

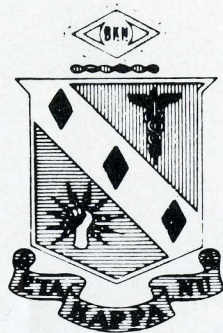
Bridge





eta kappa nu

Electrical Engineering Honor Society
February 1985, Volume 81, Number 2



OUTSTANDING YOUNG ELECTRICAL ENGINEERING AWARD DINNER

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Larry Dwon
Alan Lefkow
Marcia Peterman
Howard Sheppard
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OUR COVER

The Paris Opera House introduces
our article starting on page 10.

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 Maters 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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Address editorial and subscription correspondence and changes of address to: BRIDGE of Eta Kappa Nu, P.O. Box 2203, Station A, Champaign, Illinois 61820.

James A. D'Arcy

Chairman of Award Organization Committee

On Monday evening, April 30, 1984, more than 170 guests gathered at The Union League in Philadelphia to witness the awarding of the 1983 Recognition of Outstanding Young Electrical Engineers in the United States. This was the first Award Banquet to be held in Philadelphia since January 1941.

The winner was Brian F. Fitzgerald, a Manager of an engineering group at IBM Corp., Essex Junction Vermont. Mr. Fitzgerald was honored for his "outstanding contributions to the field of computer memory technology, for his involvement in church activities, and for cultural achievement."

Honorable Mention was awarded to Hung-Fai Stephen Law and Michael L. Steinberger. Dr. Law was a supervisor at Bell Laboratories, Murray Hill, New Jersey, at the time he was selected for honorable mention. He was recognized for his "contributions to the fields of integrated circuit design and biomedical technology, for

cultural achievements, and for his involvement in church activities." Dr. Steinberger is a Member of Technical Staff at Bell Laboratories, Holmdel, New Jersey. He received honorable mention for his "contributions to the field of microwave communications, for his involvement in his church music ministry, and for cultural achievement."

The keynote speaker was Dr. Richard J. Gowen, President of IEEE, who spoke on the progress of electrical engineering during the past 100 years. The year 1984 is the 100th anniversary of the IEEE and its parent societies (AIEE and IRE).

Three other young electrical engineers were selected as 1983 finalists:

- Peter M. Balma, Public Service Electric & Gas Co., Newark, N.J.;
- Russell R. Barton, RCA Corp., Princeton N.J.; and
- John W. Betz, RCA Corp., Burlington MA.

Initiated in 1936, the Eta Kappa Nu Recognition was created to 'emphasize among electrical engineers that their service to mankind is manifested not only by achievements in purely technical pursuits but in a variety of other ways. It holds that an education based upon the acquisition of technical knowledge and the development of logical methods of thinking should fit the engineer to achieve substan-

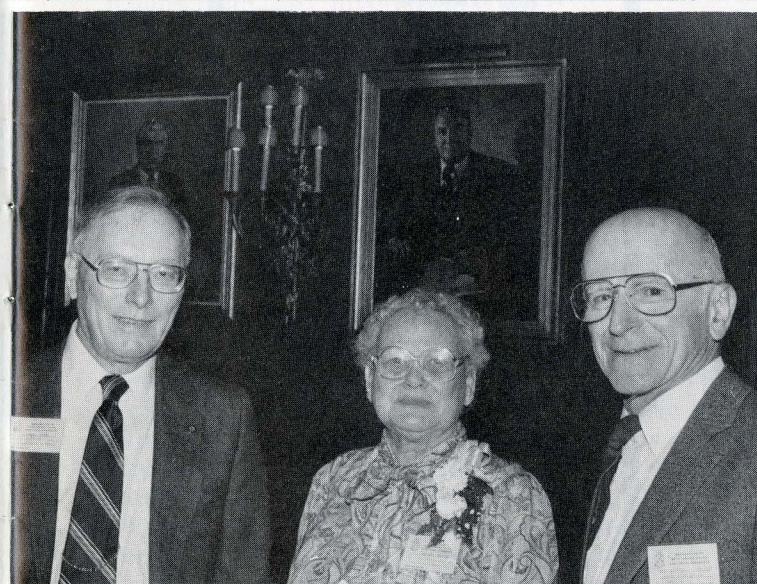
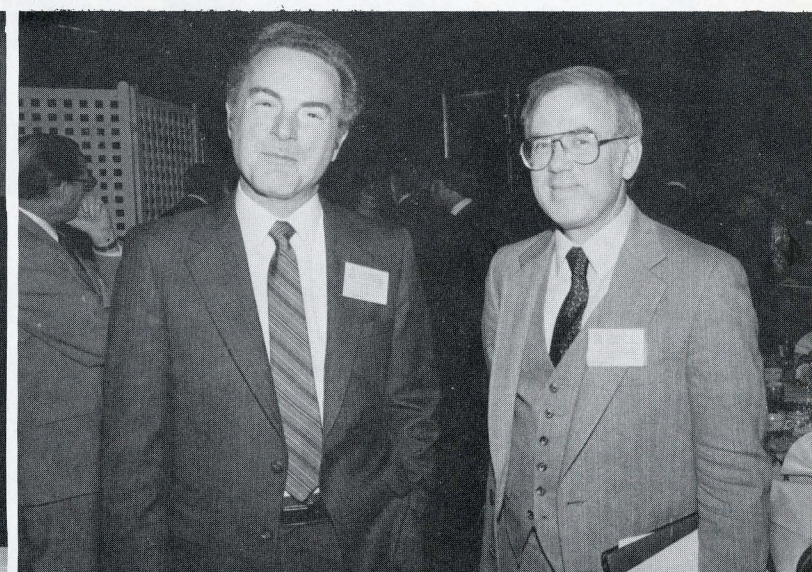
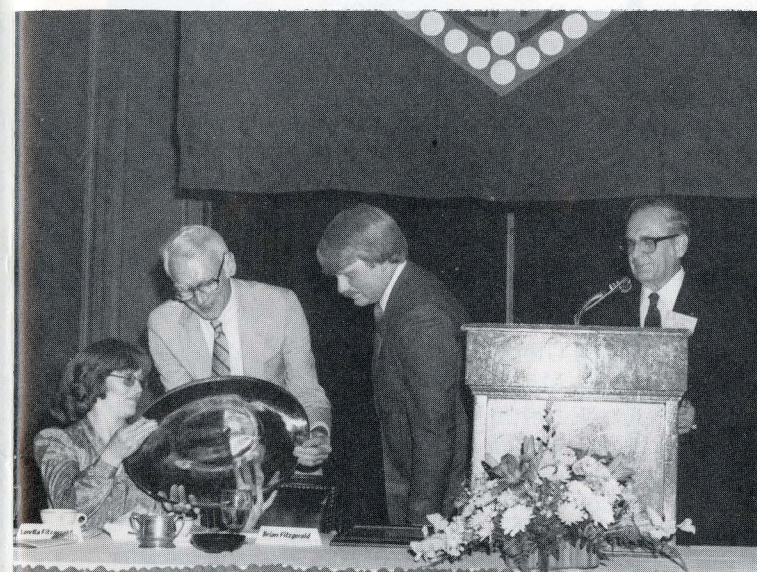
tial success in many lines of endeavor.'

Since 1936, 48 electrical engineers who were less than 35 years of age and who had received their Baccalaureate degree less than 10 years before, have received the award, and 102 of similar characteristics have received honorable mention.

You can assist Eta Kappa Nu in discovering other outstanding

recognition candidates by nominating worthy young electrical engineers for your company or acquaintance. Nomination blanks can be obtained from Professor Paul K. Hudson, Executive Secretary, Eta Kappa Nu Association, Department of Electrical Engineering, University of Illinois, Urbana Illinois, 61801. Nominations should be returned to him no later than June 30th each year.

This page and next—Photos of the Outstanding Young Electrical Engineer Award Dinner in the Union League of Philadelphia, on April 30th, 1984





THE ETA KAPPA NU
COLLEGE OF
BENEFACTORS

SUPREME BENEFACTOR

Edith Ann Koerner
Paul K. Hudson
Norman R. Carson

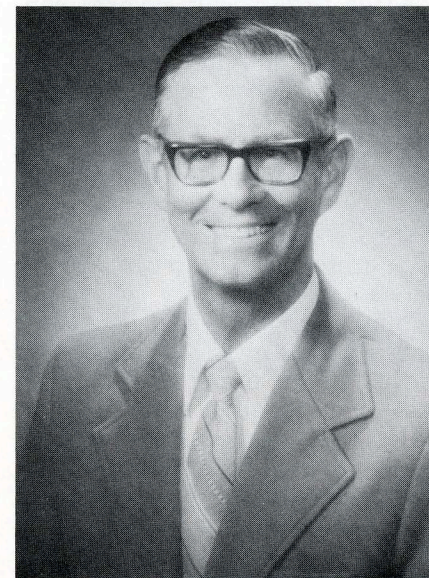
HIGH BENEFACTOR

Boston Alumni Chapter
Chicago Alumni Chapter
Helene Koerner Gahlen
Lloyd Hunt
Fritz A. Koerner
Eugene Mueser
Joanne Waite

BENFACTOR

Glenn D. Baker
Marc Dodson
Delta Nu Chapter
Frank B. Doyle
Gerald E. Dreifke
Larry Dwon
Margaret K. Goodrich
Irma Hanson
Fred Harrell
Floyd K. Harvey
Edward Jordan
Everitt S. Lee
Alan Lefkow
Russell E. Lueg
William R. Mayben
Omicron Chapter
Sydney R. Parker
Donald S. Pearson
Thomas Rothwell
Vivian Rothwell
Howard H. Sheppard
Alan R. Stoudinger
Marian Warren
Thomas W. Williams

NEW OFFICERS AND DIRECTORS



Earl Steel
President

Dr. Earl L. Steele is Professor of Electrical Engineering at the University of Kentucky. He has been a member of the University Faculty for fourteen years; he was Chairman of the Department of Electrical Engineering for nine of those years. He received his undergraduate BS degree with honors from the University of Utah and his Ph.D. degree from Cornell University.

For eighteen years, prior to his University appointment, he worked in Industrial Research and Development at the General Electric Electronics Laboratory, the Motorola Semiconductor Division, Hughes Aircraft Company and North American Aviation, Autonetics Division, now Rockwell Corporation. He held both managerial and Senior Scientist positions during his industrial employment. While employed in industry, he also taught engineering or science courses at Arizona State University, the University of California at Irvine, UCLA Extension

and Costa Mesa College before joining the University of Kentucky.

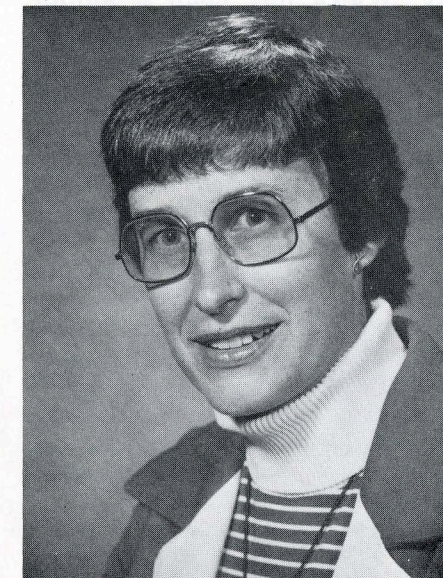
Dr. Steele's technical interests are in the areas of high frequency semiconductor device modeling, integrated circuits, and optical lasers. He holds semiconductor device patents and is the author of a book entitled "Optical Lasers in Electronics." Dr. Steele has served, for several years, on the Board of Directors of the Southeastern Center for Electrical Engineering Education (SCEEE). He has also served as a SCEEE corporate officer; for the 1982-83 year he is President of SCEEE.

In prior years, he was on the Board of Directors of Eta Kappa Nu and has served Eta Kappa Nu as a special representative to the Association of College Honor Societies. He is a Fellow in the Institute of Electrical and Electronic Engineers (IEEE), is a member of the American Physical Society (APS), the International Society for Hybrid Microelectronics (ISHM), and the American Society for Engineering Education (ASEE). He is also a member of Tau Beta Pi and Sigma Xi.

Joanne Waite
Vice-President

Jo Waite received the AB degree in Physics from Oberlin College, Oberlin, Ohio in 1960 and joined Mutual of New York as a programmer. During the next four years she rose to the position of Senior Programmer, with total responsibility for the company's 1401/1410 Systems, and developed the basic communication software supporting remote inquiry of policy status.

In 1965-66 she accompanied her husband to Australia, where she worked at the Basser Computing



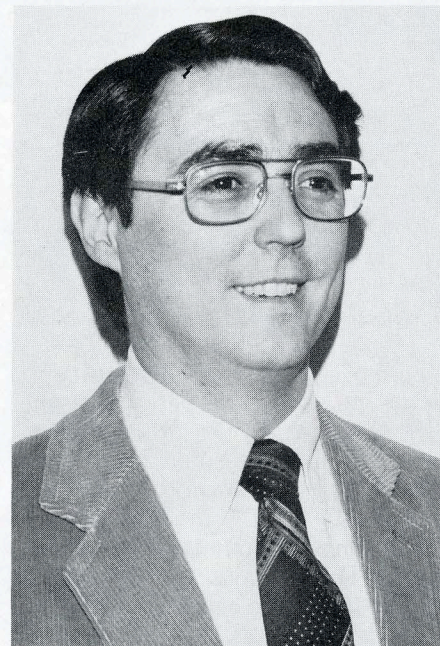
Department of the University of Sydney. Upon her return to the US, she entered the MS program in Electrical Engineering at the University of Colorado, Boulder.

Chosen as the outstanding pledge by the Rho Chapter of Eta Kappa Nu in 1967, she served as its Vice President during 1969-70. In 1979 she was elected a Director of the Eta Kappa Nu Association. She is also a member of Tau Beta Pi, Sigma Tau and the Association for Computing Machinery.

While pursuing her master's degree, Ms. Waite spent summers working for the Columbia University Computer Center (1967), the Computer Laboratory at the University of Cambridge (1968) and the Princeton University Computer Center (1969). Her son was born in Melbourne, Australia in 1970 and she devoted the next four years to full-time motherhood.

In 1974 she joined the University of Colorado as a Systems Analyst at the Computer Laboratory for Instruction in Psychological Research, where she developed com-

puter instrumentation for experiments investigating perception and memory. This work involved a local area network linking a variety of microcomputers to a larger machine, requiring a combination of hardware and software expertise that matched her EE and systems background. Since 1980, Ms. Waite has been a Senior Systems Analyst at the University Computing Center. She is in charge of the special projects group, and consults with users developing microcomputer applications.



Richard Cockrum
Director

Richard H. Cockrum received the Bachelor's Degree in Electrical Engineering from California State Polytechnic University-Pomona in 1973 and the Master's Degree in 1975. He is presently an Associate Professor at the university. In addition, he is a Member of the Technical Staff of the Jet Propulsion Laboratory, serving as Group Leader of the Thin Film Materials Device group. He is also Special Consultant to M.D. Software, Incorporated, of San Bernardino where he creates computer programs for interpreting biological systems.

Mr. Cockrum has been very active in the Los Angeles Alumni Chapter of Eta Kappa Nu having served as Secretary in 1977 and President in 1978. He also serves as the Faculty Advisor of the student Chapter (Zeta Theta) at California Poly. He is the author or co-author of eight technical papers and is listed in Outstanding Young Men of America and Who's Who in the West. He is married and has one daughter.



Arthur Ellison
Director

Arthur J. Ellison is British and is Head of the Department of Electrical and Electronic Engineering at The City University London. He spent the first half of his life (1938-'58) in the electrical industry as a designer of electrical machines of all sizes and types, and the second half, to date, in the University of London and The City University. He has been a Director of Landspeed Ltd. (Transport Systems Consultants) since 1974. His research has been on electric machine theory, acoustic noise, linear machines, rapid transit systems and, more recently, bioelectricity. He has received various premiums for papers.

He is the author of several books, some of which have been translated, and of many papers. He was a Visiting Professor at M.I.T. in 1959, has lectured widely at Universities in many overseas countries and is an Honorary Professor of the National Engineering University of Peru.

After organizing several conferences on electric machines and design by computer, he founded the biennial International Conference on Electrical Machines in 1974 and is its Chairman. He has served on numerous committees and working parties of the I.E.E., of the I.E.E.E. and of other bodies concerned with professional matters.

Consultant to several large and small companies he sometimes serves as an expert witness on noise and vibration matters.

His first degree was obtained externally (while working) from the University of London (B.Sc. (Eng.)) and he also has a Higher Doctorate of that University (D.Sc. (Eng.)). He is an F.I.Mech.E., F.I.E.E. and Sen.Mem.I.E.E.E.

In his 'spare time' Arthur Ellison is President of The Society for Physical Research (lately celebrating its Centenary as the first scientific body in this area) and is a member of the Parapsychological Association (affiliated to the AAAS).

He is married with a son and daughter and is listed in Who's Who, etc.

Michael Hajny
Director

Michael R. Hajny joined the AEP Service Corporation in 1973 as an Associate Engineer. He was promoted to Engineer the following year and to Senior Engineer in 1977. During his AEP career he has been particularly involved in computer-aided data acquisition projects for AEP's extra-high voltage transmission network and for its power plants. He was promoted to Manager of the System Measurements Section in July, 1980.



He holds a Master of Science degree in Electrical Engineering from the University of Michigan, and a Bachelor of Science degree in Electrical Engineering from the University of Santa Clara. He is a registered Professional Engineer in the State of New York, a 1978 graduate of the General Electric Power System Engineering Course, a graduate of the AEP-University of Michigan Management Program, and a member of the Eta Kappa Nu and the Tau Beta Pi engineering honor societies. He possesses both a First-Class Radio telephone Operator License and an Extra Class Amateur License from the Federal Communications Commission.

He is a member of the Institute of Electrical and Electronics Engineers (IEEE, New York), and he is a member of the International Conference on Large High Voltage Electric Power Systems (CIGRE, Paris).

IN SENDING AN ADDRESS CHANGE TO HEADQUARTERS YOU MUST SEND THE OLD ADDRESS AND OLD ZIP CODE IN ADDITION TO THE NEW ADDRESS AND NEW ZIP CODE. OTHERWISE THERE WILL BE A VERY LONG DELAY IN MAKING THE CHANGE.

EPSILON CHAPTER, San Jose State University—Our most ambitious project was to give the EE students a chance to state in writing their opinions (praise or criticism) of the EE curriculum at our school. With the approval of the school's Department Chairman and under the leadership of our president Steve Forestieri, we composed a comprehensive questionnaire which we distributed to EE students.

After compiling the results a selected group of faculty members and HKN officers met and discussed the ideas put forth by the students. The 3 faculty members were mostly agreeable to our view and gave us helpful ideas on how we can actually bring a few changes. At the beginning of the spring semester we will set up a student-faculty committee. Our aim is to make incremental changes. We hope to start by modifying a couple of courses that need rejuvenating.

Another project we will complete in the spring semester is the compilation of a test file available to all the EE students. Only tests from those professors that have agreed to contribute will be used.

Finally, we are donating student help to the division secretary.

In November we initiated 12 new members. In December we held a lively officer's election. It was delightful to see the enthusiasm the members had for being actively involved. *by Mary Bristow*

GAMMA BETA CHAPTER, Northeastern University—The Gamma Beta Chapter of Eta Kappa Nu held its fall initiation and twelve undergraduate students were inducted into our brotherhood. The work day project for these new members involved indoor and outdoor cleaning at a home for elderly people in Jamaica Plain on November 19, 1983.

At a general meeting held on October 3, 1983 Professor Silevitch presented the plans for the proposed Research Center here at Northeastern University. Both

undergraduate and graduate students will be given the opportunity to work with faculty members in various research projects within the electromagnetic field.

At a meeting Paul Healey, a guest speaker from Texas Instruments, gave an extremely informative lecture on Home Computer Technology. At this meeting committees were organized to study the new EE curriculum and present EE Laboratory program. These committees have since been working in coordination with the faculty members in restructuring the EE program here at Northeastern University.

In the Fall Quarter members continued to tutor students in undergraduate course. For the Winter Quarter we have planned several meetings and a series of lectures by guest speakers. *by John Sangermano*

GAMMA IOTA CHAPTER, University of Kansas—In years past, the KU School of Engineering has held an Expo during the spring semester. This year it was moved to October 21 and 22 to coincide with KU's Engineering Career Fair. This gave us only the first two months of the semester in which to design and build our exhibit, and as a result we didn't have an entry. The Expo project has always been one of our biggest activities, and in an attempt to avoid a similar situation next year, Expo planning will be at the top of our spring list.

Also this spring, we are participating in the planning and sponsoring of a St. Patrick's Day celebration in honor of our patron saint. The activities will be open to all Engineering students and faculty and promises to provide a great opportunity for these groups to meet each other outside the classroom.

Along the same line, we held four "TGIF's"—informal beer and pop drinking gatherings on Friday afternoons. We also sponsored a racquetball tournament. Both were open to all students and faculty in the EE Department. *by Jeff Watson*

The First Time I Saw Paris

part three

Love Stories of Paris... 1

Some letters tied with blue
A photograph or two
I see a rose from you
Among my souvenirs.

A few more tokens rest
Within my treasure chest
And though they do their best
To give me consolation

I count them all apart
And as the teardrops start
I find a broken heart
Among my souvenirs.
From *Among My Souvenirs*

Paris is known as a *City For Lovers*. I do not think they are better at it than anyone else but are just willing to take the time. In any case, some of the most famous love stories of history have Paris for a setting, and, to tell the truth, I cannot think of a single one that did not have some tears and a broken heart at the end.

One day in the Eta Kappa Nu Headquarters Office I said to a college girl named Susan, who was an Aeronautical Engineering student and worked for us part time, "Did you ever hear of a Frenchman named Jean D'Alembert?" She replied, "Yes, Mr. Hudson, I know about him." I said, "Where did you meet him?" She replied, "I studied some of his theorems in my Math classes." That put me into sort of a reverie. I said to myself, "So, he really is an Immortal." The point of that being that in Paris over two centuries ago he was declared to be an Immortal—not a Divine, but a person whose contribution to mankind would last forever. He was Secretary General of the French Academy, and the Academy was said to be made up of Forty Immortals.

Jean D'Alembert fell deeply in love with a beautiful young French woman named Julie Lespinasse.

Julie was also famous but not as a scientist. She was the number-one hostess in Paris. Julie had a party each week that was attended by the most important people in France—scientists, government leaders, etc. When foreign diplomats, heads of governments and other important people came to Paris they always attended Julie's parties, if they were fortunate enough to get an invitation. Julie ruled the French Academy through Jean and if you belched at Julie's table, you did not get into the Academy, no matter how smart or talented you were.

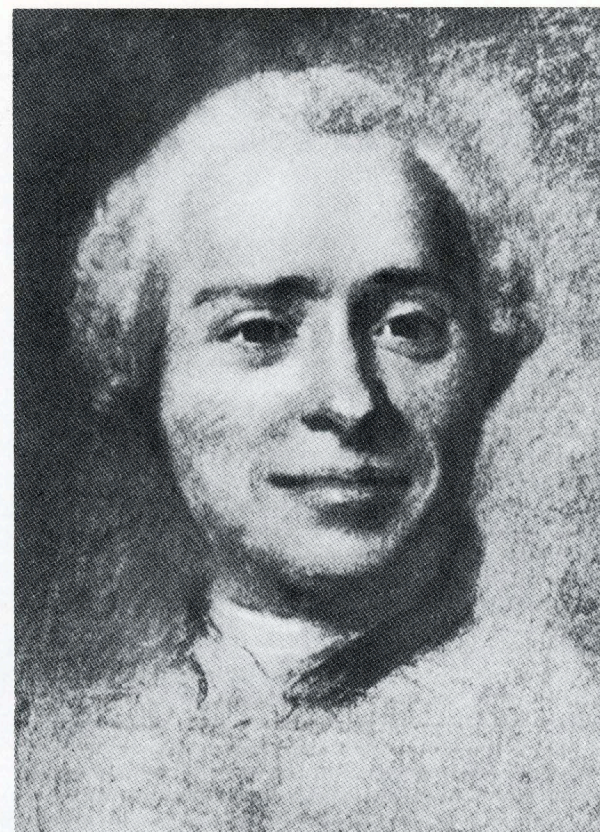
At this point in the story some readers might say, "Well, that was nice for those people, but I do not relate to them. They had oceans of money and many powerful friends to help them along the way. I do not have those things and have to dig for what I want." In that case let's take a closer look at these two lovers. A few hours after Jean was born, he was wrapped in a blanket, put in a basket and set on the steps of a Paris Church. Julie did not fare much better. She also was illegitimate and after her mother died, when Julie was quite young, she had a most difficult time. She was a menial servant until age twenty. These two people had no

chance in life except what they could make for themselves with their charm, grace, and intelligence.

Julie and Jean never married because Julie said that marriage was for children and her health would not permit her to have any. Also, they did not shack up together. But otherwise they were very close lovers. Several times when Jean became ill, Julie moved in with him so that she could nurse him back to health, and he did the same for her a couple of times. Julie had a box at the Paris Opera and the two of them often spent more time on the couch of the entry room than they did in the box.

Julie and Jean were deeply in love for fifteen years after which time Julie's health failed completely. She died in his arms, telling him how much she loved him. However, shortly before she died, she gave him some letters and told him to burn them without reading them, after she was dead. Of course he read them. He discovered that Julie had had another lover for part of the time he

by **PAUL K. HUDSON**
Editor — Bridge



Jean D'Alembert

thought she belonged only to him. The question is always asked as to why she did that to him. Historians who have studied their lives very carefully have stated that Julie was a spicy hot-blooded girl and Jean was much too shy around her. She wanted him to be more like her but he was always afraid of offending her.

Julie's death and unfaithfulness completely crushed Jean. He never again in his life did any creative work. Of course he still loved her. People you really love may die or break your heart, or both, but you never stop loving them. Jean spent the rest of his life writing letters to Julie—at least one every day. I do not know what he did with them, but about two years after she was dead, he got a real shock. He got a letter from Julie. We can only guess what went through his mind and soul when he looked in his mail box and saw a letter from her. If he had not been writing letters to her every day the shock probably would not have been so great. The reader can easily guess how it

happened. Julie had written the letter and mailed it before she died but the post office lost it for two years.

I wanted to take a picture of Julie's box at the Opera but I knew that would be difficult because no programs were to be presented during the month we lived there. Several months ahead of time I wrote a letter to the Director General of the Opera explaining things and requested permission to take a photo of that particular box. I received no reply. If I had been the Editor of TIME magazine instead of BRIDGE magazine I would have received an answer. Several parts of the Opera were open to visitors and they were most impressive. I think the Paris opera is the only one where the stage is larger than the auditorium.

We next visited the Institute of France, or tried to. It is the location of the French Academy that Julie used to run via Jean. It was closed. There was a sign on the door telling what days and hours the place was open. There were not very many of

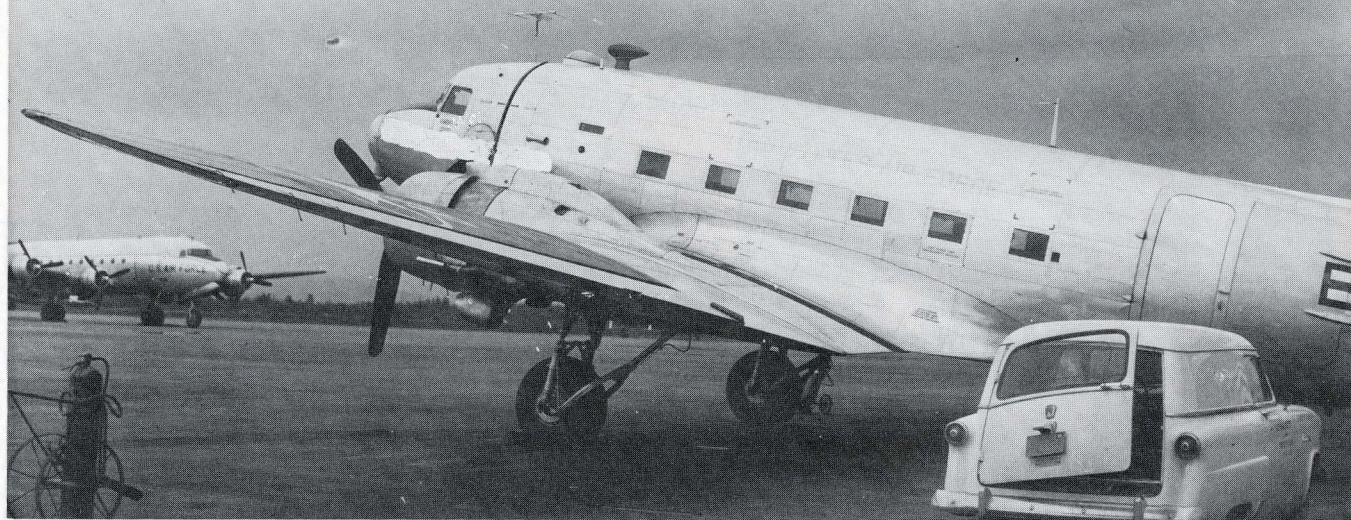


Julie Lespinasse

either. I so much wanted to talk with whoever gave out information to see if D'Alembert was well remembered. Maybe they would have a good picture of him and maybe even know some juicy things. I am sure the Academy was greatly upset when he turned his back on science and the world after Julie died. My trip there was completely in vain but I got a good laugh out of it anyway. The doors to the place were huge massive wooden structures. You couldn't have broken into the place with a battering-ram and a caterpillar tractor. I saw no other doors like that any other place in Paris and I am convinced they were meant to be symbolic. They were meant to tell everyone not only how hard it is to get into the building, but also how hard it is to get into the Academy—to become one of the forty immortals. I can just see some poor devil devoting his entire life to creativity with the hope of getting into the Academy, and then looking at those massive doors and giving up.

A Trip To The North Pole

by
George Swenson Jr.



A slim young man in a khaki parka slipped onto the bench next to me in the mess hall and said, "Dr. Swenson, I'm Bobby Fisher, the chief pilot. I understand you're a radio engineer." I admitted it, and also that I'd finished my work and was waiting for the next plane south, three days away. "We have a problem with a radio transmitter at our drifting ice station near the North Pole. Could you fly out there with us tomorrow and look it over?" I agreed with alacrity and we strolled over to the supply room to outfit me with a regulation parka, mukluks and mittens. My own clothes, apparently, though veterans of many arctic journeys, were not officially acceptable for such a mission. I knew the round trip distance from Point Barrow to the Pole was about 2600 miles, and

that the airplane was an R4D, a World War II Navy version of the famous DC3. Its speed is about 150 miles per hour, so it will be a very long trip in the winter darkness. Nine hours each way, in fact. No radio navigation facilities enroute. These pilots make the trip every week, but for me it will be the experience of a lifetime.

In 1963 I'd been given an interesting consulting job by the University of Minnesota. Prof. John Winkler of their Physics Department intended to launch a series of high altitude balloons in the Arctic, to study cosmic rays travelling downward, parallel with the nearly-vertical geomagnetic flux lines. The atmospheric circulation was expected to be circumpolar, so that the balloons could conceivably travel 'round and

'round for an extended period. Their positions would have to be tracked continuously and it was decided to use low-frequency radio beacons on the balloons, to be tracked by a few direction-finding stations on the ground. The Minnesota people designed the scientific apparatus, the beacon transmitter and its unique antenna, and the ground-based direction-finding antennas. My job was to study the atmospheric noise levels in the Arctic, to determine therefrom the appropriate transmitter power, and to design and build the special low frequency receivers. I recruited my colleague, Bernard Flaherty, to help me and we commenced experimenting with receiver designs.

Those were early days in transistor technology. We couldn't find

any precedent receiver designs for the low frequency of 70 KHz, so we had to develop them from scratch. The first one was so sensitive that it saturated on the atmospheric noise in Urbana, Illinois unless it was in the very well-shielded screen-room.

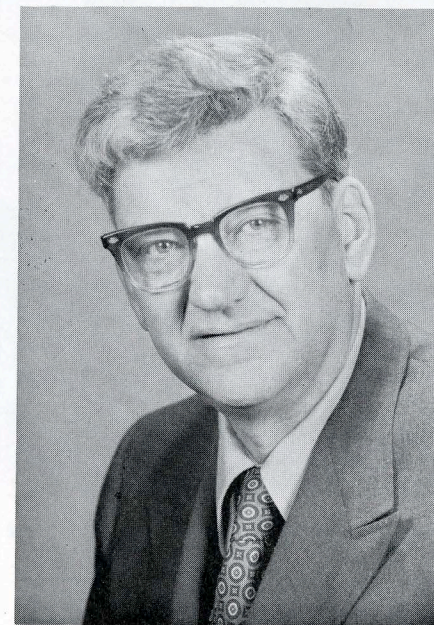
In February, 1963 I took the first receiver up to Point Barrow, Alaska, the northernmost point on the North American continent, to measure the radio noise environment. It was quickly apparent that the atmospheric noise was extremely low there, so it would be appropriate to build receivers with the best sensitivity permitted by the state of the transistor art. It followed that the balloon-borne transmitters could have very low power, less than one watt, and still be receivable over the two thousand miles or more that would be necessary.

Those measurements finished, there was an opportunity to explore. I'd been to Barrow before during my service there with the University of Alaska, but never in the dead of winter. It was pitch dark most of the day, of course, and bitter cold, typically -50° or -60° F in biting winds. Barrow was said to be the largest Eskimo village in the world, with about 600 inhabitants at that time. I wanted some pictures of dog teams, which have always fascinated me, so I wandered about the village during the hour or so when there was enough light, looking for them. Alas, during the few years since my last visit they'd all disappeared. Snowmobiles are faster than dogs, and don't have to be fed during the summer. Finally I learned that the only dog team in town was owned by the dentist, a white man! He trotted them out for me and I got my picture, but somehow it wasn't quite the same.

It's always been difficult for me to photograph adults in one of these native villages; it seems an invasion of privacy. With children it's different. They love to pose, and they're as curious about me as I am about them.

Barrow was the site of the Arctic Research Laboratory, operated for the Navy by the University of Alaska, a place for visiting scien-

tists to live and work while investigating various Arctic phenomena. The lab occupied a series of rudimentary buildings originally built during World War II as a base for exploring the petroleum deposits of the Arctic Slope. There were comfortable dormitories, a mess hall, shops, basic lab space, and various jeeps, snowmobiles, tractors, boats, and airplanes to support field work. A skillful staff of mechanics, drivers, cooks, pilots and guides ran the enterprise,



George W. Swenson, Jr. Professor of Electrical Engineering and Astronomy and Head of the Department of Electrical Engineering at the University of Illinois - Urbana.

mostly Eskimos. Botanists, zoologists, oceanographers, geologists, geophysicists, and lots of other ologists and isicists came there to study the tundra, the sea ice, the aurora, the lemmings and other Arctic things.

During that epoch of Arctic exploration a number of large ice floes floating about the polar sea had been occupied by parties of scientists for extended periods. More-or-less permanent camps had been established on huge ice cakes shed by the glaciers of Ellesmere Island, to swing slowly

about the pole in a period of a few years. The Arctic Research Lab had two of these camps, one called ARLIS-II, about 50 kilometers from the Pole, and one called T-3, something more than half way and somewhat to the east of the line from Barrow to the Pole. The pilots explained that we'd land at T-3 to refuel and deliver groceries. The R4D doesn't have enough fuel capacity to make the round trip without refueling, and there's no supply at ARLIS-II. A Canadian icebreaker had called at T-3 a couple of years earlier, at a time when the ocean currents had carried the camp close to the mainland, and had established a cache of fuel oil and aviation gasoline. The other ice island had to be supplied entirely by air so there were no extra stocks of anything.

In the pitch dark at 5:00 the next morning I reported to the airstrip and climbed aboard the plane. My fellow passengers were five Eskimo men, replacements for crew rotating off ARLIS-II, and a new chief for that station, an old arctic hand just returned from assignment in Greenland. These knowledgeable people proceeded to make themselves comfortable. One side of the plane was piled high with freight, almost to the ceiling. The other side had a row of bucket seats. The Eskimos immediately climbed into sleeping bags atop the stacks of freight, and lit cigarettes. The station chief and I belted ourselves into seats for the bumpy takeoff from the steel-plank airstrip, then chatted for a few minutes before he, too, climbed into the last available space above the freight.

I was too interested in the proceedings to think about sleep, even if there'd been space to lie down. I watched through the window as the lights of the Dew Line radar station passed beneath us and we headed north over the arctic ice pack. Soon, however, it began to get chilly in the cabin, then downright frigid. As my feet began to freeze I gradually realized why the others had rushed for places near the ceiling. That's where the heat was, what there was of it. In subsequent years, in several long, winter rides in R4D's



The author standing on the Arctic Ocean off Point Barrow, Alaska

and C47's, both military versions of the famous DC-3 airplane, I learned an important fact: they have inadequate cabin heating systems.

When I couldn't stand the cold any longer I moved up into the cockpit to the jump seat between the two pilots. They worked in relatively warm surroundings, but the jump seat was tiny and cramped. We cruised along over the ice pack, continuous but wildly convoluted by pressure ridges. As the hours wore on a pale glow appeared on the southern horizon, throwing the pressure ridges into relief and revealing the desolation stretching endlessly ahead.

The pilots held a steady course on the gyrocompass, making routine scans of the engine gauges and other housekeeping checks. I was puzzled that they didn't send position reports by radio and discovered that they had never been able to contact anyone by high-frequency radio while flying

and that once over the horizon from Barrow they would not expect any communication of any kind. My professional curiosity was piqued, so I went aft to the radio compartment to inspect the equipment. To my utter astonishment I found that the high-frequency transmitter and receiver were the original World War II equipment, neither crystal-controlled nor accurately calibrated. They were intended to be operated by a full-time professional radio-man with the aid of an accurate frequency meter. No wonder the pilots couldn't make them work! The whole setup was hopelessly inadequate.

What if we had to make a forced landing, with no way to tell anybody? In further conversations the pilots revealed that exactly that had happened some months earlier. One of their big planes had gone down on the ice, the result of loading a drum of fuel oil into its tanks at T-3. Though the error was

discovered by the ground crew soon after the plane's departure, there was no way to send a warning. When the plane didn't show up at Barrow, there was no way of knowing where it had crash-landed. Fortunately the passengers and crews were rescued by searchers in small planes after several cold, lonely days on the ice. The plane was lost. All this was food for thought as we flew steadily northward.

Eventually the radio beacon at T-3 showed a solid bearing on the automatic direction finder and the pilots homed in on its signal. A glimmer showed up far ahead, different in color from the stars blazing in the dark sky, and in another ten minutes it was resolved into a short line of flickering lights at an angle to our direction of flight. "The T-3 airstrip," announced Bobby Fisher, as he throttled back, dropped the wheels and wing flaps, and circled into his descent. The strip felt bumpy and

mushy and we lurched violently from side to side as we slowed to a stop. I comforted myself with the knowledge that the R4D is a rugged old crate, and the battering was unlikely to collapse the landing gear.

We stepped out into -45° temperature and biting wind. A tractor towing a sled loaded with fuel drums approached with its headlights boring two bright tunnels in the blowing snow. We all pitched in to pump gasoline up into the wing tanks of the plane, taking turns at the crank handle of the pump. I sneaked a look at the color of the liquid in each drum: no fuel oil for the plane I'm riding in! It was cold work. Even the Eskimos were happy when the job was done and we could trudge over to the mess shack for a quick lunch and some relief from the frigid blast.

Soon we were back in the plane, jolting down the runway and into the air, heading due north once more. Again, I missed out on a warm berth near the ceiling, but I was still too interested in the proceedings to care much.

Basically, flying over oceans or other featureless terrain can be quite boring, though it's important for the pilots to keep busy with their navigation and the care and feeding of the engines and other aircraft systems. I could understand how we found our way to T-3. Take a course out of Barrow on the gyrocompass, and hold it until we get close enough to get a good bearing on the station's beacon transmitter with the automatic direction finder. Now we had a different problem. It's not so easy to set the gyrocompass at T-3, as there are no fixed directional references on the surface of this drifting and rotating ice cake. The radio beacon on ARLIS-II is not working well and can't be heard beyond twenty miles by the plane's rather insensitive direction-finding receiver. This will be interesting.

We were a couple of hours out of T-3, apparently still relying on the original calibration of the gyroscope made at Barrow many hours earlier, when the copilot said to me, "Hand me the two yellow books from the briefcase there, behind

you." One was entitled *The Air Almanac*, the other *H.O. 248, Sight Reduction Tables*. The pilots studied these books of numerical tables for a few minutes, then Bobby took a compact aircraft sextant out of its case, aimed it out the windshield and while peering into its eyepiece called out, "Mark," and again, "Mark." His partner gazed intently at his wristwatch, clipboard on lap and pencil in hand. After a few calculations on the scratch pad, they drew a straight line on a chart. Then the whole procedure was repeated, resulting in another straight line. Where the lines intersected, Bobby said, was our present position. What they'd done was to measure the angular altitudes of two known stars and to determine from these the two lines of position on the blank chart of the Arctic Ocean.

I was impressed. I'd always assumed that celestial navigation was an arcane subject requiring intimate knowledge of the stars and of trigonometry, as well as years of practice. Yet, here were two young bush pilots, without military or airline training, who said they'd learned the technique through a short period of self study and practice. Surely I, a professor of astronomy and engineering, could do as well. Subsequently I did, and parlayed the skill into

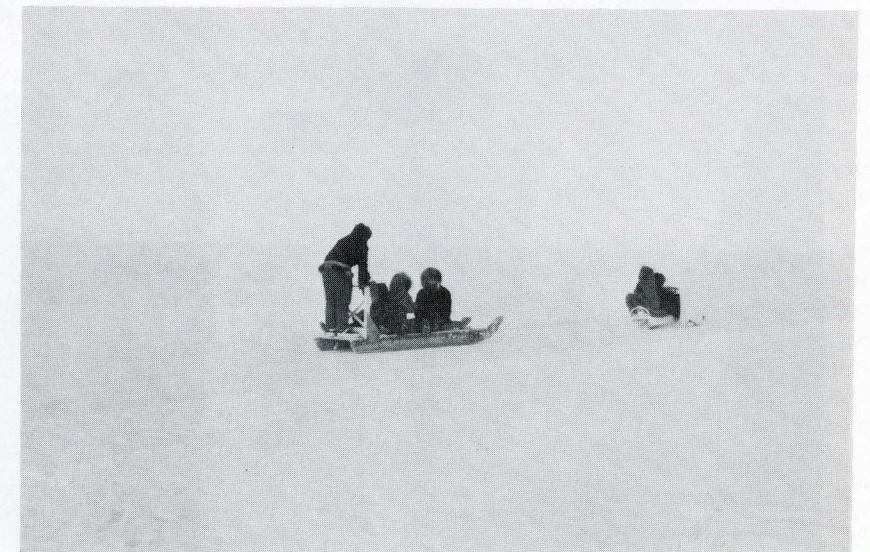
several adventures, some of which have been related in earlier issues of BRIDGE.

In any case, the procedure worked. The site reduction table automatically yields the calibration of the directional gyroscope during the manipulation of sextant observations.

The celestial position permitted a course correction, and after another hour or so Bobby announced that we ought to be nearly at our destination. No bearing on the ADF yet, but a very faint signal can be heard. Finally, many miles ahead, another short segment of light gradually resolved into the line of kerosene flares marking the airstrip. The ADF bearing had materialized only at the last minute, long after we'd sighted the lights.

The now-familiar, jolting, ice landing accomplished, I followed the pilots into the Quonset-hut mess hall, still marvelling at the skill and aplomb with which they'd found this tiny speck in the vast wilderness of ice. Now it was my turn to show my craft, if I could. The radio transmitter was located in the mess hall, and I tackled it immediately after breakfast. Or was it supper? Pancakes and sausage, I remember, but in 24-hour darkness one loses track of time.

A sled powered by a gasoline engine instead of dogs.



There was no instruction manual, but the transmitter appeared to be rated at 200 watts output, and was crystal controlled, amplitude-modulated with either voice or audio tone, with a carrier frequency of about 250 kilohertz. The antenna ammeter was indicating five amperes of radio-frequency current. Even if the antenna radiation resistance were only ten ohms this would represent 250 watts of output power. Surely we should have heard this from some hundreds of miles distance, as we had the one on T-3. The fact that the signal had finally appeared at the right place on the direction finder's dial showed that it was on the correct frequency.

There was still the antenna and the grounding system to consider. The station crew described the ground: a wire dropped directly down into the sea through a hole bored in the ice. The ice is thirty feet thick. This sounds OK; how about the antenna, then? Outside in the howling wind our flashlights reveal a 2 x 4 post nailed to the corner of the mess hall, about ten feet high. A similar post on the bunk house, one hundred feet away. Between them stretches the antenna wire, sagging within a few feet of the ice, the downlead from the mess-hall end leading directly to the transmitter. Here's the

problem, I thought. Asked why they'd built the antenna so low, the man in charge of the radio said, "We got more antenna current with a low antenna than with a high one, and we were told to maximize the current." I thought to myself, "And you'd have gotten still more current if you'd just short-circuited the antenna terminals, all reactive, just like this."

The new station manager had been looking over my shoulder as I poked into the innards of the radio system. We'd discussed the system a bit on the flight in and he was understandably concerned to learn how frail was this lifeline upon which his crew's safety absolutely depended. I was now able to tell him with reasonable certainty how to make a dramatic increase in the reach of his transmitter. Have two sixty-foot masts fabricated in the Barrow shops and installed 75 feet apart at ARLIS-II. Run a horizontal wire between the tops of these masts and drop a downlead from its center directly to the transmitter. The station manager eagerly noted this recommendation and indicated his determination to follow through.

All this activity took only half an hour, or so. Hanging over us was the knowledge that the airplane's engines were rapidly cooling in the bitter wind. Should we wait too

long before starting them again, they'd have to be heated first, an exceedingly complicated process. The pilots were understandably anxious to get going. But here I was at the North Pole, or at 50 km as close to it as I was ever likely to be. I wanted to savor the experience, but obviously couldn't delay our departure. I glanced up at the North Star, directly overhead, and around the horizon, completely featureless, knowing that every direction I looked was south. The situation was exactly as I'd imagined it. It was too dark for photography—no souvenirs. Just the knowledge that I'd been there, at the traditional goal of generations of valiant explorers, and that I'd had a real mission to perform and hadn't arrived just as a tourist.

I won't dwell on the trip back to Barrow. It was interminably long and indescribably cold. A faint tinge of twilight appeared on the southern horizon for a half-hour or so, then faded away. The radio beacon at Barrow was audible for a couple of hours before arrival, so there was no need for celestial observations.

Eventually we arrived and landed. The adventure was over. Despite my frozen feet and fatigue, I'd enjoyed every minute of it and its impressions had been forever burned into my memory.

and part of which I was

Recollections of a Research Engineer

George H. Brown



ARE YOU FROM PRINCETON?

Because I had served for a number of years on an advisory committee of the Drexel Institute of Technology in Philadelphia, my wife and I received an invitation to attend the dedication of the James Creese Student Center at this institution. The late Dr. Creese had served as a distinguished president of Drexel for many years and the center was named in his honor. The invitation included, in addition to the dedication, a reception and lunch.

At that time I seemed important enough to RCA to have a Cadillac and a chauffeur. On the appointed day, we arrived in front of the Creese Student Center only to find the entire block an array of

police barricades with a dozen or so policemen busily directing traffic and allowing nobody to stop, not even to discharge passengers.

The commander of the detail approached our car and in a very respectful tone asked my driver, Melvin Gantz, "Are you from Princeton?" to which Mel replied, "Yes."

The officer went into action, waving his arms and blowing his whistle while his troops removed barricades so we could pull up to the curbing where Mel was told he could park the car for the duration.

I said to my wife, "How did he know we were from Princeton?" and she remarked that the New Jersey license plates were hardly a clue.

Several police officers opened the door of our car and helped us out. As my wife and I walked across wide expanses of concrete and up a number of wide steps, two backward-dancing press photographers preceded us from the car to the door, snapping a multitude of pictures.

My puzzled wife and I blended into a huge crowd and continued to speculate concerning the attention bestowed by the law and the press. Soon we were introduced to Mrs. Hagerty, the wife of the current Drexel president. When in the course of our conversation, I mentioned that we lived in Princeton, she asked if we had brought Mrs. Creese. We then learned that Mrs. Creese, the widow of the late president, lived in Princeton and that an alumnus of Drexel also resident in Princeton had been ordered to rent a chauffeur-driven sedan to transport Mrs. Creese to the dedication. The police had also been alerted to extend the proper courtesies.

In the middle of the afternoon, we were ready to depart and found our car at curbside exactly where we had left it. We told Mel what we had learned about the arrangements for Mrs. Creese and asked if he had seen Mrs. Creese and her party.

Mel replied, "Yes, indeed. The police sent them around to the parking lot behind the building!"

Eskimo children





Courage Is Where You Find It



OSCAR H. DODSON
Rear Admiral, U.S. Navy (Ret.)

It was October 10, 1955, a day which burns in my memory.

After attending various meetings in Germany, my wife Polly joined me for a brief vacation in lovely Vienna, prior to returning to my duty with the U.S. Naval Aid Group in Athens.

Our tour bus had visited the usual historic buildings in Vienna and was headed up to the crest of the Kahlenberg in the Vienna woods. Fog would obscure the pleasant view of Vienna, but our guide insisted on heading for the inn which was famed, she claimed, for the most delicious hot chocolate in all of Europe.

The bus never made it to the inn.

Suddenly through the mist, flying low, loomed a large commercial airliner. Its right wing tip barely cleared the bus. Before our astonished tour group, the plane crashed into trees and burst into flames.

Tour passengers poured from the bus door to assist if humanly possible.

From the crashed plane came screams of pain and terror, but the searing heat drove us back.

Near the plane a passenger was lying motionless on his back, near flames of burning grass ignited by the exploded port wing tank. He was pulled clear of the grass fire.

Now let the prone passenger, Frank P. Irwin, United States State Department Courier, relate his escape from the burning plane.

"It was a routine trip," writes Frank, "from Frankfurt to Belgrade with an airport pouch exchange en route at Vienna. The problems began the next day—October 10, 1955—when we were ready to board Flight Yu-244 at Belgrade en route back to

Vienna and Frankfurt. When the flight was announced I was first in line to board, but the Immigration Officer had intentionally put my passport on the bottom of the stack of passports for the boarding passengers, and the policeman handing them out at the gate refused to take mine off the bottom of the stack. As a result I was the last passenger to board because of that little bit of harassment, which was not uncommon in Belgrade. When I finally boarded the Convair 240, the seat I would have normally occupied at the rear of the aircraft was already taken. The one across the aisle was also occupied. So I sat in the front seat on the port (left) side because an Army Sergeant from the Military Attache's office at the Embassy and his pregnant wife, who were being reassigned to the U.S., were sitting in the seats in the second row. I knew the Sergeant and a Yeoman from the Naval Attache's office, who was sitting across the aisle from them. I talked to them after takeoff, asking about their new assignment and sharing their happiness in leaving Belgrade, which always depressed one just like all of Eastern Europe. So it was not through choice but circumstances that I was sitting in the front seat of the Convair that October 10th.

"The early part of the flight was a bit bumpy. My seat belt was left buckled after we passed through the bad weather as an added precaution. It was fortunate that I was strapped in, for there was little time to fasten the belt when the plane broke through the overcast while starting its descent to land at Vienna. The pilot put the seat belt sign on. Just as it rapidly went on, I glanced out the window. We were nowhere near the airport. The plane was descending rapidly and going straight toward the treetops below. I yelled an alarm to the other passengers. Some had been standing in the aisles talking to others. They scrambled to return to their seats and fasten their belts. Some never made it.

"Vividly I recall there was no 'instant replay' of my life, mentioned by many who faced imminent death. I instinctively took Secret Pouch C-952, an envelope pouch, out of my briefcase and hurriedly

BRIDGE is pleased to welcome Rear Admiral Oscar Dodson, United States Navy, (Ret.) to our Editorial Staff as a Contributing Editor. In the photo at left, taken when he was a Captain, he is shown boarding his Flotilla Flagship, the U.S.S. SHELKOFF. Official Photograph, United States Navy.



Vienna Woods. The crash site was the hill on the right side of the road.

stuffed it in my jacket pocket along with my passport. Then I quickly checked the position of the larger courier pouch placed under my seat.

"Then came the impact as the plane hit the treetops.

"With the Lord's blessing I survived the crash. Burning gasoline from the exploding starboard wing tank came over the top of the fuselage, which split right down the middle on impact as it skidded through the trees. The fiery fuel landed on my right jacket shoulder, burning through quickly. I was knocked out when my head hit on the forward cabin bulkhead because the impact from hitting the huge trees sheared off the wingtips and brought the fuselage to a final halt. The shoulder burn quickly brought me back to consciousness. That saved my life. The extra adrenalin the shock had triggered gave me the abnormal strength necessary to push up out of the seat with my left arm in spite of a broken pelvis and mangled right wrist. I tried to retrieve the pouch under the seat, but it was stuck. I gave up on freeing it, and then tried to help the Sargeant and his wife, but they were mangled in the wreckage. All the seats behind mine were piled up against the front seat. All the passengers sitting in those seats were jammed forward, disfigured in the wreckage. On the starboard side all the seat belts had broken, including the front one. Seats and dead passengers were

jammed up against the front bulkhead. Fortunately the seat bolts on my seat had held.

"I believed that I was the only survivor in the cabin. The time had come to get out before the port wing tank also exploded. I stumbled down through the jumble of seats and bodies toward the rear and fought my way through the wall of fire that had already engulfed the rear of the plane. It was too late to help any of the other passengers.

"As I stumbled down the embankment where the remains of the aircraft had come to rest, my legs collapsed. The adrenalin had done its job—getting me out of the wreckage. I rolled down across the road to put out the smoldering fire on my shoulder. This was the only means of locomotion I had left. I rolled over and over down the embankment to the other side of the road to get as far away as possible before the other wing tank exploded.

"When the second gas tank exploded I tried to get up but could not make it. Soon I was found by the flight purser and the stewardess, who were sitting in the rear and were thrown out. It was then that I learned that some of the passengers had been thrown out of the rear of the fuselage and were alive. They helped me back up to the road away from the burning wreckage, where I could stretch out and wait for the ambulances."

Within minutes after the crash, Austrian police arrived with bloodhounds who searched the nearby woods for any surviving passengers who, in a daze,



might have wandered away from the scene of the crash.

Irwin continued, "Laying on the ground, in shock, with the rain on my face, with a hazy view of things due to the concussion, and having lost my glasses, I thanked God for my survival.

"Shortly after this I met my Good Samaritan—one of the finest, most concerned persons I would ever meet.

"Here was a man who had seen death and tragedy in fourteen Pacific battles in World War Two. U.S. Navy Captain Oscar Dodson, then Acting Chief of the Navy Section of the Military Advisory Group at Athens, Greece, and his wife Polly were on a bus tour when the plane crashed directly ahead of their bus.

"The Dodsons were immediately at the crash site to help survivors. He spotted me lying on the ground in the rain and spoke to me in Russian. He had seen a large red star on the tail section of the plane and had assumed the plane was Russian.

"When I did not reply, Dodson spoke in English and I identified myself as a courier. He produced his military ID card but it was difficult for me to focus my eyes to read it. I asked Dodson to call the Security Officer at the American Embassy to inform him that Irwin had survived, was holding one pouch, but that another pouch was in the wreckage of the plane.

"Dodson placed me in the first ambulance to arrive, and that ambulance headed for the nearest hospital at Klosterneuburg, on the other side of the Kahlenberg from Vienna."

With Irwin headed for the hospital, the writer picks up the record of this tragedy.

Since telephones were not available, the senior Austrian police officer was requested to pass a radio message to the American Embassy giving Irwin's information on the pouches. The police were also requested to locate the pouch in the wreckage and hold it in a secure place for the American Embassy.

With all survivors in ambulances, Polly and I rode in the last ambulance along with the flight purser and the stewardess. Miraculously, both had suffered only minor injuries.

As our ambulance roared down the rural highway, red lights flashing and siren screaming, I looked in horror at the speedometer. Eighty miles an hour, on a country road! Then I noticed that Austrian police were stationed at each crossroad, waving the ambulance on. We made the fourteen miles to the hospital in record time.

On our arrival at the hospital emergency entrance, the hospital staff helped Polly out of the ambulance and quickly placed her on a stretcher. "No, no, I am not hurt—I was not in the plane," she screamed. The nurses, thinking she was hysterical, strapped her to the stretcher and rushed her to the Emergency Room. It was necessary to rescue Polly before locating Frank Irwin.

Frank was found lying on a bed outside the operating room. He was suffering great pain from multiple injuries, but was refusing sedatives while still holding in his coat pocket the State Department

pouch. A nurse stood over him, dropping water from a sponge on his smoldering jacket, which he had refused to remove.

A doctor spoke to me in English, "We must get him into the operating room or he will not live."

From a monastery across the street from the hospital, an English-speaking priest, hearing the sirens, had rushed to the hospital to help patients. Dodson asked him to call the American Embassy in case the earlier messages had not been delivered. The Embassy replied that staff members were speeding to the hospital with a police escort.

American Embassy officials who were waiting at the airport to meet Irwin were frantically trying to find out from Yugoslav airlines where the plane had crashed, and the location of Irwin if he had survived.

Dodson remained at Irwin's side and offered to take custody of the pouch but Irwin had refused—"It is contrary to my instructions."

Irwin's head dropped. He realized he was about to pass out. In handing the pouch to Dodson he said, "I can't stand this pain any longer." Dodson also held Irwin's passport, watch and wallet while he accepted the hypo for pain and was rushed into the operating room.

American Embassy staff members soon arrived. After mutual identification, the pouch was delivered to the Embassy security officer.

Here Irwin continues his account.

"The second individual to whom I owe my life was the doctor on duty in the emergency room, Ernst Marx, an ex-Luftwaffe pilot, who had flown many courier and medical evacuation flights during World War Two. He fully understood the security problem, but was even more interested in checking me thoroughly and starting treatment. He cautioned me not to try to hold out too long waiting for the security officer since the extent of my injuries were unknown.

"When I began to fade in and out of consciousness, I gave the pouch along with passport and courier letter, to Oscar and accepted the hypo for pain. Through the morphine I vividly recall the pain associated with moving my pelvis to take X-rays and the soothing feeling of the sulfa being shaken on my burned face.

"During the next eight days, I was on the critical list. My bladder had been punctured by the broken pelvis. It was very inflamed and had to be drained by catheter—a very painful process. My right hand was the size and color of a smoked ham. My right wrist was mangled. The second and third degree burns on my face made it the same color as my right hand. In addition to that, I had a broken right collar bone, two broken vertebrae, one broken rib, and numerous severe burns on my left hand, leg, and foot. Besides being a mess, I was also in shock.

"During my conscious periods, I recall always finding Dr. Marx either sitting beside my bed or not far away. After working his shift and many times during that period, he maintained his vigil. He only went home to change clothes during that eight days. Such devotion to duty was unbelievable.

"When, on the ninth day, my survival appeared assured, I was placed in traction and began my recuperation. Although I had an argument with Dr. Kline about the merits of pinning the pelvis, he won. Because I was still suffering from shock, he did not want to give me anesthesia to pin the pelvis.

"Empty spaces in my days were filled by the ever-welcome visits of couriers transiting Vienna on the Eastern European detail. First they came with fancy boxes of cognac-filled candies from Demels; afterwards, they bought them elsewhere by the kilo. We sucked out the cognac and threw the chocolate away. Due to numerous gifts, I had the best bar in Klosterneuburg. Except for the Methodist minister, few visitors left without a bit of a glow on.

"The doctors on night duty soon found out about my bar and came by regularly. Some conversation filled in the sleepless periods I had, and kept me going through the long nights. The many visits of Dr. Marx were always especially welcome. We had many long discussions concerning our different jobs, personal lives, and general and specific discussions regarding a wide variety of subjects. A very strong bond continued to grow.

"To many of the doctors and nuns, I was a real oddity—the first American patient in the hospital. Klosterneuburg had been in the Russian occupation zone, and the troops with their ten long trains full of booty had left only ten days before my accident. After 12 weeks, when I was taken out of traction, there were 12 doctors in attendance for the occasion. Following the ceremony there was a toast; then they returned to work. Next came the longest period of my hospitalization—the last four weeks. I was anxious to get on with the therapy and saturated with the music of Johann and Richard Strauss!

"Kindnesses were unlimited. My supervisors in Frankfurt, Ed Brennan, Bill Jones, Eddie Pohl, and Jim Vandivier, visited me and were kind enough to bring my phonograph and record collection. That helped to offset the ever-present waltz music on the radio. I was also touched by the presents from the Consulate General staff and my friends at the Embassy at Christmas-time that year. An unexpected but welcome present during the holidays was the visit of the school children of Klosterneuburg, who came to serenade me with carols in German and English. The German lessons from my private-duty nurses improved my command of the language until I could carry on a decent conversation with the Herr Direktor of the Krankenhaus, who spoke no English."

The writer continues. Frank was hospitalized for sixteen weeks at Kosterneuburg, then for extended treatment at Frankfurt, and later for many months at Naval Hospital, Bethesda, Maryland.

Dodson sent a written report to the State Department describing Irwin's unparalleled loyalty and devotion to duty following the plane crash.

On April 27th, 1956, Vice President Nixon and Secretary of State Dulles presented to Irwin the Distinguished Service Award.

Frank and Martha Irwin at their wedding reception. Martha was Frank's nurse during his months of recovery at the Bethesda Naval Hospital.



Irwin adds, "Looking back objectively, in spite of both physical and some psychological pain, I find that I learned a very important lesson from the crash—the same one that others who have gone through similar experiences have come to understand: to wake up each morning and to thank God for being alive and able to function at all. Anyone who is not grateful for that privilege has never been close to losing it.

"Besides that thought, and the wonderful people who helped me through my long recovery, there was another very beneficial result of my nine months of hospitalization—the most important bonus of my life. I met U.S. Navy nurse Lt. Martha Bruce while I was a patient at Bethesda Naval Hospital and we were married in 1958."

After thirty-two years with the State Department

Irwin retired in 1980. The Irwins now reside in Brunswick, Georgia. Their oldest son Mark, a college graduate, is employed in New Orleans. The youngest son, Paul, is a college student.

Frank has been busy revising his biography—as yet unpublished. He frequently serves as an escort for outstanding foreign officials, businessmen and political leaders brought to the United States on grants from the U.S. Information Agency.

On that day of suffering and death, in October 1955, with Irwin in care of doctors and Embassy officials, the Dodsons called for a taxi and were driven from the hospital to Vienna. On arrival at our hotel, the taxi driver refused to accept any fare. Our hand signals to explain we were not in the plane that crashed were to no avail. He steadfastly refused any fare and drove away bowing and smiling.

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MERRY MOMENTS WITH MARCIA

Some weeks after receiving \$1200 compensation for the loss of her jewelry an elderly lady informed her insurance company that she had found the missing property in her dresser. "I didn't think it would be fair to keep both the jewels and the money," she said, "so I thought you would be pleased to know that I have sent the \$1200 to the Salvation Army."

Mrs. Tushman complained to her doctor that his bill was excessive. "Don't forget" he said. "I made many visits to your house when your son had scarlet fever!" "And don't *you* forget," she countered, "that he infected the whole school for your benefit."

A reporter on a newspaper just couldn't believe it when he read the story about the theft of 2012 pigs. "That's a lot of pigs," he growled, and called the pig farmer to check the copy. "Is it true that you lost 2012 pigs?" he asked.

"Yeth, it is," lisped the farmer.

"Thanks," replied the wise reporter, and corrected the copy to read, "two sows and twelve pigs."



"I played golf with Bill yesterday and there was only one point difference in our scores—he had 86 and I had 186."

"I haven't seen my husband for 3 years," the wife said.

"Just be patient," advised her lawyer. "Maybe he's taken up golf."

A hug contains no preservatives, no calories, is only natural-pure and enjoyable. Hug someone today!

For the wedding of a popular Hollywood actress, one studio sent out ten thousand exclusive invitations.

Never tell a bald man a hair-raising story.

Did you know a Bridge player is a man who loves to take it on the shin?

Accidents certainly do happen—that's why there are so many different kinds of salad.

There is nothing busier than an ant, yet it finds time to go to picnics.

Conference: A big meeting at which people talk about what they should be doing.

He felt very stupid. He said to the young girl standing beside him, "You know, I told that old crank over there that the lady of the house was a crazy old nut. And he turned out to be her husband."

"How delightful," she responded. "What did Daddy say?"

by **MARCIA PETERMAN**