

The opening of fish factories in Peru was accomplished with a blessing by the priests of our machinery and the fleet, followed by beer and hors d'oeuvres. The latter included small round black balls which melted in your mouth and soothed my unstable intestinal system. That was before I found out that the black balls were coagulated bulls blood and that in making corn beer the practise was to spit in it to start the fermentation. The next day I felt better. Eventually the El Nino current moved the warm fish-laden waters far off the coast, out of range for fish harvesting. Fortunes changed and many of the entrepreneurs in Peru and Chile, including Raphael Grana, lost their investments.

On the home front we had found a ready market for our fertilizer processing equipment, particularly in the south and mid-west. These were huge machines weighing hundreds of tons for plants that covered many acres. We had shipped machines to Madras, India. Now FACT, an organization partly owned by the Indian government, was interested in a large fertilizer plant similar to one we had sold to South Korea.

Negotiating with Turks for plants on the Black Sea and with sheiks in Abu Dhabi had been good training for me. But in 1971 in Udyogamandal, near Cochin, India, haggling with ten Indian engineers when a large contract hung in the balance was not easy. The price had been negotiated by Telex, but FACT requested that I come to Cochin to discuss the details of shipping, installation and start-up. Arriving in a monsoon, I was installed in the corporate guest house and relieved of my passport. Numerous spiders were inside, mongoose outside, and the toilet effluent ran through an open half-pipe to the other end of the room, disappearing down a drain. Thanks to a visiting engineer, a bearded Indian Navy commodore who was a delightful raconteur and wore a different colored turban every day, I felt easier. In conferences I faced a wall of inscrutable Indians, none making any decisions but, seemingly, deciding everything by consensus. The fact that the price had been confirmed by Telex made no difference to them. After several days of continuous haggling they seemed in no hurry to conclude the contract, but when I made minor price concessions we concluded our talks and my passport was returned.

Using Indian government-specified ships, the ocean freight alone amounted to \$450,000. We had to close in the ends of our large rotary units to prevent the natives, under squatters' rights, from setting up housekeeping in them. Last year when we visited Cochin, the 20 year-old plant

was still producing well over a million tons of fertilizer a year. I was reminded of this Indian experience several years later while attending the opening of one of our plants in Belgium. This plant produced photographic gelatin, and the raw material was thousands of tons of animal bones shipped from India each year. Much of the end product went to Eastman Kodak in Rochester.

Ours was a small company of approximately a hundred employees including aeronautical, agricultural, chemical, civil, mechanical, and marine design and process engineers. To compete with multi-national corporations and cartels offering long-term government financing and lower ocean freight rates on their foreign ships, we were forced to have some large rotary units manufactured under license abroad. In this business I often felt I did not need the lottery to fulfill my gambling instincts.

In the early 1980's the U. S. dollar firmed and our foreign markets, 80% of our business, deteriorated, even though our products were desperately needed in third world countries. The U. S. market was even more competitive. Keeping our establishment profitable was like holding a tiger by the tail. In 1985 we were approached by a larger company in Pittsburgh and found that the products of the two companies presented a happy manufacturing synergism. A merger resulted, and we are now the Renneburg Division of Heyl and Patterson, Inc.

Still a consultant but with fewer business responsibilities, I am now Chairman of the Transportation Study Committee on the Governor's Executive Advisory Council working to improve air, highway, rail and port development. As a director of the Fertilizer Industry Round Table, an international organization to improve fertilizer technology, I keep posted on the science of developing aquaculture and agricultural worldwide. For years I have been a member of the first violin section of the Gettysburg Symphony Orchestra and serve as president of the two foundations supporting these programs.

MERCHANT OF DEATH

George White

After reading the articles by others in our unusually gifted class I have to wonder why anyone would be interested in my experiences over the years.

Our Class Secretary, Steve Fox, decided in the late 60's to seek out classmates with different backgrounds to talk about their activities at our monthly class dinners at the Princeton Club of New York. So I was invited to tell of my career in chemical engineering.

The talk covered my recent activities in the nuclear power plant business and my current involvement in the uranium business. I also reviewed the earlier years during which I had had overall general responsibility for a number of critical national programs, including: design and construction of aviation gasoline production plants just prior to World War II; construction and operation of synthetic rubber plants during the war years; design and construction of a plant to recover uranium from atomic weapons waste during the Korean War period; a plutonium production reactor; two bomb-grade plutonium recovery plants; a plant to produce one of the key ingredients for thermonuclear weapons; plants to produce nerve gas; and a facility to produce biological warfare agents. These assignments had not come by choice or design but developed largely by chance in the course of carrying out my engineering assignments.

At the time of my talk, U.S. history was seeing the start of the environmental movement, and pacifism, stemming largely from discontent with the Vietnam War, was rampant. So it was not too surprising that several of our classmates, during the question period, made it clear that they disapproved of my actions. They asked if my conscience did not bother me about becoming a "merchant of death" at the behest of the "military-industrial complex". Further that I should feel guilt for introducing uranium and plutonium into the environment, affecting the health and well-being of us all.

My response was simply that those questions had never occurred to me - that I would do it all again if I thought my country needed me - that I actually felt good about what I had done and was proud of my accomplishments. I have no idea what the present attitude of you classmates may be, but hopefully you will not ostracize me when we next meet.

To start the story of my life, you should know that I consider myself a very lucky fellow. I worshipped my father who really paid very little attention to his children.



Happy Golfer.

Some of you may remember that he was the Governor of Ohio during our college years, and came close to being the President of the U.S. instead of FDR. During my growing up years he offered only three pieces of advice: 1. Keep your pants buttoned. 2. Never tip more than a quarter. 3. Since I had inherited from him the fact that he was born under a lucky star, I should take advantage of it. Although I majored in chemistry, he wanted me to enter Harvard Law School. I wanted to be a doctor, but one Tooky Lawrence from Summit, New Jersey wanted to get married. Guess who won!

First I had to get a job which I was lucky enough to do through the courtesy of the Shell Petroleum Corp. when the Dutch and English decided it was time to let a few "American colonials" enter the management ranks. When I reported for work in July 1933 in St. Louis I found I was working with none other than our Platt Okie (Ed: see page 29 of this issue). That fall Tooky and I were married. She was a wonderful girl and a wonderful wife, giving me two fine children. When she died of cancer in 1940, I thought the world had come to an end - losing a mate has got to be the worst experience a person can go through.

After being badly hurt in a refinery accident and deciding that I was not being sufficiently appreciated by Shell, I left to accept an operating job with a refinery engineering company, the M. W. Kellogg Co. During all these years I was invariably the junior man and was assigned to the midnight (graveyard) shift. When I was promoted to the design engineering staff in New York City, it was a relief to put on a white collar and actually work during daylight. When World War II broke out in Europe, there was a tremendous demand for new aviation gasoline plants, so I

was assigned to design them for customers all over the world. I was still doing so when Pearl Harbor occurred. My draft board immediately exempted me from the Services.

Kellogg was given the job of building the gaseous diffusion (uranium enrichment) plants at Oak Ridge for the atomic bomb project, and I was talked to about joining that top secret group (known as the Kellex Corporation). However the synthetic rubber program was then getting underway in Washington and I was sent there for the duration of the war. It was a fascinating assignment and I ended up as a vice-president of the Rubber Reserve Co.

A few months after Tooky's death, I was able to pull myself together sufficiently to start actively searching for a new wife - a not entirely unpleasant experience. Once again I was very lucky in meeting Freddie Fronheiser from Harrisburg. We were married in the late spring of 1941. She was perfectly marvelous person, raised my children as her own, and refused to have children of her own so that there would never be my children and your children. We were married for 34 years until she dropped dead in January 1975 with an embolism. Once again I felt as though life had ended for me - it couldn't happen twice! Actually, I became unglued both times and made it through only with the help of friends and family. On both occasions I accepted invitations from Goodrich and Louisa Lowry (Ed: See "Remembering Goodrich/Lowry" by Al Whitman in 1990 Summer Newsletter) to visit them and accept their kind ministrations. He was a great friend and I mourn his passing.

When the war ended Kellogg assigned me to its subsidiary, The Kellex Corporation, its former atomic bomb sub-contractor, where I became administrative manager of the Applied Physics Laboratory. There I worked on rockets, torpedoes, proximity fuses and space flight until early 1948 when I was transferred to be Project Manager of some of the major nuclear projects being engineered and constructed at the Hanford Works in the state of Washington. Much time was spent commuting between New York and Hanford, usually by train since the airlines were notoriously unreliable. About then the Kellogg Company was purchased by the Pullman Company which promptly sold the Kellex subsidiary to a group of wealthy investors (duPonts, Whitneys, Mellons, etc.) who saw ahead an interesting future for nuclear technology. Kellex was renamed "The Vitro Corporation", and in the course of the next few years I became executive vice-president, a director and a member of the executive committee. This was when I became involved in the many defense-related projects noted earlier. Also we bought several other companies, and I was

instrumental in organizing and developing new businesses, including one to engage in uranium mining in a Salt Lake City plant - all very interesting and exciting ventures.

By 1956 stresses developed in the management, which eventually caused the demise of the Vitro companies, to the point that it was no longer any fun to come to work - a new experience for me. Once again my lucky star prevailed when I was approached by the General Electric Company with an offer to organize and manage its entry into the commercial atomic power plant business.

After accepting with excitement and anticipation I found that I was a guinea pig, representing GE's first exercise of a new policy to bring in new blood and ideas from the outside instead of promoting from within. I may also have been the last. It was a tremendous opportunity - and a challenge of gargantuan proportions. My assigned goal was to make GE the number one in the business. By 1968 I had pretty well succeeded in that, but this success was at such cost to the company that my popularity with the executive office and the directors suffered. We had bid many jobs at fixed prices only to run afoul of high inflation and expensive delays caused by emerging anti-nuclear



Happy Angler.

groups, resulting in substantial losses. It seemed best for all concerned for me to move on to a new pasture.

The new pasture was a company formed by me and a partner of NUEXCO (acronym for Nuclear Exchange Corporation). We undertook to establish a market in natural and enriched uranium, plutonium, enrichment services and fluorination services. I was in a semi-retired mode with a GE pension, but I badly needed something to keep me busy. I expected the new venture to be a small, low-key operation to which I could give part-time attention. Surprise! Luck was again responsible for being in the right place at the right time, and the small venture rapidly