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April 1968

ROSE ECHOES

ROSE POLYTECHNIC INSTITUTE

ALUMNI MAGAZINE



ALUMNI ECHOES



APRIL, 1968

VOL. VII, NO. 2

Rose Polytechnic Alumni Association



Adam K. Grafe '25
President

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COVER

The ROTC Brigade Staff and Color Guard pass in review during Parents' Day Activities.

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Executive Officers 1967-68

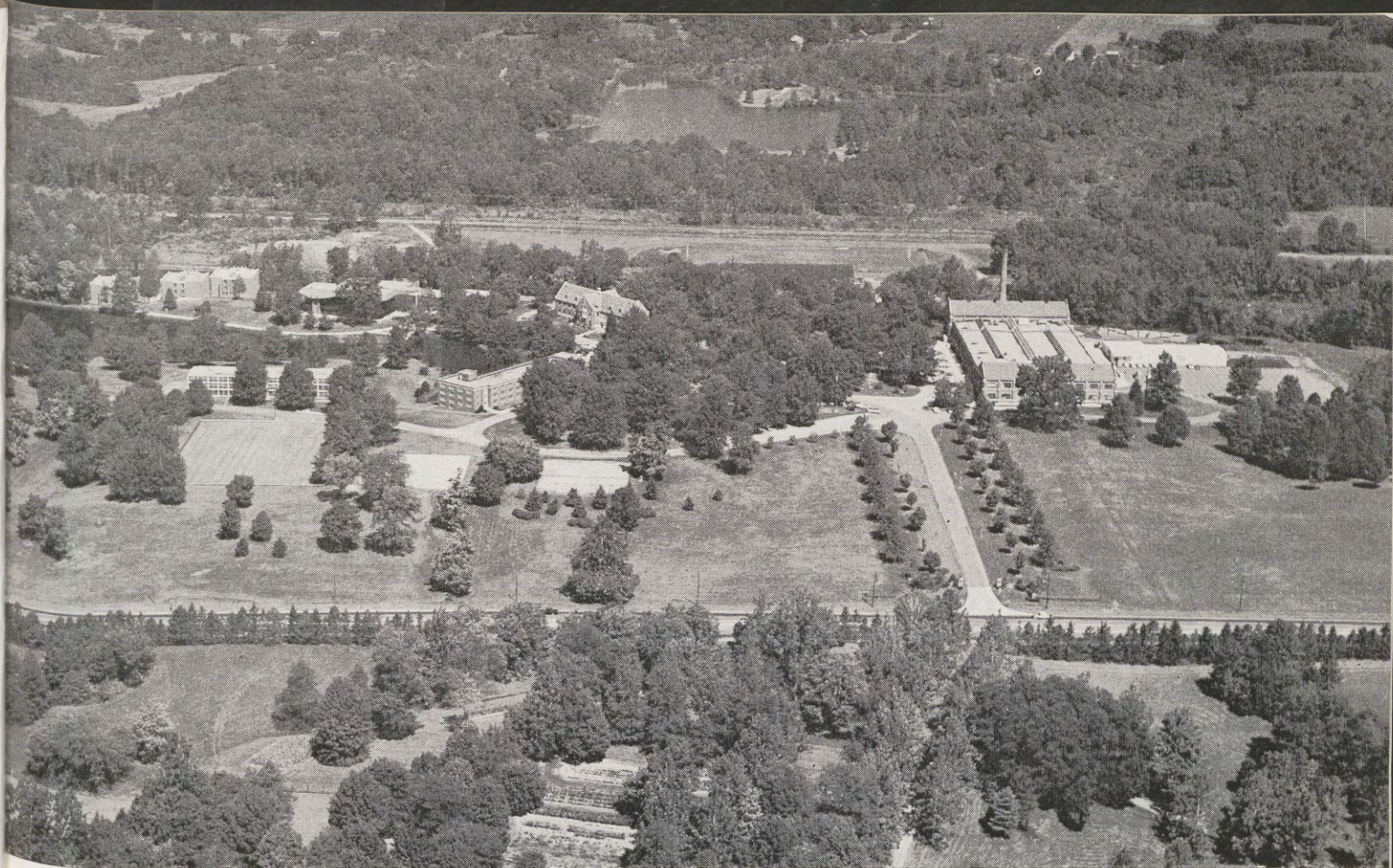
Adam K. Grafe '25	President
Robert L. Royer Apr. '49	Vice President
Anthony G. Blake '31	Secretary-Treasurer

Chairmen of Operating Committees 1967-68

Homecoming	Robert E. Newby '58
Fund Raising	John T. Newlin Feb. '43
Student Recruitment	Owen H. Meharge '54
Rose Tech Clubs	Robert L. Royer Apr. '49
Awards and Recognition	Fred Bogardus '32
Continuing Education	Howard H. Irvin Feb. '43

Alumni Members of the Board of Managers

Carl R. Wischmeyer '37	1964 to Annual Meeting 1968
Russell E. Archer, Sr. '34	1966 to Annual Meeting 1970



Across The Campus

"OPERATION CATAPULT" A Big Success: Two Sessions Planned This Summer.

Operation Catapult was launched as a single four-week session for prospective engineers and scientists last summer. This year, two sessions will be held to accommodate the large number of young men who are expected to apply for the program. The sessions are open to students who have completed their junior year of high school.

Dr. Marvin McMillin, director of Operation Catapult, said enrollment will be limited to 60 students per session. More than 25 inquiries have already been received.

The sessions will include work in mathematics, physical science, the humanities and elementary

engineering problems. Students will attend lectures, but much time will be devoted to extensive laboratory projects on both an individual and group basis.

The Catapult faculty will be composed of professor Herman A. Moench, Vice President for Academic Affairs; Josephus Collect, Distinguished Professor of Engineering; Professor Alfred R. Schmidt of the Mathematics Department; Dr. Oran M. Knudsen, chairman of the Chemistry Department; and, Harry Johnson, science coordinator of the Vigo County Schools. The faculty will be assisted by a group of Rose upperclassmen selected for their academic and leadership abilities.

Dates for the sessions are June 16 - July 11 and July 14 - August 8.

MOENCH ADDRESSES IEEE MEETING IN NEW YORK

At the annual meeting of the Institute of Electrical and Electronic Engineers in New York on March 20th, Professor Herman Moench, '29, reported to the Professional Relations Committee on a proposed code of ethics for IEEE members. This statement recognizes the professional engineer's obligations to the public, to his clients or employers, and to his fellow professionals. Earlier attempts to develop a statement of ethical principles did not succeed, since the IEEE is international in scope and has about 2000,000 members.

During his trip East, Herman also attended the Rose Tech Club meetings of Philadelphia and Baltimore-Washington.

Dr. Logan Elected To National Academy Of Engineering

The highest professional distinction that can be conferred on an American engineer has been bestowed upon Dr. John A. Logan, President of the Institute.

Dr. Logan is one of 50 U.S. engineers who have been elected to the National Academy of Engineering. Members are limited to those who have made "important contributions to engineering theory and practice" or who have demonstrated "unusual accomplishments in the pioneering of new and developing field of technology."

Outstanding Contributions

Eric A. Walker, president of the Academy and president of The Pennsylvania State University, noted that of the 50 elected this year, all have been identified by the 187 incumbent members of the Academy as having made "outstanding contributions to the broad sweep of modern technology."

Dr. Logan's election was for contributions to sanitary engineering, especially in disease control and waste treatment. Others were selected for significant developments in new space systems, nuclear reactors, the Polaris and other weapons systems, earthquake-proof buildings, automatic machine tools, radar systems, computers, iron and steel metallurgy, chemical synthesis, pollution control, aircraft design, petroleum refineries prosthetic devices, fisheries, communications systems, solidstate electronic devices, solar energy, nuclear propulsion and power, management of massive national enterprises, weather forecasting, and transportation systems.

Advises U.S. Government

Membership in the Academy entails participation in its principal activity—rendering advice to the federal government in important policy matters related to engineering. Since its organization in December 1964, the Academy of Engineering has undertaken studies in a number of such areas. A report on promising avenues of research in protecting buildings from earthquake damage is due out this Spring, a study of ocean engineering will be completed later this year, and a third study of attractive opportunities for research in civil aeronautics is under way.

In addition, the Academy has organized committees to propose new designs for an urban bus, to further biomedical engineering, and to study opportunities for action to control wastes in air, water, and on the land.

Dr. Logan is a member of the Academy's Projects Committee which screens proposals which have been submitted for research in the various fields.

Other New Members

Other new Academy members include Charles F. Avila of the Boston Edison Co.; Edward J. Barlow, Aerospace Corp.; Harvey Brooks, Harvard University; Milo Bell, University of Washington; Donald Burnham, Westinghouse Electric Corp.; Stanley Burriss, Lockheed Missiles and Space Co.; Ray Clough, University of California, Berkeley; Arthur Collins, Collins Radio Co.; Ralph E. Cross, The Cross Co.; Ivan Getting, Aerospace Corp.; Robert Gilruth, National Aeronautics and Space Administration; Jerrier Haddad,



IBM Corp.; Lawrence Hafstad, General Motors Corp.; William Hall, University of Illinois; Stephen Jenks, U.S. Steel Corp. (retired).

Wilfrid Johnson, Atomic Energy Commission; Woodrow Johnson, Westinghouse Electric Corp.; Donald Katz, University of Michigan; Percival Keith, Hydrocarbon Research Inc. (retired); Clarence Kelly, University of California, Berkeley; Benjamin Lustman, Westinghouse Electric Corp.; Wilfred MacDonnell, Kelsey-Hayes Co.; Kenneth McKay, AT&T Co., New York; William Mentzer, United Air Lines; Otto Miller, Standard Oil Co. of California; Rene Miller, Massachusetts Institute of Technology; Eugene Murphy, U.S. Veterans Administration, New York; Kenneth Nichols, Westinghouse International Atomic Power Co.

Daniel Noble, Motorola, Inc.; Bruce Old, Arthur D. Little, Inc.; Elburt Osborn, The Pennsylvania State University; Hilliard Paige, General Electric Co.; Gerald Pearson, Stanford University; Maynard Pennell, The Boeing Co.; Eberhardt Rechtin, U.S. Department of Defense; Philip Ross, Westinghouse Electric Corp.; Will Rowand, Babcock and Wil-

(Continued on Page 11)

Rose Board Of Managers Votes 10% Budget Hike To Meet Increased Enrollment

With applications for admission to Rose next fall already 10% ahead of this year, the Rose Board of Managers has approved a budget increase of approximately 10%. Total enrollment is expected to rise close to the 1,000 mark. Chairman of the Board Dr. Henry Y. Offutt indicated the large number of applications is particularly gratifying, since statistics show engineering enrollment throughout the nation is decreasing.

The Board approved plans to convert basement space in Deming Hall into living quarters for 25 additional students. Deming Hall, built in 1921, was the first dormitory at Rose.

Alpha Tau Omega fraternity received the go-ahead for construction of a new house on a portion of land recently purchased by the Institute. The 6¼-acre tract is located at the east edge of the campus. Construction of the house is scheduled for this spring, concurrent with a Rose project to provide utilities for the area and a roadway leading to the east parking lot. More fraternities are expected to build houses on the land in the future.

Professor Ralph M. Ross, Dean of Students, will now be known as Dean of Student Affairs. The title change was initiated by the Board to better describe the enlarged scope of activities under Professor Ross' supervision. Dean Ross, a faculty member since 1946, is also a professor of mathematics.

Other actions by the Board included approval of persons rec-

ommended for honorary degrees at June commencement. Names of the recipients will be announced later.

Pi Tau Sigma Installed

A chapter of Pi Tau Sigma, national honorary mechanical engineering fraternity, was formally installed at the Institute on February 21. Dr. James Bayne of the University of Illinois, national secretary-treasurer of the fraternity; Professor E. Kent Springer, national president; and Professor Dave Clark of Purdue University, former secretary-treasurer, attended the ceremonies which were held in the Main Building. Dr. John A. Logan and Dr. Darrell Criss, dean of faculty, represented Rose.

Dr. James Matthews, associate professor and chairman of the Rose Mechanical Engineering Department; and, Professor Don Dekker, sponsor of the new chapter, also attended. Both men are members of Pi Tau Sigma.

Twenty-three students became charter members of the Rose chapter. They are Philip Gerhart, Peter Hodapp, Robert Gravitt, Thomas Morris, James A. Scott, Toerki Witoelar, Carig Weerts, Jacob Nilsson, James Hopkins, Michael White, John Shambach, Richard Miller, Douglas Bennett, Rex Stockwell, Michael Howlett, Darrell Jones, Larry Olson, Jerald Tarble, James Tomlinson, Edward Neu, James Wong, John A. Jacobi and David Trueblood.

Board Elevates Five Members of Faculty

Dr. James B. Matthews, head of the Mechanical Engineering Department, was one of five members of the Rose faculty to be elevated to a new position of responsibility by the Board of Managers. Dr. Matthews, who came to Rose in 1957, was promoted from associate professor to professor. He earned his Ph.D. degree from the University of Arizona.

Another member of the Mechanical Engineering Department, Dr. Donald C. Chiang, was promoted from assistant professor to associate professor. Dr. Chiang received his Ph.D. degree from the University of Minnesota and joined the faculty in 1965.

Dr. Charles C. Rogers, chairman of the Electrical Engineering Department, received a promotion from associate professor to professor. He was granted his Ph.D. degree from Purdue University and has been on the faculty since 1961.

Dr. Ralph A. Llewellyn, an associate professor in the Physics Department, was named a professor by the Board. He also received his Ph.D. degree from Purdue University and came to Rose in 1961.

A member of the faculty since 1958, Anthony G. Blake was promoted from associate professor to professor in the Chemical Engineering Department.

Professor Carr Harnessing Electricity For New Uses in Home and Industry

Kenneth R. Carr, associate professor in the Electrical Engineering Department, is busily engaged in four separate projects involving new types of inverters.

He is serving as a consultant to Welco Industries of Cincinnati in the creation of an economical and reliable source of power for homes located beyond the reach of power lines. The inverter on which Professor Carr is working will be used in conjunction with a fuel cell now under development at the Pratt and Whitney Aircraft Division of United Aircraft Corp.

The fuel cell generates low-voltage direct current electricity and operates on either natural or bottled gas. Professor Carr's inverter will convert this current into 120 volt AC electricity for household use.

The entire unit will have no moving parts, will be silent and will only occupy four square feet, so it can easily be installed within a home. Life expectancy for the fuel cell-inverter system is placed at over 20 years. The inverter utilizes solid-state, silicon-controlled rectifiers and transistors.

Professor Carr is also developing an inverter to provide emergency standby power for the home. The unit will convert low-voltage direct current from a truck, tractor or automobile battery into 120-volt AC electricity.

A third project involves creation of an inverter which would modernize and simplify the transportation of frozen foods. Foods are presently kept frozen by piping liquid nitrogen through the shipping containers. This method necessitates external tanks and

demands a constant supply of liquid nitrogen.

With the perfection of the inverter, the shipping containers could be cooled electrically by converting low-voltage direct current from the truck battery into regular 240-volt current. The same current would be available while the containers were at the loading docks or in cargo planes, which are already equipped with 240-volt systems. Changing from one transport to another would simply involve switching electrical cables, instead of connecting bulky liquid nitrogen tanks.

Carr is also working on another device for Welco Industries which converts 60-cycle, three-phase current into variable-voltage, variable-frequency power for controlling induction motors. It will soon go into production for use in drilling and other operations which require exact speed control of motors.

3 FACULTY MEMBERS VIDEOTAPE COURSES

International Business Machines Corp. has videotaped courses by three Rose faculty members for use in its nationwide internal training program. The courses were recorded at IBM's Greencastle, Ind., plant.

Dr. James B. Matthews, associate professor and chairman of the Rose Mechanical Engineering Department, presented a course in machine design.

A course on physical metallurgy was given by Irvin P. Hooper, professor of mechanical engineering.

Dr. P. David Smith, associate professor of electrical engineering, recorded a course in electronics.

BALL STATE RESIDENCE HALL DEDICATED TO DR. PRENTICE EDWARDS

Dr. Prentice D. Edwards, visiting professor of Mathematics at Rose Polytechnic Institute from 1963 to 1967, was honored Thursday, April 18, when a residence hall bearing his name was dedicated on the Muncie campus of Ball State University.

Edwards Hall is one of nine halls included in the Robert LaFollette Residence Halls. The \$11,173,294 structure was named in honor of Dr. LaFollette who headed the Ball State Social Science Department.

Dr. Edwards, chairman emeritus of the Mathematics Department at Ball State, retired in 1962 after 36 years of service. He had served as chairman of his department for 11 years before his retirement.

After leaving Ball State, Dr. Edwards taught one year at the Air Force Institute of Technology in Dayton, Ohio, before coming to Rose Polytechnic.

He was principal of Zionsville High School from 1915 to 1917 and a teacher at Fort Wayne Central High School before enlisting in the Army in 1917. Dr. Edwards also taught at Indianapolis Arsenal Technical High School from 1919 to 1926 after overseas service of 13 months with the 318th Engineers of the Sixth Division and as a civilian with the Army in England and Germany during World War II.

A graduate of Oakland City College, he received his M.A. from Indiana University. He studied at Harvard University and the University of Chicago before receiving his Ph.D. from Indiana University.

Dr. Edwards is a member of Phi Beta Kappa and Sigma Xi and has been listed in Who's Who in America, Who's Who in the Midwest, and Leaders in Science.



Bob Bergman New Grid Coach

Bob Bergman will be the man behind the team when it takes to the field this fall. The Fightin' Engineers' new coach brings high recommendations and a good record to Rose after guiding the Greencastle High School team to its only Western Indiana Conference Championship.

Bergman is replacing Dick Martin, who resigned to become athletic director and football coach at Washington University in St. Louis.

While coach at Greencastle, Bergman compiled a 15-5 record and went 8-0 in the Western Indiana Conference one season. The school won only 3 games in as many years prior to his arrival.

He also rebuilt the Attica High School football squad, taking them from a four-wins-in-three-years situation to a 10-5-3 record in the 1964 and 1965 seasons.

Bergman was graduated from Hanover College in 1961 and received his Master's degree from Indiana University. He was an All-Hoosier Conference football player and captained the team his senior year at Hanover.

Six Students Selected For Summer Research Program

Four freshman and two sophomores at Rose have been designated to participate in a summer research program in physics at the Institute. The students will work closely on projects headed by faculty members Dr. J. M. Kortright, Dr. J. W. Rhee, Dr. R. A. Llewellyn, Dr. W. J. Beam and Dr. W. W. Meeks.

The four freshmen are David Seabrook of Elizabethtown, Indiana; Stephen Kinsell of Remington, Indiana; Anthony Sullivan of Louisville, Kentucky; and, Alan Hertrick of Pittsburg, Pennsylvania. Sam Vuchinich, Jr., of Terre Haute and Carl Hanger of Sullivan, Ind., are sophomores. The men will be compensated for their work and provided with dormitory rooms.

The Rose-sponsored program is unique in that the undergraduate students will be participating in faculty projects without financial support from outside agencies. Similar programs involving upperclassmen and graduate students are often sponsored by the National Science Foundation.

Dr. Kortright's research in solid-state physics will investigate the effect of temperature upon semiconductor crystals. The experiments will range from room temperature down to two degrees Kelvin.

Dr. Rhee will direct an investigation of dust particles in outer space. The project will deal with the charge of a dust particle as a function of heliocentric distance.

Dr. Beam will direct "elementary" particle research to investigate problems concerning the

interactions of pi-mesons and K-mesons with protons. He will utilize data produced by high-energy particle accelerators and liquid hydrogen bubble chambers.

Dr. Llewellyn will work on two projects. One will apply the Mossbauer effect to the problem of measuring the Debye temperatures of solids. The other will involve initial testing and experimentation with the new high-flux neutron generator facility at the Institute.

GERHART AWARDED NSF FELLOWSHIP: TWO OTHER SENIORS RECEIVE HONORABLE MENTION

Philip Gerhart, a mechanical engineering senior from Burlington, Ind., has been awarded a fellowship by the National Science Foundation for his outstanding academic record. It is the first NSF fellowship ever awarded to a Rose student. Gerhart will utilize the grant to continue his studies at the University of Illinois.

Two physics majors received honorable mention from the NSF, which means they also would have received fellowships had sufficient funds been available. Terrence Joyce of Griffith, Ind., and David Badtke of Homewood, Ill., did receive fellowships from other schools.

Joyce will study oceanography at the Massachusetts Institute of Technology and Badtke will go into astrophysics at the University of Maryland.

Rose Expansion Adds A New Dimension

Hulman Memorial Union, Mees Hall, Scharpenberg Hall and Blumberg Hall have added a new dimension to programming at Rose. It is now possible for the college to offer outstanding facilities for summer programs. The campus will "come alive" all over again one day after the regular students have gone home for the summer.

The summer of '68 starts with a training program by the American Association of Industrial Management (AAIM). This session will be attended by 80 trainees of industry from throughout the United States.

The second program is one for training company executives. This session is being offered by Rose under the sponsorship and direction of the AAIM. You will be receiving information about this directly from the AAIM.

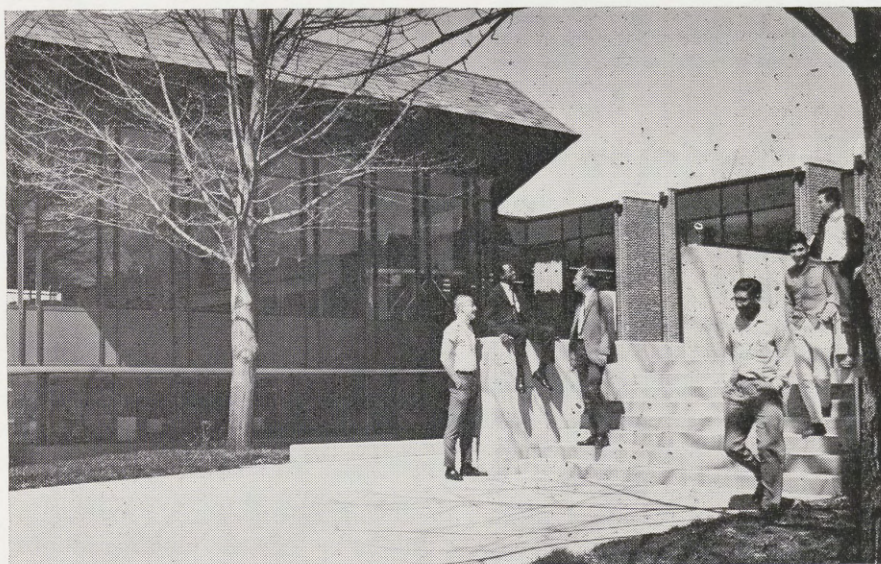
Rose started "Operation Catapult" in the summer of 1967. The program was such a success that the demand has created the need to have two sessions in 1968. Operation Catapult is aimed at the high school junior who is interested in engineering and science. The students spend one month together in each session working on assigned projects.

The final program for the summer of '68 is our regular Summer Institute for incoming freshmen.

We have just begun to "tap" the potential of these new facil-

ities. If you have a convention or business program that you would like to consider bringing to Rose,

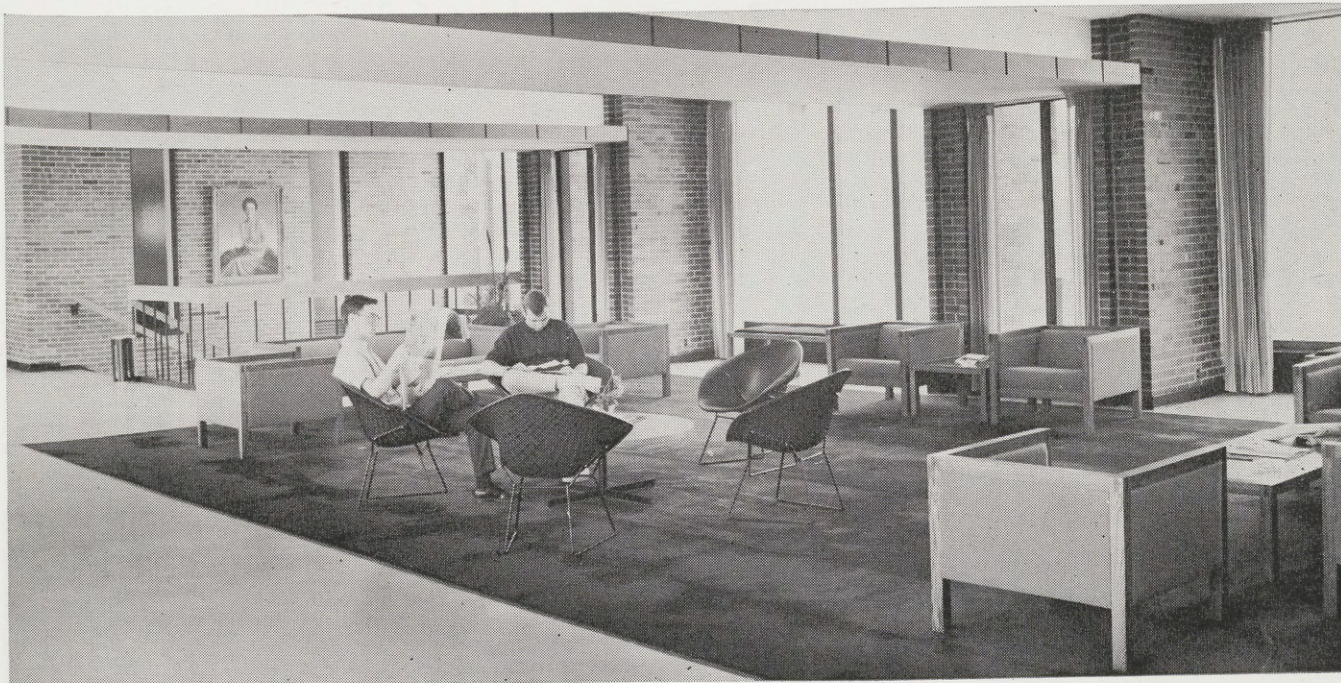
write or call William R. Brown, Director of Hulman Memorial Union.



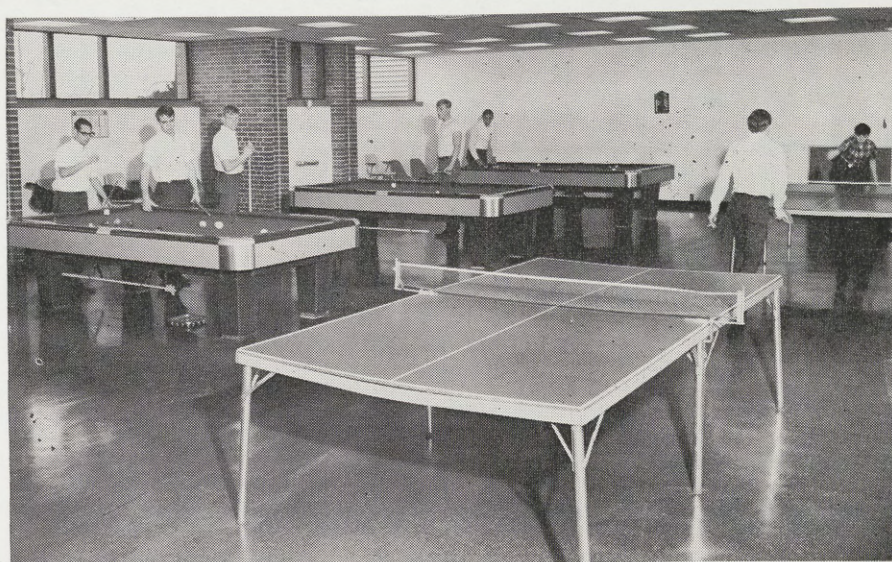
HULMAN MEMORIAL STUDENT UNION, opened in 1966, is the hub of campus social activities. On the upper level at left is the dining room with the snack bar-coffee shop below. Both overlook the lake from the north shore.



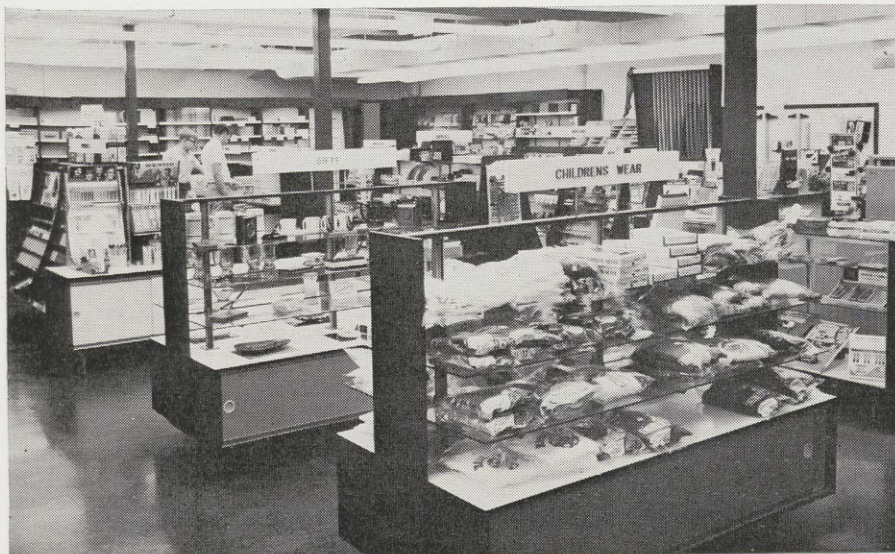
A FAVORITE MEETING PLACE for Rose students is the snack bar-coffee shop overlooking the lake, where study is often combined with eating.



(Above) STUDENTS AND VISITORS meet and relax in the lounge on the upper floor of Hulman Memorial Union.



(Right) STUDY CALLS FOR RELAXATION and this recreation room on the main floor of Hulman Union offers facilities for pocket billiards and table tennis.



SCHOOL SUPPLIES, personal needs, reading material and other items may be purchased in the new campus bookstore of Hulman Union.



Parent's Day A Busy One For All Concerned

A large number of Moms and Dads turned out for the annual Parents' Day activities held Saturday, April 27 on the campus. This is the busy schedule they followed:

SATURDAY:

- | | |
|------------|--|
| 9:00 a.m. | Registration and coffee hour in Hulman Memorial Student Union. |
| 10:00 a.m. | Convocation in the fieldhouse. Welcoming address by Dr. Logan and entertainment by the Rose Glee Club. Colonel Robert T. Willets presented an address entitled, "What Has U.S. Foreign Policy Done Right?" |
| 11:15 a.m. | President's ROTC Military Review. |
| 12:00 N.N. | Open House: Campus dormitories. Held until 5:00 p.m. |
| 12:15 p.m. | Buffet luncheon served in Hulman Memorial Student Union. |
| 2:00 p.m. | Band concert. |
| 3:00 p.m. | Annual business meeting of Rose Parents' Association. |
| 4:00 p.m. | Open House: Fraternities. Held until 6:00 p.m. |
| 8:00 p.m. | The play, "My Three Angels," presented in the Main Building Auditorium. |
| 11:00 p.m. | Informal coffee hour held in the Hulman Union coffee shop. |

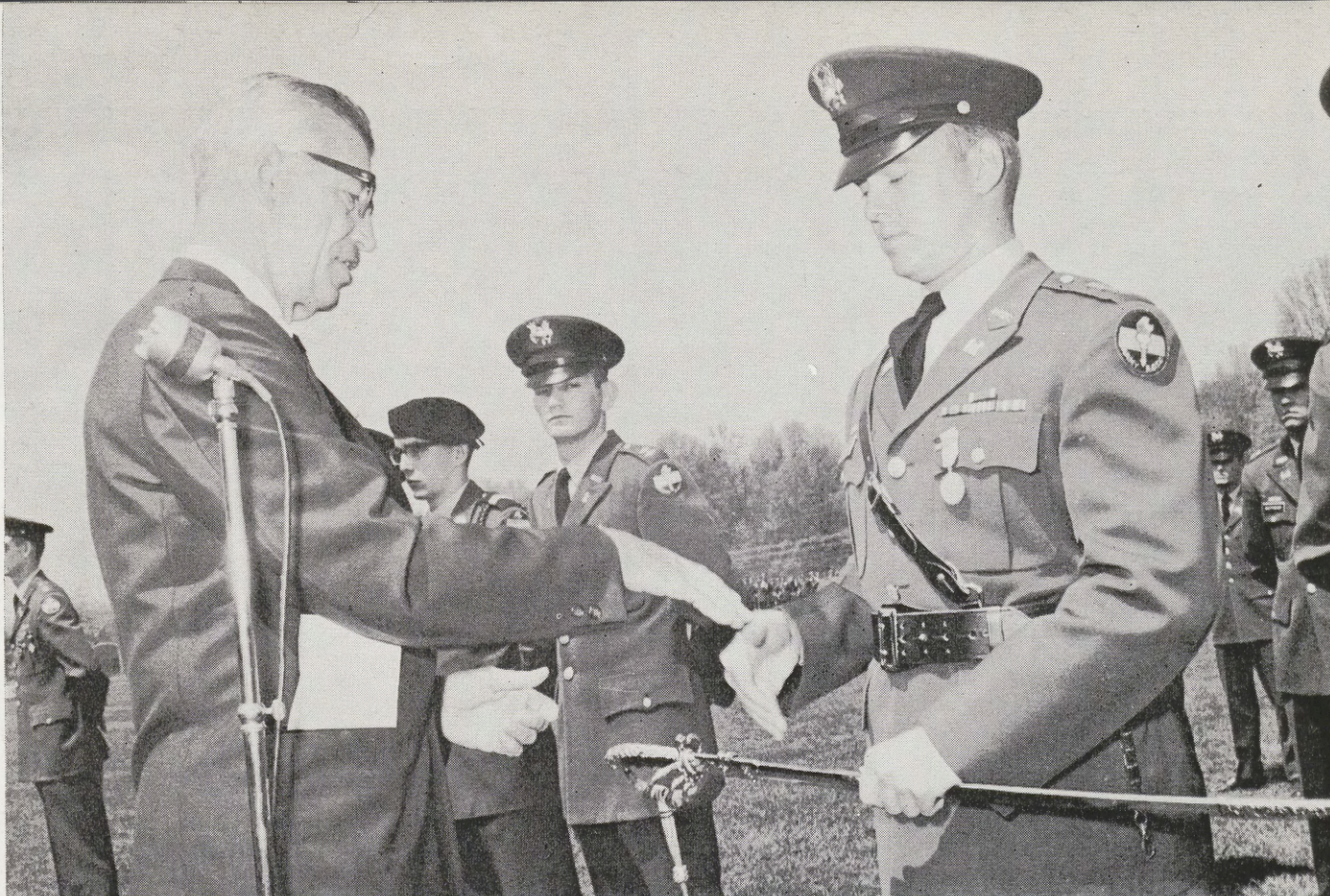
Sunday was reserved for parents and their sons to visit and to see the campus. Many had lunch in the main dining room of the Union.



The Rose Glee Club welcomed Moms and Dads with song at the convocation.



One of the featured events during Parents' Day was the ROTC Band concert held in Shook Fieldhouse.



Kenneth F. Rogers, new brigade commander, is presented with the Johnson Sabre by President Logan. The sabre symbolizes Rogers' authority as leader of the Rose Corps of Cadets. The presentation was made during the ROTC Military Review held on Parents' Day, April 27. In the future, it will be presented to the new commander at the beginning of the school year.



Professor Alfred E. Schmidt of the Mathematics Department is shown receiving the Faculty Service Award from Colonel Willets. The award is given in recognition of continuing and outstanding support of the ROTC program at Rose.



David Venable was one of four cadets presented with the Professor of Military Science Award by Colonel Willets. The others were Kenneth F. Rogers, Timothy K. Sullivan and John A. Rucker. The awards are given to a cadet in each class who has shown leadership.



Everyone ate heartily at the buffet luncheon for parents and sons which was served in Hulman Student Union.

RPI HONOR ALUMNI NOMINATIONS SOLICITED

The Committee on Awards and Recognition solicits your suggestions for Honor Alumni awards. According to the constitution of the Association, "An Honor Alumnus shall be one who has been outstanding in (a) loyal, unselfish and meritorious service in furthering the interests of the Institute or, (b) in contributing to the national interest of our country, or (c) professional achievement." The total number designated in any one year may not exceed three.

Nominations may be sent to Ron Reeves, Ass't. Dir. of Dev. at Rose, or to Frederick J. Bogardus, R.R. 4, Angola, Indiana, 46703. Supporting evidence should accompany the nomination. Fred says we should be recognized the outstanding men in our Association and urges everyone to think of potential nominees.

(Continued from Page 2)

cox Co.; Philip Rutledge of Mueser, Rutledge Wentworth and Johnson, New York; Robert Seamans Jr., National Aeronautics and Space Administration; William Sears, Cornell University; Fred Severud if Severud, Perrone, Sturm, Conlin and Bandel, New York, Milton Shaw, Carnegie-Mellon University.

Igor Sikorsky, Sikorsky Aviation Corp., United Aircraft Corp.; Samuel Silver, University of California, Berkeley, Wilbur Smith, Wilbur Smith and Associates; Dean Watkins, Watkins-Johnson Co.; Gabriel Wessenauer, Tennessee Valley Authority; Robert White, U.S. Department of Commerce, and Richard Wilhelm, Princeton University.

A Report on the Student Government

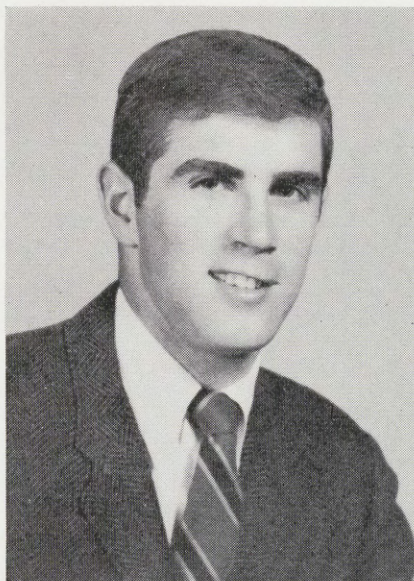
By John Elzufon

The student government of Rose has entered into the same era with the student governments of large universities. For them, gone is the "age of the homecoming parade." For us, gone is the "age of honor keys."

The cry of the large university is student power. Our cry is for student involvement and responsibility. Our method is student-faculty committees. Our goal is to prove to Rose that its student government is a dynamic organization that is willing to tackle campus problems. Some of the problems currently being dealt with are cheating, grade systems, an outdated student government system and the establishment of a functional, working relationship with the student governments of Indiana State University and St. Mary-of-the-Woods College.

A major—and indeed a serious—problem that has been acted upon is cheating on exams. The newly-formed Committee on Academic Honesty, composed of an equal number of students and faculty members, is responsible to the student government. The committee's job is not to establish an honor system at Rose. Its function is to analyze the extent of cheating, to define its various forms and to eventually work out recommendations to curb it. It also is to provide meaningful sanctions to deal with cheaters.

The goal of the committee is not to provide a situation in which faculty and students will go out of their way to search for cheaters; but, to create an atmosphere which protects most diligently the great majority of students who do not cheat. Hope-



fully, a recommendation will be submitted before the end of the school year. However, the impetus to combat this problem has been started. The committee will reconvene next year to continue any unfinished work.

A Committee on Academics was also formed this year. It is hoped this committee will become a permanent part of the student government, as an all-student counterpart to the faculty Committee on Academic Excellence.

The student committee is currently reviewing the grading system used at Rose. The faculty has responded favorably to a request that two grading systems be used in making out mid-term grades. The regular system would be used, plus one which would make a B+ = 3.5, a C+ = 2.5 and, perhaps a D+ = 1.5.

The Committee on Academics is also considering the possibility of "pass-fail" grades for basic courses. The faculty committee has been considering the grading system for a number of years.

Now that the students are taking action and showing interest, perhaps the two committees can work together to produce a better and fairer overall method of grading. This is our eventual goal.

During the previous year, the Associated Collegiate Effort (ACE) Committee was formed. This organization combines the efforts of Indiana State University, St. Mary-of-the-Woods College and Rose for community inter-action and service, as well as academic, social and cultural coordination. This year, ACE reconvened with a goal in mind. The road leading from County Highway 150 to St. Mary-of-the-Woods is in deplorable condition. ACE will, through petitions and by informing the public, bring this situation to the attention of the Vigo County Commissioners. It is hoped they will have the road repaired before St. Mary's classes resume next fall.

We are now in the process of completely overhauling the student government budget system. The result will mean less work for the student government treasurer and will demand more accuracy on the part of individual organizations.

In January, a Student Executive Cabinet was established. Its members are the presidents of each class, the student government, the interfraternity council and Blue Key, plus the editors of the school publications, chairman of functioning committees and the head of the judicial council. The cabinet meets in informal sessions to discuss Rose problems and to offer constructive solutions to them. This has proved to be an organization with great potential.

Rose Tech Clubs Meet Throughout The Country

Six Rose Tech Clubs recently held meetings in their respective areas. The **NEW YORK TECH CLUB** held its annual banquet on April 26 in the Hoover Room of the Engineers' Club at 32 West 40th Street. Two Rose staff members, Ron Reeves, assistant director of development; and Duncan Murdock, assistant director of admissions, were guests at the affair.

The annual meeting of the **PHILADELPHIA ROSE TECH CLUB** was March 16, at the Brass Rail in the Airport Motel. Robert E. Burtner, '57, was elected president for 1968-1969; James R. Myers, '52, was named vice president; and, Ronald E. Myrick, '56, was named secretary. Professor Herman A. Moench, '29, was guest of honor and featured speaker at the banquet. Other alumni who attended with their wives were R. A. Reddie, '24; R. T. Davy, '27; E. G. Weinbrecht, '33; J. A. Cushman, '35; E. F. Michaels, '42; L. Nelson, '42; F. J. Hill, '43; J. L. Johnston, '43; R. C. Cox, '47; J. R. Myers, '52; E. V. Burget, Jr., '56; R. E. Myrick, '56; R. E. Burtner, '57. J. E. Ross, '39, and John W. Katzbeck, '67, were also present.

On March 29, the **DETROIT ROSE TECH CLUB** met at the Engineering Society of Detroit and elected new officers. Bill Buechler, Dec. '47, was named president; John Nunley, '52, was voted first vice president; and, Gene Zwerner, '34, was elected second vice president. The new

secretary-treasurer for the group is Ed Mabley, Dec. '47. The Club's next meeting is set for September 17.

Dr. John Logan discussed new developments at Rose during the **INDIANAPOLIS ROSE TECH CLUB** meeting on April 6. Club President Frank L. Larr, '57, presided over the event, which was held in the Country Village Restaurant. New officers elected during the meeting were: Harvey A. Greene, '57, president; Joseph E. Blastic, '58, vice president; Owen H. Meharg, '54, secretary-treasurer; and, David A. Trueb, '61, assistant secretary-treasurer.

New officers also were selected during the recent meeting of the **IOWA ROSE TECH CLUB**, held in Cedar Rapids. The new president is Stanley Henson, '65. Gary Boone, '67, is the new vice president and John Babillus, '34, is secretary-treasurer. Other members who attended with their wives were John Giacoletto, '35; John Kowinski, '40; Bob Weinhardt, '47; Bob Dunham, '47; Harry Harris, '53; Clyde Frump, '57; Joe Innis, '57; Tom Pfeiffer, '57; John Gilmour, '61; Ray Frischkorn, '65; Jim Larsen, '66; and, Ted Hunter, formerly on the Rose faculty.

Vice President for Academic Affairs Herman Moench was guest speaker at the annual dinner meeting of the **WASHINGTON-BALTIMORE TECH CLUB** on March 22 in Laurel, Maryland.

Professor Moench discussed the problems facing the Board of Managers, faculty and others at Rose in defining what should properly be the goals of the school. He then itemized these goals, which primarily stress a strong undergraduate program with emphasis on the development of the "total man." Herman also indicated freshman classes are getting stronger each year and that all Rose graduates are eagerly sought by industry. He also showed three short films taken recently at the Rose campus to illustrate the many changes which have taken place.

At the short meeting held prior to Professor Moench's talk, these officers were elected for the coming year: John C. Gaughan, '58, president; A. Thomas Clark, Jr., '58, vice president; and, John A. Jacobi, '59, secretary-treasurer. Members who attended this meeting were Fred G. Berghueffer, Feb. '43; Andy O. Breece, '64; Franklin E. Fisher, '60; Donald A. Gunder, '67; Kenneth M. Huston, '20; Robert G. Jackson, '59; Walter F. Johannigsmeier, '57; J. I. Mason, '34; R. W. Powell, '39; Gerald C. Rose, '57; John V. White, '61; and, E. J. Withers, Feb. '43.

Vice President Tom Clark stated at the meeting he would mail a questionnaire to each alumnus in the Washington-Baltimore area to assist club officers in planning future meetings.

Alumni Represent Rose At Academic Affairs

Seven Rose alumni recently have represented the Institute at the inauguration of university and college presidents. The representatives and the functions they attended were:

E. V. Burget, Jr. '56

Inauguration of Dr. Paul Russel Anderson as President of Temple University.

N. G. Eder, '40

Inauguration of Dr. Samuel E. Braden as President of Illinois State University.

Wm. J. Frederick, April '49

Inauguration of Dr. Malcolm Moos as President of the University of Minnesota.

J. S. McCrory, Oct. '48

Inauguration of Dr. Peter Hayden Armacost as President of Ottawa University.

H. J. McDargh, '23

Inauguration of Dr. Frederick C. Davison as President of the University of Georgia.

L. L. Ray, '31

Inauguration of Dr. Rhoten A. Smith as President of Northern Illinois University.

John Babillus, '34

Inauguration of Dr. William George Chalmers as President of the University of Dubuque.

SOME OF THE LOST ARE FOUND

We have received letters recently from two alumni who have been "lost". Because they include in the letters interesting bits about their lives and work, we are reprinting them here.

Box 421
Paraparamu Beach,
New Zealand

M. J. McWilliams, 1909:

"My description in the alumni list of the Class of 1909 has not been correct for many years.

When I left the Wellington Technical College in 1946 to join the staff of the Technical Correspondence Institute (formerly "College"), I taught mathematics not electrical engineering. In future issues of the "Bulletin", I would like my description to be just "Retired."

If you consider it desirable to have something more, I could be described as "First Assistant,

Technical Correspondence Institute, Wellington," but I would prefer just "Retired," as I think the term "First Assistant" would not be well understood in the U.S.A. Actually a first assistant is the senior teacher and in charge of the school in the absence of the principal.

May I have a recent copy of the Bulletin? The 1966-67 issue would do.

In my old age, I am getting enjoyment out of correspondence chess, and I would be pleased to play one or two alumni sending moves by aerogramme.

Could a brief note to that effect be inserted in the Rose Technic or in an alumni bulletin if there is one?

With all good wishes for the continued success and growth of the Rose Polytechnic Institute, from

M. J. McWilliams 1909
J. C. NELSON 1935

"I would like to report my whereabouts and make a request

for a catalog to be sent to the following address, at your convenience:

National Iranian Oil Co.
(Teheran Refinery)
Teheran, Iran
P. O. Box 1863

I am now serving as a technical adviser to the Iranian head of the technical service division of the refinery.

Yours very truly,
J. C. Nelson

DO WE HAVE YOUR ADDRESS?

We do not have current addresses and occupations for a number of men from 1966 and 1967. We need them for our own files, and also for mailings to keep them in touch with Rose—the alumni magazine, Rose Tech Clubs, and so forth. If you can help us on any of the following, we shall be grateful. Please re-

(Continued on Page 18)



Paul Grafe Awarded Bronze Star

First Lieutenant Paul A. Grafe, '65, was awarded the Bronze Star Medal for meritorious action against a hostile force from October, 1966 through May, 1967 in Vietnam.

The presentation was made at a review in his honor on the Rose

drill field April 3, 1968. Lieutenant Colonel John Dougherty, assistant business manager at Rose, presented the award. Dougherty was professor of military science when Grafe was a student. Shown with them in the photo are Grafe's parents and his grandfather.

FOUR ALUMNI NAMED AS OUTSTANDING YOUNG MEN OF AMERICA

Four Rose graduates have been selected by a 14-man national board of editors for inclusion in the 1968 edition of "Outstanding Young Men of America."

Dr. James B. Matthews, '54, was graduated with honors from the Institute. He earned his M.S. degree from Massachusetts Institute of Technology and his Ph.D. degree from the University of Arizona. Dr. Matthews, a registered professional engineer, is

now an associate professor of mechanical engineering and chairman of the department at Rose.

Thomas L. Reese, '58, received his M.B.A. degree from Indiana University in 1959. He is president of Universal Tank and Iron Works, Inc., in Indianapolis.

David R. Hendricks, '59, is operations manager of the Raytheon Company Apollo project at Kennedy Space Center.

Miss Mahley Resigns Post

It is with regret Rose Echoes announces the resignation of Miss Helen E. Mahley, Secretary for Alumni Affairs and Secretary of the Alumni Fund.

Miss Mahley served the Institute long and well, having begun her career at RPI as secretary to former President Dr. Donald Prentice in 1929.

She became secretary for Alumni Affairs in 1957, a position she held until her retirement in April.

Miss Mahley was a graduate of Wellesley College in Massachusetts, having been graduated Phi Beta Kappa in 1925. Her professional memberships include the American Alumni Council, the Women's Department Club of America and the Association of University Women.

Correspondence regarding alumni affairs and alumni fund, as well as articles of interest to Rose Echoes should be directed to Ronald G. Reeves, Assistant Director of Development, Rose Polytechnic Institute, Terre Haute, Ind. 47803.

Dr. William C. Perkins, '60, is a Heminway Medal winner who was graduated with honors. He received his M.B.A. degree from Indiana University in 1962 and his D.B.A. in 1966. Perkins is now an assistant professor of quantitative business analysis in the graduate school of business at Indiana University.

Men named to the exclusive "yearbook" are selected on the basis of having "distinguished themselves in one or more fields of endeavor." Approximately 10,000 young men are chosen each year.

CLASS NOTES

1924

JOHN T. STONE, who has been District Manager, General Industries Sales, Cleveland-Akron-Columbus, for General Electric, has retired. He is living now in Rocky River, Ohio.

RALPH W. TAPY has been elected a fellow of the American Association for the Advancement of Science. As an educator, he was a professor of electrical engineering at the University of Detroit, and then headed the department for the University of New Mexico. He retired from the University of New Mexico in 1962, became a Visiting Professor of Engineering for the University of California, Los Angeles, and was sent to start the electrical engineering department at the University of Gadjah Mada, in Jogjakarta, Indonesia. He now lives in Albuquerque, and is vice president of Engineering, Inc. He is a fellow in the Institute of Electrical and Electronic Engineers.

1926

VICTOR E. SCHLOSSBERG has retired after nearly 42 years with Inland Steel Company. He was director of facility planning for the firm. His new address is Apartment 1A, 450 Golden Isle Drive, Hallandale, Fla., 33009.

1936

1929

ALBERT E. BAKER has retired from the New York City Transit Authority after thirty-one years of service as Signal Engineer of the IRT, BMT and IND divisions of the subway system. He also worked seven

years for the Pennsylvania Railroad on the electrification from New York to Washington. His home is at Flushing, Long Island.

1931

ROBERT T. MEES is Chairman of the Local Unit Activities Committee of the American Society for Engineering Education, and has been actively engaged in keeping up with the established as well as developing, local units. At the College-Industry Conference Meeting held in New Orleans early in February, he held a Breakfast Meeting to discuss Local Unit Activity with representatives from the Technical Institute Committee, the Continuing Engineering Studies Committee, the Technological Relations Committee, and Relations with Sections Committee.

1933

W. C. HEIDENREICH is now Operations Director, Chemical Business Center, Union Carbide Europe, S.A., in Brussels. He writes: "There is certainly nothing constant but change in this world and my situation is no different."

1935

CARL W. PRICE has been appointed city controller of Terre Haute. He is the former owner and president of the Terre Haute Vitrified Brick Works Corporation, with which he had been associated from 1946 until he sold it recently.

PAUL H. REEDY has been named to the new post of executive vice-president, Gener-

al Design, Inc. Prior to this appointment, he was executive vice-president of Cal Pacific of California.

1936

ROBERT SHATTUCK has been elected to the board of directors of Borg-Warner Corporation. He joined the company in 1942 as assistant general manager of the Marbon Chemical Division in Parkersburg, W. Va. He was named vice president and general manager of the division in 1944 and became president in 1953.

Shattuck moved to corporate headquarters in Chicago as group vice president in charge of chemical operations in 1963. In 1966, he was promoted to his current position of executive vice president, corporate development.

He is a member of Borg-Warner's planning, operating and patent committee, on the supervisory boards of two divisions and on the advisory board of the corporation's research center. Shattuck also is a director of Ube Cycon, Ltd., a Borg-Warner affiliate in Tokyo, joint managing director of Borg-Warner, Ltd., a subsidiary in Letchworth, England; and, a member of the board of directors of Borg-Warner International Corporation.

Shattuck has served as president of the Chicago Rose Tech Club and the Rose Alumni Association. He is currently on the Institute's board of managers.

1942

ROBERT L. ANDERSON, professor of electrical engineering

technology at Purdue University, has been promoted to Assistant to the Dean for Relations with Industry. He also has been chairman of the Calumet Section of the Department of Electrical Technology, but is relinquishing this position to accept the new administrative post.



Anderson will coordinate and develop Cooperative Education for students. This will entail one-half time teaching and one-half time developing the CE programs in technologies, engineering, science and other fields. He also will enlarge contacts with industries to further encourage their participation in various Purdue training programs.

1944

JAMES H. HANES has been appointed director of corporate labor relations for Dow Chemical Company in Midland, Michigan. In addition to his new post, he will continue in the legal department as assistant to the general counsel in charge of legal matters pertaining to industrial relations.

Hanes joined Dow as a chemical engineer in the Benzene Products Department after naval service during World War II. He resigned in 1948 to enroll in the University of Michigan Law School. Upon graduation in 1951, he returned to Dow as a member of the legal department.

In 1955, Hanes was assigned to the Dowell Division in Tulsa as general attorney. He became assistant secretary for that division in 1961. Soon after returning to Midland as assistant to the general counsel in 1963, he was named to the Dow Retirement Board. He was appointed to the Rocky Flats Management Board in 1968.

1946

ROBERT D. STRUM has co-authored a programmed text, "Laplace Transform Solution of Differential Equations," with John R. Ward. It has been published by Prentice-Hall, Inc. Both men are associate professors of electrical engineering at the Naval Postgraduate School in Monterey, California. Strum was a member of the Rose Electrical Engineering Department from 1948-1958.

1948

JOSEPH T. NEILL has been promoted to chief engineer of the Parts Division of Ford Motor



Company. He has served as general manager of Ford's plant in Saline, Michigan, for almost two years. He had about 4,000 employees there. He will now become one of two chief engineers in the Parts Division, and will be directly responsible for general parts at five of the eight plants in the division.

1949

CHARLES W. FOREMAN, assistant for independent research, Analytic Services, Inc., was a speaker on "New Approaches to Old Problems" at Scientific Briefing for Tomorrow, Worcester Tech's all-day "think-in" for New England industrialists recently.

FRED W. BURDETT has been named vice president-manufacturing for the Kaukauna (Wis.) division of Giddings & Lewis-Bickford Machine Company. Burdett joined the firm in May, 1956, and worked in various sales positions until he became a product sales manager in 1961. He was transferred to the Gidding and Lewis plant at Kaukauna as manager of manufacturing in 1967.

1952

JOHN C. PIRTLE has been appointed to the position of General Manager of the Super Sonic Engine Department of the Flight Propulsion Division of General Electric. The position carries the responsibility for the business and technical success of the GE 4-SST engine, which will power America's first Super Sonic Commercial Airliner. Pirtle is also in charge of the program's design, manufacture, installation, sale, and operational customer satisfaction for the GE 4-SST engine. He has eleven years of experience with flight propulsion for GE.

1961

RICHARD CARTER has been transferred to Charleston, West Virginia, as Assistant District Manager with Commercial Testing and Engineering Company.

G. GERALD NIKA has moved to Mobile, Alabama, where he is senior analytical chemist for Geigy Chemical Corporation.

1963

DAVE DUMFORD, a planning engineer at Western Electric in Indianapolis, isn't experiencing bad luck as a result of opening an umbrella in the plant.

He's shown in the performance and reliability laboratory, testing the effect of rain upon a pay phone dial. The Touch-Tone dial is made in Indianapolis and the phone is assembled at the Oklahoma City Works.

(Continued from Page 14)

member, too, that if you move yourself, we hope you will send us your new address promptly.

1966

Richard F. Bonelli, Jr.
Jack R. Braun
R. L. Cristea, Jr.
William W. Gilmour
J. J. Hsu
P. F. Kueber
Bahman Mahmoodi
L. E. Michael
M. G. Prather
V. L. Roberts
D. A. Skevington
E. T. Sutter, Jr.
N. Trien

1967

J. L. Caughran
L. E. Duvall
J. D. Gibson
C. E. Gidding
R. P. Glanz
J. N. Lafuze
J. L. Leaver
W. W. Long
B. D. Mensinger
J. M. Mondabaugh
C. P. Morgan
A. S. Paul
E. E. Rood
G. A. Semsarzadeh
C. E. Smith
R. D. Snyder
S. C. Thongjen
R. N. Virostko
J. L. Yarger



1964

MORRIS A. BECHTEL is now management assistant for Indiana Bell at Indianapolis.

JOHN WARNKE has completed his Army tour, serving for twelve months in Vietnam as a First Lieutenant in the Army Corps of Engineers. He is now a planning engineer with the H. K. Ferguson Company, engineers and builders, Cleveland.

1965

RICHARD D. SWAN was commissioned in the Navy in July, 1967, after nearly two years as a petroleum engineer with Humble Oil Company. He entered the Navy in March, 1967, and his present assignment is in contract administration in Thailand.

1967

FREDERICK H. WHEELER has been commissioned a second lieutenant in the U.S. Air Force. He was graduated from Officer Training School at Lackland Air Force Base in Texas. Wheeler, selected for OTS through com-



petitive examination, has been assigned to Arnold Air Force Station in Tennessee for duty with the Air Force Systems Command.

IN MEMORIAM

1906

HENRY W. WISCHMEYER died on February 18th in Louisville, Kentucky. He was an electrical engineer for Metropolitan Sewer District there for eleven years, and was a former president of Engineers and Architects Club. Among his survivors is his brother Carl, formerly Vice President and Professor of Mechanical Engineering at Rose Polytechnic.

1907

DONALD McDANIEL, 82, a member of the Board of Directors of Hamilton Foundry, Inc., Hamilton, Ohio, for the last 34 years and retired vice president of that firm, died on Friday, March 29th.

He had remained active in alumni affairs at Rose throughout his life, serving as Class Agent for the Alumni Fund from its inception in 1951-52 through the present. He came to Terre Haute frequently for Homecoming and Commencement, and attended his 60th reunion last November.

He joined the Hamilton Foundry as production manager in 1918, and was elected secretary of the company in 1941.

He was one of the founders of the Decatur Casting Company, Decatur, Indiana, in 1920, and was elected to the board of directors and named general manager in that founding year. In 1927, Mr. McDaniel was elected president of that firm, and in 1941 was also named treasurer.

He retired April 30, 1958, but remained a member of the board of directors of Decatur Casting and Hamilton Foundry until his death.

Mr. McDaniel was an organizer of the Ohio State Foundrymen's Association in 1920, a director of that association, vice president for two years, and pres-

ident from 1929 until 1931. Recognized as a pioneer and leader in the iron foundry industry, he was also active in development of the first Code of Uniform Trade Customs for the Gray Iron Castings Industry as adopted by the Ohio State Foundrymen's Association.

Mr. McDaniel was one of the organizers of the Gray Iron Institute in 1928, a director from 1928 to 1932, and vice president in 1929 and 1930. In 1935, the Gray Iron Institute was recognized and the name changed to the Gray Iron Founders Society, Inc., which became a national trade organization for iron foundries in the United States. The Gray Iron Founders Society later became the Gray and Ductile Iron Founders Society, and Mr. McDaniel was a founder of this society.

He served as a society director from 1935 until 1942, a member of the cost committee from 1942 until 1944, and a member of the Terms and Conditions of Sale Committee for seven years.

In 1949, Mr. McDaniel was awarded a citation from the Gray Iron Founders Society which honored him for his "steadfast loyalty and service to this society."

1908

JOHN E. BERNHARDT died on January 9th at his home in Chicago. For thirty years he was associated with the C. & E. I. Railroad as Bridge Engineer, and, after his retirement, became Chief Engineer of the William J. Howard Construction Company. He had always been a very interested alumnus and active in the affairs of the Chicago Rose Tech Club.

1914

DOMENICO P. SAVANT, '14, died at the age of 83 in Atlanta,

Georgia. He became Georgia Tech's first dean of engineering in 1935 and retired in 1954.

The veteran educator came to the United States from Nole, Piedmont, Italy, when he was four years old. He received his B.S. degree in electrical engineering from Rose, then earned his M.S. and E.E. certificates within the next two years. In 1920, he enrolled at Harvard University and received a master's degree in electrical engineering.

Dean Savant began his teaching career at the University of Missouri, but returned to Harvard for three years as an instructor. He became head of the Georgia Tech electrical engineering school in 1919.

A bronze plaque in the entrance of Georgia Tech's new Van Leer electrical engineering building commemorates the dean's accomplishments and service to the school.

He was a fellow of the American Institute of Electrical Engineering, a member of the Society for the Promotion of Engineering Education and the National Society of Professional Engineers. He also was a member of Eta Kappa Nu, Phi Kappa Phi and Omicron Delta Kappa, honorary fraternities.

1934

RICHARD C. HORNUNG died on February 14th. He had been an employe of Public Service Indiana for 32 years, in Lafayette and New Albany, and then as a transmission engineer at PSI headquarters in Plainfield.

1943

EDWARD E. RICHARDSON died on Friday, March 22nd, at San Diego, California. He had been Planning Co-ordinator for Control Data Corp., Control Systems Div. During World War II he was a naval officer.

You May Be Able To Help!

The items listed on this page represent desirable instructional equipment that normally cannot be purchased from departmental budgets, but they are nevertheless vitally needed to provide the modern training expected of the Institute.

Certain makes and models are specified only to indicate the quality of the equipment desired. Similar units would be quite satisfactory. This is an open request to all of you who are employed by the equipment manufacturers or by companies who might have surplus equipment we need. Any help you could provide would be greatly appreciated by both the faculty and the students.

CHEMISTRY

Low-cost infrared spectrophotometer, such as the Perkin-Elmer Model 700 or the Beckman Microspec.

Approximate cost - \$3,500.00.

Knowledge of structure of organic compounds, and knowledge of methods of determining the structure is rapidly becoming a vital part of the training of chemists, particularly in research. Since we are now teaching organic chemistry at the sophomore level for approximately 50 chemists and chemical engineers the acquisition of such an instrument could significantly alter the nature and hence the value of this course.

A multi-range, multi-speed, 10 inch strip chart recorder, such as the Sargent Model SR, or various models from Leeds & Northrup, Beckman, Minneapolis-Honeywell (Brown), Varians, et al.

Approximate cost - \$1,000.00.

Such recorders are essential to the recording of signals from many modern chemical instruments, such as pH meters, spectrophotometers gas chromatographs, etc. A good versatile recorder is probably the most flexible single piece of chemical equipment on the market today.

MECHANICAL ENGINEERING

Bristol Control Teaching Mechanism, Type PCM 140 pneumatic servo, Feedback, Inc.

Approximate cost - \$2,000.00.

This equipment will be used in the classroom and laboratory to demonstrate the fundamental principles associated with open and closed loop control systems. The characteristics of first through fourth order systems can be investigated, including limit cycles and divergent instabilities. Step, ramp, and sinusoidal inputs are obtained from simple mechanisms. Input and output movements are recorded directly on a two-channel direct writing mechanical recorder or on an oscilloscope.

Polariscope, Chapman basic 8 inch model.

Approximate cost - \$2,800.00.

This is an excellent tool for teaching experimental stress analysis techniques and good design practice. No other experimental instrument so quickly emphasizes the shortcomings of a given structural design.

Frequency Analyzer, B & K Instruments, Inc., Type 2107A/S1.

Approximate cost - \$1,900.00.

The frequency analyzer will be used in the laboratory in experimental work in the areas of vibrations and acoustics. With this instrument complete analysis of vibration spectra produced by vibrating parts can be made. Up to 10 harmonics can be selectively measured with a reasonably good accuracy.

BIOLOGICAL ENGINEERING

Sherer - Environmental Chamber Model CEL 25-7HL with Humidity Control, Temperature Programmer, and Temperature and Relative Humidity Recorder.

Approximate cost - \$2,800.00.

This Chamber will be used in air pollution, noise pollution and other environmental investigations.

A Four Channel, Grass #794 Strip chart recorder with Four #7P511 amplifiers and #6 GA oscillographs.

Approximate cost - \$2,800.00.

To demonstrate the use of components of Physiological data acquisition system and the cariovascular response of living systems.

A Tektronix type 502 oscilloscope, type 202-1 cart and type 3A3 Plugin unit. As accessories two Grass SD-5 Pulse generators, two Grass Stimulus Isolation units and a Hewlett Packard model 467-A D.C. amplifier.

Approximate cost - \$3,200.00.

Used for demonstration of basic neuromuscular physiology.

ELECTRICAL ENGINEERING

Wavetek Model 105 Voltage Controlled Generators.

Approximate cost - \$1,390.00.

Electronic Associates, Inc. model 12.1384 Logarithmic Input Modules for Series 1110 Variplotter.

Approximate cost - \$850.00.

The Wavetek Generators and EAI log input modules will be utilized in the determination of frequency response analysis of electrical and non-electrical systems.

Hewlett Packard Mod. 1300A 20 MHz X-Y-Z Monitor.

Approximate cost - \$1,900.00.

The Hewlett Packard - X-Y-Z Monitor would be used for classroom demonstrations where it is necessary to display voltage and current waveforms to several students at one time.

PHYSICS

Electronic calculator, remote keyboards. Wang Laboratories, Inc. Catalog number 360 with two type K remote keyboards.

Approximate cost - \$2,800.00.

These units are extremely versatile for use in scientific calculations. They are random access, easily portable, and are very useful in the undergraduate laboratories.

Potentiometer, d.c., multi-purpose Leads and Northrup "K-5", Catalog #7555.

Approximate cost - \$975.00.

This instrument is needed to make precision measurements of electrical properties of semiconductor crystals irradiated by energetic (1 Mev) electrons.

Logan 14" lathe Model #6561 H with 2 HP motor and controller, 4 Jaw chuck, 3 Jaw chuck, and Tool holders.

Approximate cost - \$2,800.00.

Useful for making precision laboratory and research equipment for the Physics Department.

MATHEMATICS

Friden Electronic Desk Calculator. Model 132
(with automatic square root).

Approximate cost - \$1,500.00.

Friden Electronic Desk Calculator. Model 1150
(with tape printer).

Approximate cost - \$1,500.00.

Wang Electronic Calculator. Model 360E
(with two keyboards; 2 more may be added at net cost per station of about \$1,000).

Approximate cost - \$3,020.00.

These would be made available for use of any student at Rose, but would be especially helpful to students in numerical analysis and statistics. The electronic calculators are much faster and quieter than the usual electro-mechanical calculators and their components now have a very high degree of reliability. The price range is now quite comparable to that of the mechanical models a few years ago. Student interest and enthusiasm is highly motivated by the availability of the newer machines.

ROSE TECH CLUBS

FIRST DISTRICT

NEW YORK

A. H. GOODMAN, '32, *President*
ROLAND T. KELLEY, A '49, *V. Pres.*

SYRACUSE

DON NELSON, '53, *President*
FRED RYKER, '59, *Secretary*

SECOND DISTRICT

PHILADELPHIA

ROBERT E. BURTNER, '57, *President*
JAMES R. MYERS, '52, *Vice-President*
RONALD E. MYRICK, '56, *Sec.-Treas.*

PITTSBURGH

JAMES T. ROGERS, '47, *President*
BERNDT OLSON, '59, *Sec.-Treas.*

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A. T. CLARK, JR., '58, *Vice-President*
JOHN A. JACOBI, '59, *Sec.-Treas.*

WEST VIRGINIA

HOWARD H. IRVIN, Feb. '43, *President*

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C. R. WILLIAMS, '17, *Vice-President*
H. J. McDARGH, JR., '23, *Sec. Treas.*

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ROSCOE MCINTOSH, '25, *President*
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GENE ZWERNER, '34, *and Vice-President*
EDWARD MABLEY, Dec. '47, *Sec.-Treas.*

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IOWA

STANLEY W. HENSON, '65, *President*
GARY BOONE, '67, *Vice-President*
JOHN BABILLUS, '34, *Sec.-Treas.*

SIXTH DISTRICT

EVANSVILLE

JAMES P. LAUGHLIN, July '49, *President*

INDIANAPOLIS

HARVEY GREENE, '57, *President*
J. E. BLASTIC, '58, *Vice-President*
OWEN MEHARG, '54, *Sec.-Treas.*

KOKOMO

ROBERT P. MCKEE, '40, *President*
JAMES H. SHERMAN, '55, *Vice-President*

WABASH VALLEY

HARMON E. ROSE, Feb. '43, *President*
ROBERT E. NEWBY, '58, *Vice-President*
JAMES MATTHEWS, '54, *Sec.-Treas.*

SEVENTH DISTRICT

ST. LOUIS

AARON HOGG, N'49, *President*
T. R. MCPHERRON, '58, *Sec.-Treas.*

EIGHTH DISTRICT

NORTHERN CALIFORNIA

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R. ALAN KLAUS, '53, *Vice-President*
JEAN E. LAPE, July '49, *Sec.-Treas.*

ARIZONA

PETER J. BURT, '26, *President*
ALBERT V. McEOWEN, '35, *Sec.-Treas.*

SOUTHERN CALIFORNIA

E. A. ULBRICH, JR., '54, *President*
R. L. STAGGS, '61, *Vice-President*
J. D. EDDS, '58, *Sec. Treas.*

HONOLULU

SHINJI SONEDA, Jan. '49, *Chairman*

ROSE ECHOES

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