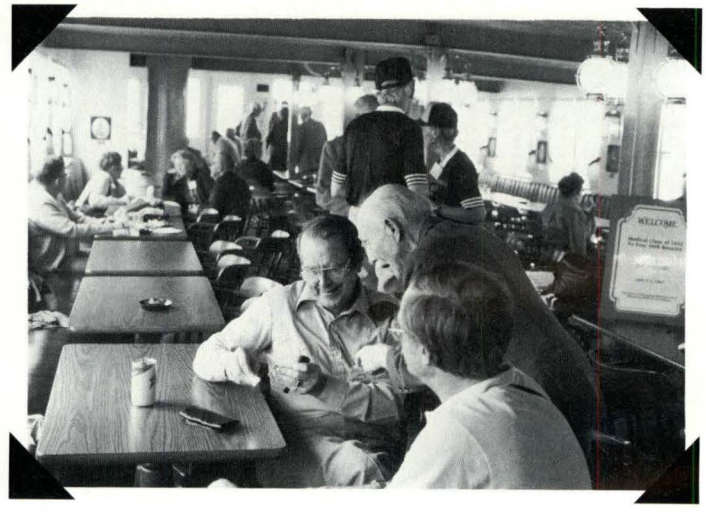
Two hundred-and-seventy-one University of Minnesota medical students became physicians at Northrop Auditorium commencement exercises June 3.

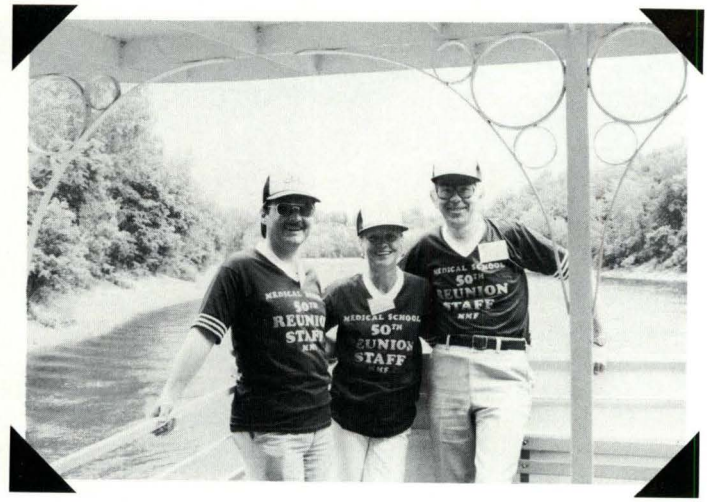
Joining in the pomp and circumstances were 14 members of the class that had graduated 50 years earlier.

Following are some photographs representative of the reunion and graduation events in which the Minnesota Medical Foundation played a significant role.

The River Cruise

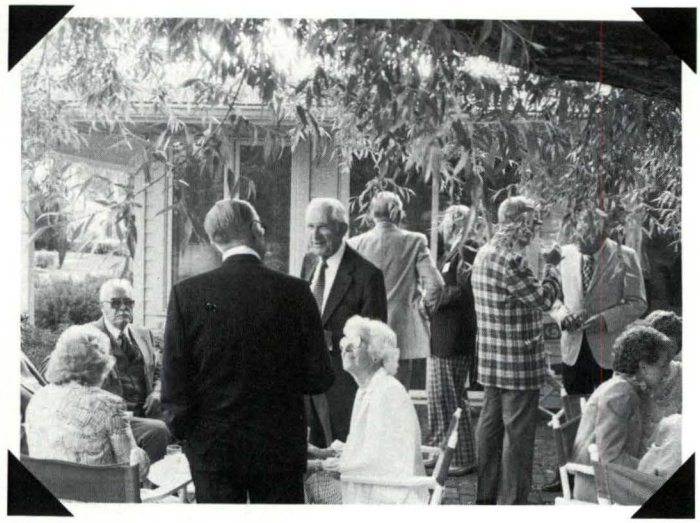




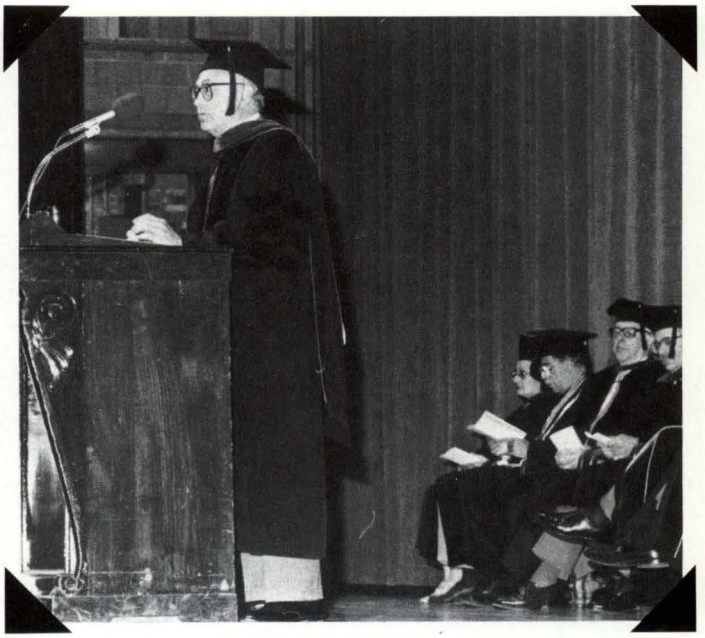


Commencement

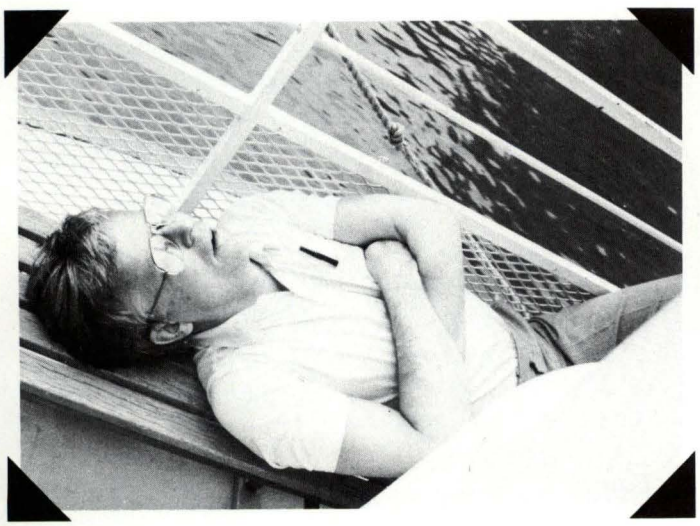
Renewing Friendships

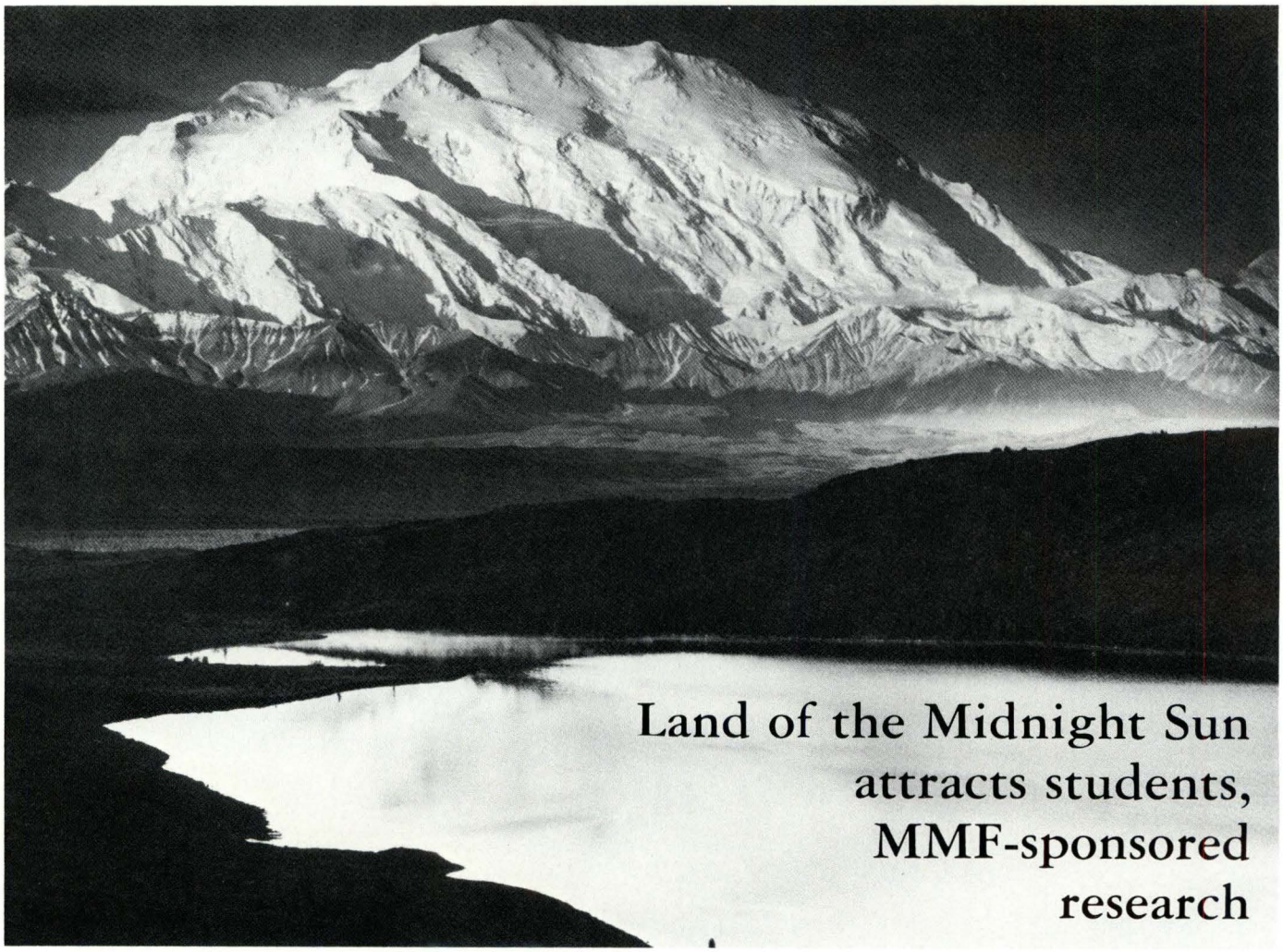


Some Worked



And, Some Didn't





Land of the Midnight Sun attracts students, MMF-sponsored research

The Alaskan range, and specifically Mt. McKinley, offer a challenge and a potential threat to all would-be visitors to its icy slopes. For years, few parties would venture onto the mountain. Recently, however, McKinley has seen an explosion in the number of climbers attempting to claim its summit, and with these numbers, have come an increase in the medical problems associated with climbing a 20,320-foot peak.

Over the years, 12 to 16 percent of the climbers who attempted to climb Mt. McKinley sustained some form of cold injury. One-percent do not live to tell about their experience.

To help elucidate a better understanding of the pathophysiology of the problems faced by climbers and the concurrent treatment for them, an orthopedic surgeon in Anchorage has been studying and treating injured climbers on the slopes of McKinley for the past two climbing seasons. Under an $800,000 grant from the Alaska state legislature in 1980, Dr. William J. Mills initiated what has become known as the High Latitude Research Project. Mills is an internationally prominent authority on cold injury and hypothermia.

Earlier this year, Eric Johnson and Ralph Bovard, fourth-year medical students at the University of Minnesota, were awarded grants by the Minnesota Medical Foundation to participate in Mills' research project. Both seasoned mountaineers, Johnson and Bovard had been students at the University of Minnesota, Duluth School of Medicine. That is where they became interested in cold injuries and hypothermia. That is also where Dr. Robert S. Pozos, an authority on hypothermia is head and associate professor of physiology and biology. Dr. Pozos has received research grants in the past from the Minnesota Medical Foundation for his work in hypothermia.

This is only the second time in the many years the Medical Foundation has been funding student research, that the research was conducted off-campus. We thought the story represented one example of how the Minnesota Medical Foundation relates to and supports the work of both medical schools at the University, and in particular its students.

The stories which follow were written and photographs taken by Johnson and Bovard.—DN

Beautiful but dangerous Mt. McKinley from the north side of McKinley Park. One-percent of the climbers who try each year do not live to tell their story.

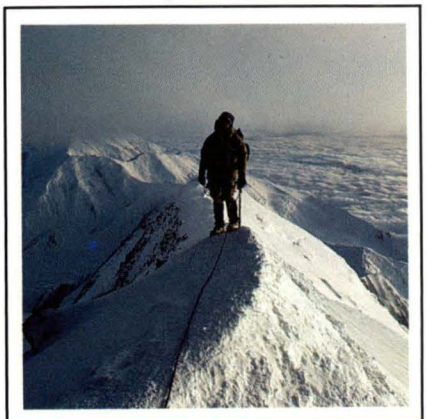
By Ralph S. Bovard

"Eric and I first learned of Dr. Mills' work while we were medical students at UMD. The medical school there hosted the International Hypothermia Symposium in 1981, and we had an opportunity to meet Dr. Mills and learn of his work on Mt. McKinley.

One of our UMD professors, physiologist Dr. Robert Pozos had known Mills and worked with him in the past. Pozos is also an authority on hypothermia and author of a book on that subject. Mills and Pozos both participated in April in the British Army debriefing of the Falkland war as special advisors in cold injury.

Sponsored by grants from the Minnesota Medical Foundation, Eric and I helped study the effects of altitude induced hypoxia and dehydration in the genesis of frostbite, hypothermia, acute mountain sickness (AMS), high altitude pulmonary edema (HAPE), and high altitude cerebral edema (HACE). In recent years 600 to 700 mountain

See 'Bovard' page 16



Eric Johnson, top, and Ralph Bovard, below, are avid mountaineers. They would like to return to McKinley to climb again.

By Eric Johnson

"Many persons, times, and events on this project in Alaska were truly special and provided unique experiences. There are too many to recount, but below I have tried to recall a few and attempt to give a taste of daily living . . . most are recalled as written in my daily journal.

4-11-83: This all seems like a fairytale to me; flying today from Minneapolis to Anchorage and driving directly to Talkeetna, Alaska. The town was dark, the snow falling wet and heavy as Ralph, John Quimby and I drove up to the reknowned Fairview Inn, where McKinley climbers for years have drank, socialized, laughed, recalled their epics and mourned fellow mountaineers. We walked in to a dark room full of people watching Mt. Everest slides narrated by Peter Hackett. As I watched the slides click by, drank beer and met the locals of Talkeetna, I was stunned and awed by it all . . . the night was truly magic.

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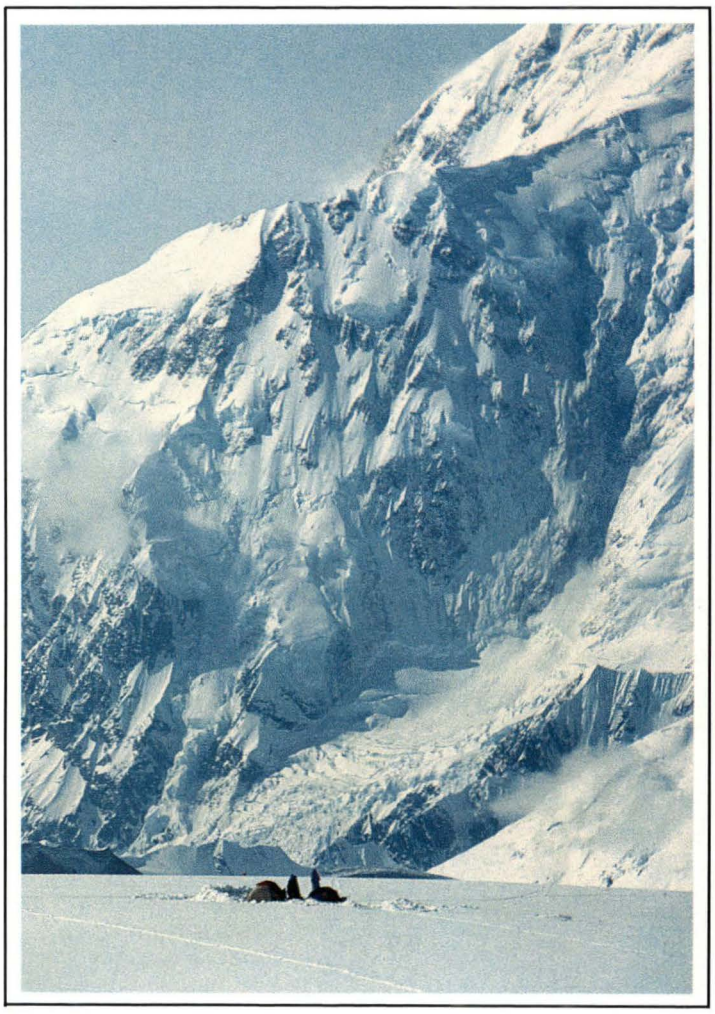
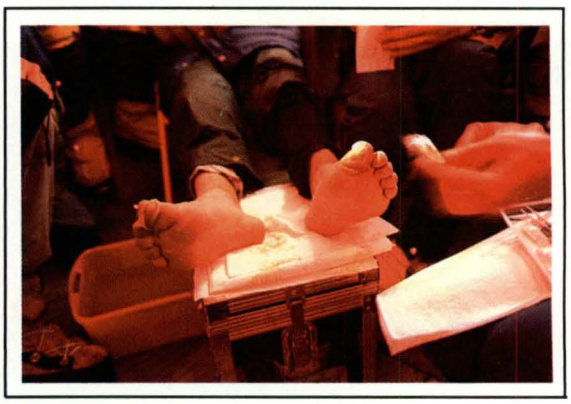


Camp for research station prior to arrival of helicopter with equipment. Mt. Foraker is in background.



***Top:** Frostbite is one of the most common problems seen by researchers.* **Below:** *Peter Hackett, chief researcher at the camp and one of the HAPE victims undergoing continuous postitive airway pressure experiments. Ear Oximeter, hooked to victim's ear, measures oxygen saturation noninvasively.*

'Bovard' (from page 14)

climbers have annually attempted to scale this great peak, known to the eskimos as Denali or the 'high one.' These climbers provide a tremendous research opportunity for the study of cold and hyposic injury. And, that's why we were there.

Other members of the Project were Mill's orthopedic associate, Dr. Dean Rau, (formerly of Willmar, MN, and recently resettled with his family in St. Cloud), Drs. Peter Hackett, Robert Schoene, and Karl Maret, the latter three of whom were all members of the 1981 American Medical Research Expedition to Mt. Everest; a Colorado doctor; three other graduate researchers, and two local project coordinators and mountaineers. Dr. Hackett, who directed, the high altitude research at the 14,300 foot station was one of three Everest team members to reach the summit in 1981. He is one of the foremost authorities in the world on AMS, has authored numerous medical articles on high altitude physiology and has written a widely-esteemed American Alpine Club book on AMS. Dr. Hackett is currently the director of the Himalayan Rescue Association in Pheriche, Nepal.

Eletist, esoteric

While the study of mountain climbers seems at first a bit eletist and esoteric, there is in fact great utility in and valuable implications from the group's work in helping to understand the hypobaric-hypoxic pathophysiology of lung and cardiopulmonary disease. The American Heart and Lung Association was one of the major sponsors of Everest Expedition and many of the medical research instruments used on Everest were used in the project on McKinley.

Among these were a Hewlett-Packard ear-oximeter which photoelectrically, and more importantly, non-invasively, measures the blood SaO2. This instrument was used in virtually every test done on the mountain and was the "sine qua non" in determining and confirming the clinical symptoms of HAPE. A spirometer apparatus was used for studies measuring hypoxic ventilatory drive (HVD) and hypoxic ventilatory response (HVR), the latter being a test in which one rebreathes a limited volume of air until the SaO2 approaches that of a climber at the 30,000 foot level.

It is now thought that persons who have problems acclimatizing at altitudes may, for genetic or other

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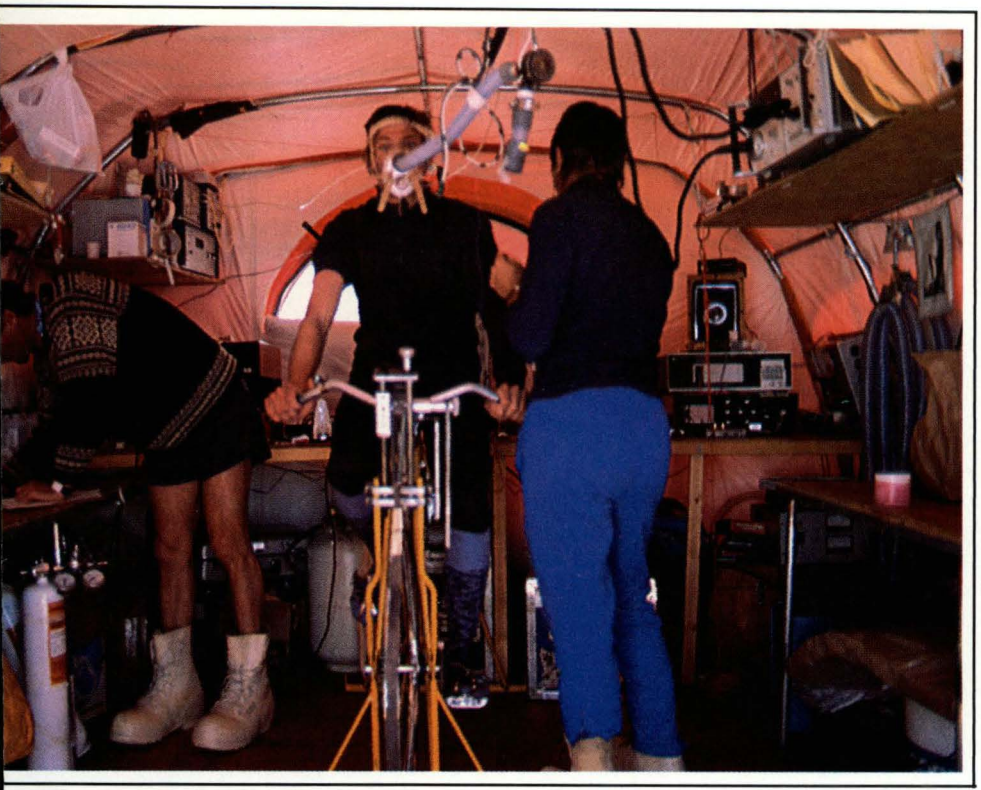


Major research facility at 14,000 ft. level is where patients were treated and tested for hypothermia and other cold injuries.

Chronology

April 11	Leave Mpls., arrive Anchorage.
April 12-20	Preparation.
April 21	Eric flies from Talkeetna onto the 7,300′ camp on the southeast fork of the Kahiltna glacier.
April 26	Arrive at the 14,000′ plateau on McKinley.
May 1	Army chinook helicopters arrive with project gear.
May 9	Medical camp functional, other scientific group arrives.
May 24	Leave medical camp, ski to 7,300′ camp and fly to Talkeetna.
May 27	Ralph flies onto the mountain.
June 15	Talkeetna testing concludes.
June 23	Project equipment flown off the mountain and back to Talkeetna.
June 24	Ralph and rest of project personnel fly from basecamp to Talkeetna
June 27	Leave Anchorage for drive down the Alcan highway.
July 2	Arrive Minneapolis.

'Johnson' (from page 15)

4-22-83, Day 2 on the mountain, 7900′: A long haul today (approx. 6 miles) up Kahiltna glacier but a small rise in altitude. A very tiring day to carry a pack and pull a sled. (6PM) Started snowing and we're now in a total whiteout. Karl and I cook inside tonight to warm the tent . . . I had shrimp newburg with winesauce — Not Bad!

With the weather trapping us in, it gives me time to jot down a few thoughts. It's easy to write with a full stomach, a warm feeling and the Sony Walkman singing out Crosby, Stills, Nash and Young . . . yet, I always wonder what I'm doing here. Four time zones and thousands of miles away from home, cold temps and a certain degree of inherent danger, one wonders why I continue on into the mountains.

4-28-83, Day 8 on the mountain, 14,300′: Today Karl and I saw our first altitude sick patient. He's a member of a three-man Austrian team who cruised up here to 14,000 just too fast. Has a typical altitude cough, puffy eyes without any pedal edema, and was a little ataxic. UA output down. No appetite. We have no meds or equipment so Karl, who's into homeopathic medicine, brewed up some "ochre" root, added some of his homeopathic exhaustion medicine and some Phosphorous . . . I think the best bet is to get him down.

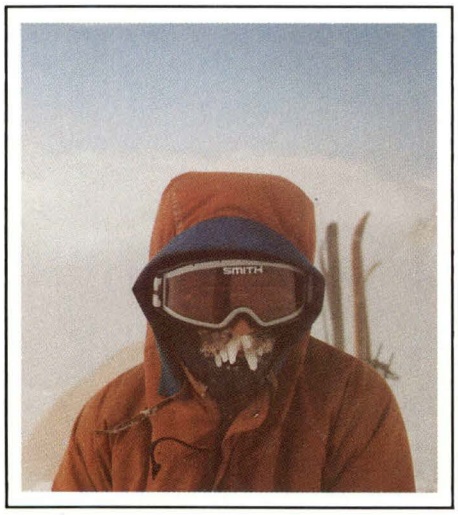
4-29-83, Day 9, 14,300′: The continuing saga of our altitude sick Austrian . . . Last night we convinced his partners to take him down to 10,500 or lower as his ataxia worsened and I worried if we didn't get him down he soon couldn't walk. Anyway, his partners only took him to 12,500 and our report is his condition is deteriorating fast . . . I think we have no choice but call for air rescue.

(Later) Requested air rescue at 12,500 and was it a sight to watch . . . a little helicopter appeared just left of Mt. Hunter, skims over Windy Corner and made the rescue. So far, one death and one rescue on Denali, and the season has hardly begun.

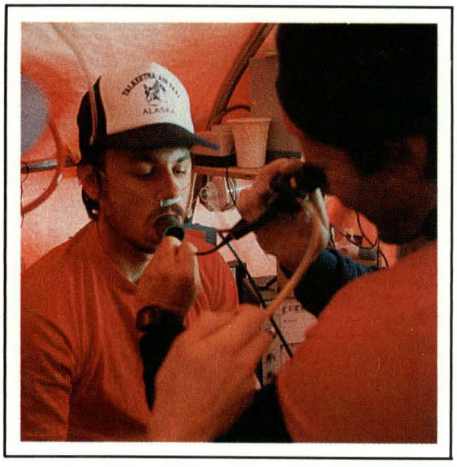
5-1-83, Day 11, 14,300′: The choppers arrived today and what a sight . . . three chinooks set down, one after the other and before we knew it, all was unloaded. We worked hard today to set up one Weatherport and sort the gear.

Special treat of lettuce, tomatoes and Rainier Beer was unloaded . . . a gustatory and taste orgasm! Tonight am having a cheese on raisin bread sandwich with stir fry vegies. Weather was p-cloudy with the ceiling just above us for most of

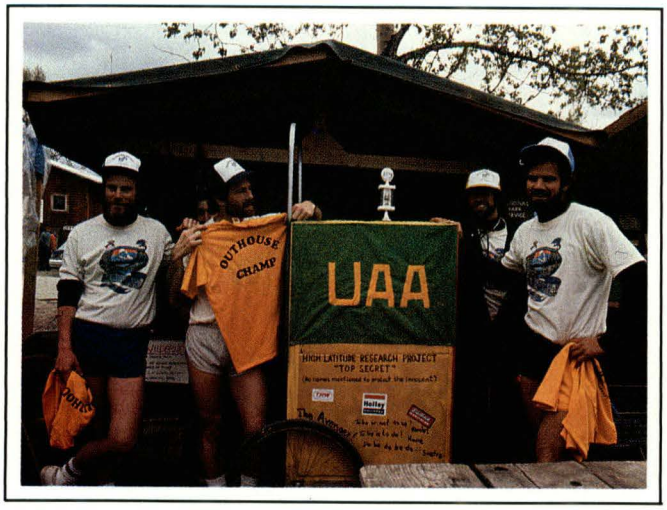
See 'Johnson' page 19



Brian Okonek, mountain guide, with nose noodles during storm at 14,000 ft.



Johnson being bronchoscoped by Dr. Schoene as a control subject.



Even researchers need time to relax. Here are the proud winners of the annual outhouse race in Talkeetna.

'Bovard' (from page 16)

reasons, paradoxically decrease their ventilatory drive in a low oxygen milieu (and increase it in high oxygen environs) rather than increase ventilatory rate and thereby increase oxygen delivery to the tissues as is the normal response. These individuals are then at increased risk of developing HAPE/HACE. If they took any sleep medications at high altitudes thereby further decreasing the respiratory center death could possibly ensue rapidly.

A bicycle ergometer was used for continuous positive airway pressure studies (CPAP). We performed sleep studies on ourselves as well as on several National Park Service (NPS) rangers. A Respitrace analyzer, chest/abdomen harness and the ubiquitous ear-oximeter were used to help evaluate periodic (Cheyne Stokes) breathing, a common occurence at high altitude, as related to SaO2 and apneic breathing.

The sleep studies were performed with a double blind administration of two drugs acetazolamide (Diamox) and almetrine (Duxcil), and a control placebo, both of which are believed to increase the ventilatory drive and hence enrich the body's oxygen supply. Diamox is a carbonic anhydrase inhibitor and has been in vogue with climbers for several years because its diuretic effect is low and it increases the ventilatory rate by creating a mild metabolic acidosis. Duxcil is not yet approved for use in the USA by the USFDA, but apparently is thought to stimulate the carotid chemoreceptors.

Tests thus far seem to indicate that whereas Diamox alleviates apneic and Cheyn-Stokes breathing, the value of Duxcil in augmenting the ventilatory response seems moot at present.

Fluid shifts

Additionally, a bioimpedence analyzer (BIA) or plethysmograph, was used to help evaluate shifts in fluid compartment volume, total body water and the overall hydra-

See 'Bovard' page 20

'Johnson' (from page 17)

the day . . . it finally lowered and we're now in a total whiteout. Am cold, tired and hungry . . .

5-3-83, Day 13: After yesterday my spirits have been high. A combination of listening to Anchorage radio, having a stereo system, warm Weatherports, a nonfreeze-dried meal and especially three letters from Michelle and one from mom. It was a touch of home in all this snow and ice. I smiled all day long when I saw those letters from Michelle and I savored each sentence I read . . . I loved and laughed at the Soap Opera update. I miss her . . .

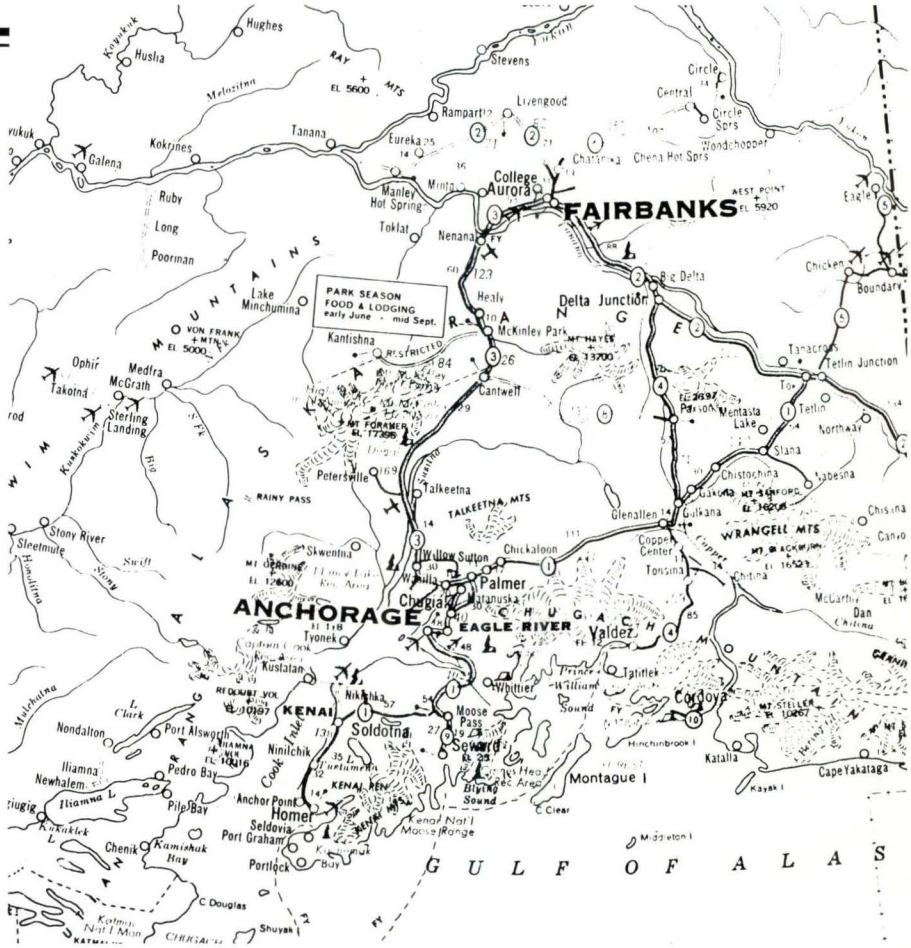
It's now 10pm and still light out . . . Temp is −14F.

5-4-83, Day 14, 14,300′: 9:30 PM. Temp is −20F . . . I guess it might get a bit nippy tonight. It's amazing how light it is now. I've had some problems sleeping lately because of the light for most of the night. An Anchorage radio station says we're having about 16½ hours of light.

5-5-83, Day 15, 14,300′: Temp is now −25F at 10:09 pm . . . a chill in the air. Mountains are like ventures into the unknown part of one's self . . . you always feel so reflective and inward here. I think so many climbers keep coming to the mountains in search of a part of themselves that they can't seem to find anywhere else. Myself, I always seem to think about my future and future's path while embraced in this cold and ice. Strange, that mountains should have such an effect.

5-9-83, Day 19, 14,300′: 7a.m. T −13F . . . skies are clear and beautiful. Last night, in talking to the Talkeetna Ranger station, we found out there are 250 climbers on the mountain . . . more than 150 of them on the West Buttress Route. No wilderness experience here. We've already been busy but it sounds like it's going to get worse.

5-10-83, Day 20, 14,300′: (8:57pm) Right now, we're sweating out a lost person who is reported missing above 19,500. A rescue team left from 17,300 and is



attempting to locate her. Could be a lot of nothing or could be a real problem . . . will wait and see.

My one patient with HAPE/pneumonia has a temp of 100.4F and hopefully falling. He's a frenchman and I've got him on Pen VK and some 02 . . . will probably have to go down.

It's amazing how busy I've been . . . taking care of climbers going to the summit; so busy that I probably won't have a chance to go high even if the research allows me the time because sick climbers won't allow me the time.

5-11-83, Day 21, 14,300′: (5:12pm) A very mild day, very beautiful and I wish I was on the summit. The string of beautiful weather we've had is almost unbelievable . . . this is the 11th good day in a row. Right now, I'm listening to the Denali Turkey Expedition on the summit talking to Jim, of K-2 aviation, as he circles the summit to shoot pictures. What a day . . . I'm envious as hell!! Back here in reality, we have two sick patients who are requiring a lot of attention. The frenchman with HAPE had a S_AO_2 of 38% this AM . . . another Austrian stumbled into camp today with HAPE and HACE, he'll also be spending the night.

The patient load increases . . . I'll be stuck here full time seeing sick climbers. It's sometimes terrible to be both a climber and a medical person . . . the conflict of interest is sometimes unbearable, especially on such a good summit day. Yet, I do get a great deal of satisfaction in helping to keep fellow climbers from making this their last climb . . . still, the summit is really pulling at my heart strings today.

(10:49PM) Tonight was spent taking care of our two patients. Rigging up the K bottles for sleep, drawing bloods for Hcts and serum osmolaity, checking urines, and doing impedence plethysmography for TBW . . . all in all, a busy even-

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'Bovard' (from page 18)

tion levels of climbers. This was found to be especially useful and accurate in detecting volume changes in conjunction with orthostatic, postural changes noted especially in descending or post-summit individuals who were almost without exception dehydrated.

Evidence is accumulating, as Dr. Mills has long believed, that many cold and high altitude injuries may be due to inadequate hydration. A person who loses only one liter of water at sea level and requires only one liter per day replacement may need as much as four to eight liters of fluid replenishment at high altitude to compensate for insensible losses increased by the cold, wind chill, and an accelerated respiratory rate. Use of the BIA, which essentially measures the comparative tissue resistivity, with additional height and weight parameters plugged into a computer formula, allows predictions of an individual's TBW, lean body mass (LBM) percentage body fat, and the impedance-vector phase-angle. By comparing values at sea level with those at high altitude one can see just how great these losses can be.

One of the more novel and exciting studies conducted at the 14,300 station involved the actual bronchoscopic examination of three climbers suffering from HAPE. This work was performed by Dr. Robert Schoene, a specialist in respiratory medicine at he University of Washington-Seattle. There has been much debate as to the exact mechanism and nature of HAPE . . . whether the interstitial and alveolar fluid accumulations were exudate or transudate and what was the specific role of each of the various hormones and chemicals such as the prostaglandins, leukotrienes, serotonin, angiotensin, histamine, etc. in producing the pulmonary edema since many of these hormones are cleared and deactivated by the lungs and cannot therefore be accurately measured by blood assay. Control bronchoscopy was performed on three healthy climbers, one of whom was Eric.

Eric and I each spent alternately one month collecting pre- and post-climb baseline data on mountaineers in nearby Talkeetna, a small bush community 120 miles northwest of Anchorage and 60 miles south of Mt. McKinley.

Baseline studies

The baseline studies we conducted consisted of a brief history and physical (a previous surgically treated cerebral aneurysm and a case of Raynaud's were picked up), urinalysis with specific gravities, blood work on consenting participants for serum aldosterone, serum-vasopressin (ADH), baseline BIA values, and the filling out of a general information questionnaire for each climber studied.

Nearly all climbers are flown by small aircraft (Cesna 185) from Talkeetna to the 7,000-foot Kahiltna glacier on the southeast side of the mountain where they begin their ascent. The vast majority of climbers then follow one of the two most popular ascent routes, either the West Buttress or West Rib, and pass through the HLRP camp where we were at 14,300 feet.

The research station itself consisting of two 12 × 14 red Hanson weatherports (reputed to be able to withstand 150 mph winds), over $100,000 worth of medical and research instruments, $20,000 worth of Panasonic solar panels, a 30-foot antenna, and enough food, propane, and gas to last the group over two months. A total of 3.5 tons in all was airlifted onto the mountain at 14,300 feet by three U.S. Army Chinook helicopters in late April and lifted off in late June.

The difficulties inherent in living for several months in an environment where the temperature drops to −40 and the winds often whistle across the upper face of the mountain in excess of 80-100 mph, let alone operating and maintaining delicate and precision metering instruments and analyzers, become obvious. Generators clog with icy snow and foul, ink pens freeze, solar panels run out of sun, snow drifts over and into everything and the mere task of melting snow for drinking water and preparing food becomes onerous.

Yet, in spite of all this, the research group was able to collect a substantial amount of valuable data and frozen specimens thanks, in large part, to the high number of climbers who attempted McKinley (697 by the end of June 1983) this season.

Field hospital

Inevitably with so many climbers accidents do occur; and while the HLRP was, by design, a research facility, the station served, nonetheless, as an invaluable field hospital and emergency room for climbers suffering from a gamut of maladies — from hemorrhoids and GI upset (common high altitude), to HAPE/HACE, frostbite, hypothermia, and on occasion severe traumatic injuries suffered in falls and avalanches.

As often as possible injured climbers were helped down to base camp by their companions, but in the event of more serious debilitating or acute injury air rescues were called in. Twelve such evacuations were necessary this past season of which the HLRP medical personnel were involved in seven.

There were two cases of severe frostbite, both involving the feet, three cases of fractured arms, legs, or pelvis, 3 traumatic head injuries/concussions, one case of HAPE serious enough for an air evacuation, and one case of HAPE/HACE. Seven of the rescues were made by helicopter at elevations varying from 9,000 to 17,000 feet, with four made at the HLRP station. Three of the rescues were made by fixed wing airplane, two of these occurring at the 14,300 foot research station by Lowell Thomas Jr. in his special "Helio-Courier" turbo plane. Two deaths marred the season, one early in March from a long fall and one in late June in a boggled rescue of a crevass fall. There were no deaths the previous year.

It is anticipated that the data and findings of this important study will be published later this year. It will help not only the mountaineering community but will also provide a better understanding of how the human body responds to hypobaric/hypoxic insult and the cold environment at sea level, as well as up high."

'Johnson' (from page 19)

ing. We hope that tomorrow their respective parties will take them down and that no air rescue will be needed.

It seems so simple to avoid all these altitude problems . . . go slow, stay hydrated and if symptoms arise, stay put and acclimatize or go down for a while and then go back up. It appears most problems arise because people are going up too fast . . . always in a hurry.

5-12-83, Day 22, 14,300′: (10:30pm) Temp=−5F . . . a real heatwave. I have to spend another night watching our Austrian with Hape.

The Mountain elicits such love/hate feelings . . . one moment you can hardly stand the thought of leaving and all you want to do is to put your gear on and climb; and the next moment you hate this ice-covered rock, cold temps, lack of a shower and so many taken-for-granted luxuries that most people think of as necessities. Karl believes that this mountain is special, simply because it's so close to the North Pole, through which the universal forces are transmitted . . . he might be right. So many climbers who have travelled throughout the Alps, Andes, and the Himalayas without so much as a blister, come here and are stricken with a serious acute mountain illness. There is something different about this mountain . . . "

5-14-83, Day 24: "I'm scheduled for bronchoscopy at 9am. I'm to be used as a control. I'm not sure the whole experience of a tube in my right middle lobe is going to be all that exciting, but what else are medical students good for?

Just finished getting bronchoscoped . . . it wasn't bad except for getting around the cords. It was hairy until Brownie gave me some more Lidocaine . . . he tells me I made medical history by being the first control to get bronched at 14,000 feet. Some way to make medical history!!!!"

5-17-83, Day 27: Received a radio call this morning about a person who fell 70ft into a crevasse at the base of Mt. Foraker . . . lots of facial lacerations, he's unconscious and unresponsive to deep pain and is having difficulty breathing due to blood. We talked his party through airway management over the phone and called for a helicopter rescue . . . will wait and see.

(Later) The crevasse fall victim continues to do poorly and is now semi-conscious, but somewhat stable. Fortunately, Scott Gill of the NPS, is here at 14,000 and we're sending him down with decadron and some IV fluids. The weather doesn't look good for a rescue in the next 24 hours and the concern is about hypothermia due to head injury as well as ATN due to poor hydration.

5-18-83, Day 28: Scott skied all night and finally reached the fall victim with some med and fluids. Let's pray for good weather . . .

(Noon) I just listened to what has to be described as an unbelievable rescue. With Jim of K-2 aviation flying cover, Doug Geeting of Talkeetna air Taxi flew through a hole and picked up the victim. He took off into the clouds and flew blind for quite a while . . . these glacier pilots are just unbelievable!!

Lots of people here at 14,000 . . . I've been counting tents at night and have been averaging somewhere between 40 and 50 a night. My high count was 58 tents one night — that's over a 100 people a night here at 14,000. No wonder I'm so busy.

Am taking care of another Austrian with HAPE . . . am going to teach him to play Backgammon tonight even though he doesn't speak English."

5-20-83, Day 30, 14,300′: STORM!! Temp is zero degrees F but the winds are incredible. Our winds have been averaging 40-50 knots with gusts in excess of 60-70 knots . . . we estimate the wind chill somewhere between 80-90F below zero. Peter and I frostnip our fingers while working on salvaging tents, so far we have three of our tents down. Our concern is not for us, but for those parties higher up . . .

(10pm) Mike Covington's group peeled off the West Rib . . . both he and our long-time McKinley guide, Brian, say it's the worst storm they've seen here. Covington's tents are wind-tunnel tested to 200mph, and all three of his tents were blown apart. One of his party has frostbit feet and will need to be flown off. Also saw one climber who spent 40 minutes in the wind with all his head gear on and he still froze his ear solid . . . wild winds."

5-21-83, Day 31: Saw a patient today who complains of episodes of blindness . . . he describes as a shade coming over his eyes about every three minutes. Exam looks OK, we think it must be some kind of vascular spasm. Called a neurologist in Anchorage who thought we should give a O_2/CO_2 mixture. Will watch him through the night."

5-22-83, Day 32: (5:40pm) A very busy afternoon: Our frostbite victim still awaits a flyout . . . A 25 year-old female came into camp today — 4 days post a 700ft fall on the NW buttress. Has a Fx of her right radius and ulna, as well as a probable acetabular Fx. Another plane seat filled on Lowell's plane . . . Just heard via the CB from Brian at 17,000 that two climbers fell from 18,200 to about 17,300 and appear to be hurt bad. Looks like a busy night ahead trying to coordinate a helicopter rescue or lowering them down to our 14,000 camp.

5-24-83, Day 34(Up early to see another climber with HAPE . . . Mike Covington and I took off at 11 am to head down to 7,300 and hopefully fly out to Talkeetna tonight.

(9pm) Just arrived in Talkeetna . . . WOW! The greenery is unbelievable. After 34 days of white, the colors of spring were a shock, a very welcomed one. I've never quite experienced Spring like this . . . the colors, the sounds, the smells — all are so vivid and truly alive. When I first stepped out of the airplane, I was immediately bitten by a mosquito and thoroughly enjoyed the experience, something I never would or could enjoy . . . such is the continuing influence of McKinley.

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A Bulletin Feature

MICROBIOLOGY

An all-University department

By Martha Roth

The all-University Department of Microbiology has a distinguished past, a bright future, and a staff of dedicated investigators and teachers whose interests range from tumor viruses to freshwater biology to toxic shock syndrome to fermentation.

Department head is Regents' Professor Dennis W. Watson, well known for his work on the immunobiology of microbial toxins. Dr. Watson gave up a Research Career Award from the NIH when he became head of the department 19 years ago, and he will retire this year.

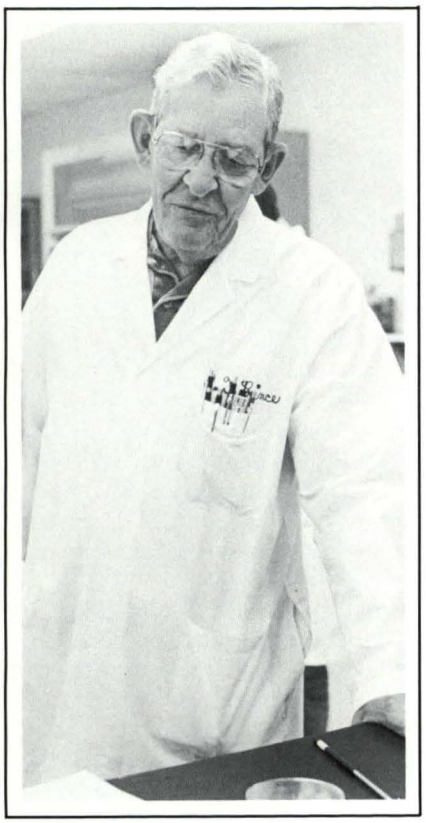
Like Dr. Watson, many faculty members combine work that has clearly visible clinical connections — such as the development of immunizing, diagnostic, or even therapeutic modalities — with work that delves into the basic life processes of the single-celled organisms from which their discipline derives its name.

Immunology is classically an aspect of microbiology, and departmental interactions with immunologists involve the Departments of Surgery, Laboratory Medicine and Pathology, Pediatrics, and Medicine, particularly among specialists in infectious diseases. Microbiologists study immune mechanisms and use such immunological techniques as the development of monoclonal antibodies and immunofluorescence. Recombinant DNA technology and genetic cloning are also tools of the trade.

Teaching, research, service

All medical students take the Phase A microbiology course. Professor Jim Prince, in charge of the Microbiology Teaching Laboratory, says, "Doctors remember this as probably their most miserable time in medical school because their one big question is relevance, but they can't yet see the relevance of the basic sciences," said Prince. During the two-quarter sequence, they learn just how relevant microbiology is to the health of patients suffering from infectious diseases, virus-caused conditions, immune deficiencies, and drug resistance. So do the students in dentistry, nursing, dental hygiene, medical technology, and mortuary science, all of whom pass through the microbiology teaching laboratories, in addition to some 300 students in the Colleges of Liberal Arts and Biological Sciences, IT, Agriculture, Education, and Public Health.

Dr. Gerhard Brand, internationally recognized for his research on foreign body tumorigenesis, is the one who makes microbiology relevant to the medical students. Dr. Brand coordinates "Microbiology for Medical Students" and has twice won the Distinguished Teaching Award. Annually he is invited by the graduating class to play a role in their commencement, at times leading them in the recitation of the Hippocratic oath. Dr. Brand was one of the first researchers in asbestos carcingenesis, and has become an expert in how plastic implants induce carcinogenesis.



PROFESSOR PRINCE
Makes lab studies memorable

Professor Prince supervises the M.S. program in Medical Microbiology, a two-year graduate program designed to train laboratory supervisors in diagnostic microbiology, clinical virology, parasitology, and mycology. The Master's degree program is one of the best in the U.S. Candidates hold a baccalaureate degree in biology, microbiology, or medical technology. "We put them on a two-year course and turn out a professional that can become a section head in a hospital or teaching institution," said Prince.

Under Professor Prince's direction, the microbiology teaching laboratory staff prepares for all experiments in the 38 classes for which the department is responsible. Dr. Watson says, proudly, "At the beginning of the year, all the faculty members give their requirements to Jim Prince, and all the class experiments are ready when needed. It's something they never have to worry about again."

Undergraduate Program

As an all-University department, the academic staff is heavily involved in undergraduate teaching. Professors Dworkin, Hanson, Johnson, Plagemann, Schmidt, Schlievert, Cleary, and Prince all are responsible for major undergraduate courses. They are joined by several academic joint appointees whose primary appointments are in departments other than Microbiology, to cover the teaching load in the department.

Professor Rogers is the chair of the departmental committee on undergraduate studies which handles all the problems of the undergraduate curriculum. He is in charge of the departmental honors program for undergraduate majors in both CLA and CBS.

Dental microbiology is also the responsibility of the department. Professors D. L. Anderson and Bernie Reilly share the lecture duty with Professors Charles Schachtele, Bill Liljemark, and Greg Germaine. They are all microbiologists of stature with primary appointments in Dentistry and joint appointments in Microbiology.

Graduate Programs

Director of graduate studies in the department is Paul P. (Pat) Cleary. The department admits six to eight PhD candidates each year and has a graduate body of 50 to 60 in any given year. "It's difficult to find stable financial support for graduate students," says Dr. Cleary. "The process of getting a graduate education is long; you can't hold a job while you're doing it. Our graduates receive good postdoctoral fellowships, and they have no trouble getting jobs."

Professor Cleary looks forward to two new programs that will be instituted within the department in the next two academic years: An M.S. degree in microbial engineering, which will include both didactic teaching and laboratory work, a summer internship spent in a local industrial laboratory, and a "Plan B" project involving an industrial problem; and the new program in biotechnology, a product of the collective energies of ten departments in the Medical School, the College of Biological Sciences, the Institute of Agriculture, and IT.

Professor Cleary's own work has been with Group A streptococci. He collaborated with the late Dr. Lewis Wannamaker. "Our goal in the lab is to improve the diagnosis of strep throat, using a DNA probe," he says. "Detection technology is an appealing new field: Take a smear and know the diagnosis in an hour, by means of fluorescence."

Infectious Diseases

Another member of the department whose work is closely associated with infectious disease is Professor Russell Johnson, who for years has investigated spirochetes, including *Treponema pallidum*, the syphilis organism; *Leptospira*, which causes human infections and abortion in cattle; and *Borrelia*.

Dr. Johnson is now looking into the connection between "borrelia-like spirochetes and Lyme disease." Lyme disease, or Lyme arthritis, is a baffling inflammatory disorder that was first described in Lyme, Connecticut, and has since been diagnosed in 14 states, including Min-

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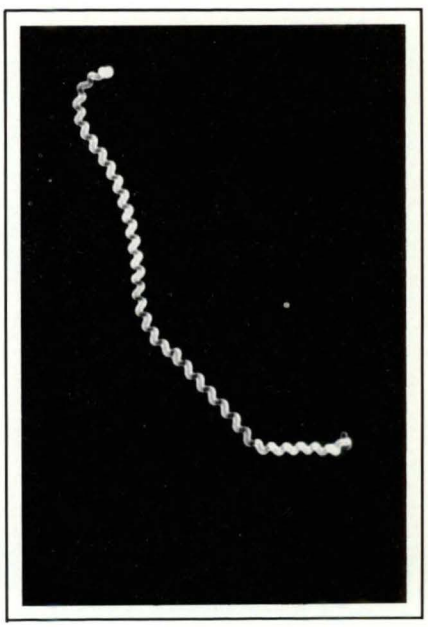


SPIROCHETE
One of Dr. Russ Johnson's

'Micro' (from page 23)

nesota. "We suspect it is tick-borne," he says; "ticks of the genus *Ixodes* are a vector for the spirochetes that cause symptoms in humans."

Patrick Schlievert, a protege of Professor Dennis Watson, has been prominent in the investigation of toxic shock syndrome (TSS) in the past few years. "Minnesota," he says, "is a world center for research on staphylococcus C, the TSS exotoxin. We're developing a model for how TSS is produced — and not just TSS, either. The model should explain streptococcal scarlet fever, streptococcal shock syndrome, and other disease entities in which bacteria are involved and toxins produced.

"People think scarlet fever is a thing of the past, but there are two or three thousand cases in Los Angeles County every year, and there's a pocket of scarlet fever in southeastern Minnesota. It's caused by strep."

Associate Professor Beulah Holmes Gray studied polymorphonuclear leukocytes (PMNs) and their role in the human cellular defense against infection under Dr. Robert Good, while he was at Minnesota. She has been following up defects in the antibacterial activity of white blood cells in a group of young men with chronic granulomatous disease for 15 years.

"When they were little, they called me the 'blood lady'," she says. "Dr. Paul Quie (another joint appointee in Pediatrics and Microbiology) would draw the blood, and I would come and collect it and tell them I was going to take it back and look at it."

Dr. Gray also studies "the spectrum of bacteria that survive in patients. *Pseudomonas aeruginosa*, for example, is a serious problem in hospital-acquired infections, because it rapidly becomes antibiotic-resistant. And a strain called 'slime-producing Pseudomonas' is the infective agent in patients with cystic fibrosis. If we can isolate and synthesize the active fragment of a protein from patients with a defect in phagocytosis, we could actually come up with a vaccine against Pseudomonas infection."

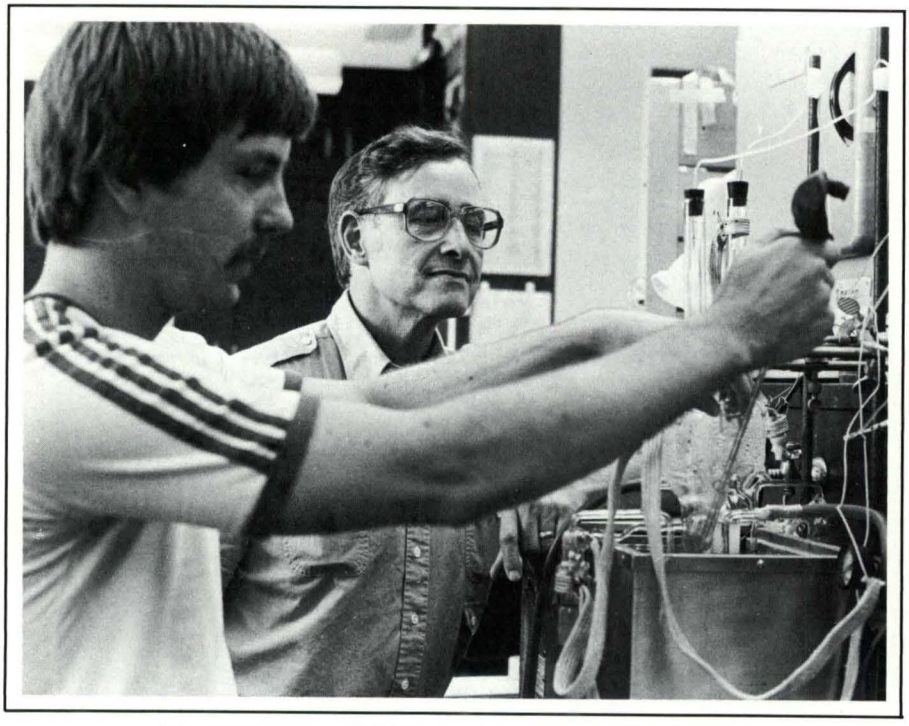
Virology

Dr. Anthony Faras' tumor virology lab includes 15 to 20 staff members at any given time: four or five post-doctoral fellows, four or five graduate students, four or five undergraduates, and technicians.

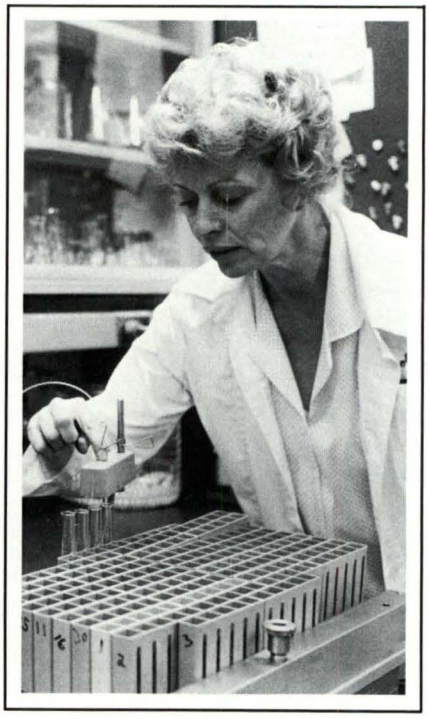
"We're working on two major groups of research projects," he says. "One concerns tumor viruses, or retroviruses, like the ones that cause human leukemias and maybe AIDS, too. The other is on papilloma viruses, the only known viruses that cause human tumors — warts. Patients with chronic benign warts can progress to squamous cell carcinoma. We're looking at what 'turns on' the oncogene — the gene responsible for cell proliferation. In normal cells these are just differentiating genes; but in tumor cells, they're oncogenes.

"We're finding that we may be close to understanding the molecular basis of carcinogenesis. For many years, we have looked at different types of disease as though they were different diseases. It's very satisfying to correlate specific genes with different cancer phenotypes. Perhaps, by virtue of these discoveries, we may be able to inoculate patients against these diseases."

Professor Peter Plagemann's laboratory is also engaged in two types of virological research. One concerns how mammalian cells take up nutrients; it has virological ap-



TAKING E. COLI CULTURE SAMPLES
Dr. Palmer Rogers, right, watches Mike Williams



DR. BEULAH GRAY
At work in laboratory

plications "because it involves the permeability of the cell membrane."

The other major project is a long-term investigation of "lactic dehydrogenase-elevating virus, which was a nuisance back in 1960, because it contaminated all the commercial mouse strains." Now all strains are certified free from the virus, but, says Professor Plagemann, "We think it's an interesting example of persistent long-term viral infection, with possible neurobiological effects. It may have implications for such human diseases as encephalitis, multiple sclerosis, and AIDS."

James F. Zissler also works on viruses, or, rather, on transposable elements (TEs) within cells "that act like viruses. They activate gene expression; they're a key to the 'oncogene' concept.

"Also, we showed how viruses specifically integrate into the chromosomes of the host and 'turn off' their genes. Viruses are very sophisticated and have highly evolved machinery," said Zissler.

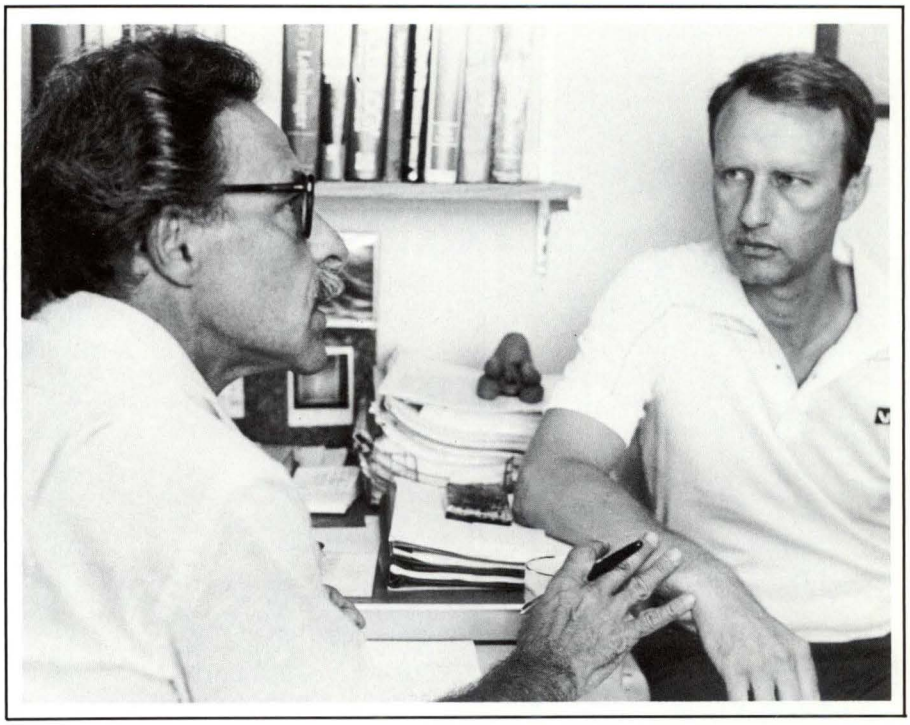
"Only in the last year or so has the mechanism by which a normal cell becomes a cancerous cell begun to be elucidated. In the last five years, molecular biology has been incredibly successful — for example, the discovery that oncogene expression transforms normal cells to cancerous cells.

"In this way, viruses have allowed microbiologists and others to study clinically related problems."

Social bacteria

Professor Zissler's other major project is a collaboration with Professor Martin Dworkin on *Myxobacteria*. Professor Dworkin has studied *Myxobacteria* for 20 years. "They go through the most complicated set of social interactions of any bacteria," says Dr. Dworkin, "and they provide an excellent model for how cells communicate with one another. The basic questions are, first, how communication takes place, or what the language is; and, second, how communication is regulated, or what the syntax is."

Professors Dworkin and Zissler exchange information with Jud Sheridan, in his cell function laboratory in the Department of Anatomy. "*Myxobacteria* are soil bacteria, and in soil they feed on other bacteria. How do they know where those other bacteria are? They respond to the physical presence of objects in their environment."



SHARING VIEWS ABOUT MYXO BACTERIA
Dr. Martin Dworkin, left, and Dr. James Zissler

Professor Dworkin has made stop-motion films in his laboratory by Nomarski interference microscopy, that show agglutinated *Myxobacteria* investigating tiny glass beads as possible food sources, then quite clearly finding them unsuitable.

Professor Edwin Schmidt, whose appointment is jointly with the Soil Science Department in the Institute of Agriculture, also studies soil bacteria. However, his research centers on nitrogen. One group of projects deals with nitrification: "Specialized bacteria metabolize inorganic material only," he says, "and lead to the formation of nitrogen that is useful to biological systems."

Another project deals with nitrogen-fixing nodules on the roots of legumes. This work attracts many foreign visitors to the Department, "especially third-world scientists who are interested in learning our immunofluorescence technique for following a particular bacterium through the nitrogen cycle," said Schmidt.

Biotechnology

In addition to his work on how bacteria like *Escherichia coli* regulate the synthesis of enzymes needed to make their amino acids, Professor Palmer Rogers investigates bacterial fermentation, "in particular, *Clostridium acetobutylicum*, which used to be called 'Weizmann's bacillus' (it was discovered by Chaim Weizmann, the chemist who was the first president of Israel).

"We are interested in the fermentation cycle of this bacterium. This project will be especially attractive to students in our new Master's program in microbial engineering (which Dr. Rogers will direct). We look at that program as kind of an educational cassette that will fit into the Biotechnology Center program." Professor Rogers' research will have relevant industrial applications. "It's important to have this industrial relationship, because it adds new vigor to the department," said Rogers.

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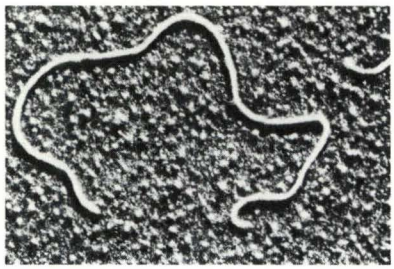
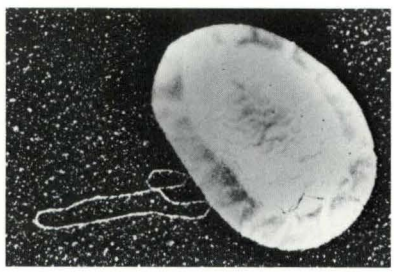
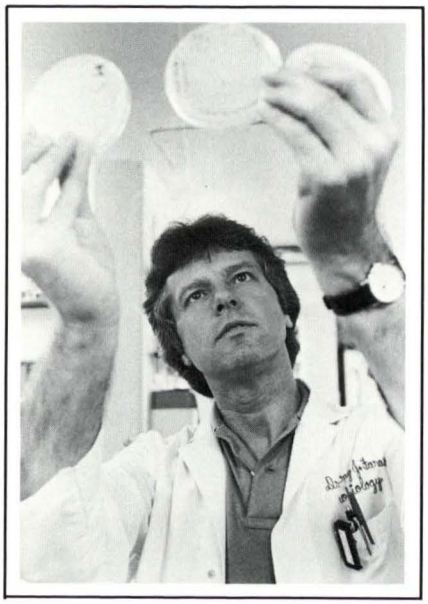


Above *is a plasmid vector, cut with restriction enzyme (biological 'scissors' used for cloning) and opened. Single gene in the upper right will be spliced into vector.* **Below** *is an electron micrograph of plasmid circle with spliced-in gene moving in E. coli bacterium.*





DR. TONY FARAS
Examines DNA in Petri dishes

'Micro' (from page 25)

The department head, Regents' Professor Watson, says, with a laugh, "My early career was in biotechnology." When he was in his early twenties, and a student in Nova Scotia, Dr. Watson investigated European rollmop techniques for the Canadian herring industry. "In my experience, it seems that economic depressions stimulate interest in biotechnology.

An overview

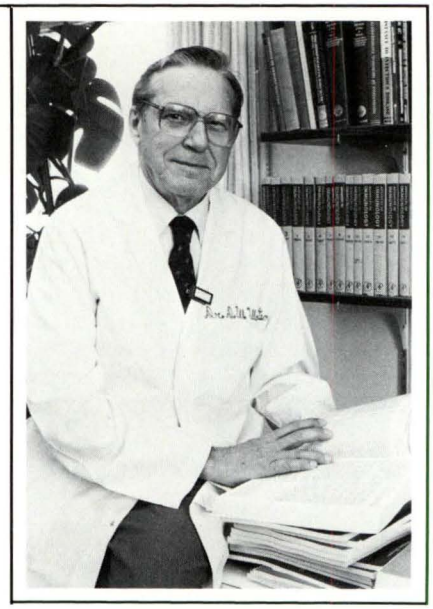
Dr. Watson weathered the great depression and changed the emphasis of his research. "I've worked with microbial toxins most of my life," he said. "And, most of my students have continued work in this area." When he received an honorary D.Sc. from the University of Wisconsin, in 1982, the citation read, in part, "He has advanced our understanding of how bacteria cause disease and how disease may be controlled."

Dr. Watson said, "The new head of this department will have a chance to bring in more people, and I'm sure some new space allocations will be made. New courses and programs will be introduced and I'm sure the department will profit from new leadership.

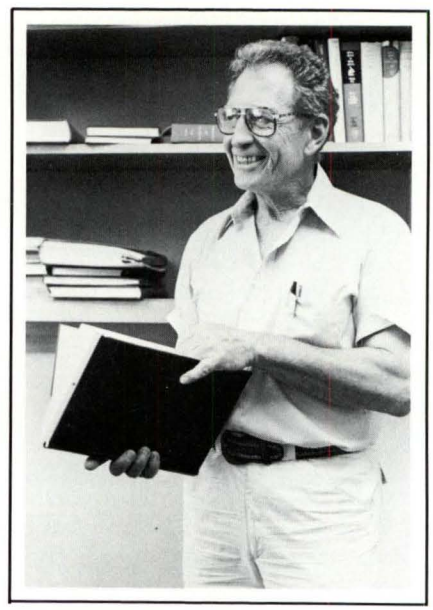
"There are lots of mysteries still," according to Watson. "The application of molecular biology to understanding fundamental mechanisms of pathogenicity has great promise in the immediate future.

"Immunology has extended life, due to control of the childhood diseases. For example, smallpox was prevented by the application of immunology before we even knew it was a viral disease. Antibiotics have had a tremendous influence. Biotechnology and industrial microbiology will influence science and the economy. There's still much to be done."

This is the sixth, and final article by Martha Roth featuring the University's six basic science departments.



DR. DENNIS W. WATSON
19 years as head of Microbiology



EDWIN L. SCHMIDT
Professor of Microbiology

Letters

Editor:

In reply to your invitation to comment on your publication, I would like to say, simply, that I enjoy reading it.

I feel in touch with the latest developments in scientific research, as well as with a faculty of world-wide prestige.

As a graduate of the class of 1932, I offer my sincere congratulations.

Alice H. Fuller, M.D.
Minneapolis, MN

Editor:

What a pleasure to see the class of 1922 and all the familiar faces. I would have been with them except for a two-year interlude with the Hamline Ambulance Service and an expense-paid tour of the Western Front in France for six years.

However, I made it in 1924. The man next to Irene Neumeier may have been named Feuger. The people between Earl O.G. Schmitt and Bob McGandy were Dr. Robert H. Dixon and 'Lane' Hucktausen.

Everybody knew and loved Joe Borg. Continue the good work!

Harold E. Wilmot, M.D.
Litchfield, MN

Minnesota Medical Foundation:

I'm writing to express my gratitude to the members of the committee which selected me for the Dr. George E. Williams Memorial Scholarship. Dr. Williams is revered by my class and past classes as someone who genuinely cared about us; he set an example of concern for others that we all strive to attain.

I'm proud and happy to be recognized as someone possessing qualities worthy of being honored in Dr. Williams' name. I hope that I can preserve and strengthen those qualities in myself, and encourage others to put into practice the ideals embodied in Dr. Williams' name and memory.

Don Northfelt
Medical Student
Minneapolis, MN

Editor:

The Spring 1983 Bulletin is absolutely first-rate. Congratulations! All of our alumni and faculty should get a copy of this superb issue not only for information, but as a lure to make them continuing contributors.

Robert J. McCollister, M.D.
Associate Dean
Minneapolis, MN

Editor's Note: The following letter was received by Eivind O. Hoff, executive director of the Minnesota Medical Foundation, from George Edmonson who recently participated in the medical exchange program we have with England. Travel for this program is funded by the Medical Foundation.

Dear Mr. Hoff:

I wish to thank you for your continued support of the U.S./British medical exchange program and take this opportunity to relate to you some general impressions I developed of the Medical Education system in Birmingham, England. The $500 grant you gave me was used to pay a large portion of my air travel costs to and from England, on Jan. 20th and April 17, 1983 respectively. While in Birmingham I was "in residence" as a senior medical student attached first to Mr. Hamer's firm engaged in general surgery at the Queen Elizabeth Medical Center. This was followed by five weeks of cardiology under Dr. Pentecost at the General Hospital downtown.

In the few months I spent in Birmingham I discovered, with no great surprise, that British medical education is very similar to that in Minneapolis. The primary differences lie in the somewhat different attitudes regarding medical care "across the pond". Most of the contrasts are economic although there are a few cultural differences as well, many of which parallel U.S. medicine historically. The British government offers very solid support for higher education by providing, via local grants, tuition and up to $3,000 per year of living expenses for each university or medical student. This provides quite a contrast to the ever diminishing government support offered to medical students in the U.S. Without the continued assistance of organizations such as the MMF and MMA and staggering levels of personal debt many of my classmates would not have completed their education.

The European students attend medical school for five years beginning at age 17 or 18 and become house officers at age 23. In my experience they seemed as knowledgeable and well trained as their American counterparts. While I can't help feeling that they missed some intangible elements of growth in exchange for bypassing a few years of liberal arts, there is no question that the system generates qualified physicians more rapidly and at much less expense than the American system.

Another small difference is in being a resident. Many of the senior students and virtually all of the H.O.s live in rooms provided by the hospital in which they are employed. This lifestyle works in Birmingham because most H.O.s are not yet married and since house jobs last only six months they must move twice each year. It provides a genuine camaraderie in the Dr.'s mess and is a substantial tax free subsidy to their yearly salary. An unfortunate side of hospital residence is the unpopular necessity of buying most of your meals in the hospital cafeteria. It is my considered opinion that this frequent consumption of institutional food can be causally linked to the generally anemic pallor and psychic discord apparent in most interns.

The British consider themselves more civilized than we colonials (or anyone else for that matter). This attitude prevails in medicine. The working day, including surgeons, runs from 9 to 5 with elevenses, lunch and 4 pm tea and toast daily with two or three weekends a month free. They see no need for weekend rounds nor any reason the patients should be disturbed at 6 am each day. This somewhat paternalistic attitude is also reflected in pa-

See 'Letters' page 28

'Letters' (from page 27)

tient-physician interaction. The physicians tell the patients they will make them better and in exchange for these assurances, even in terminal cases where the family has been told the grim truth, the patients generally accept whatever is said or done medically. With the exception of cases of gross negligence, litigation is never even considered. The litiginous atmosphere in U.S. medicine never ceased to fascinate the British physicians.

British medicine lacks the complexity that we have here: meaning medicine still primarily involves the doctor, nurse and patient and vastly fewer number of things are done for, to or about the patient in the ward. In spite of, or because of this, those that should recover do, and those that won't go home. This simple relationship is embraced by the patient who for example, knowing that there is only one CAT scanner in the whole city does not expect a series of head CT's everytime he falls down and bumps his head. The rest of the NHS involves the local GP's which still make housecalls etc. It was my general impression that the people in Great Britian are satisfied with their medical care system. I would not be.

All the things you have heard about the NHS are true, the majority of which are due to severe financial constraints on medical expenditures. Due to shortcomings in the NHS a private practice medical system is rapidly developing. At present roughly 25% of medical care is delivered on a fee for service basis in private hospitals and offices along with private insurance premiums above the mandatory National Health Insurance each citizen must buy. The rapid growth in the private sector suggest that the British will soon have the two tiered medical care situation that we have in the U.S.

On a more personal level, I thoroughly enjoyed my time in England. I got on quite well with the medical teams I was affiliated with and spent an additional month enjoying the company of some of the people I met there, as well as doing a bit of sightseeing in England and Scotland. I very much appreciate the opportunity to experience British medicine first hand which you helped make possible, and I assure you that my British counterpart benefited from her time here as well.

I gained a greater appreciation of how truly advanced our medical care system is while achieving some insight into its ironies. As one of the students privileged in this — the twentieth year — of the exchange, I strongly urge your continued support. Thank You.

George R. Edmonson M.D.

'Johnson' (from page 21)

6-21-83, In Talkeetna:

3:15am Just called by the NPS to get my gear ready as they have a report that someone fell in crevasse at 8,000ft and CPR is being done on the glacier. They want me to go up with the helicopter, continue CPR and get some IVs started. Helicopter is on its way from Anchorage.

4:30am We send up a fixed wing to drop a CB so we talk directly to the party.

5:15am Helicopter arrives and we immediately hear that the party is dragging the fatality out to basecamp.

6:30am I fly onto the mountain, bag the body and talk to the party. The victim was the wife of the expedition leader. What was weird was that when we flew the body, the husband and a friend of the husband off the mountain . . . I had to sit on the body for the flight out while sitting next to the husband . . . Christ, McKinley can be unforgiving!

I wish to thank the Minnesota Medical Foundation for all its help and support . . . without which this once-in-a-lifetime trip would have never taken place . . .

'Miracle' (from page 1)

physical maladies are utterly incompatible with life. Yet the procedures required to save those lives are and will remain breathtakingly expensive. The day is approaching, with fearsome speed, when our power over death may force us to decide who shall live and who shall die — not because we lack the medical know-how to save everyone, but because we lack the *money* to do so.

It would be pleasant to believe that we will somehow elude such choices, or that we will simply commit ourselves to providing life-saving care to all who need it, no matter the cost. The numbers make such pleasantness difficult to sustain. We already devote 10 percent of our GNP to health care, and an ever-growing share of our health-care bill pays for "extraordinary" medical measures for people who — by reason of their age or the severity of their condition — receive, in the process, relatively brief reprieves from death, reprieves often dominated by pain, invalidism, or mental incapacity. Calculate the pace at which medical research is producing new, extraordinarily expensive extraordinary treatments, and then pick the price tag at which we will face our day of reckoning: 15 percent of GNP? 20 percent? 30 percent?

We got our first glimpse of this cruel dilemma a decade ago. The issue was kidney dialysis, the first and only hope for thousands whose kidneys had failed and who otherwise faced certain death. There were nowhere near enough dialysis machines to serve all those in need; many communities established shadowy boards to make excruciating choices among the candidates for treatment. Congress soon felt crushing pressure to allocate funds sufficient to provide dialysis for every American who needed it — at a cost that in some cases exceeds $20,000 per year. A heartbreaking parade of desperately ill citizens passed before the lawmakers. One man dialyzed himself in the halls of

Congress. Unsurprisingly, Congress bowed to the rush of public sentiment, and decreed that Medicare would henceforth purchase dialysis for any American who could not easily afford it. Congress guessed that the program would cost $400 million a year, and expected the cost to fall as technology improved. In 1982, the cost of the dialysis program was $2 billion. It is still climbing.

Another heart-wrenching parade now passes before Congress — a parade of parents cradling in their arms infants who face certain death without a liver transplant. Such surgery remains essentially experimental — a "success" is any transplant recipient who survives 12 months — and most insurance companies refuse to cover the $100,000 procedure. It is hard to believe that Congress will long resist these pleas, or the pleas certain to follow from patients whose lives depend on other forms of sophisticated treatment — quadruple-bypass surgery, heart transplants, whatever. It is harder still to avoid the conclusion that the day will come when we will have to resist such pleas.

To see how stunted is our capacity to make these complex, perplexing decisions, one need only consider America's schizophrenic responses to the life-or-death choices already confronting us. Within the past year, the Reagan administration has issued rules forbidding doctors to withhold from an infant even the most extraordinary forms of treatment, no matter how severe his mental or physical deformities, and the Supreme Court has ruled that a state may take no action to protect the lives of perfectly healthy fetuses two or three or four months younger.

Such a confusion of values offers scant comfort as we approach our showdown with the bitterest of human ironies — our power to save lives forcing upon us the role of executioner. Knowledge has outrun wisdom, and its lead is getting longer all the time.

Dr. Paul F. Dwan, Bloomington, MN, pioneer pediatric cardiologist and life member of the Minnesota Medical Foundation, died May 29 at Methodist Hospital. He was 78.

Noted philanthropist and founder of two Twin Cities blood banks, Dr. Dwan attended the University of Minnesota Medical School before graduating from Harvard Medical School in 1928.

In 1931, he was named professor of pediatrics at the University and developed the Medical School's pediatric cardiology program. During the 40 years he was on the faculty at the Medical School, Dr. Dwan served without salary.

More than $5 million had been contributed to the University by Dr. Dwan, making him one of the university's top two or three donors. His contributions made possible the Paul F. Dwan Variety Club Cardiovascular Research and Training Center. He also provided two endowed professorships in pediatric cardiology, and generously gave funds for medical research and equipment.

Dr. Maurice W. McInerny, '22, St. Anthony Village, MN, died July 15. He retired in 1972 after 50 years in general practice. He was a staff member for 50 years at St. Mary's Hospital and a member of the Pi Beta Phi fraternity. Dr. McInerny was medical director of St. Anthony Health Care Center, past member of the Knights of Columbus, and the selective service board.

Dr. Erwin E. Stephens, '25, died August 21, 1982 in Laguna Hills, CA.

Dr. John R. Phillips, MS '31, Houston, TX, died April 19. He was 79. A graduate of the University of Maryland where he received his M.D. degree, Dr. Phillips practiced general surgery for 50 years. He was past president of the Minnesota Club in Houston and was a good friend of the late Dr. Owen Wangensteen.

Dr. Henry E. Hoffert, '32, Edina, MN, died July 16. He was 82. Dr. Hoffert was a member of the Hennepin County Medical Society, Minneapolis Surgical Society, Minneapolis Academy of Medicine and the Minikahda Club. He was also a 50 year member of the Minnesota Medical Association.

Dr. James W. Brown, '35, an ophthalmologist, died April 12 in Venice, FL.

Dr. Traugott J. Bloedel, '37, Richfield, MN, died recently. He was 77. Dr. Bloedel was a member of the Osseo Lions Club, Academy of Family Practice and the Hennepin County Medical Soceity.

Dr. Mary Alice Schmidt, '39, Provo, UT, died May 2 at home. She was 68.

Dr. Schmidt interned at University of Minnesota Hospitals and served her fellowship in pediatrics under Dr. McQuarrie. She taught for one year before private practice in Watertown, SD until 1957. She later moved to Santa Barbara, CA and finally to Provo. She is survived by her husband, Dr. J.H. Crawford, '39, an ophthalmologist, and one daughter.

Dr. Donald C. Sterner, '43, died recently in St. Paul, MN.

Dr. Ethel E. Erickson, '46, died recently in Houston, TX.

Class Notes

New officers

New officers and directors have been elected to the Medical Alumni Society for 1983–84.

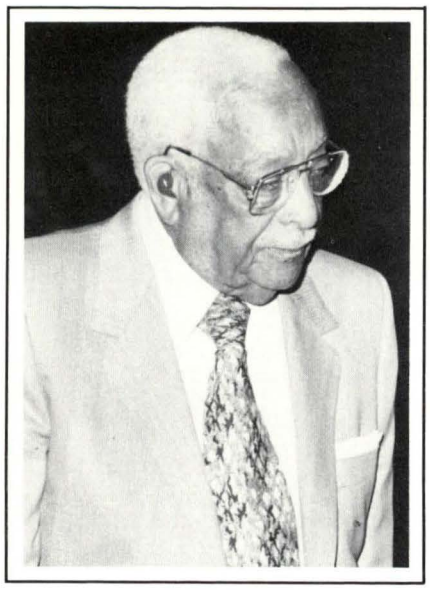
Officers are Dr. Jan T. Adams, '72, president; Dr. Richard A. Carlson, '72, vice president and Dr. Susan E. Crutchfield, '63, secretary-treasurer.

New board members include Dr. Donald B. Swenson, '51; Dr. Kristine Rogich Anderson, '74; Dr. Paul J. Dorsher, '76; Dr. Gary L. Falk, '68 and Dr. Kristofer Hagen, '43.

'29 Dr. Albert Kuske, a family practitioner from Cambridge, MN, is still practicing medicine at the age of 77. His daughter, Diana Murphy, has recently been appointed to a judgeship in Minnesota.

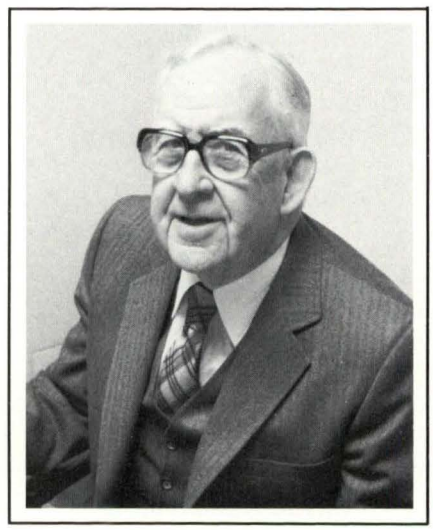
'30 Dr. Walter J. Minor, Houston, TX, received a commendation in June from the Regents of the University of Minnesota. Following graduation from the medical school, Dr. Minor opened an office in Houston in January 1932. The Regents' commendation read in part, "Overcoming the hardships of the 1930's depression, he successfully established himself as a practicing physician and contributed outstanding service to the greater Houston community. He was a stalwart leader in gaining membership for black physicians in the Harris County Medical Society.

He gave leadership to the long battle to desegregate access to public and private facilities. His tireless efforts on behalf of the health and welfare of his community for over half a century have made him an impressive model for other physicians. His leadership and persistence in the struggle for equality have given encouragement to all concerned with human rights."



DR. MINOR

'33 Dr. Albert S. Brussel, Dallas, TX, has been elected into life membership in the Texas Medical Association. Dr. Brussel, who recently attended his 50th Class Reunion at the University, is a retired Brigadier General in the U.S. Army.



DR. BEEK

Harvey O. Beek, St. Paul, will serve as general chairman of the Annual Fund programs of the Minnesota Medical Foundation. Dr. Beek, who practices internal medicine when he is not on the golf course, was chairman of the 1933 Class Reunion held in June. He will also serve as Class Agent for his 1933 class.

'37 Dr. Harry A. Hanson, Fairport, NY, has been retired from the Eastman Kodak Company for 11 years. When he retired he was Corporate Medical Director.

'40 Dr. Robert T. Petersen, a St. Cloud, MN family physician and former trustee of the Minnesota Medical Association, received the 1983 President's Award from MMA.

Dr. Charles Beck, St. Paul, MN, was honored recently with North St. Paul proclaimed a 'Dr. Charles Beck Appreciation Day' in honor of the 30 years of service the physician has provided to the north suburban area. The St. John's family practitioner served as president of the Ramsey County Chapter of the Academy of Family Practice before his retirement earlier this year.

'41 Dr. John R. Haserick, Pinehurst, NC, is one of the few dermatologists listed in both "Who's Who in America" and "Best Doctors in the USA."

'43 Dr. Robert O. Bergan, Duluth, MN pediatrician, has been named the 1983 recipient of the Distinguished Service Award by the Minnesota Medical Association.

'44 Dr. Milton W. Anderson, consultant in the Division of Cardiovascular Diseases and Internal Medicine at Mayo has retired after 35 years of service.

Dr. John J. Regan, Sr., prominent psychiatrist in the Twin Cities, received in June the Harold S. Diehl Award as a Distinguished Alumnus of the University of Minnesota Medical School. The award was announced at the Medical Alumni Society's annual meeting. Dr. Konald A. Prem presented the citation and placque to Dr. Regan's son,

DIEHL AWARD PRESENTED
L-R Drs. Konald Prem, John J. Regan, Jr.

Dr. John J. Regan, Jr. The award has been presented annually since 1962. First recipient was Dr. Owen H. Wangensteen.

'46 Dr. Malcolm A. McCannel has been named the 1983 recipient of the coveted Charles Bolles Bolles-Rogers Award. The award has been given annually since 1952 by the Hennepin County (MN) Medical Society to the physician who through medical research, medical achievement or leadership is selected by his peers as an outstanding example in the profession.

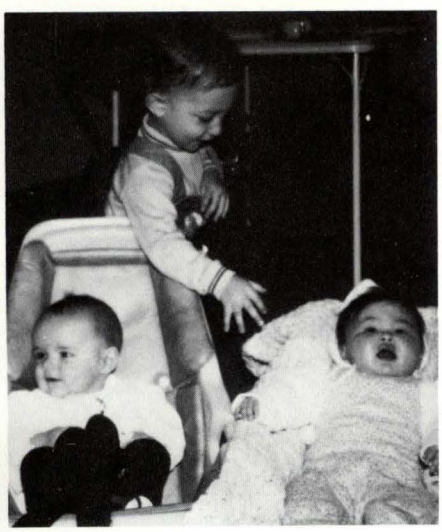
'50 Dr. John H. Allen, Montevideo, MN, took a Bush Fellowship from August '82 to February '83 to study cardiology, rheumatology and geriatrics at several hospitals in the Twin Cities.

'56 Dr. John A. Gronvall, Arlington, VA, has been chosen to be the next deputy chief medical director of the Veterans Administration's Department of Medicine and Surgery.

Dr. Gronvall, who served as dean of the University of Michigan Medical School from 1971 to 1982, joined the VA in February 1983 as its deputy assistant chief medical director for Academic Affairs.

He will succeed William J. Jacoby, M.D., Jr., as second-in-command of the nation's largest health care system. Dr. Jacoby will leave in September after a distinguished career of 35 years in the U.S. Navy Medical Corps and 5 years with VA's Department of Medicine and Surgery.

A board-certified pathologist, Dr. Gronvall will assist VA Chief Medical Director Donald L. Custis, M.D., in managing a medical budget approaching $8 billion, providing care for over 1.3 million inpatients and supporting nearly 18 million outpatient visits every year.



Playing doctor

Odds are that these children are playing doctor. All six parents are physicians, and U of M medical graduates at that: Gail Bernstein and her husband, Thomas Davis; Suni Chun and her husband, David Pautz, all Class of '77; and Christine Hult and her husband, Brian Godfrey, '78.

The Bernstein grandparents were also present when the photo was taken and they are Dr. Irving Bernstein, '42, and his wife, Dr. Dorothy Bernstein, who received her medical degree from the University of Colorado, but took her residency at the University of Minnesota.

'61 Dr. Terrance Henderson was named 1982 Teacher of the Year at the annual meeting of the Minnesota Academy of Family Physicians. Dr. Henderson practices at the White Bear Lake, MN, Family Practice Clinic.

'62 Dr. Merle K. Loken, director of the division of nuclear medicine at the University of Minnesota Hospitals, was installed as president of the Society of Nuclear Medicine during a meeting of the organization in St. Louis.

Loken is concerned about the high cost of hospitalization and advocates a study that would be designed to ensure that nculear medicine procedures will be "clinically efficacious."

He holds five degrees. His honors include several fellowships in radiology and nuclear medicine and citations from medical organizations in Minnesota, Iowa, Japan, Taiwan and India.

Loken has also been awarded an honorary "M" from the men's athletics department at the University of Minnesota for his service as faculty representative to the Big 10, NCAA and Western Collegiate Hockey Association from 1974 to 1981. He served as a naval officer in World War II and the Korean War.

He succeeds Dr. John Burdine of St. Luke's Episcopal/Texas Children's Hospital in Houston as president of the society.

'64 Dr. Carl B. Erling, Corvallis, OR, family physician, has been elected president-elect of the Oregon Academy of Family Physicians. He will assume the office of president in May 1984.

He and his family enjoy tent camping in the mountains and on the beaches, and delight in skiing at Mt. Bachelor in the wintertime.

What's New with You?

New address?
New position?
New medical practice?
New military assignment?
New civic or professional honor?
New book?

Please let us know.

Name Degree Year

New Home Address Telephone

City, State, Zip

New Business Address Telephone

City, State, Zip

New Title or Position

Other News

Thanks!

'66 Dr. David Ahmann, chairman of the Division of Medical Oncology, Mayo Clinic, Rochester, MN, was re-elected secretary-treasurer of the American Society of Clinical Oncology at the society's May meeting.

Dr. Phil C. Roy, Jr., general surgeon, was installed as the 102nd president of the Ramsey County (MN) Medical Society. Dr. Roy also serves as secretary of the Minnesota Medical Association and is clinical assistant professor at the University of Minnesota Medical School.

'67 Dr. Richard Evans, III, Brunswick, ME, has helped write a book entitled *The Journey of a Diabetic,* Simon & Schuster. He is currently in private practice in psychiatry and serves as president of the board of Hyde School, a Brunswick prep school of national reputation.

'70 Dr. Vit U. Patel, Honolulu, HI, has been elected president of the Hawaii Psychiatric Association. He has also been named to the board of director of the Mental Health Association of Hawaii.

Dr. Patel has been the clinical coordinator, Division of Psychiatry, the Queen's Medical Center, since 1974, is an associate clinical professor of psychiatry at the University of Hawaii and assistant chief, Department of Psychiatry, the Queen's Medical Center.

'71 Dr. Ernest E. Lack has been appointed chief of surgical pathology of the NCI laboratory of pathology. For the past four years he has been an instructor and assistant professor of pathology at the Harvard Medical School, Children's Hospital Medical Center in Boston.

'72 Dr. Lloyd G. Bartholomew, a Rochester, MN internist and AMA Delegate was a recipient of the 1983 President's Award presented by the Minnesota Medical Association.

Calendar

Sept. 12-16 Radiology/'83: Special imaging including computed tomography, ultrasound and digital angiography; Willey Hall, U of M, Minneapolis. 612-373-8012

Sept. 12-23 Occupational Health and Safety Institute; Earle Brown Continuing Education Center, U of M, St. Paul. 612-221-3992

Sept. 16 Osteoporosis: Current research, prevention, diagnosis and treatment; St. Joseph's Hospital, St. Paul. 612-646-2252

Sept. 16-17 Pediatric update for primary care physicians; The Saint Paul Hotel, St. Paul. 612-221-3992.

Sept. 28-30 Annual autumn seminar in obstetrics and gynecology; Holiday Inn Downtown, Minneapolis. 612-373-8012

Oct. 12-15 Principles of colon and rectal surgery, Mayo Memorial Auditorium, U of M, Minneapolis. 612-373-8012

Oct. 19-21 Emergency medicine for primary care physicians; The Saint Paul Hotel, St. Paul. 612-221-3990

Oct. 27 Annual meeting of the Minnesota Medical Foundation; Minneapolis. 612-373-8023.

Nov. 10-12 Strategies and controversies in primary care medicine; The Saint Paul Hotel, St. Paul. 612-221-3992

Nov. 30-Dec. 1 Family violence in the deaf community; Sheraton Midway St. Paul, St. Paul. 612-221-3992

Dec. 7-10 Coronary heart disease: A comprehensive review of principles and practice; Sheraton Midway Hotel, St. Paul. 612-221-3992

Class of '33 returns

These distinguished physicians from the Class of 1933 returned to the University of Minnesota Medical School June 2 and 3 for their 50th Class Reunion. Pictured here at the Pool And Yacht Club in St. Paul are, left to right, FRONT ROW: Warren Diessner, Charles Betlach, George Cardle, Donald Nealy, Douglas Johnson, Albert Brussel, Theodore Stransky and Harold Buchstein; BACK ROW: Duane Thysell, Luther Leraan, Malcolm Pearson, Harold Benjamin, George LecLercq, Harvey Beek (reunion chairman), Mark Virnig and Donald Gillespie.

'79 Dr. Lynn A. Christianson has been appointed a consultant in the Department of Anesthesiology at Mayo Clinic, Rochester, MN.

Dr. Ketih L. Johansen has been appointed a consultant in the Department of OB/GYN at Mayo Clinic, Rochester, MN.

Dr. Dwight C. Legler has been appointed a consultant in the Department of Anesthesiology at Mayo Clinic, Rochester, MN.

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ADDRESS CORRECTION REQUESTED

This is the first camp on the southeast fork of Kahltna Glacier. Mt. McKinley is in the background.