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wisconsin engineer

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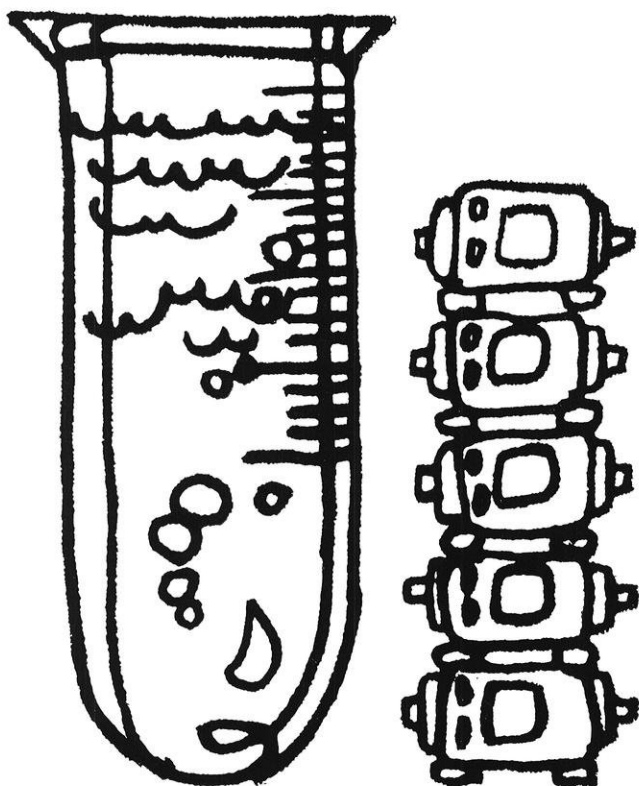


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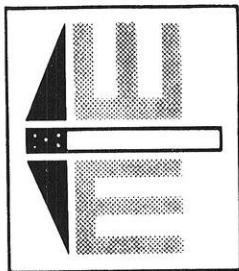
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TABLE OF CONTENTS:

A Giant Step for Mankind?	editorial 2
by Jim Guenther and Steve Sanborn	
Our Benefits from Aerospace Technology	4
by Michael Birr — Marquette University	
Dragon's Blood!	7
by Steve Sanborn	
Gisholt	10
by Mary Stein and Tim Terrill	
Campus Comments	15

wisconsin engineer

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The cover of this issue shows the evolution in space from the first aeroplane to the moon vehicle. The question mark asks, is it necessary, should we put as much emphasis on this type of "progress", what will be next? It was created by Steve Sanborn.

A GIANT STEP FOR MANKIND?

by Jim Guenther and Steve Sanborn

"The French essayist, Montaigne, said, in the Sixteenth Century, that 'Science without conscience is but death of the soul.' It is probable that he foresaw that science, despite its vast promise of improving life, could become destructive to the human condition unless guided by worthy human values." This last quote was made by Dr. Charles F. Jones, a member of the board of the National Science Foundation.

Dr. Jones, as well as many others, realizes that much of the research which is being performed today seems to be missionless. Science today seems to be forever attempting to perform research for the sake of research. This is consequently causing technology to become unpopular among the young. An example of this disdain is the present drop in enrollment of the engineering colleges of this country. The call for relevance is the outcry of the public. They are asking the researchers to become more involved in solving immediate and meaningful problems.

Science has, for some time, been allowed to wander about, free from unnecessary restrictions. There is some point, beyond which science wanders out of the realm of human relevance. From this point, the efforts to promote scientific thrusts do not coincide with the most urgent human needs. Therefore, it is necessary to re-evaluate the goals which we desire science to grasp for. The mission of his research must be made clear to the scientist.

Because of the seeming lack of immediate relevance, the space program is perhaps the most criticized research program. Man's feat of reaching the moon is unquestionably the greatest technological achievement in our history, and as a by-product of this, numerous other scientific disciplines have benefitted. Space technology has furthered our knowledge of the weather, aerodynamics, computers, and communications. Granted, these accomplishments are important, but are they the best way to serve mankind? On the shoulders of the scientists that lead this program, as well as other similar programs, lies the responsibility of creating technology that will benefit its benefactors. This moral responsibility should cause them to realize that there are more pressing problems in this world that must be dealt with first. These include problems of the cities, the environment, the poor, overpopulation, and a myriad of others. While the public suffers the burdens of these problems, we are spending billions of dollars on the space program, where no immediate results can be realized. These monies could be used more efficiently if applied directly to the problems which require more attention. Today, NASA produces an abundance of information which can be used by other scientists only after it is released, and even then these other researchers must translate the findings to their own work. Quite a bit of inefficiency here, and yet this technology is one of the main selling points of the aerospace program. The secondary technology produced is very beneficial to the public, but the scientists must, of necessity, spend most of their time on research directly applicable to the space program, and with no applications outside of it. This is the research that we feel is objectionable and which is costing the taxpayers money with few tangible returns. Therefore, we ask the space program to stand on its own merits and not on the merits of the secondary technology which it reveals. That supposition is not valid since these secondary goals could be realized much more efficiently outside of the space program.

engineers. what if we said, "toys"?



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February 11

THE QUAKER OATS COMPANY



Our Benefits from Aerospace Technology

by Michael Birr
Marquette University

"But why some say the moon?" This is a very good question, but is a totally unnecessary one. If people were to spend half their time and effort into studying the space program and its benefits, this question and all their ridicule would be eliminated.

The United States space program is one of the greatest success stories of all time, and has from its beginning been subject to a division of opinion. On one side are the supporters, who consider it to be the best bargain the nation ever made. Can you think of any other program that has had so many positive results in only ten short years? On the other hand we have the detractors, those who see little benefits from the effort so far, and are unable to visualize any rewarding developments in the future.

But for the critics, contrary to their beliefs, the program already has shown an affect, like that of the fabled goose, it is laying golden eggs. The various benefits and by-products of the program number in the thousands. The world has changed much in the past few years, and many of the best changes have been as a direct result of the space efforts.

In 1958, the National Aeronautics and Space Administration came into being through an Act of Congress as a Research and Development Organization, to expand our knowledge of phenomena in the atmosphere and space, and to develop and operate vehicles capable of carrying instruments and living organisms into space. It also was given the responsibility of maintaining the nation's leadership in aeronautical and space science technology, applying the knowledge gained to peaceful activities within and outside the earth's atmosphere.

As we become more experienced in space and our vision grows, the horizons for human usefulness and capabilities in this new environment will broaden. For example from a vehicle which at first demonstrated little real utility, the airplane has evolved into today's inter-continental transport system. The aeroplane makes it possible for millions of people to visit other lands, causing an enormous impact on their thinking, their living habits, and their economics. One would have had to be exceptionally far-sighted to visualize this beneficial result of the first short flight that the

Wright brothers made in their fragile aeroplane at Kitty Hawk in 1903.

Today, the United States cannot afford to neglect — as we did the aeroplane in its early days — a technology with so powerful a potential as that of space.

Some of the best technological gains have been realized in the educational field. In the last decade, a vast number of schools have been built, for education has been greatly increased and expanded. College is a real possibility for millions of American young people, not just a privileged few.

Important research has already been carried out in facilities built under NASA grants. Equally important, these facilities have provided the research opportunities for advanced work toward doctoral degrees in the many disciplines.

Two of these facilities were built on the University of Wisconsin, Madison campus, and are known as the Theoretical Chemistry Institute, and the Space Science and Engineering Center.

The progress of communications has been rapidly accelerating. New and improved telephone cables have linked the major continents of the world. We should recall that the first transatlantic telephone cable was laid only in 1956, and the first cable across the Pacific went into service in 1964. And now, with satellites, a new dimension is being added — a dimension that today is free of any real constraints on the type of traffic that can be carried — a dimension that is automatically global and, hence, can tie any country in the world to any other country without dependence upon linkage through any third country. Thus, it can be seen, that communications has been greatly improved, made more reliable and economical for government, business and personal interests.

Man's battle with the elements is perhaps his oldest conflict. And in this conflict even the lesser foes of heat, cold, rain, and wind are formidable. Against these he has built shelter and made clothing and has at least affected a stalemate. But mother nature's terror weapons, the hurricane and the tornado have proved more potent adversaries. While the development of a cooperative global intelligence network for charting the growth and courses of storms has aided in reducing the death toll; life and property losses from these destructive forces still are staggering.

In September 1969, the Environmental Science Services Administration launched the Nimbus III, NASA's most advanced meteorological satellite which was to be used for weather forecasting. The satellite's most important utility has been in the provision of storm warnings. From its vantage point in space it can detect the build up of a destructive storm, track it, estimate its force, and predict when and where it will strike inhabited areas.

A notable example of the satellites' effectiveness is Hurricane Camille, born in the Caribbean in August 1969. Camille was the most intense storm to hit North America in modern times. She was spotted by the satellite system while still in the development stage. The satellites were able to track Camille's erratic progress and forewarn the affected areas. Camille's 200 mile-per-hour winds smashed whole towns and property damage ran in the hundreds of millions of dollars. But loss of life was minimal, thanks to accurate detection and tracking by the weather satellites.

Still another matter of great significance is the manner in which the space program has brought about the intermingling of people of all disciplines, such as medicine, physics, chemistry, astronomy, engineering, economics and public administration. Such intermingling has brought about solutions of many problems which specialists working in a single discipline have not been able to solve.

It is also a stimulant for world peace. NASA's international space activities provide clear indication of the fellowship that develops when scientists from many nations work together and engage in discussions concerning enterprises of mutual interest and benefit. The tie that binds them is not the need for security, but the thirst for knowledge which will be the heritage of mankind.

The space program has been a triumph of management, technology and engineering. It has united government, industry and education in a common, peaceful undertaking. Out of it has come a great reservoir of manpower capable of new standards of performance and quality, as well as of engineering competence, craftsmanship in execution, and rigor in inspection far beyond normal industrial standards.

Perhaps the greatest potential for realizing hard economic returns from the applications of spacecraft lies in the earth-resources surveys, or keeping satellite watch on the globe's natural resources with the aim of better managing nature's bounty. This program can eliminate many of the world's

paramount ailments, in that it can help to produce more usable land, more water, food, clothing, shelter, and fuel to meet the needs of a population that is growing at such an alarming rate.

In agriculture, the satellite could detect plant disease, facilitate national land use planning in what to plant and when to plant it, where to build roads for movement of harvests, where to locate irrigation works, and a variety of other management considerations. Good land management is vital to agricultural output, as is evident in the high-yield nations of North America and Europe, where there already is an information reporting system. Although the new system could vastly improve the old in these countries, the real potential of this system lies in upgrading the management capability of the under developed nations of Africa, Asia, and South America.

In hydrology, the earth resource system would detect water pollution trends, provide a complete inventory of lake and reservoir levels, show rainfall and snow levels, allow quicker prediction of potential floods, and locate freshwater reserves.

In geography, it would produce a constantly updated "living" map, showing population densities and spread trends for use in urban development and transportation planning.

For too long, critics have been attacking the space program with two major themes. First — "The space program is taking money that could be better spent for more pressing programs such as social welfare needs". The second attack on the space program is: "Why are we shooting all that money out into space?"

Let's take a look at space spending compared to that of social action spending. The social action spending is already over thirty times the space budget, and is still increasing, while the space budget is decreasing. The expenditure of adequate funds on space technology not only brings many direct benefits to mankind, but also helps accelerate development of our social action programs leading to solutions for society's problems.

Our space effort over the past decade has cost this nation less than one-half of one percent of our gross national product and currently is less than one third of one percent of our GNP.

The space program has made a major contribution to the growth of our gross national product which jumped from 440 billion dollars in 1958 to 930 billion dollars in 1969 and now over a trillion dollars in 1971.

And now to the "why are we shooting all of

The social action spending is already over thirty times the space budget, and is still increasing, while the space budget is decreasing. The expenditure of adequate funds on space technology not only brings many direct benefits to mankind, but also helps accelerate development of our social action programs leading to solutions for society's problems.

that money into space.”

First, there are no cash registers in space — over 92 percent of all space funds have been spent right here in the United States. This impact has been felt by over 20 thousand prime and subcontractors, with the resultant average employment during the 60's of nearly three hundred thousand people per year. These contracts have gone to all states in the nation. Furthermore, a substantial sum of the dollars spent on the space program comes back to the city, state and federal governments in the form of corporate and individual taxes. It is estimated that in the past ten years these taxes returned to these governments amounted to over 3 billion dollars, and they in turn help support the growing social and domestic programs.

Some of our critic friends ask “Why not spend money directly on medical, environmental, educational and communications projects, rather than wait for benefits like the space program?”

Well, it just doesn't work that way!

We need a large program funded and motivated around a national goal with wide, demanding and unprecedented technical requirements from which generate break throughs across a broad spectrum of technologies. These break throughs then become tools that make possible the generation of unrelated developments, even in fields not directly connected to the original program.

It is important to point out, that the objective is not to replace desired social action programs with technology programs, but rather not to abandon technology because of our pressing need for social action programs. What we need is a balanced combination, so that solutions to our social problems can be accelerated by technological advances, which is the real viable route to successful emergence from our dilemma.

For it is this multifaceted impact of the technology dollar that is producing the technical break throughs that make it possible to control environmental pollution, advance medical science, extend education, build cheaper and better housing and, above all, generate the dynamic new industrial technologies that create new products, new markets and new jobs.

If we abandon our technological leadership, we certainly will no longer be the most advanced nation in history, with the highest standard of living, but rather we will live by whatever generosity and by whatever grace may be allowed us by the nation who, by its vigorous program of science and technological advancement takes our position.

The options for our future — in science, in technology, in space, and on earth, are quite plain.

What's really on the line is for us in America to decide which we want to be in the world — first violin or — second fiddle?



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DRAGON'S BLOOD!

*An account of perhaps the most unusual divorce suit
that has ever reached our courts*

by Steve Sanborn



**COLONEL WILLIAM FREDERIC CODY
("BUFFALO BILL")**

WISCONSIN ENGINEER

"Ladies and gentlemen I would like to present the Congress of the Rough Riders of the World . . . I can still remember Bill Cody speaking those words as he rode into town. He was sitting atop a large white horse he named Charlie and was waving a large hat high into the air. Perhaps that one experience has left the greatest impression in my mind than any other . . . Cody was from my home town of North Platte . . . as a young boy I remember when I used to vie with the other boys in town to hold Cody's horse when he came to the post office in town to pick up his mail."

This previous paragraph was told to me by Emeritus Professor Ben Elliott of the University of Wisconsin Mechanical Engineering Department. I had no idea prior to an interview with Professor Elliott that he had actually known William Cody (Buffalo Bill). I had heard that his hobby was studying the life of this western hero and realizing that he may be able to help me write an article for this magazine, I arranged an appointment with him to talk about Buffalo Bill. As the discussion progressed in Professor Elliott's office, it became



Colonel Cody had an international reputation as a showman and evidenced great genius in organizing and managing the "Wild West Show". He was also a fortunate victim of wine, women and song.

apparent that Buffalo Bill's life was much more diverse and exciting than I anticipated. "Cody" I was told, "was a spy in the Civil War, a scout for the army, he drove a team of oxen, he was an actor, an expert marksman, owner of the Wild West Show, and a rider for the Pony Express. Each segment of his life was unusual and exciting." Since this article was unfortunately limited by space, I chose to relate one of the most unusual incidents in Cody's life as told by Professor Elliott. It was known as the Dragon's Blood divorce case.

In February 1905 a divorce case began that perhaps involved more famous people and some of the strangest testimony that has ever reached our courts. Buffalo Bill Cody was suing his wife for divorce on grounds that she had subjected him to "intolerable indignities, insulting and refusing to entertain his guests, trying to poison him, causing him to leave home for his peace of mind and charging him with the murder of their daughter." As the newspapers acclaimed it, "the hero of the thrillers of two generations started today to fight

his way to marital freedom . . . to escape the indignities and insults for which he has suffered for 30 years."

Mrs. Cody in her answer to these charges asserted that she had been a faithful wife while her husband had "paid attention to many other women."

The final decision of the judge would not be easy. On one side there was Cody, a dynamic western figure, tall in stature, an expert marksman, a diplomat and a dime novel hero. There was also a side of Bill Cody that few were aware of: he was a sort of playboy of the West. On many instances he was known to have had relations with "dancing girls" he had met during his travel with the Wild West Show and he was a heavy drinker. In fact as Professor Elliott states, "Have you seen the picture of Cody shooting glass balls out of the air while mounted on his horse? He was often so drunk that he had to sit on the horse, he couldn't stand up. In fact he was often tied into the saddle!" Professor Elliott went on to say "The ministers in town would never let Cody into their churches because he would invariably heckle them during their sermon. However when Christmas came around Cody would ask them if they were getting enough money from the congregation to pay debts and expenses. If not Cody would pay the minister enough to bring the church back out of the red."

It was easy to see why women would be attracted to Cody. He had a long white curly beard and wavy mustache. He dressed in a flamboyant Western style. "I can remember when Cody came into town one day," stated Elliott. "He bought all the saloons out, moved the liquor into the middle of the street and turned his cowboys and Indians from the Wild West Show loose!" Cody had been to Europe. He had met kings, queens and many famous public figures. It was noted that at one performance in England he had attracted one of the largest crowds ever before assembled in Europe.

On the other side of the divorce case was his wife. She was a large Frenchwoman that had a good grasp of the bawdy, often profane western

The photo below shows Cody giving his horse a drink from his own hat, thoroughly characteristic of the man in all his relations with animals, as well as with people.

Below this photo is Cody's favorite photograph, showing his famous gun, "Lucretia Borgia."



language. She was often referred to as "Buffalo Cow." As Elliott recalls, "I have never received a tongue lashing like the one that Mrs. Cody gave me the time I went to her house to ask if I could take her gardener to the voting polls. The election was running close and we needed every vote we could get. Mrs. Cody said no but I took the gardener anyway."

In the divorce case Cody had charged Mrs. Cody with poisoning him. Mrs. Cody's reply was that she had obtained a drug called "Dragon's Blood", from a gypsy. When she put the drug into Cody's coffee and if he drank the coffee, it would cause him to return all affections he paid to other women to his wife and cause him never to look at other women again. Apparently the drug worked for a while. Cody was too sick to look at anyone.

Mrs. Cody charged Bill with showing undue affections toward Queen Victoria, Queen Alexandra and an actress Katherine Clemmons. In the Chicago Tribune it was noted that "At the mention of royal persons, Cody touched reflectively the tie pin Edward VII had given him and smiled at his attorneys, but at the mention of Katherine Clemmons' name, he twisted his imperial and cast a mirthful sidelong glance at the women who daily accompanied him to court." The next day the judge threw all the previous testimony out of court claiming it was "manifestly unjust, preposterous, false and brutal."

Cody was denied the divorce on March 23. Judge Scott declared that all Cody's charges were unwarranted. "In return for this wifely devotion, Cody was cruel to her and heaped indignities upon her." Cody, as it was said, returned to the affection of Miss Clemmons in Paris giving her a consolation prize of a diamond necklace.

There is a happy ending in a sense for Mrs. Cody, the old showman did return to her a few years later and both are now buried together atop Lookout mountain near Denver.



GISHOLT

by

Mary Stein

and

Tim Terrill

Gisholt Machine Company, a subsidiary of Giddings and Lewis is closed now. What are the former employees doing?





City View Machine Service, a private corporation, has now been formed to repair Gisholt machines.

"You feel like the world has fallen out from under you. You have a family and responsibilities and you get laid off from your job."

Most of the employees at Gisholt Machine Co. reacted this way to the final layoff at the plant on Feb. 1 of this year. Gisholt had been a subsidiary of Giddings and Lewis, a Fond du Lac-based machine tool manufacturer.

Through the previous 25 years, the workers had been conditioned to ignore the rumors of a closing. Ever since the maximum production years of World War II when 3,400 were employed, a closing had been rumored. The recent peak occurred in 1969, during the height of the Viet Nam war. Gisholt then employed 2,000 workers. As the number of employees dwindled to 875, the rumors began again.

On Jan. 15, many still considered it a rumor. After Feb. 1, the final shutdown became a reality. There was no more Gisholt.

What could those 875 workers do?

The first trip they make is to the State Employment Office. At the present time, the unemployment benefits to most of these people have terminated.

In the absence of any other aid, some of the workers have formed the Gisholt Self-Help Organization.

The purpose of the organization is to provide each other with job referrals. They also publish a newsletter listing personal resumes of those available for work. This is mailed to industries throughout the area.

Thomas Townsend, 27, 3130 James St., came to Self-Help for assistance. A computer processor, he received three job offers in 24 hours. He is now employed by Oscar Mayer and Company, enjoying a better position than he had held at Gisholt.

Not all who have been associated with Self-Help have been as fortunate as Townsend. However, of the 40 men who sought aid, 23 are presently employed.

The group's advisor, UW Prof. Karl Smith, is a specialist in Industrial Relations. He credits the National Alliance of Businessmen with much of its success. Prof. Smith said, "The NAB is quite an organization. It is made up of really dynamic individuals. They have been very instrumental in finding and creating jobs for these men."

Prof. Smith also points out that approximately 50 per cent of those put out of work by the Gisholt closing live in the surrounding rural areas. "They are still surviving without having to go on welfare. They have some land and most have survived on small farms before. They know how to get along on the bare minimum."



A former Gisholt employee now donating his time at City View Machine Service.

Self-Help estimates that the majority of those living in the city have found jobs of some sort. In the areas of wages and skill, almost all of the work found is well below their qualifications.

One of the most resourceful offsprings of Self-Help is the City View Machine Service, a private corporation. It has been formed primarily to provide parts and repair service for all the Gisholt machinery already in service.

At the present time, they are readying their tools and waiting for the completion of their shop at 4310 Robertson Road, Madison.

Howard Tholo, president of City View was a service engineer on the road for 20 years. He terms the future of the company "pretty good." People working there now are presently donating their time. Tholo hopes that through their stock sales and State aid to fund apprenticeship programs, that some form of hourly wage can be set up.

"We had 60 men doing the same type of work at Gisholt. Giddings and Lewis now has eight. We have notified those companies who have purchased our machines and I think they will soon tire of waiting for months for service from the Giddings and Lewis Company."

Tholo hopes to reach their former strength of 60 men once they are established. All of those presently employed by City View Machine Service are 50 or older. They have between 20 and 18

years of experience.

"They have the experience and they are the type who don't normally get jobs," said Tholo. "We hope our company can recapture the family spirit that existed before Giddings and Lewis entered the picture."

Some were lucky. Twenty-eight year old Erwin Kunde found a job within a week. Otto Krueger, 26, was relocated in the parent plant of Fond du Lac.

Ron Perkins, 56, was not so lucky. He is still looking for work.

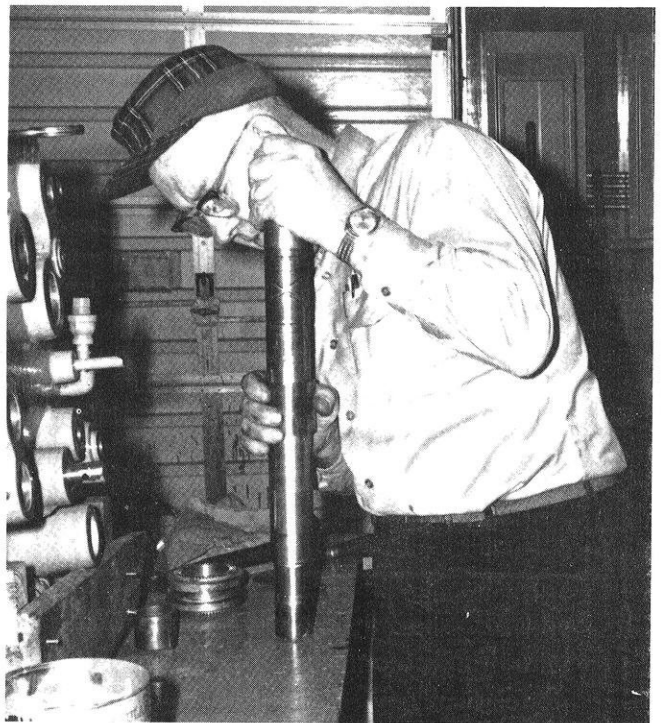
Kunde, 1339 E. Dayton St., considers himself fortunate. "I was hired by Oscar Mayer within one week. I'm in a comparable job with the same pay. So far, I've had one raise with another coming. I still can't believe it. It was like a shot in the dark."

Kunde said it took time for him to fully realize that he would not have a job. "I really got depressed. Indiana sounded like the best thing — we had relatives there who'd help us out if necessary," Kunde said.

Kunde felt he had two things going for him — his youth and his training as an engineering draftsman rather than being a machinist. He said "I don't care what they tell you, companies do discriminate on age."

He promised himself he would not be caught by surprise again. He is working 35 hours a week at Eagle Discount Supermarkets in addition to his job at Oscar Mayer. He is convinced that "there is no such thing as job security."

Many of the Gisholt workers are not that young. They complain "companies want you to have all the experience and still be 21 years old."



Some were fortunate enough to find similar work somewhere else.

Ron Perkins, 601 S. Few St., has the experience but he is still looking for work. He is far from 21. Perkins has worked as a machine operator, inspector, and time-study man for 28 years. His formal education is limited to grammar school.

"When you answer want ads and include your resume, all they look at is your age and schooling. They don't even count your experience."

Every interview Perkins has had has failed. "They don't tell you that you're too old, they just offer you such a ridiculously low wage, you can't accept it."

By combining his \$182 monthly retirement pension with his unemployment compensation, Perkins has been able to save a little money. When his unemployment benefits run out, he says he will find a job somewhere. "You can't really make a living on \$2 an hour but when you get to that point . . ."

Some employees were offered jobs in other Giddings and Lewis plants. Otto Krueger, 5019 Camden Rd. was one of the few.

"You take what's the best offer at the time," said Krueger. He was a draftsman at Gisholt and relocated in Fond du Lac. After four months there, he quit to take a similar position at Oscar Mayer in Madison — a job he considered more secure.

"When you realize that you might not always have a job, you reevaluate your whole outlook," said Krueger. "You want to find a more stable industry, one that will withstand an economic recession."

There are many other reason why Krueger left Fond du Lac. Besides preferring to keep his family in Madison, Krueger felt that it wasn't the same in Fond du Lac. "Gisholt was more closely-knit-like a family. You knew everyone you worked with. In Fond du Lac, I felt like an outsider."

Krueger explained that Gisholt men were more experienced on the assembly floor — more willing

and better able to get an order to the purchaser on time.

Krueger said, "Depending on the complexity of the machine, our normal delivery dates were within one year. Fond du Lac is having problems making the two year delivery dates on the Gisholt machines they added to their line."

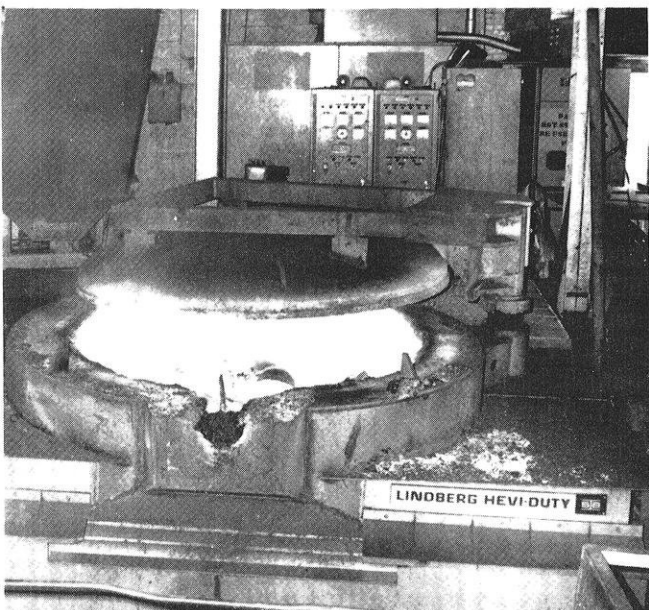
Kunde and Krueger were lucky. Far more men have found themselves in positions similar to Perkins. Estimates of those still unemployed range as high as 500.

Frank Jacobs of the State Employment Office, sees no other aid available. "I don't know what they are going to do when their benefits run out. There are no alternative programs in the Madison area."

On the prospect of employment, Jacobs expressed little optimism. "Draftsmen, machine operators, etc. have been much harder hit in other parts of the country. Since manufacturing accounts for only 15 per cent of the labor force in the Madison-Dane County area, the outlook for these skilled workers is very bleak."

Though most of the former Gisholt employees are making an effort to find work, Prof. Smith says there are some who just "sit tight." He said, "By now, they don't know how to do anything else. This is the way unemployment affects people. When they lose faith in themselves, they lose faith in everything else too."

Prof. Smith criticizes the government bureaucracy for the fact that there is no machinery to help people when they are first laid off from any job. "This system is unable to deal with the middle class worker. As long as the agencies know that these people have something, they won't do a thing. Every one has to hit bottom becoming slaves to the welfare system, before any agencies can do anything for them."



Only the foundry at Gisholt remains in operation after the final layoff at the plant on February 1 of this year.

energy

The energy to keep straining toward your chosen goal—and even as you attain it, look forward to the ones beyond.

The energy to explore, evaluate, create, bring needed changes.

Energy to burn, figuratively—that wealth possessed by the young, in mind no less than body.

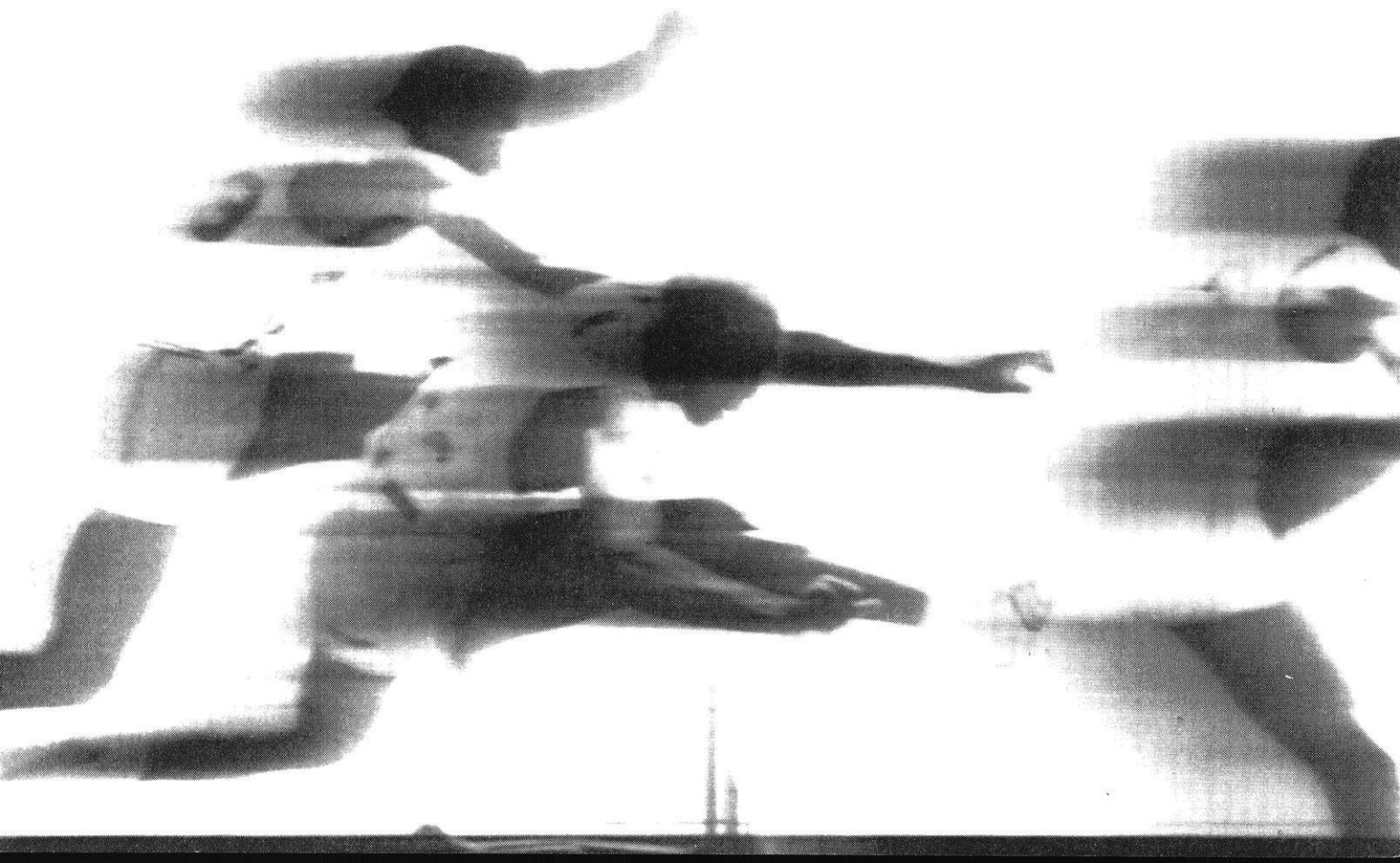
Energy to burn, literally, because ideas—freedom, equality, well-being, conservation of our natural environment—must be turned into realities—food, shelter, warmth, access, economic independence and the physical means to accomplish our goals. Atlantic Richfield is an energy company—in all these ways. One of the nation's thirty leading industrial corporations, and one of the ten companies producing most of our energy needs, with a strong position in diversified chemical products as well as in oil and gas.

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CAMPUS

COMMENTS

IEEE

The January meeting of IEEE will be held in room 1227 on January 5, 1972. The program will be announced at that time.

ASME

The 92nd Winter Annual Meeting of ASME was held in Washington D.C. on November 28-December 2. Wisconsin chapter members Thomas Bloom and Ralph Bailey were sponsored by Proctor and Gamble Company to attend this convention.

Along with individual committee meetings, technical sessions, forums, and panel discussions covering a variety of topics were held.

During the course of the convention Professor Harrison was awarded the Richards Memorial for outstanding achievement by a mechanical engineering graduate within 20-25 years following graduation. Also, Professors Beckman, Myers, DeVries and Milestone, graduate student S.S. Law, and former graduate student R. DeVor attended the convention.

AIChE

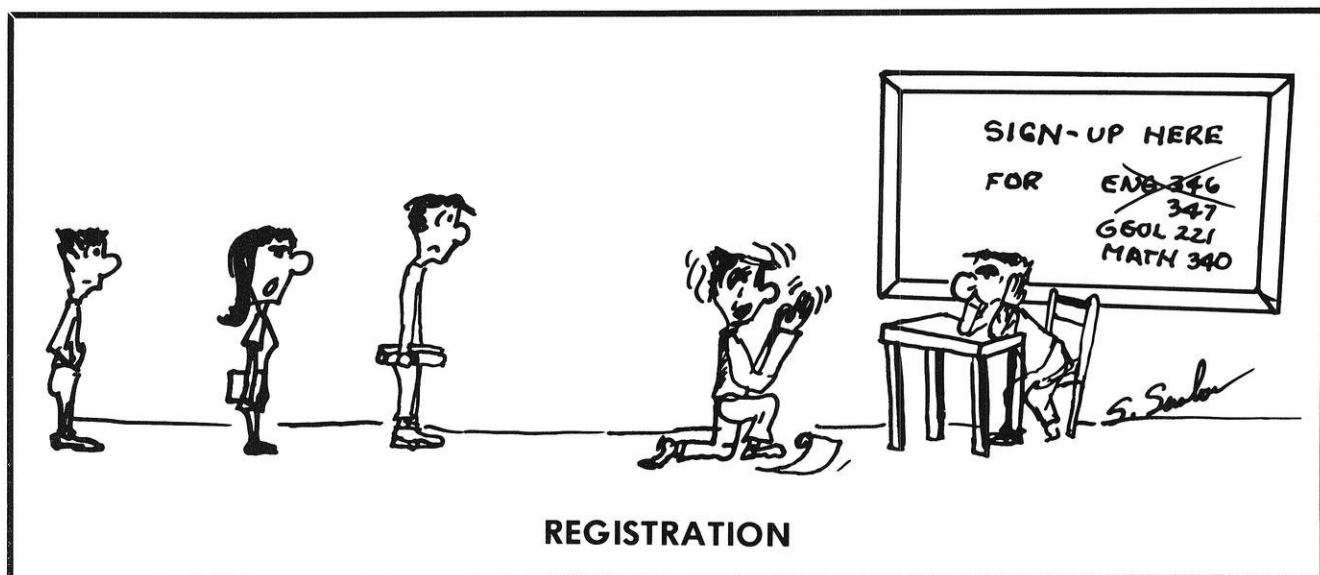
There will be no business meeting this month. A party for the graduating seniors in January, June and August will be tentatively held on January 7, 1972. Details will be posted on the AIChE board in the Engineering building. The next business meeting will feature Jack Weikart, from ESSO, speaking of Arctic petroleum exploration. February 16 is the date of this meeting.

SCPR

The Student Committee for Public Relations will once again sponsor a high school visitation program over semester break. Anyone who is interested in going to their high school to promote engineering at the University of Wisconsin should contact Mrs. Greenfield in T-24.

Theta Tau

January 8, 1972 marks another initiation banquet. We would like to welcome Alan Brooker, Tom Burtard, Cliff Nadolna, Steve Napp, Jack Van Derhei, and Bob Zik to active membership in Theta Tau, Professional Engineering Fraternity.



I DREAM'D IN A DREAM

*I dream'd in a dream I saw a city invincible to the attacks
of the whole of the rest of the earth,*

I dream'd that was the new city of Friends,

*Nothing was greater there than the quality of robust,
it led the rest,*

*It was seen every hour in the actions of the men of
that city,*

And in all their looks and words.

— Walt Whitman



Do you keep an eye on the time line?

To gain the competitive edge, the experts in downhill slalom have this advice: "Watch the time line—the fastest course line."

"In the race against time, if a skier slips off and goes too low in the traverses, he'll lose precious seconds."

As you look to your future course, watch for the company whose progress is on a time line with your own.

Ask companies about their expansion and modernization programs (ours is an optimistic \$221 million). Find out if you're interested in the markets they're interested in.

If they have a position that fits the course you've set. If they promote from within.

Don't settle for salary and status quo. We don't. Pick a time at your college placement office.

Let's discuss your future. The Timken Company, Canton, Ohio 44706.

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GE engineers and research scientists first figured out how to manufacture diamonds. It was something science had been trying to do for years and was considered a major technical breakthrough.

But the real importance wasn't that man had made diamonds. It was what Man-Made[™] diamonds could do for people.

Take the people who drive winding roads in rainy weather, for example. Nearly 8,000 of them died last year.

To help cut that toll, high-speed saws with a cutting edge of GE Man-Made diamonds are used to cut narrow, parallel grooves into concrete highways.

Especially at hazardous curves. The grooves are only an eighth inch deep. But they give tires something extra to hold onto in the rain. And a nine-year study in California shows they cut wet-weather accidents 85%.

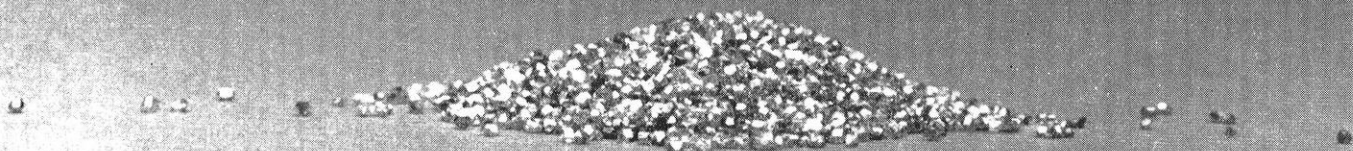
It's a good example of how a technological innovation can help solve a social problem.

That's why, at General Electric, we judge innovations more by the impact they'll have on people's lives than by their sheer technical wizardry.

Maybe that's a standard you should apply to the work you'll be doing. Whether or not you ever work at General Electric.

Because, as our engineers will tell you, it's not so much what you do that counts. It's what it means.

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