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32-page special report

ANS president
Joseph R. Dietrich

Dietrich: With a passion for right answers

Joe Dietrich is a natural leader, but not so you'd notice it. A quiet, reflective sort, he is at heart a scientist, a thinker, and has always been moved more by the power of logic than by a desire for power. And yet, at the same time, he is a pragmatic person, eager to get things done. As chief scientist at Combustion Engineering, he serves in both staff and line positions and, typically, enjoys the fact that his work is more staff than line, leaving him relatively unencumbered by administrative concerns and free to pursue knowledge and to respond quickly to changing conditions in the industry.

John West, vice president, Nuclear Power Systems, at Combustion, pays tribute to Dietrich's balanced perspective, calling him a "rare individual, one who is able to quickly sift the wheat from the chaff. There is no one in the organization whose judgment I respect more." He says Dietrich has an amazing knack for dealing with people who have opposing views and for being able to get them to settle their differences. He can do this, West says, "because he has absolutely no bias himself and is respected by his colleagues as having one objective, and that is to look for the right answers. They admire him technically and love him personally."

Dietrich takes office as president of the American Nuclear Society at a time of confusion and uncertainty as to the future of nuclear power, especially in view of some of the positions recently taken by the Carter Administration. As one of the more articulate members of the nuclear community—his skill as a writer is well known—he has the ability to get to the heart of things and is expected to serve the Society well at this critical time.

One of Dietrich's major concerns is the impact that the proliferation issue will have on the future of nuclear power. His point of view: "I certainly believe that we should think first of our national security, and if it comes down to the point where we can really decide that we have to forgo certain nuclear options in the interest of national security, so be it. But what disturbs me is that it appears that decisions are being made on the basis of questionable information. It's too serious to have anything less than the very best information." (Dietrich, as president-elect of ANS, joined officers of the European Nuclear Society and of the Japan Atomic Energy Society in a statement at the recent Iran Conference [see *NN*, June 1977, p. 91] opposing unilateral restrictions on the availability of nuclear fuel, on the reprocessing of spent fuel, and on breeder reactor development.)

Beginnings

Joseph Robert Dietrich was born August 25, 1914, in Miles City, Mont., the first of four children, all sons, of Clifford J. and Ella Huelsman Dietrich, both of whom were born and raised in Indiana. At the time of Joe's birth, Clifford Dietrich managed a string of eating places in the West along the Soo Line Railroad, and he and his wife were continually moving from one place to another along the line. They happened to be in Miles City when the time came due for the birth of their first child.

Soon afterwards, with the involvement of the United States in World War I, the young Dietrich family went east, and Joe's father took a job feeding soldiers at a military embarkation camp at Upton, Long Island, N.Y. It was here that Clifford Dietrich suffered a serious injury when he was run over by a truck at the camp, breaking several of his ribs. The accident left him permanently weakened, and yet upon his recovery, he moved his family to Newport News, Va., to open what was to become an extremely popular restaurant, especially among the servicemen in the area. He later sold the restaurant, and from the pro-

A Matter of Pace

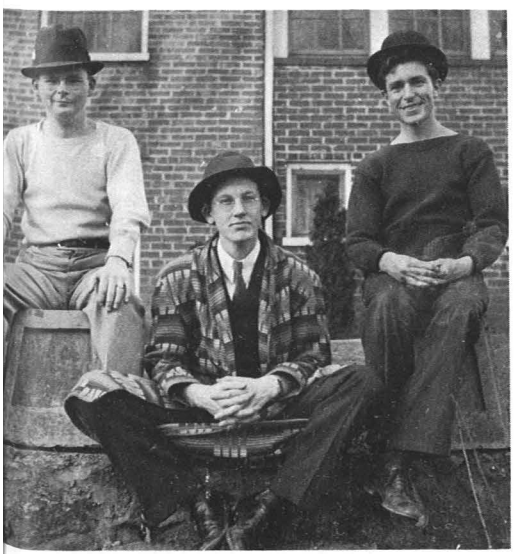
When Dietrich was on the track team at William and Mary (a miler, earning two letters), he often ran the 440 in training. His coach had this advice for running that distance: "Start off running as fast as you can, and gradually increase your speed!" When this reporter commented that the U.S. breeder reactor program should have been run that way, Dietrich quipped, "Yes. Unfortunately it starts as slow as possible and gradually slows down!"—*C.F.*

At age 4, "Bobby" Dietrich with his mother and baby brother George; a young soldier (1917); and gatherer of oysters at the farm (1920)

ceeds bought a farm outside of Newport News, where young Joe (or Bobby, as he was called in those days) grew up with his three younger brothers.

The years on the farm, located on the banks of the James River, were rewarding ones for Joe. The work was hard, but life offered plenty of good times, too. He remembers the long summer days of working in the fields picking butterbeans, lima beans, and peas, but even more vividly he remembers the evenings on the front porch, where the family would gather to shell the produce, all the while telling stories and enjoying one another's company.

It was not long before the Dietrichs were back in the restaurant business. As Joe remembers, "it just sort of happened gradually." His father, a most gregarious and fun-loving person, had many visitors, and more often than not the visitors became dinner guests. Ella Dietrich (a quiet, more introverted person than her husband) was always ready to set a few extra places at the table. One day they came to the realization that they were back in the restaurant business, and so they began operating the farm as such. The farm was especially popular with the men from nearby Langley Field. Joe remembers how the pilots would buzz the farm and make their reservations for dinner by dropping from the plane a note in a sock weighted with a shotgun shell. Joe and his brothers would run off into the field to see who could get to the sock first and bring it back to the house.



Dietrich (right) with grad school pals

Eventually, the Dietrichs opened another restaurant in Newport News, and, like its predecessor, it soon came to be regarded as the best restaurant for miles around. Young Joe first began working at the restaurant in his junior year of high school, working part-time as a cashier and junior bookkeeper, a job he never really enjoyed.

Another chore in connection with the restaurant was more to his liking, since it gave him the use of a Chevy truck, a rare privilege for a high school student in those days. Joe describes the farm and restaurant operation as a "recycle affair." At the farm they grew most of the fruits and vegetables that were used in the restaurant, and then the garbage from the restaurant operation was brought back to the farm to be fed to the pigs. It was Joe's responsibility to get up in the morning and load the truck with produce, deliver it to the restaurant, load the truck with the garbage from the previous day, and then drive to the country school, leaving the garbage sitting in the truck all day under the sun. After school he would drive the truck with its ripening contents back to the farm and feed the pigs.

In high school Joe was small in physical stature compared to some of the country boys he grew up with, but he was large in stature as a student. He was especially strong in physics, chemistry, and mathematics, but also excelled in English and composition. He remembers with some pain an occasion when one of his teachers singled him out for praise before the class. "Bobby has a matured mind," she said. Bobby's (Joe's) classmates soon developed their own version, and he became known as "the boy with the *manured* mind."

Shortly before Joe's graduation from high school, his father died. His mother carried on the restaurant business for a while, but times were very tough during the Depression, and the restaurant—minus the special touch of Clifford Dietrich—proved not to be a paying proposition, and so eventually she sold the business.*

Higher education

Joe Dietrich did his undergraduate work at the College of William and Mary, in Williamsburg, Va., and received a BS in physics and chemistry in June 1935. He went on to earn his

*Joe's mother, now 87 years of age, lives in Tell City, Ind., having returned there after her family was raised to live with her sister.

MS (physics) and PhD (physics) at the University of Virginia in June 1937 and June 1939, respectively. (A special honor came his way at the University when he was initiated into the select Raven Society, named after the famous poem by Edgar Allen Poe, once a student at the institution.)

Dietrich's doctoral dissertation was titled "Propagation of Potential in Discharge Tubes," reflecting his work on a project involving a discharge tube some 30 feet long, used to study large electrical discharges, on the scale of lightning. During this period he also became acquainted with the operation of ultracentrifuges, designed by Prof. J. W. Beams, and at that time used to separate chlorine isotopes. One summer during this work Dietrich helped build a mass spectrograph to determine the isotopic ratios and to see what sort of separation they were getting. All of this experience was to prove relevant to atomic energy in later years, but at the time nuclear fission had not yet been discovered.

After completing his postgraduate work, Dietrich got a job at Yale University as a research assistant to Prof. John Zeleny, described by Dietrich as "the grand old man" in the United States on the subject of conduction of electricity through gases. In contrast to his work at the University of Virginia, where he was working with large discharges, Dietrich now found himself working with low-discharge effects, such as with Geiger counters. It was not exactly his field, but it paid well ($1500 for the nine-month school year), and the young graduate learned a few things—for example, that it's very difficult to make a water drop work as a substitute for metal as the point for an electrode (he witnessed many experiments that went "poof").

One memorable occasion during his work at Yale came in the spring of 1940 when he and others from the University drove to Washington for a meeting of the American Physical Society. At that conference they heard Niels Bohr report on the discovery of fission, which had taken place only months before. The work had already been reported, of course, but here was Bohr in person to tell about it. Dietrich remembers driving back from the meeting with his colleagues, all of them heady with excitement speculating on all the things the discovery was going to mean for them. One of the things they foresaw, of course, was the use of fission as a source of electric power.

Romance and opportunity

When his year at Yale was completed, Dietrich returned to Newport News and made his first priority the finding of a job at nearby Langley Field, which at that time was headquarters for the National Advisory Committee for Aeronautics (NACA), the predecessor of NASA. Dietrich says he "pestered those guys to death" until they gave him a job as a junior physicist.

Not all of his attention was focused on employment, however, for it was during this summer that he met a young lady from Newport News by the name of Adelia Perkins. She was a piano teacher, about his own age, and occasionally chaperoned social events attended by Joe's youngest brother, Cliff, nine years younger than he. At Cliff's insistence, Joe and Adelia joined him one sunny afternoon for a sailboat ride, and that was the beginning of a long romance.

Dietrich took the job with NACA in the fall of 1940. His work at Langley Field involved working on ignition systems for aircraft engines, which at that time were piston engines only. When the NACA finished building its new Lewis Laboratory near Cleveland, Dietrich was transferred there, in December 1942, to work on propulsion systems, mainly as take-off assist systems.

In June 1943 he returned to Newport News to marry Adelia Perkins, and the newlyweds then moved to North Olmsted, Ohio, near Lewis.

While Dietrich was at Langley, he and some other physicists there began to consider how nuclear fission might be applied to aeronautics. They discovered, however, that when they tried to gain information on the subject, the lid was definitely on. The conclusion was obvious: something very big was going on, and so they dropped their attempts to start a project.

Dietrich kept this idea of nuclear fission in mind throughout this period, however, and when in 1945, while he was still at Lewis, the atom bomb was dropped at Hiroshima, he was primed for action. The next day he went in with a memorandum to the director of the Laboratory, saying, "Now we have got to get into this atomic thing for aircraft propulsion" (although he admits now he had no idea of what was involved). No immediate action was taken on his suggestion.

Shortly after this, the war ended, and then, as Dietrich remembers, there was a great move to "beat swords into plowshares." One of the things that was being done in this early period after the war was to set up the so-called Daniels Pile at Oak Ridge, Tenn., to develop a nuclear power plant for civilian use. Dietrich, through continued pressure, got the NACA to agree to send him to work on the project, and so his nuclear career got started.

At Oak Ridge he soon became immersed in the intensive crash course in nuclear physics, affectionately dubbed "The Oak Ridge College of Nuclear Knowledge," where he studied under Harry Soodak ("the really outstanding teacher there"), Eugene Wigner, and others (including a few lectures by Enrico Fermi). Among those studying with him at that time were John Simpson, on loan from Westinghouse, Capt. Hyman Rickover of the Navy, Al Amarosi, and Harry Stevens of General Electric.

Dietrich remembers the Daniels Pile as a most ambitious undertaking. Initiated under the direction of Farrington Daniels, the project was carried out mostly under the direction of Rogers McCullough. Dietrich recalls the unusual circumstances of this gas-cooled reactor project: "We were so naïve about the whole thing. We thought, here is a new technology, so we've got to push technology to the limit. So we were designing for temperatures higher than they get from the HTGR today—so high that we had to put insulation on the *inside* of the pipes to carry the hot gas. It was really far out!"

When the Atomic Energy Commis-

Joe and Adelia: "Just married"; settling down, North Olmsted; summer in Idaho (1953)

sion was created by an act of Congress in 1946, one of the first things the new Commission did was to cancel the Daniels Pile. Rickover, however, who had been an active participant in the project, salvaged the group and got it set up to design a power plant for submarines. So it came about that the ancestor of the submarine power plant was a gas-cooled reactor.

But that concept did not last very long. A more compact system was needed, and not long afterwards the suggestion was made by the Physics Department at Oak Ridge to use the basic MTR (materials test reactor) design and place the reactor within a pressure vessel. (The MTR was being designed by the Physics Department at the same time that the Power Plant Department was building the Daniels Pile.) At first the idea was not well received by the neophyte nuclear engineers, Dietrich among them. Dietrich says, "We thought it was the most stupid idea we ever heard of, because you could not possibly get temperatures beyond 500 °F from it. To us it seemed like going back to the Middle Ages." But the decision was made to go ahead with the project, and Dietrich was placed in charge of the physics design. At that time the project was still at Oak Ridge.

Move to Argonne

When the AEC decided that each of the national laboratories should have a specific mission, it was decided that, at least in theory, all of the reactor design work was to go to Argonne National Laboratory, and so Dietrich, along with most of the others on the project, went to Argonne in Illinois; this was in late 1948. Meanwhile, McCullough moved out of the top spot on the project, and Harold Etherington took his place, staying with the project until its completion. Dietrich describes Etherington as "the most complete engineer I have ever met."

Under Etherington, Dietrich remained in charge of the physics and shielding design of the reactor. In addition, the critical experiment for the project also came under his direction. The work was arduous indeed, because in those days there were no fancy computers, and all the calculations had to be hammered out on Marchant mechanical calculators.

The project presented other challenges as well. The cladding material used in the MTR was aluminum, and it became evident that aluminum would not stand up to the temperatures that the power plant designers were going to have to achieve. They really did not have a good material available to them—or thought that they didn't. Then the Physics Department at Oak Ridge discovered that zirconium, which previously had been thought to have a relatively high neutron absorption rate, had, in fact, a very low absorption rate. What had been giving the high measurements before was an impurity —namely, hafnium, which was in the same family on the periodic table and thus difficult at first to distinguish from zirconium. This discovery was one of the key achievements in the program.

Dietrich and attentive audience at Argonne National Laboratory, 1951 (l-r): Etherington, Mel Shaw, Zinn, Al Amorosi, and Bert Gumprich

During the project, which was to lead to the building of the Mark I land-based prototype in Idaho, Dietrich had some 20 designers working in his section, as well as a large complement of women counting up things with their calculating machines. It was an exciting time, Dietrich says, and everyone learned a great deal in a short time. The Mark I was built as planned and began operation in the summer of 1953. The Nautilus itself was launched the summer after that.

A new project

With the completion of the Mark I design, Argonne had just about phased out its work for the Navy. (The actual construction of the reactor was done by Westinghouse Electric Corporation, which had many of its people on loan to the program.) And so Argonne was ready for other work. It was at this time, as Dietrich recalls, that Sam Untermyer, who was one of those who first saw the significance of the low neutron absorption rate of zirconium, proposed an experiment designed to test two hypotheses. The first was that a water-moderated reactor would be self-limiting in the event of a reactivity accident. The other idea was that you could design a boiling water reactor that would really work. The concept was not a new one, but it had been generally assumed that such a reactor would be unstable; although you could design a reactor with a negative steam coefficient, the process was thought to be too turbulent. Untermyer got the support of Walter Zinn, then head of Argonne, for the Laboratory to do some experiments to put both of these concepts to the test.*

Dietrich was called in at the planning stage, and his immediate impression was that this would be a "fun project"; he was not disappointed, for it turned out to be one of the most memorable experiences of his career.

The experiments, which became known as the BORAX series, were placed under the direction of Harold Lichtenberger, then in charge of the Argonne site at the National Reactor Testing Station in Idaho, where he had seen through construction and into operation the first experimental breeder reactor (EBR I). Dietrich headed up the theoretical work, and during the winter of 1952, the Argonne team had designed and fabricated the pieces from which the first BORAX reactor was to be built. The assembly work began as soon as the snow melted off in the spring of 1953; by the summer of the same year it was ready to run. The assembly was built outdoors in a pit about a half mile from the EBR I site, where the experimenters had their trailer equipped with control equipment so that they could

*Untermyer was later to attempt to interest an industrial concern to adopt the boiling water reactor concept and succeeded in doing so with General Electric Company. He worked with GE for a number of years and later formed his own consulting company in California.

operate the reactor at a safe distance.

The first experiment was to test the self-limiting feature of the reactor. A control rod was ejected, and, as predicted, the power went up very rapidly, the water boiled, and as it boiled, the reactivity went down, shutting down the reactor with no problem. In subsequent tests, stronger and stronger transients were put into the reactor until the steam was forming so rapidly that it was distorting the fuel elements; at this point the transient experiments were terminated for a year.

In the meantime, the other aspect of the experiment also proved successful. It was demonstrated that a boiling water reactor could operate successfully, even at atmospheric pressure (since there was no pressure vessel).

The next phases of the project were most interesting. Dietrich and his colleagues observed that the notion was getting around in the field, largely because of the successes they were having, that there was nothing much you could do to have a bad accident. And so they thought they should disabuse people of that notion by purposely using a transient strong enough to destroy the core. Once that was done, they would replace the reactor with a bigger and better one, pressurize it, and go one step further and install a turbine to generate electricity.

And so in the summer of 1954, the first thing they did was to "blow up" the reactor. "And it blew quite impressively," Dietrich says. He hastens to add, it took a specially designed control rod ejection mechanism to cause that transient. Later the SPERT experiments, carried out in Idaho by the Phillips Petroleum Company, showed that a similar result is essentially impossible in a modern power reactor fueled with slightly enriched uranium oxide.

Dietrich tells of going into the experiment area afterwards with his radiation protection gear on and marking off the ground over a quarter mile or so of contaminated area. When he finished jotting down all the readings from his survey instrument, he added them all up, and, as he says, "by golly, it was all there!"

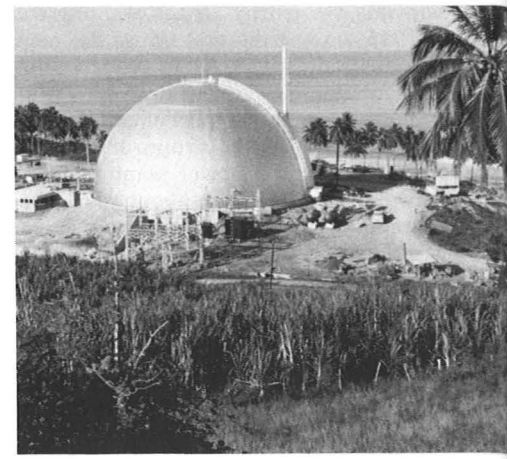
The BORAX team replaced the reactor, as planned, with a larger, pressurized one. Dietrich marvels at the speed with which Lichtenberger got such things done. They had a new reactor working by the fall of 1954, but the turbine took a little longer.

At about this time, President Eisenhower declared his Atoms for Peace program, and a good deal of the information that had been classified was being opened up. Also at this time preparations were being made for the first Geneva Conference, in the summer of 1955. And so the pressure was on to complete the project and get some electricity from it. As Dietrich says, "Lichtenberger put the lid on it, hooked it up with our second-hand turbine, made power and put it into the grid"; for one night the lights of Arco, Idaho, were lit by nuclear-generated power, and the work was duly reported at the Geneva Conference. This marked the successful conclusion, as far as Dietrich was concerned, of the BORAX experiments.

Moving up at Argonne and out

Meanwhile, Dietrich had been appointed associate director of the Reactor Engineering Division at Argonne National Laboratory. In this position, which he accepted in 1953 at the invitation of Zinn, he was essentially associate director for reactor physics, and at the conclusion of the BORAX experiments he directed the physics work on the EBWR (experimental boiling water reactor), built at the Illinois site, and of the Laboratory's work in fast breeder reactors. The Laboratory was just beginning to rough out the design for EBR II, which was to be built in Idaho.

BORAX team set to enter contamination area (l-r): E. N. Pettit, Dietrich, G. Stonehocker (behind Dietrich), Lichtenberger, Zinn, C. Zitek, R. Haroldsen, D. Losli, A. H. Barnes, and Darrel McGinnis



BONUS: Challenge in Puerto Rico

As it became apparent that a reactor development and construction business was getting closer and closer to the point of commercialization and that there was a limit to the contribution in this direction that the national laboratories could make, the time became ripe for a move to the private sector. And so when Zinn left to start a new company, Dietrich eagerly joined him, along with Lichtenberger and John West. Thus began General Nuclear Engineering Corporation, operating out of Dunedin, Fla. Zinn served as president of the corporation; the other three, as vice presidents. Dietrich was in charge of physics, while West and Lichtenberger essentially split the engineering projects between themselves.

One of the more notable projects handled by General Nuclear was the BONUS reactor in Puerto Rico, built as part of the second round of the AEC's civilian Power Reactor Demonstration Program. It was a boiling water reactor with a superheat section. The project was especially challenging, since instead of having saturated steam at 500 °F, the objective was superheated steam at 900 °F. Dietrich was pleased with the way the reactor was built and operated, but it was closed down after only a couple of years of operation—in Dietrich's view, well before nearly the amount of information obtainable was received from the reactor.

One problem (although not a crucial one) was the large number of scrams suffered at the plant. It was built all the way at the end of the Puerto Rican transmission network, which was not very large at that, and during the summer, regular as clockwork, says Dietrich, there would be a thunderstorm, and three days out of

In conference at General Nuclear Engineering (about 1960): Dietrich, F. Bevilacqua, J. West, M. Vallerino, and A. Jameson

four, a lightning strike on the transmission line at the end of the grid would cause a reactor scram. This, of course, was no fault of the reactor, but a good part of the time was spent recovering from scrams during the summer period.

A more serious problem was the development of what at that time was termed "chloride stress corrosion" in the superheat system piping inside the pressurizers. This resulted from the high oxygen content of the steam, stemming from the dissociation of the water due to irradiation. The problem could have been resolved by substituting Inconel piping for the stainless steel piping, but the BONUS plant was shut down before the fix could be made. Dietrich figures that the cost of replacing the internal piping would have come to about $100 000.

General Nuclear also did some design work in heavy-water reactors. It built a research reactor for the University of Florida, and also handled the design for a heavy-water research reactor for Georgia Institute of Technology.

Another piece of work that the corporation did under contract to the AEC involved Dietrich heavily. This was the preparation of the quarterly review, *Power Reactor Technology*, for which Dietrich served as editor for some eight years.

At its peak, General Nuclear employed 120 people (20 of whom were not on the payroll, but were assigned to work with the company by utilities and other establishments).

Enter Combustion Engineering

In 1959, when General Nuclear was just getting a good start on the BONUS reactor, Combustion Engineering, Inc., entered the picture. The large manufacturer had been previously involved in the Navy reactor business, and among other things, built a prototype of a small nuclear reactor power plant for a small submarine (only one of which, the Tullibee, was ever actually fitted out with such a power plant). The company had not yet been involved in the civilian reactor program, and as a preparation for entering this business, it offered to buy General Nuclear in 1959. The purchase, made in an exchange of General Nuclear and Combustion Engineering stock, resulted in Dietrich's present association with C-E.

At the time of the purchase, Combustion was not all that anxious to get started immediately on nuclear and, therefore, left General Nuclear pretty much alone to operate in Florida for a time. In 1963, however, C-E began moving people up to Connecticut and completed the move early in 1964; General Nuclear ceased to exist as a separate entity.

In the transition, Zinn became a vice president of the parent corporation and was in charge of all the nuclear work. Under his leadership, a strong nuclear organization was developed, and over the past dozen years, Combustion has taken its place as a creditable reactor supplier. Zinn (now living in retirement in Dunedin, Fla.) built his organization, in large part, around those who came with him from General Nuclear, including John West, presently vice president for nuclear power; Lichtenberger, vice president for nuclear manufacturing; Frank Bevilacqua, vice president, engineering; and Dietrich, chief scientist.

Under Zinn's leadership, Combustion won contracts for a number of reactors and was the first to depart from the turnkey contract. Its initial contract was for Consumers Power Company's Palisades nuclear power plant in Michigan. This order was followed by several others, and there are now seven Combustion-supplied reactors in operation: Palisades, Fort Calhoun, Maine Yankee, Calvert Cliffs-1 and -2, Millstone-2, and St. Lucie-1. In addition, there are some 20 additional units on order or in various stages of construction. The company has also continued to supply reactor vessels and other large components to other manufacturers.

As mentioned earlier, Dietrich's role at Combustion is a dual one. When he came with the company, he asked for and was granted a staff position, because, as he put it, "having a big organization under me is not my bag." Nevertheless, he does have line responsibility for work on advanced systems —essentially, the fast breeder reactor (and recently some preparatory work on fusion). His staff work is a little hard to define, Dietrich says. "It's a little of this and a little of that." He is chairman of the company's Nuclear Safety Committee. He keeps up to date on the uranium situation, trying to determine what it means in the long term for the company. Along with others, he reviews the company's R&D programs and is quite active in coordinating work with C-E's German partner in a technical exchange agreement, Kraftwerk Union (KWU). But most of all, because of his long association with West and their solid agreement in principle on most matters, Dietrich enjoys the capability of being able to do "special things that may need doing in a hurry." One of his current projects is that of looking into the potentials of alternate fuel cycles (thorium/U-233, carbide fuels, and others).

Widely respected professionally, Dietrich serves often on various study panels for the government, and was elected two years ago to the National Academy of Engineering, serving presently on a committee charged to perform a large study of the whole energy picture in the United States.

On the personal side

Joe and Adelia Dietrich live in West Hartford, Conn., having the house pretty much to themselves now that

The Dietrich family (1970): Joe, Dee, Joe, Jr., Kit, and David

their three children are grown and on their own. The children, whose places of birth follow the track of Joe's career, are: Christine (Kit), 32, born in Lakewood, Ohio; David, 29, born in Oak Ridge; and Joseph, 25, born in Chicago. Kit (Mrs. R. M. Challoner III) lives in Newport News and works as a stewardess for United Airlines (which named her Flight Attendant of the Year for 1976); she has also worked over the years as a model and presently runs a modeling agency in addition to her work with the airline. David, an accomplished cellist, works in San Francisco as an editor for the consulting firm of Woodward Clyde; and Joseph, Jr., a recent graduate in fine arts, is presently "keeping his options open" about a career. Married earlier this year, Joe and his wife are involved in an evangelical religious movement and occasionally travel about with three other members of a troupe of musicians (guitars, trumpet, tympani), appearing mostly at colleges and universities. Back at home, also in West Hartford, young Joe supports himself with paperhanging and other odd jobs.

It is not surprising that their children's interests should run so strongly toward music, for Joe and Dee (as Adelia is known to her friends) have always shared a love of good music. Frequent concert-goers, they enjoy music almost constantly in their home, with speakers upstairs and down. Joe prefers music with a fine line rather than massive tone; Mozart is a favorite. Dee, who studied piano at the Philadelphia Music Academy, continues to play (a Steinway grand piano is a prominent feature of the Dietrich's living room), enjoying most the playing of duets; she prefers pieces originally composed for four-hand performance.

Another important part of life for the Dietrichs is religion, although Joe considers himself a relative "heathen" compared to Dee, who is deeply involved, on a voluntary basis, in the educational activities of the Methodist Church in the Northeast region.

In his leisure time Joe enjoys gardening and landscape work, which has been something of a challenge on the rocky hillock on which the Dietrich home is situated. Joe literally carved a patio out of the rocky terrain behind the house and has artfully achieved a nice balance there between the wild woods area at the top of the hill and the cultivated area (flower gardens, low evergreens, rhododendron) close to the house, a gray two-story garrison colonial. The home is within sight of a small lake that offers the Dietrichs the recreation of sailboating in the summertime and ice-skating in the winter.

Within the Dietrich home the atmosphere is at once tasteful and comfortable, with a nice mixture of new and old (one of their most treasured pieces is a desk made for Joe's mother by her father, a cabinetmaker). Joe spends much of his spare time in a paneled den, where he gets in a good deal of his technical reading. When he has time, he enjoys history, especially in a popular vein (James Michener is a favorite). And over the years, he has also found increased enjoyment in reading Shakespeare and in attending the performances at the Shakespeare festival at Stratford, Conn. He has a good memory for poetry and verse and, according to Dee, can be counted on at a dinner party to come up with just the right quotation, sublime or ridiculous, to suit the occasion.

Father and high-flying daughter (1947)

Joe's art is not all linguistic, however. He is also adept in the kitchen, and excels almost every Saturday morning in the preparation of individual cheese omelettes, done with the precision of a master chef. He has also in recent years taken more and more to what Dee calls "fancy cooking"—boeuf Bourguignon, lamb shanks, Peking duck, etc.

In spite of his accomplishments, Joe Dietrich is extremely modest and naturally reticent. More outgoing and openly enthusiastic, Dee appears to be a perfect complement to his personality. Not one to hide her light under a bushel basket, Dee, who still retains an easy, relaxed Virginia drawl, says she finds herself often in the role of Joe's "press agent" ("How are people going to know how smart you are if I don't tell them?"). She volunteered, for example, that Joe (whom she still calls Bob) was a member of Phi Beta Kappa and that he was valedictorian of his high school class. On the latter point Joe characteristically quipped, "Well, that was a long time ago. We had a lot of dumb people then."

His disclaimers to personal achievement notwithstanding, all those in the nuclear community who have known Joe Dietrich at close range would have to agree with John West's estimation of him as a "rare individual" indeed—and one to whom they now look for his own distinctive kind of leadership in his year as president of ANS.—*Chris FitzGerald*