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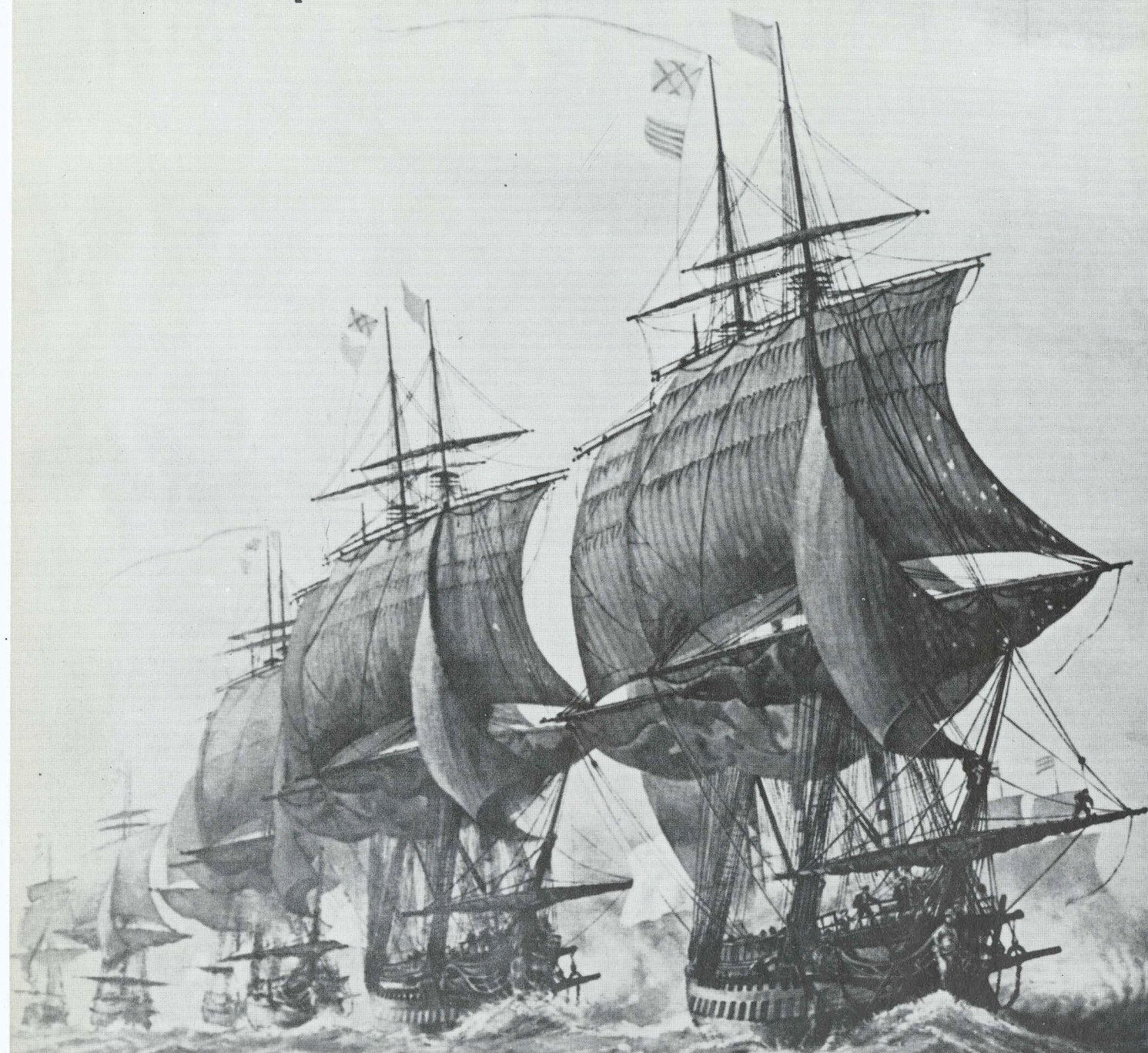
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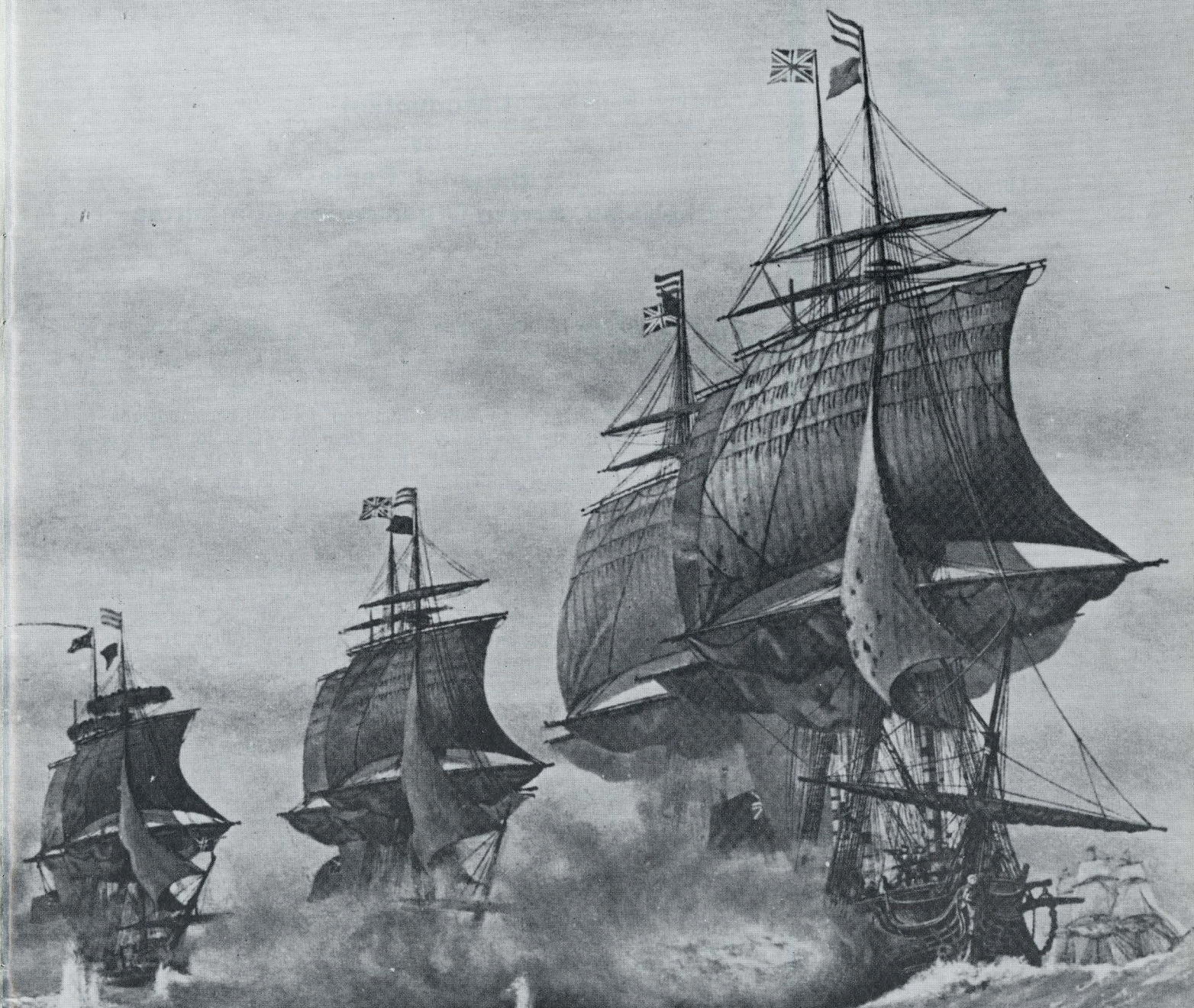
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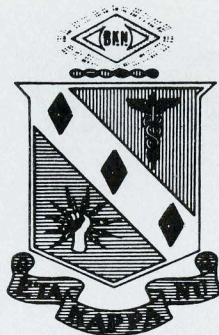


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August '76





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FRONT COVER

and inside-front-cover paintings introduce our special bi-centennial supplement that continues on page 14.

The BRIDGE is published by the Eta Kappa Nu Association, an electrical engineering honor society. Eta Kappa Nu was founded at the University of Illinois, Urbana, October 28, 1904, that those in the profession of electrical engineering, who, by their attainments in college or in practice, have manifested a deep interest and marked ability in their chosen life work, may be brought into closer union so as to foster a spirit of liberal culture in the engineering colleges and to mark in an outstanding manner those who, as students in electrical engineering, have conferred honor on their Alma Mater by distinguished scholarship activities, leadership and exemplary character and to help these students progress by association with alumni who have attained prominence.

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David J. Melvold — Outstanding Young Electrical Engineer

Introduction
by
Harlan J. Perlis
Chairman, Award Organization Committee

The Jury of Award of Eta Kappa Nu has selected David J. Melvold to be the Outstanding Young Electrical Engineer of the United States for 1975. Mr. Melvold is an Electrical Engineer with the Los Angeles Department of Water and Power in Los Angeles, California.

This year there were two outstanding young engineers selected to receive Honorable Mention: Robert M. Haralick and Carlton M. Osburn. Dr. Haralick is a Professor of Electrical Engineering at the University of Kansas, Lawrence, Kansas. Dr. Osburn is a Manager at IBM Research Center, Yorktown Heights, New York.

The Awards were presented at the 40th Annual Award Dinner in New York City on January 26, 1976 at the Statler Hilton Hotel. Since its inception, the Award has been presented in New York, in conjunction with a major IEEE Convention. With the new IEEE policy of alternating the ELECTRO Conference between New York and Boston, the Power Engineering Society has graciously offered to have the Award Dinner as part of its Winter Meeting activities on the alternate years that ELECTRO is in Boston. Prior to the AIEE/IRE merger in 1963, the Award Dinner was traditionally a highlight event of the AIEE Winter General Meeting, so to many older members of IEEE it is like a return to an old home with the Award being presented at the Winter Meeting once again.

Mr. Melvold was nominated by

R. W. Eick, who is Engineer of Station Electric Design at the Los Angeles Department of Water and Power. David Melvold is being honored for his contributions to the field of high voltage transmission together with his activities in community and professional affairs.

Dr. Haralick was nominated by Arthur M. Breipohl, who is Professor and Chairman of the Department of Electrical Engineering at the University of Kansas, Lawrence, Kansas. Robert Haralick is being honored for his creative work in image processing coupled with his active role in civic affairs. Dr. Osburn was nominated by Hollis L. Caswell, who is Director-Applied Research Department at IBM T. J. Watson Research Center, Yorktown Heights, New York. Carlton Osburn is being honored for his accomplishments in dielectric breakdown analysis and his participation in church activities.

These men are being singled out for recognition not merely for their technical attainment, but, in the true spirit of Eta Kappa Nu, they have maintained a balance between their contributions to engineering and their contributions to society. They are talented, dynamic individuals with accomplishments and demonstrated leadership in a spectrum of cultural, aesthetic, community, church and professional society affairs in addition to being outstanding engineers in their technical fields. These diverse

► 4

By virtue of his outstanding contributions to the field of High Voltage transmission and his role in community and professional affairs.



David J. Melvold was born in Los Angeles, California on June 14, 1942. He received the BSE degree from Loyola University of Los Angeles in 1965 and the MS degree from UCLA in 1968. He is a registered Professional Engineer in the State of California.

Mr. Melvold joined the engineering staff of the Los Angeles Department of Water and Power in February, 1965 as an Electrical Engineering Assistant, working on various designs for distribution station modernization. In 1968, he was promoted to the position of Electrical Engineering Associate taking on the responsibility for a number of major high voltage projects. These included the direction and formulation of test programs, studies of insulation on HV and EHV projects, telephone and carrier frequency interference, capacitor switching surges, and the backup control system for the southern terminal of the Pacific HVDC Intertie.

It was during this period that California was faced with two major power problems: the 1971 earthquake and the oil embargo. Mr. Melvold provided technical assistance which was instrumental in the early restoration of the Sylmar Converter Terminal following the earthquake. His work also reduced the possibility of power blackouts or brownouts in the Southwest during the oil embargo.

In early 1975 he was promoted to his current position of Electrical Engineer. In this supervisory role

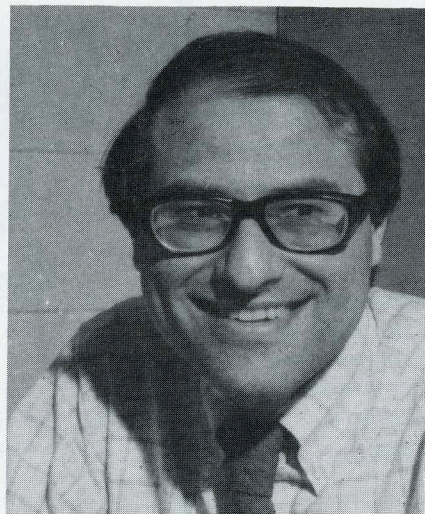
he is responsible for the planning on a \$300 million HVDC transmission system. He is coordinating the dc line fault test program and the carrier frequency interference investigation. He is internationally known for his work in the area of surge protective devices. In addition to publishing several noteworthy articles, he has given a number of talks on the subject, and he serves on IEEE Committees and Subcommittees related to this work.

In his off-hours Mr. Melvold's activities are as varied as those during his work hours. In addition to Church and YMCA volunteer work, he is involved in two categories of service: to his Community and to his profession. He was working group chairman for the Casa Dominquez Homeowners

Association, a member of the Community Advisory Council for the Seventh Street School, Technical Consultant to the City of Carson, and a member of TOPIC (a community action group). He is active in Los Angeles IEEE activities and the activities of the Engineers and Architects Association. He has published a number of articles on the plight of the engineer.

Although left with a partial handicap as a result of polio as a youth, he has been able to participate in and enjoy athletics such as swimming, tennis, skiing, football and baseball. At home with his wife and two children he manages to find time to design and build parts of his house and to do landscaping.





"By virtue of his accomplishments in image processing and his active role in civic affairs"

Biography of
ROBERT MARTIN HARALICK
Professor of Electrical Engineering
University of Kansas

Robert M. Haralick was born in Brooklyn, New York on September 30, 1943. He received the BA in Mathematics, the BSEE, MSEE, and PhD degrees from the University of Kansas in 1964, 1966, 1967, and 1969, respectively.

Dr. Haralick started working for the University of Kansas Center for Research, Inc. in 1965 as a research assistant. He has continued this affiliation after joining the regular engineering faculty in 1969. He is presently a Professor of Electrical Engineering and an Adjunct Professor of Computer Science. His research has been primarily in the field of pattern recognition and image processing, where he has made several contributions to the handling of remotely sensed data. In particular, his work has contributed to improved methods in texture extraction, image data compression, spatial cluster classification and the development of the Kansas Digital Image Data System. His work has been applied in the space program, medical diagnosis, earth resources

and map generation.

In the academic area, Dr. Haralick has developed a number of new, interdisciplinary courses which employ team teaching and various innovative techniques. In 1975 he was recipient of the Dow Chemical Young Outstanding Faculty Award for the Midwest region of the American Society for Engineering Education.

In the area of community service, Dr. Haralick has been active in the land use planning and is Chairman of the Civic Responsibilities Committee, of the Douglas County Environmental Improvement Council. He has been active in applying planning principles to maximize the public benefit for the least public cost. On two occasions he ran unsuccessful campaigns for Lawrence City Commissioner.

In two areas Dr. Haralick has applied his computer expertise to cultural activities. He was responsible for the computer program of The Concordance of the Plays and Prefaces of George Bernard Shaw and he has contributed to the field of computer art generation. In the latter his work has won some national prizes. He plays the piano and is currently working on computer algorithms to assist in composing music.

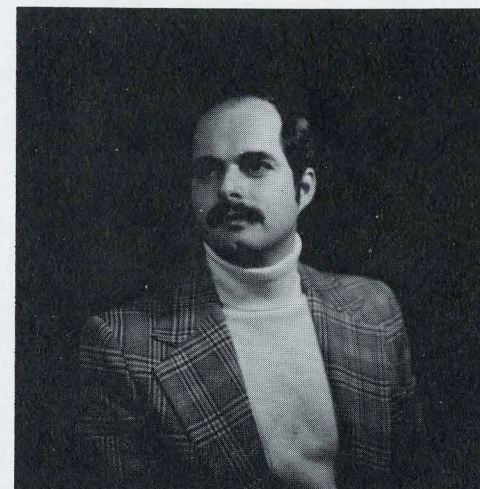
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activities are both of an on-the-job and off-hour nature which further emphasize the dedication and self-sacrifice of these men.

In the Spring of each year a search for candidates is initiated by the Award Organization Committee. Letters and Nominating Forms are sent to all possible industry, academic, and government groups and companies who are involved with electrical engineers. The nominees are judged on their engineering achievement, their civic and social activities, their cultural and aesthetic development, and their performance and contribution in other areas. The basic limiting requirements for a nominee is that he has a BSEE degree or equivalent held not more than 10 years and that he is not over 35 years old.

The nominations are submitted from all over the country and from every type of company. The Award Organization Committee oversees this program: doing the initial screening, arranging for the Jury, and arranging for the Award presentation. The 1975 Jury of Award was: Chalmers M. Butler, President of Eta Kappa Nu and Professor of Electrical Engineering, University of Mississippi; Robert F. Cotellessa, Vice-President of IEEE and Professor and Chairman of Department of Electrical and Computer Engineering, Clarkson College of Technology; Sergei A. Schelkunoff, Bell Laboratories (retired); Howard H. Sheppard, Past President of Eta Kappa Nu and Vice-President of Rumsey Electric Company; and W. S. White, Jury Chairman and Senior Executive Vice-President, American Electric Power Service Corporation.

The Award Organization Committee members are: Clarence J. Baldwin, Herbert S. Bennett, Donald Christiansen, James D'arcy, Larry Dwon, Irving Engelson, Anthony F. Gabrielle, Willard B. Groth, Marvin J. Kolhoff, Everett S. Lee, Robert W. Lucky, Steven A. Mallard, James H. Mulligan, Jr., Sheldon J. Raiter, Frederick A. Russell, Berthold Sheffield, Roger I. Wilkinson, and Harlan J. Perlis, Chairman.



"By virtue of his noteworthy work in the field of dielectric breakdown analysis and his participation in church activities"

Biography of
CARLTON MORRIS OSBURN
Manager of Silicon Process
Studies Group
IBM

Carlton M. Osburn was born in Lansing, Michigan on November 16, 1944. He received his BS, MS, and PhD degrees from Purdue University in 1966, 1967, and 1970, respectively.

Dr. Osburn joined the IBM Watson Research Center as a Member of the Research Staff in 1970, and because of his outstanding scientific accomplishments and leadership ability he was promoted to his present managerial position in 1974. He is internationally known for his contributions to the study of the mechanisms of dielectric breakdown in metal oxide semiconductor devices. This work has played a central role in the selecting of processes and materials for highly-advanced FET structures having maximum chip yield and reliability. Recently, he was part of the team that designed, developed, and fabricated MOSFET memory array chips with a density of five million memory cells per square inch. He has published over 25 articles on various aspects of breakdown behavior, and he has received the Callinan Award of the

Electrochemical Society and the IBM Outstanding Contribution Award for this work.

Since graduation, he has been involved in various church and community activities. At the First United Methodist Church of West Lafayette, Indiana he served on the administrative board and as chairman of the Social Concerns Commission. At the Peekskill Presbyterian Church (Peekskill, N.Y.) he was a deacon, and elder, and chairman of the Adult Education and the Church and Community Committees. Currently, he is president of the Church Council of Our Savior Lutheran Church in Croton-on-Hudson, N.Y. While at Peekskill he was one of the founders and served as acting Chairman of Peekskill Association for Social Action and in Croton he served on the Layman's Interfaith Council. Both of these interdenominational groups were involved in a variety of social betterment programs, such as tutorial, day care, health center, and senior citizen activities.

In his spare time Dr. Osburn is an active radio amateur, designing and constructing his own station equipment. He is also an amateur astronomer and has built his own 6" telescope.

Photo 6

CHAPTER NEWS

XI CHAPTER, Auburn University— Winter quarter started off with work for the Xi Chapter members of HKN. First the members offered a course in Basic Computer Language for use on the HP-2000E computer. The course was taught at night and was well-received and attended by students of all curriculums. Then Engineering Week, February 17-21, was a big event on campus. The HKN members were responsible for conducting tours and setting up demonstrations of various aspects of Electrical Engineering. High school students were given tours of the School of Engineering and the overwhelming consensus was that the E.E. Department was the best in the School of Engineering, a fact the HKN members believe and are extremely proud of.

In the area of Community Service the HKN members donated food to two families less fortunate than ourselves to brighten their Christmas. The Lee County Department of Pensions and Security wrote a highly complimentary letter to the HKN members recognizing their willingness to help in the community and thanking them for this help.

Spring quarter was occupied by the task of screening the E.E. students to determine which students were eligible to become brothers of Eta Kappa Nu. These efforts culminated in the pledging and initiation of ten undergraduates and two graduate students on May 13, 1975.

On May 16, 1975 the Annual IEEE-HKN picnic was held. This picnic has become an important affair with the E.E. students, for it provides an excellent opportunity for the students to learn more about their instructors, fellow students, and themselves and to further develop the professional attitude which they will take with them into the engineering world. On a lighter note the students licked the faculty in softball after the picnic, a fact the faculty would rather forget.

During the summer quarter HKN presented the Outstanding Sophomore Award to Kenneth R. Garrick, a very deserving young man that will be a credit to his school and the engineering profession in later years.

The Seniors' Club, a service organization sponsored by our Chapter to provide tutoring help for people in E.E., gathered old tests from students and faculty alike and bound them in book form to be placed in the Greene Room, the E.E. study room, to aid students in studying for quizzes and provide additional problems for background study in later course work.

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JURY OF AWARD for the Outstanding Young Electrical Engineer Award Presentation. Left to Right Howard H. Sheppard, Senior Vice President, Rumsey Electric Company and Past President of Eta Kappa Nu. — Sergei A. Schelkunoff, Professor Emeritus of Engineering, Columbia University — Harlan J. Perlisi, Professor of Electrical Engineering, New Jersey Institute of Technology and Chairman of the Award Organization Committee — W. S. White, Vice Chairman, American Electric Power Service Corporation and Jury Chairman — Chalmers M. Butler, Professor of Electrical Engineering, University of Mississippi [Presently Visiting Professor, University of Arizona] and President of Eta Kappa Nu — Robert F. Cotellessa, Professor and Chairman of Electrical Engineering and Computer Science, Clarkson College of Technology.

CHAPTERS from page 5

Our Chapter in conjunction with the Auburn Parks and Recreation Department checked the local parks and recreation facilities for the condition of the equipment and to repair the defects that were found to insure the safety of the children and adults who used the facilities. This project gave great personal rewards to the members because they were helping to better the place where they live and to help protect the safety of the community.

by Stephan Turnipseed

SIGMA CHAPTER, Carnegie Mellon University—The Sigma chapter is having a very active year with over 21 new junior and senior pledges enthusiastically participating in the chapter's ac-

tivities. Several smokers and meetings have been held to organize this year's pledge projects. The first project, under the direction of Mike Mehr, is to organize and stock an electronics store in the EE department. This store would handle resistors, capacitors, transistors, and the more popular linear and digital integrated circuits needed by the faculty, staff and students for research, class work, or independent projects. Dr. Casasent, the chapter advisor, reports that the administration and the various companies are cooperating to ensure an early 1976 opening date.

The second project involves visiting local high schools and telling students what "college is really like." Under the able direction of Frank Coletta, a slide and talk presentation has been orga-

nized. Topics of the talk include: acquainting students with engineering, how a high school student can prepare for college, the kind of work and courses to expect in college, and information about the job opportunities in electrical engineering.

During the last meeting Arthur (Ned) Uber was voted Senior of the Year. Ned is well known around the school for his research, academic ability, and his community service. The initiation date was also decided upon as January 11, 1976. Interested alumni should contact Dr. Casasent for further details.

by Frank Stein

GAMMA MU, Texas A&M University—Activities for the fall semester began with a luncheon for all members

and the EE faculty in September. It was enjoyed by both students and faculty since it promoted friendly association outside the classroom. Members also participated in guiding high school students around Zachry Engineering Center during the University's Career Day in September.

Pledge activities began with a smoker in early October. Nineteen new members were added to our chapter this semester. Each pledge was required to help complete a pledge project. One of the most useful of these consisted of setting up a tutoring service for non-EE students taking EE courses. This not only benefited those students but helped promote good relations with other Engineering Departments.

by Kenneth Routh

DELTA CHI, Cooper Union—The Delta Chi Chapter of Eta Kappa Nu, at The Cooper Union School of Engineering, would like to report the following facts and events to the Bridge for publication. The present chapter officers are: Richard C. Bernhardt, President; Walter Williams, Vice-President; Anthony Gallo, Treasurer; Marc Dinkes, Rec. Secy.; Howard Davis, Corr. Secy.; Robert Grass, Bridge Corr.; Chapter Advisor, Dr. Richard G. Costello. The chapter just held its fall initiation, on November 20. Seven new members were inducted, three seniors and four juniors. Later that evening the chapter held its traditional celebration in Chinatown.

On December 5, a number of members of the chapter will be going up to the Thomas J. Watson Research Center of IBM for a tour.

The chapter is also working on getting a copy of the film, "Miracle of Second Avenue" about the great New York telephone fire.

by Richard Bernhardt

EPSILON MU CHAPTER, The University of Texas at Arlington—The Epsilon Mu Chapter at the University of Texas at Arlington has just concluded a very successful pledge program for the Fall of 1975. Twenty-one new members were inducted. The induction ceremony was followed by the Fall banquet which was a big success. Representatives from several area industries helped to bring the attendance up to 120 people. The public amplifier system and lectern built by some of the members last spring were used for the first time at the banquet. The system performed very well under its first official use. The banquet was followed by a party for the new members.

The study clinic which is monitored by the members to help students in EE

courses was extended from its daily hours of 9:00 A.M.-3:00 P.M. to include two nights a week. This extra addition gives night students a chance to obtain help.

The officers for 1975-76 are: President: Jimi Hellums, Vice-President: Allan Coon, Treasurer and Pledge Director: Mike Reed, Recording Secretary: John Jarvis, Corresponding Secretary: Howard Smith, BRIDGE Correspondent: Sandra Ratcliff, Joint Council Representative: Tim Lucas. Tim Lucas was presented the Prof. John M. Goodwin Award.

The Fall semester will be concluded with a joint Christmas party with IEEE. The party will be held at the conclusion of final exams.

by Sandra Ratcliff

GAMMA PHI CHAPTER, University of Arkansas—The first order of business for the Gamma Phi Chapter this past semester was to select a pledge group. A smoker was held in October to meet prospective pledges. Six pledges were initiated on November 15th after they had completed the required pledge board and pledge test.

Tutoring sessions were begun again immediately, and future plans to consolidate tutoring groups of the various engineering departments were discussed. This was considered advantageous because of the lack of participation in the individual tutoring programs. Also tutoring could be done in a larger variety of subjects.

The Chapter decided to continue supplying our EE lounge with magazines and made plans to obtain new chairs for the EE lounge.

Some other new projects our members became involved in were the building of a wind powered generator on campus and a community project involving tutoring of high school students.

by David H. Bradshaw

EPSILON IOTA CHAPTER, San Jose State College—The Epsilon Iota chapter at San Jose State University enjoyed a

very successful and active semester. As one of the largest and most enthusiastic pledge classes of the history of this university, we succeeded in performing some useful and informative projects.

The chapter succeeded in locating most of the old members of the chapter which had already graduated and left the campus. Some of these members who are now working in the industry participated in our activities and had a delightful reunion. From these meetings the new members could benefit from the experience of those who had some part in industry and could inform them about the real world.

Another successful and beneficial program was the completing of the 'Instructor Directory Forms' and the 'Professor of the Month' posters. These were considered as a pledge project for the initiates. The 'Professor of the Month' posters, which include a picture of the Professor and his biography, are being posted in the display case continuously and students refer to them to obtain information about a particular instructor. All the students, especially freshmen, found these to be very beneficial.

As other pledge projects, some initiates conducted a series of lectures in some basic Electrical Engineering courses, to inform the new students on the activities of our chapter in general and the goals of the Eta Kappa Nu in particular. These and other similar measures brought considerable publicity for our association in the EE Department.

Among our other activities this year were the picnic and the cocktail party which was held at the house of the President for this semester, Brian Kaminskis. In these and other similar meetings, students had a chance to meet the Professors and other students in a relaxed atmosphere.

Initiation and the banquet with 18 initiates rounded out a very successful semester and also many of those in attendance but all will be back in shape by next semester.

by Bernard Livi

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Chemistry Prof: What can you tell me about nitrates?

Student: Well, sir, they're cheaper than day rates.

People can be divided into three groups: those who make things happen, those who watch things happen, and those who wonder what happened.

Distinguished Service Award To . . .

CARL T. KOERNER

by Thomas L. Rothwell
Past Director

On November 22, 1975, Carl T. Koerner, Kappa '30, was awarded Eta Kappa Nu's highest recognition for contribution to the association, the Distinguished Service award. Carl is the fifth recipient of this award.

About the time radio, as we know it today, had begun to develop, young Koerner had already demonstrated his pioneering drive by becoming licensed by the federal government as amateur radio operator 2CEP. His early interest in

amateur radio was prompted both by his affinity for electronics, and his interest in communication with people. The direction in Carl T. Koerner's life followed, by and large, this early indication of deep interest in electronic communication and love of his fellow man.

Outstanding Engineer and Manager

While Carl was of high school age, he used to love to look out of

his attic window on Staten Island at the New York Narrows and watch the big ships leave for distant ports. He once said the most notable thing about his high school years was the daily ferryboat ride to New York City. This inspired him, starting when only 17, to go to sea as a radio operator.

Carl was elected to Eta Kappa Nu at Cornell University in 1929 and graduated in 1930 with honors. He is also a member of Tau Beta Pi. His shipboard radio service continued summers right into the Depression and exposed young Koerner to the West Coast of the United States. This he came to love, particularly after he met Edith Cartwright, a student at the University of Washington.

After his shipboard radio career, Carl was employed in New York on radio and cable systems engineering until the mid-1930s when he followed Horace Greeley's advice and went west where he and Edie were married. In the late 30s he continued with communications systems engineering, joining the Pacific Telephone & Telegraph Co. in San Francisco and later transferring to Los Angeles. After his apprenticeship, his efforts turned to the innovative design and project engineering of a wide variety of wire line and radio communication systems. Koerner engineered the first multichannel pulse position microwave system in the public

telephone network to Catalina Island and the first multichannel VHF-FM system in this network to Death Valley, California.

Recognizing his innate leadership capabilities and professional abilities, PT&T promoted him to leading and managing engineering organizations he had worked within so successfully through the years and designated him "Outstanding."

Carl also loves to teach and write. An evening program instructor at USC for four years, and at Los Angeles Junior College eleven years, he taught and organized many engineering courses at PT&T. Between 1958 and 1960 he was sent to the AT&T in New York and developed the first Communications Engineering Course as a college level program and guided a number of universities and telephone operating companies in their presentation of this program. He also wrote and published numerous papers and articles for IEEE conference, "Telephony," "Communications," and the "Bridge." These were not only technical, but humanities and adventure stories as well.

Indicative of the responsibility entrusted him by PT&T were his several appearances as expert witness in the courts, before grand juries, the Public Utilities Commission of California, and the Federal Communications Commission. Carl is a registered professional electrical engineer in California.

His professional responsibilities and technical sphere of influence within PT&T continued until his Bell System retirement in 1973. But Carl is not really retired, even now. He is finding his professional skills as a consulting engineer in great demand and has less time to himself and his family than ever before.

Devoted Family Man

The love bug hit hard when Carl was in his mid-twenties. Her name was Edith Cartwright; which they changed to Koerner in 1936. Edie, a graduate of the University of Washington (her home state), and Carl have two children. The oldest, a daughter, is a graduate from the University of California. Their son, as might be expected, is an

engineer from Stanford. Although both children are grown, married, and gone from home, the Koerner's continue to enjoy their spacious, beautiful, and friendly California home in Glendale.

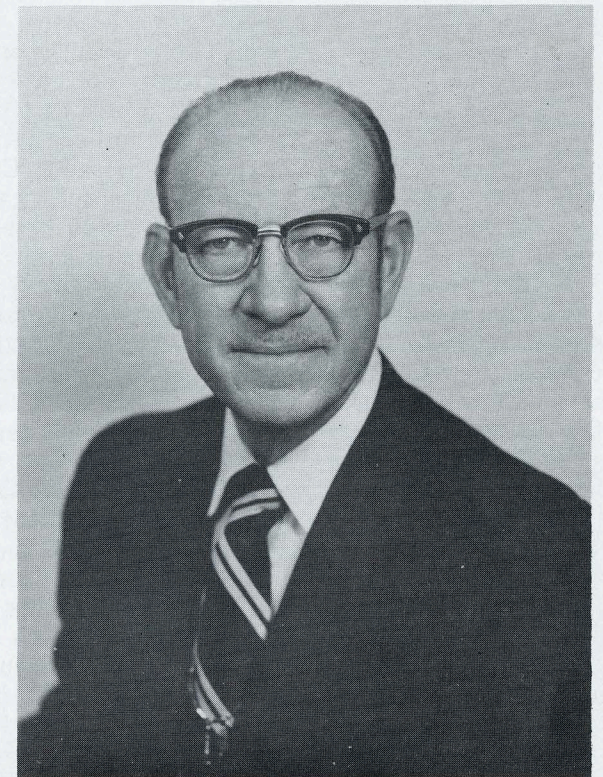
Intrepid Traveller

Carl's world travelling experience began early in life during the years that he was a shipboard radio operator. Fortunately, when he married Edie and settled down he found that she was his kind, and they have been world travellers ever since. In addition to many trips to Europe, the Mediterranean, behind the Iron Curtain, and through the Far East, Carl and Edie have left footprints all over the western United States, Mexico, and Canada. Incidentally, they have driven cars in almost every country they have visited. Their world travels are eased because Carl speaks German fluently, and speaks sufficient French and Spanish to take care of all the necessities when visiting those countries.

Carl owns a seagoing power boat that frequently carries them to west coast points and offshore islands to enjoy exploration and skin diving. Carl is a member of the U.S. Power Squadron and is currently studying celestial navigation. Carl and Edie are active members of the Sierra Club and the Canyon Explorers Club, which is their connection for enthusiastic hiking and backpacking. They are just completing a Basic Mountaineering Training Program. Quite recently, they could be seen in Joshua Tree National Park, dangling from a line over a 75 foot cliff practicing rappelling.

Eta Kappa Nu

Carl's most devoted, dedicated, and loved activity is Eta Kappa Nu. Following his election to Eta Kappa Nu and his graduation in 1930, Carl became active in the New York alumni chapter. He was a major contributor to the activities of the employment committee which, during those times, was



CARL KOERNER
President 1958



Arnold Rose, Past President of the Los Angeles Alumni Chapter. Mrs. Eadie Koerner, Carl Koerner

◀ KOERNER

chaired by another Distinguished Service Award recipient, Cliff Faust. Throughout his residence in the New York area until the mid-30s, Carl remained active with their Alumni Chapter. Upon moving to the west coast in the mid-30s, he became active in the San Francisco Alumni Chapter and was honored as the chapter's host to Mr. and Mrs. Zerby during their visit to San Francisco in 1937.

Moving to Los Angeles in 1939, he became active with the Los Angeles alumni chapter where he was successively secretary, treasurer, vice-president, and finally president in 1950.

Carl was elected to the National Advisory Board (now called the Board of Directors) serving there from 1953 until 1955. In 1956 he was elected national vice-president, and in 1957 national president of Eta Kappa Nu.

Eta Kappa Nu's national problems and needs in the '50s revolved around the need to obtain more universal recognition for Eta Kappa Nu. During the first half of the '50s, new initiations were dropping drastically. Western participation was lagging at a time when western leadership in electronics and the new space age was accelerating. Competition between the two major electrical and electronic engineering societies was endangering Eta Kappa Nu's position. Eta Kappa Nu's investments required a more effective approach. The outstanding and experienced Executive Secretary, A. B. Zerby, was reaching retirement age; and a major reorganization of the national structure along with a modernization of the Constitution and Statutes was required.

Carl, as chairman of the New Chapters and Branches Committee, strongly stimulated this activity. With a very effective visitation program, chapter interest was increased to where a significant upturn in member enrollment occurred.

While chairman of the Alumni Activities Committee 1955-56, he

sparked a committee which prepared the Alumni Chapter Handbook, greatly encouraging alumni activities. Western contributions to this and other national committees finally lead to California as an annual site for the Board of Directors' summer meeting.

The inevitable approaching retirement of Executive Secretary A. B. Zerby and the overdue need to modernize the Constitution and Statutes and the national organization, all came to a resounding climax during Carl's terms as National Vice-President and President. He chaired a Constitution and Statutes Committee which completely revised those instruments. He provided for amending Eta Kappa Nu's articles of incorporation; meanwhile, as President, directing the successful effort to find a capable and effective replacement (Paul Hudson) upon Zerby's retirement which then occurred. He guided the Bridge through these tumultuous years and re-established effective communication with the IRE and the AIEE. And Carl, as chairman of the Finances and Investments Committee, recommended to the National Executive Council the modernization of the investment program, which was then accomplished in a subsequent administration.

It must also be mentioned that he was a prime mover in the conceptualizing and establishment of the Outstanding Electrical Engineering Student Award Program. He has also been an assistant editor of the *Bridge* since 1969.

Carl exudes the pleasant, easy-going graciousness of a true westerner. His participation in Eta Kappa Nu has always been toward the total good of the organization in the western region. Through his efforts he has spurred alumni activity, student chapter activity, and new chapter activity wherever he went. He has demonstrated continued interest, involvement, and deep love for the organization and the cause for which it stands. C. T. Koerner has certainly earned the title by which he is recognized by all who know him in the organization, "Mr. Eta Kappa Nu of the West."

DIRECTORY

Executive Council

Chalmers M. Butler, President, Electrical Engineering Dept., University of Mississippi, Oxford, Mississippi.

Earl D. Eyman, Vice-President, Electrical Engineering Department, University of Iowa, Iowa City, Iowa.

Paul K. Hudson, Executive Secretary, Department of Electrical Engineering, University of Illinois, Urbana, Illinois 61801.

Directors

Robert W. Lucky, Bell Laboratories, Holmdel, New Jersey.

Marcus D. Dodson, 9302 Grindlay St., Cypress, California.

Gerald R. Kane, Electrical Engineering Department, University of Tulsa, Tulsa, Oklahoma.

Earl L. Steele, Electrical Engineering Department, University of Kentucky, Lexington, Kentucky.

Quayne Golden Gennaro, 20 Bartle Ct., Highland Park, New Jersey 08904.

Albert Hauser, Electrical Utilities Industry, LaSalle, Illinois.

Committees

CONSTITUTION AND STATUTES—Warren T. Jessup.

MOVIE—J. E. Farley.

OUTSTANDING YOUNG ELECTRICAL ENGINEER AWARD—Harlan J. Perlis.

OUTSTANDING STUDENT AWARD—Lawrence Hamilton.

OUTSTANDING PROFESSOR AWARD—

OUTSTANDING CHAPTER AWARD—Alan Lefkow.

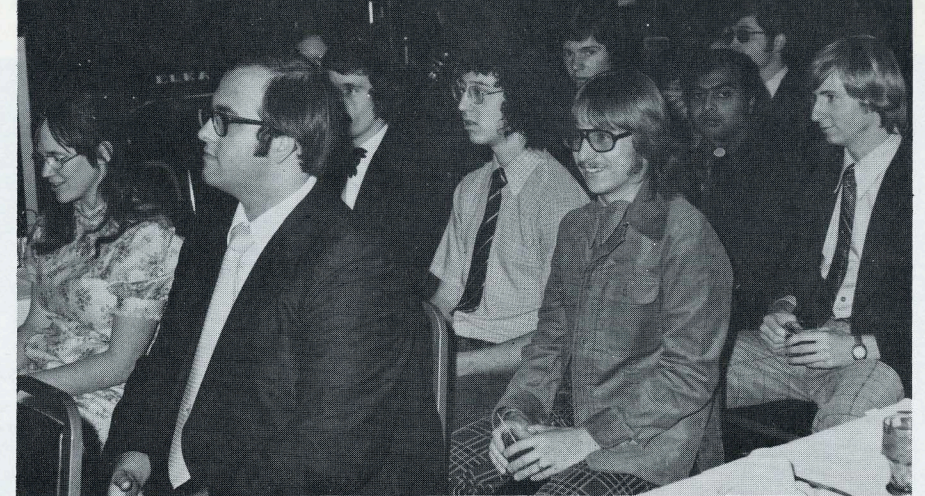
PUBLICITY—Berthold Sheffield.

VISITATION—Larry Dwon.

Installation Of Zeta Phi Chapter

by Leonard Lo

The Installation Ceremony for Zeta Phi Chapter of Eta Kappa Nu at Tri-State University was held at Sunset Inn on Crooked Lake, Angola, Indiana, On November 15, 1975. After the Installation a banquet was held for the members and guests. During the program The Charter of the new chapter was presented to University President Elliott by National Executive Secretary Professor Hudson. A very nice time was had by all.





Beta Eta — North Carolina State

BETA ETA CHAPTER, N. C. State University — On Friday, November 7, 1975, Beta Eta Chapter inducted 21 new members, the largest group in the chapter's history. The new members, as part of their pledge project, conducted help sessions for sophomore electrical engineering students. Other pledge projects included completion of a joint HKN IEEE Student Lounge, construction of a Travel Board for the Student Center, raising money for United Cerebral Palsy, and assisting in a Scabbard and Blade blood drive.

Following the initiation ceremony, a banquet was held at a local restaurant. The featured speaker was Norm Sloan, head coach of the Wolfpack basketball team.

by J. Paul Benson Jr.

BETA ALPHA CHAPTER, Drexel University — The new administration at Beta Alpha chapter started off last year with some clean-up work. All keys and certificates were distributed to those who hadn't received them, and keys were ordered for all new members requesting them. In the fall twenty-one new members were admitted to the chapter and ten initiates were inducted this winter term.

A library of graduate school catalogues from many universities was started along with a Data Book library. These libraries are available in the bookcase in the EE lounge for anyone interested.

Plans for rewriting a few of the chapter bylaws have been discussed with hopes for implementation sometime this year. Also, ideas for raising money for the chapter have been suggested by members. A used-book sale was organized and run earlier this year and other ideas, such as a raffle, and beer blast, are being considered. Also this year, two faculty advisors were voted in. They will replace two current advisors who will be stepping down in the near future.

Plans for the EE Dinner Dance were finalized with the date set for 2 April. The affair this year is open to all EE students and awards will be given out for the most deserving teacher, senior, junior, and graduate student. Elections for new officers will be held at the start of spring term so the new officers will have all of the term to be eased into their positions before the present officers (all seniors save one) graduate.

On the lighter side at Beta Alpha, the pattern for the EE T-shirt has been selected and the shirts ordered. The "Bicentennial EE" (bicEntEnnial) will depict 200 years of the electron.

The gags for the annual Lampoon Luncheon, where seniors finally get their chance to roast the "profs", are being decided upon. The luncheon is set

for Friday, 21 May. The next day, Saturday, is the EE picnic. This annual event is held at the Drexel Lodge with "something for everyone."

by Joseph Pittore

DELTA TAU, University of Southwestern Louisiana—The Delta Tau Chapter is indeed honored to have the past national president of Eta Kappa Nu, Dr. William A. Klos, as our Electrical Engineering department head. The chapter has received much news and insight as to how business is conducted at the national level through Dr. Klos and his experiences with Eta Kappa Nu.

In this last year we held initiation ceremonies for new members to honor their hard work. Also a photograph was taken to be printed in the university yearbook. Many activities were performed in conjunction with the student chapter of IEEE. The annual spring banquet plans are now being made. Last years banquet was a tremendous success and we are all looking forward to this years. This semester we will also be electing new officers for the coming years.

We of the Delta Tau Chapter are anxious to meet fellow HKN members professionally in the years to come.

by Erick Swan

I thought my new neighbor had three daughters — until I realized there was only one daughter with three different wigs!

* * *

Elsie says "As a part of my diet, I'm golfing every day. My doctor told me to live on *Greens* as much as possible."

* * *

Did you hear about the fellow who bought a new wig? Now he's living under an assumed mane.

* * *

A teacher was explaining the habits of dolphins to her class. She concluded her lecture, "A single dolphin will have as many as 1,000 babies." A pupil raised his hand, "And how many do the married ones have?"

SPECIAL SUPPLEMENT

In recognition of the 200th anniversary of American independence, BRIDGE is pleased to present a group of paintings of historic sea engagements of the Revolution.

If all this seems like a long-time-ago, please consider the fact that our father had a friend who had a friend who had a friend that was a part of it all.

(Outside Front Cover)

RANDOLPH VS YARMOUTH

7 March 1778

Crusing to the eastward of Barbados, the Continental frigate *Randolph*, 32 guns (Captain Nicholas Biddle), accompanied by four smaller South Carolina Navy vessels, sighted a large ship bearing down before the wind. As darkness fell, she was identified as HMS *Yarmouth*, a 64 gun ship-of-the-line. Biddle answered the Britisher's hail with an opening broadside at close quarters. The American captain was wounded early in the action but remained on the quarterdeck. For more than a quarter of an hour the vastly inferior *Randolph* courageously gave more punishment than she received. Then, at the height of the battle, she tragically blew up. Of 315 heroic officers and men on board only 4 sailors survived to be plucked from the sea by *Yarmouth* five days after the battle.

(Inside Front Cover)

BATTLE OFF THE VIRGINIA CAPES

5 September 1781

French seapower which George Washington termed "the pivot upon which everything turned," compelled the capitulation of the British army at Yorktown, thus setting the final course for success in America's struggle for independence. Knowledge that a powerful French fleet under Admiral de Grasse was sailing from the West Indies for the Chesapeake led Generals Washington and Rochambeau to break camp around New York and march south. The subsequent naval battle off the Virginia Capes in which de Grasse drove off the British fleet of Rear Admiral Thomas Graves sealed the fate of General Lord Cornwallis entrenched at Yorktown with his back to the sea. Hemmed in on the land side by the Allied armies, and cut-off from support or evacuation by water, Cornwallis surrendered over seven thousand troops, 19 October 1781. The final victory went to the holder of the sea lines of communications.

(Next Pages In Order)

FIRESHIPS ATTACK HMS PHOENIX AND HMS ROSE

16 August 1776

Even before the Battle of Long Island, British control of the waters around New York allowed the Royal

Navy to make probing and harassing raids up the rivers. *Phoenix* and *Rose* with their tenders were anchored in the Hudson River opposite the northern end of Manhattan Island. Under the cover of darkness, the Americans sent two fireships, old hulks loaded with combustibles, into the midst of the British vessels. *Rose's* tender was completely consumed by the flames from one fireship. The other fell on the starboard bow of *Phoenix*, but after twenty minutes the British frigate was able to disengage with only slight damage.

DESTRUCTION OF HMS AUGUSTA IN DELAWARE RIVER

23 October 1777

Augusta, 64 gun ship-of-the-line, was part of a fleet which arrived in the Delaware to open supply lines for the British Army occupying Philadelphia. Together with other ships, *Augusta* passed through a breach in the *chevaux de frise* obstructions on 22 October to bombard Fort Mifflin, while at the same time Hessian troops assaulted Fort Mercer on the opposite shore in New Jersey. The channel was narrow, and *Augusta* grounded on one of the many shifting sand bars. Daybreak of 23 October, Commodore John Hazelwood sighting the stricken enemy, closed to attack with row galleys and floating batteries of the Pennsylvania State Navy. During the general engagement which followed, *Augusta* caught fire. The holocaust raged out of control. Flames reached her powder magazine about noon and *Augusta* blew up.

FIRST RECOGNITION OF THE STARS AND STRIPES

14 February 1778

John Paul Jones commanding the Continental ship *Ranger* exchanged salutes with a French fleet under Admiral La Motte Picquet in Quiberon Bay, France. *Ranger* fired a 13 gun salute, the customary number rendered a monarchy, and the French answered with 11 guns, the number accorded to republics. Captain Jones well understood the historic significance of this moment. He wrote to the Marine Committee: "I am happy in having it in my power to congratulate you on my having seen the American flag for the first time recognized in the fullest and completest manner by the flag of France . . . it was in fact an acknowledgment of American Independence."

RANGER CAPTURES DRAKE

24 April 1778

A daring raid into the confined waters of the Irish Sea by Captain John Paul Jones with the Continental sloop-of-war *Ranger* was capped by the memorable engagement with HMS *Drake*. The ships were evenly matched, and the action was "warm, close, and obstinate" for one hour. When the shattered enemy "called for Quarters," Jones described the scene on board *Drake*—"her Fore and Main Topsails Yards being both Cut away and down on the Cap. The Top Gallant Yard and Mizzen Gaffe both hanging up and down along the Mast. The 2nd Ensign which they had hoisted shot away and hanging over the Quarter Gallery in the Water. The Jibb shot away and hanging in the Water, her Sails and Rigging entirely cut to pieces her Masts and yards all wounded and her Hull also very much Galled."

BONHOMME RICHARD CAPTURES SERAPIS

23 September 1779

In the gathering darkness off Flamborough Head, England, *Bonhomme Richard* (Captain John Paul Jones) engaged HMS *Serapis* in one of history's most celebrated naval battles. On board *Bonhomme Richard* two of her old 18 pounder cannon burst on the first firing killing many of the gunners. The ships grappled, and lashed bow to stern with gun muzzles touching they pounded each other for two hours of unrelenting fury. Flames ran unchecked through *Bonhomme Richard*, all but three guns were silenced, and water rushed in through her shattered hull. Yet the indomitable Jones, when asked if he had surrendered, hurled back his immortal reply: "I have not yet begun to fight." Sharpshooting Marines and sailors in *Bonhomme Richard's* tops cleared the enemy's decks. A grenade through a hatch caused a devastating explosion. *Serapis's* mainmast began to tremble. Captain Pearson struck. Courage and an unconquerable spirit had earned John Paul Jones a stunning victory which was the genesis of some of the finest traditions of the U.S. Navy.

TRUMBULL VS WATT

1 June 1780

North of Bermuda, the Continental frigate *Trumbull*, 28 guns (Captain James Nicholson), engaged the British letter of marque ship *Watt*, mounting more than 30 guns, in one of the most furiously fought sea actions of the Revolution. Standing sometimes

yardarm to yardarm and at ranges never exceeding eighty yards the adversaries poured broadsides into each other. Hulls, rigging and masts were shattered as both ships were literally cut to pieces. *Trumbull* suffered 8 killed and 31 wounded while *Watt* had 13 men killed and 79 wounded. After this desperate duel fought to a draw, Captain Nicholson concluded: "I would sooner fight any two and thirty gun frigate they have on the coast of America, than to fight that ship over again."

PROTECTOR VS ADMIRAL DUFF

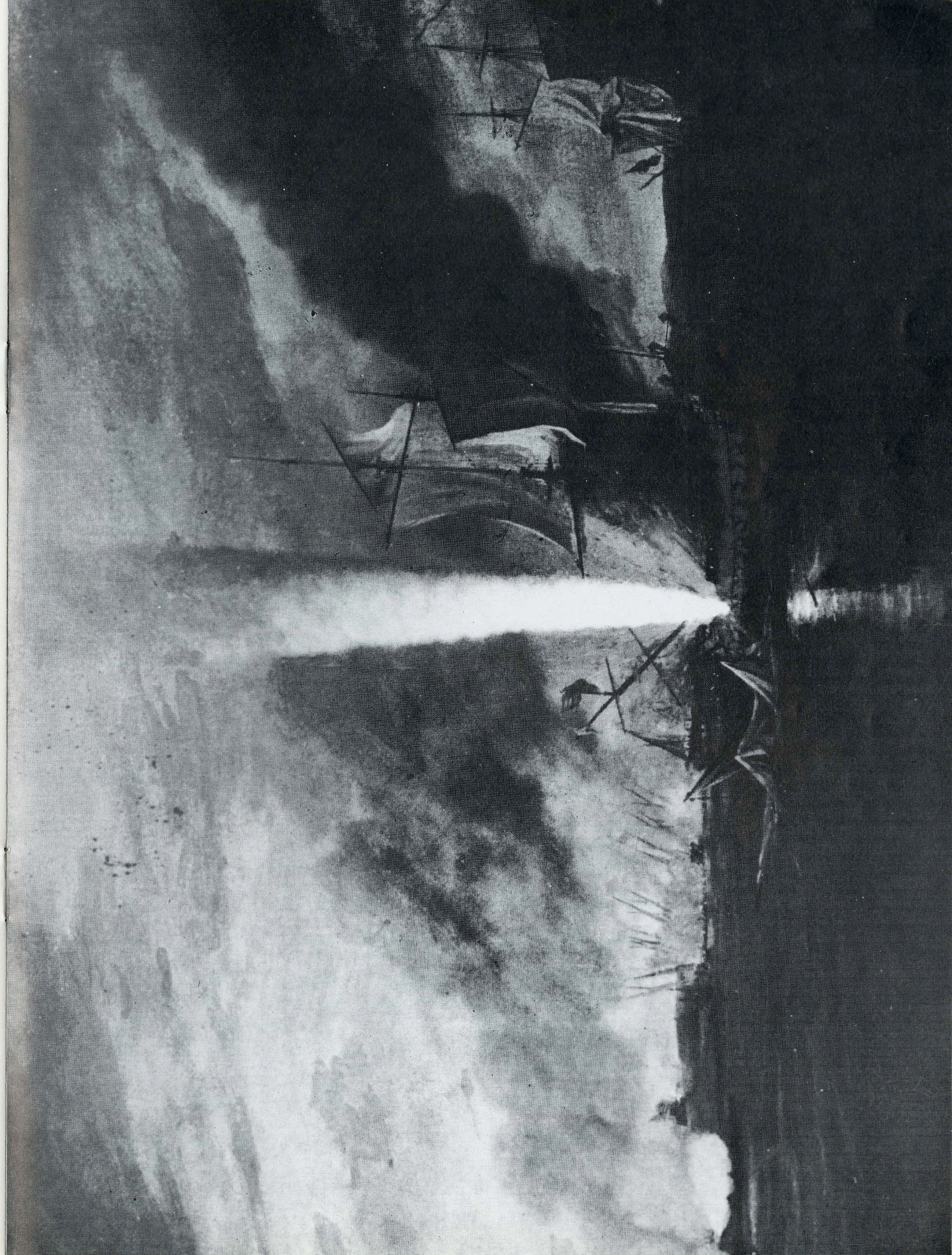
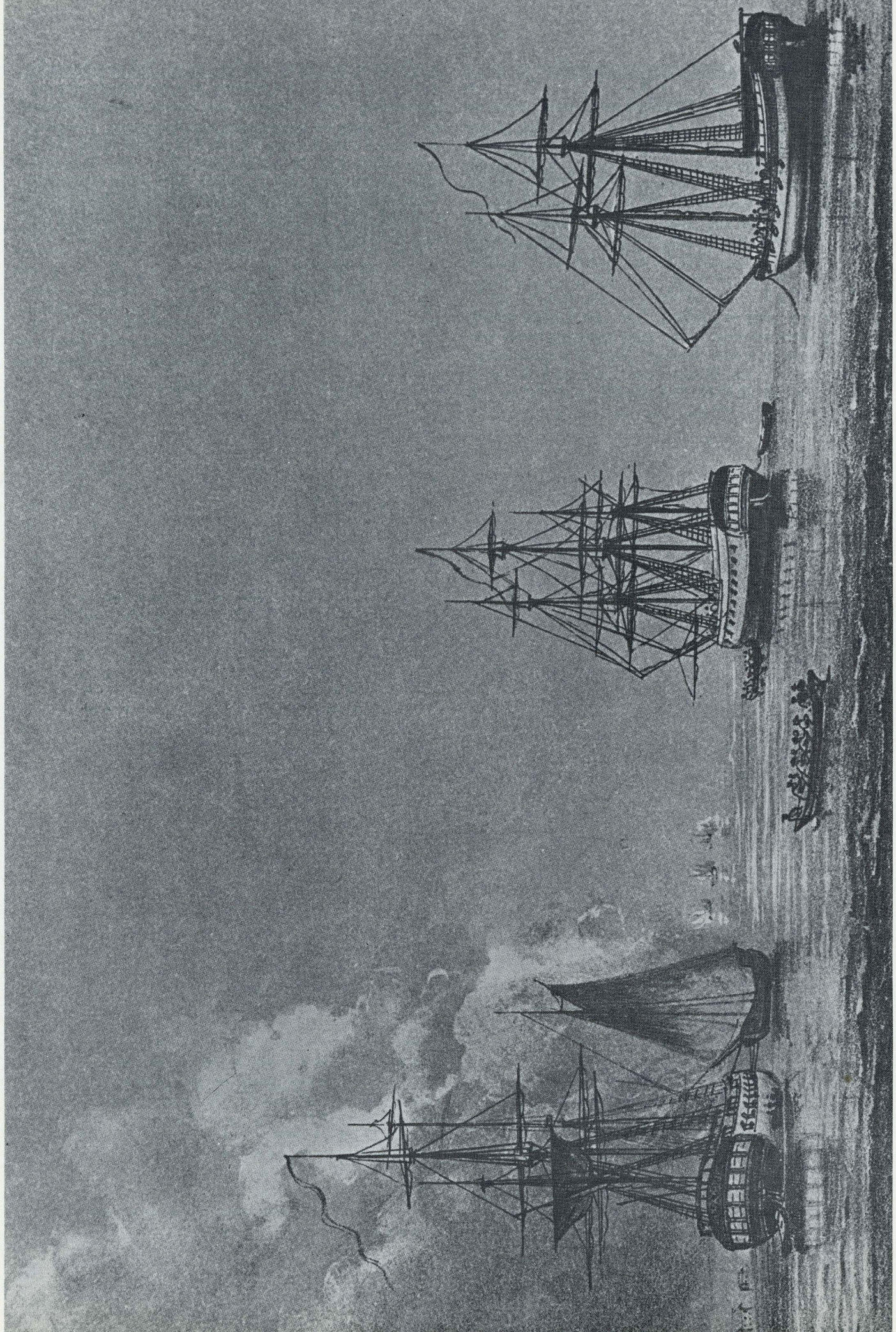
9 June 1780

When the morning fog lifted on the Newfoundland Banks, the 26 gun Massachusetts State Navy frigate *Protector* (Captain John Foster Williams) sighted a large ship bearing down before the wind preparing for battle. She was the British letter of marque *Admiral Duff*, 32 guns, en route from the West Indies to London with a cargo of sugar and tobacco. The distance closed to within pistol range; *Protector* opened with a broadside which was promptly answered. The action was heavy and continued for an hour and a half when *Admiral Duff* caught fire which ignited a hogshead of cartridges, and the letter of marque ship blew up. Fifty-five survivors were rescued. *Protector*, largest ship in the Massachusetts Navy, numbered among her crew Midshipman Edward Preble, who was later to gain fame in the U.S. Navy during the Barbary Wars.

ALLIANCE CAPTURES ATALANTA AND TREPASSY

29 May 1781

The Continental frigate *Alliance* (Captain John Barry) returning from France fell in with HMS *Atalanta* and HM Brig *Trepassy*. Small puffs of air gave way to dead calm. The lighter British vessels manned sweeps to maneuver athwart the stern and quarters of *Alliance*, "laying like a log" in the water. From this position, which nullified the American frigate's superiority in gun power, the enemy raked *Alliance* with round and grape shot for more than three hours. Captain Barry, wounded in the shoulder, courageously kept the deck until forced below by loss of blood. A sudden breeze filled *Alliance's* sails, she answered her helm, her broadsides roared, and the colors on *Atalanta* and *Trepassy* came down in surrender.

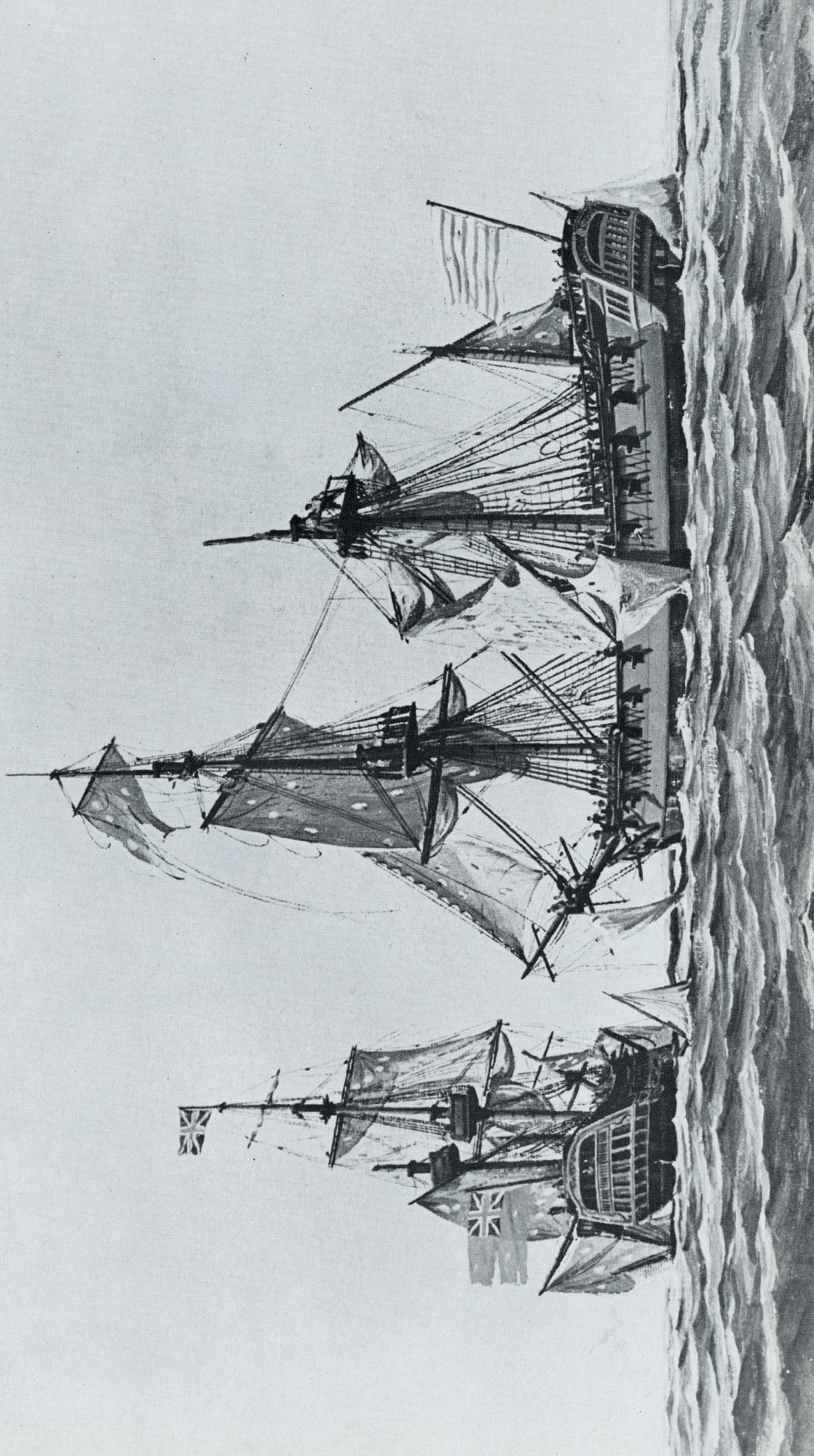


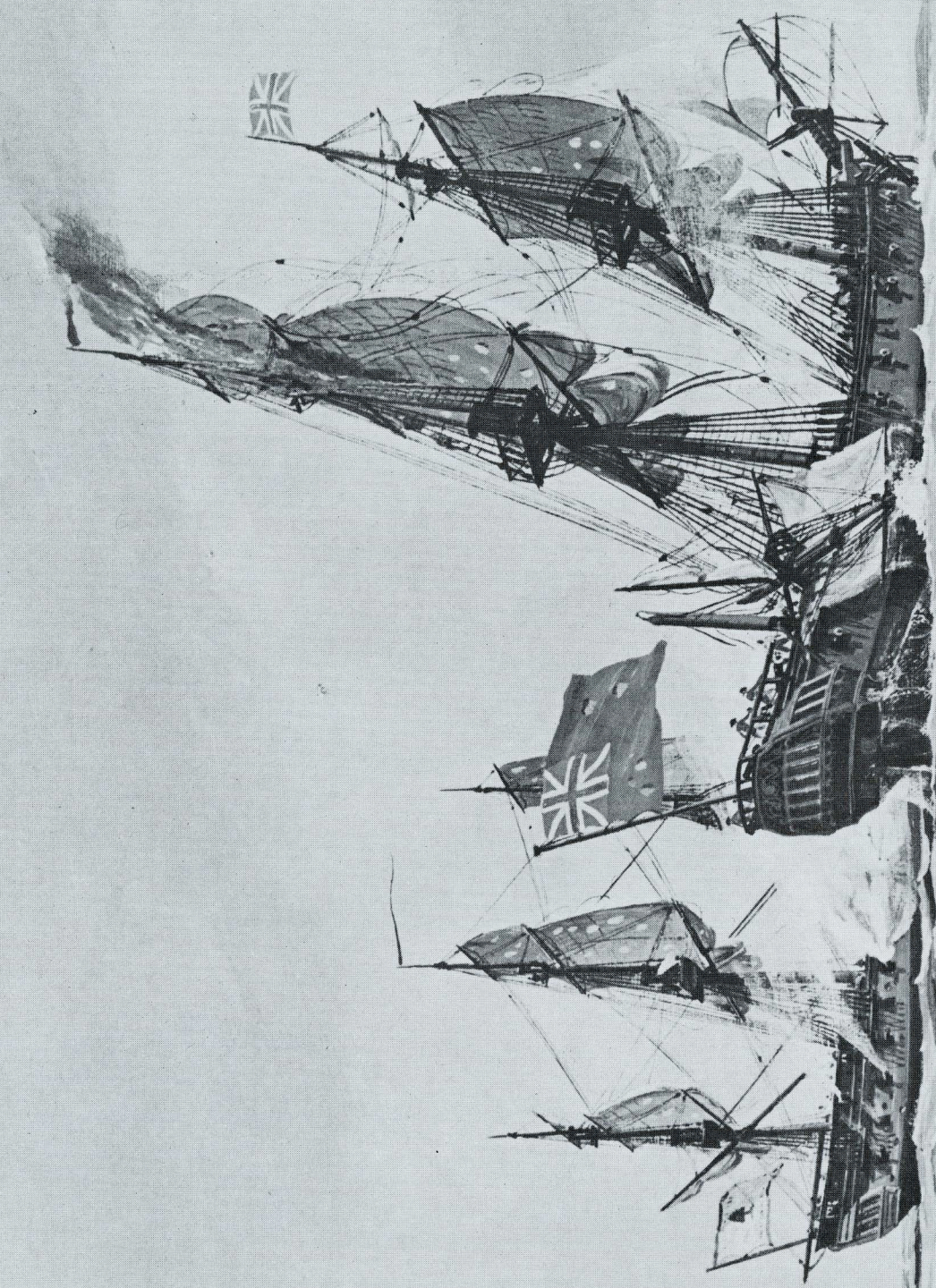


Surrounding
Edward Moran

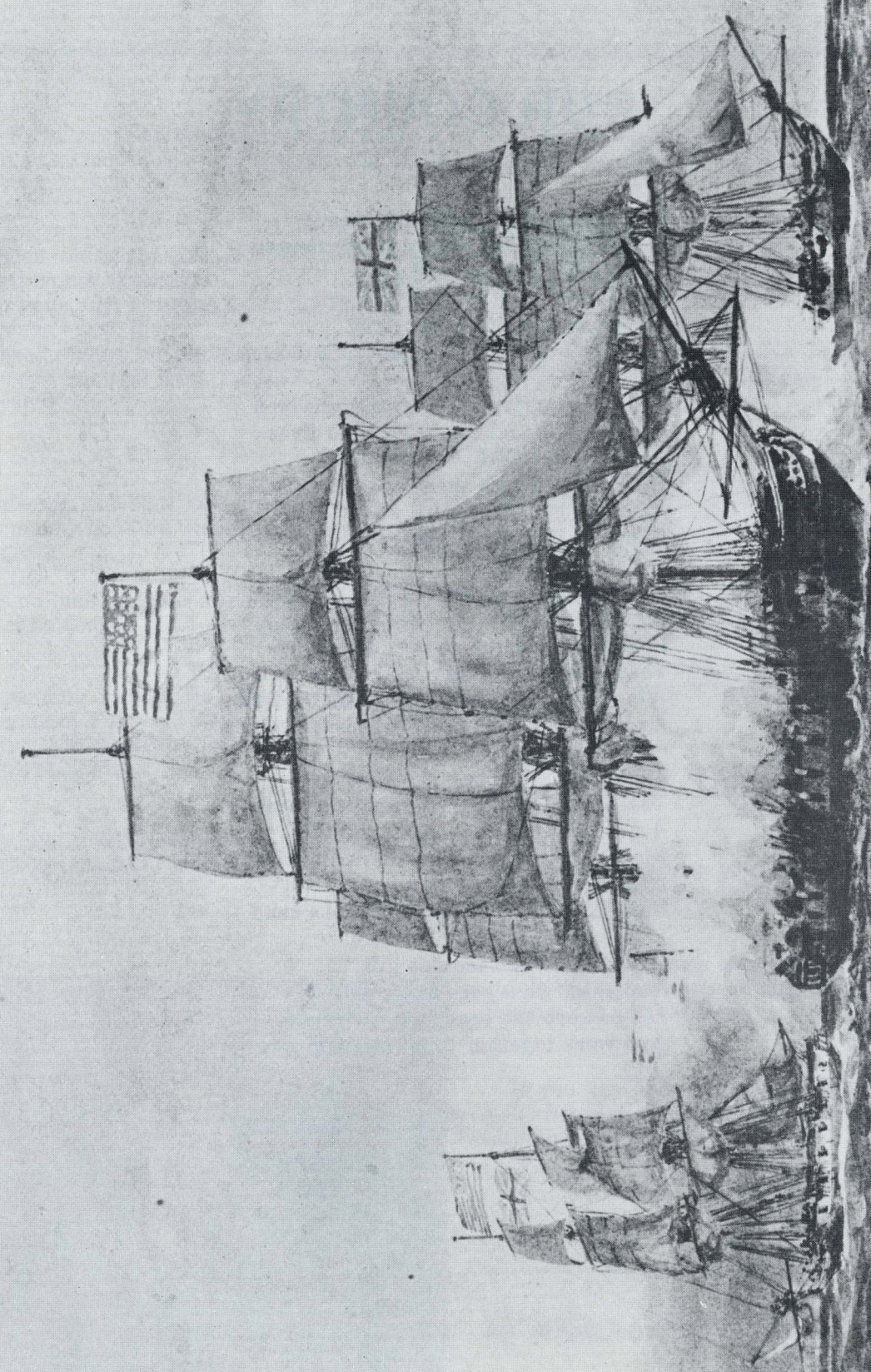
MVP.







W.N.V.P.



OUR COUNTRY

Many years ago a land was found,
A new, good land, where fruits abound.
A place for freedom and a life
Filled with hope for man and wife.
So people came from far away
To start a new life, to make their way.

This life was hard, the strong survived
To tame the prairies, build their lives.
People who toiled to till the soil,
Dirt mingled with their sweat from toil.
A simple life, filled with work
And jobs that no one dared to shirk.

Great minds combined to rule the land,
To write our laws, to take their stand.
Five wars took many lives from home
They fought till weary, chilled and alone.
We worked together when it counted most
And came out strong from coast to coast.

This is the land they fought to save
These pioneer men, so strong and brave.
A people thrilled by rocks and hills
Rivers and mountains, valleys and rills.
A people enchanted by a land
Brought from the bounty of God's hand.

So let us not misuse this gift.
And shirk what goes along with it.
Let us keep the beauty in each thing
And work together to let freedom ring.

By Mary Ann Schmidt

MERRY MOMENTS WITH MARCIA

George Kirby revealed that his luck is running so bad he had a tire blow out — while it was still in the trunk.

Pat O'Brien told of the 106-year-old man who was interviewed on his birthday.

"Do you have any words to explain your longevity?" newsmen asked him.

"Only this," replied the old man. "If I had known I was going to live this long, I'd have taken better care of myself!"

SMILE

The professor who sent his wife to the bank and kissed his money good-bye wasn't so absent-minded.

There is no limit to what a man can do or where he can go if he doesn't mind who gets the credit.

After spending some time interviewing several college graduates I was very enlightened. I learned that an education can go to one's head without ever making it to the brain.

The only people with whom you should try to get even are those who have helped you.



Don't be afraid to ask dumb questions. They're easier to handle than dumb mistakes.

One pastor says he may stop asking his congregation to bow their heads in silent prayer before the sermon. "Some of you don't raise them again."

"How unlucky can you get? I took a girl up to my apartment to see my etchings — and she bought one."

An elderly gentleman — wealthy and very deaf — came into our shop to purchase a new hearing aid. Two weeks later he returned to report that he could hear conversations quite easily, even in the next room.

"Your friends and relatives must be very happy that you can hear so much better," I said.

"Oh, I haven't told them," he chuckled. "I've been sitting around listening — and do you know what? I've changed my will twice!"

Skiing is best when you have lots of white snow and plenty of Blue Cross.

Class reunions are going to be real confusing 25 years from now when everybody has a haircut.

Vanish is the name of a new deodorant, after you rub it on, you disappear and no one knows where the smell is coming from.

If you can keep your head while others around you are losing theirs — get somebody to explain the situation to you.

by **MARCIA PETERMAN**