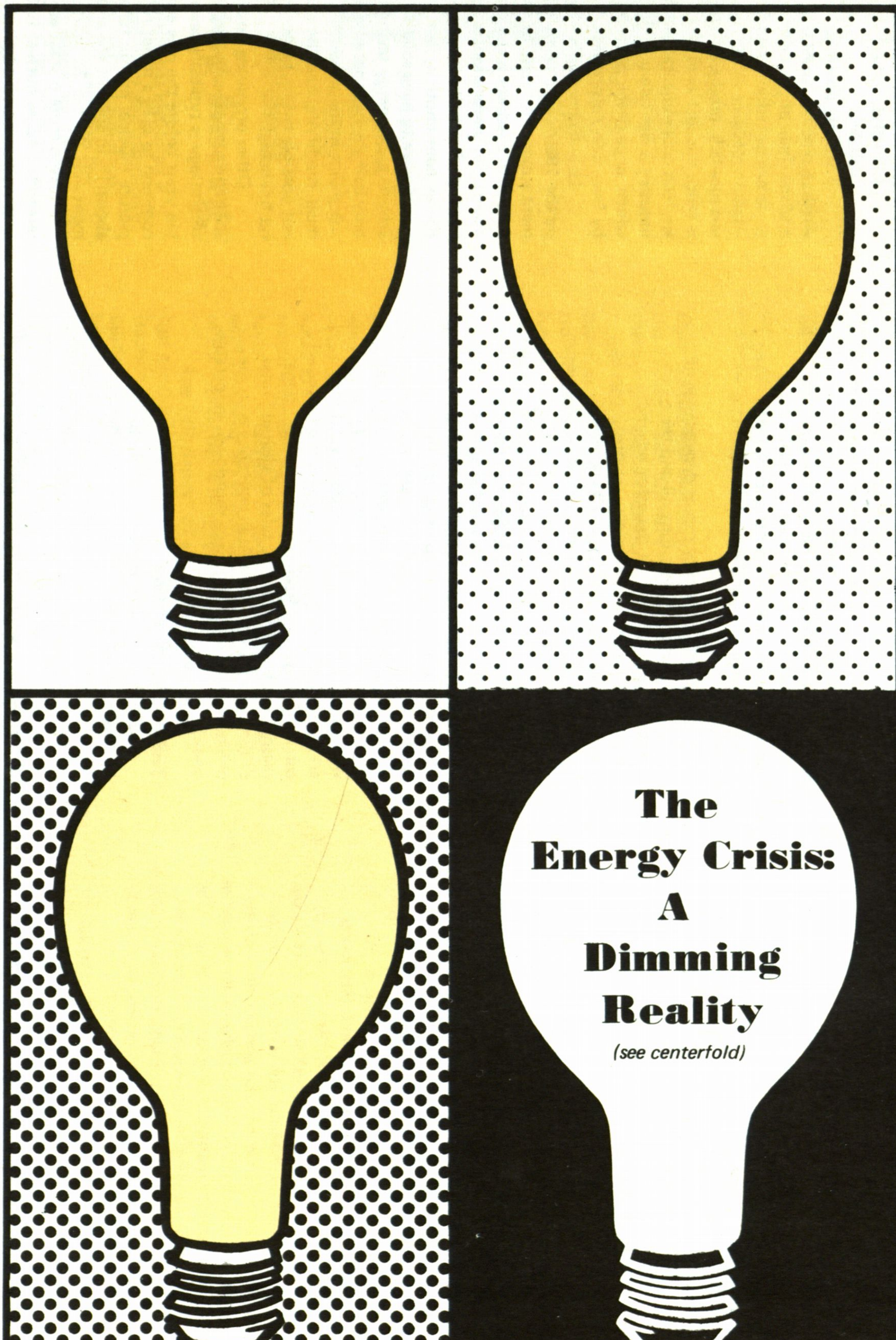
Stony Brook
REVIEW



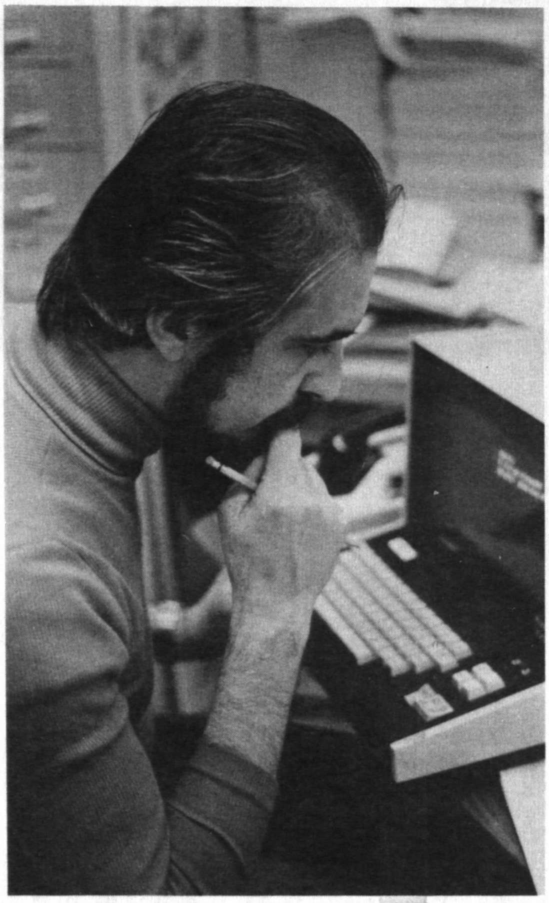


photo by Michael Weintraub

John Stier, regional services coordinator for Stony Brook's Computing Center, puzzles out a programming bug on a remote terminal similar to the ones outside agencies use to "talk" to the PDP-10 at Stony Brook.

Computing Center Assists Region's Colleges, Agencies

Temperature-controlled, humidity-controlled — almost sterile — the inner sanctum of Stony Brook's Computing Center looks surreal. Blue and white color-coordinated boxes dominate the room. Soundlessly they stand, neatly placed at right angles, as tiers of small lights blink on and off in seemingly endless random sequences.

The very real business of computing goes on in this unreal setting, but people activity takes place outside, beyond the partitions which house this technological think tank. Next door, people take over: writing programs, keypunching cards, trying to decipher a small error in syntax.

Nearby, novices wait to hand in computer decks. While a card reader digests the punch cards and spits them out almost simultaneously, an adjoining high-speed printer produces the results right there. But it wouldn't matter whether the surreal machine room were next door or miles away.

For more than a few users, Stony Brook's Computing Center is miles away. When students at the Polytechnic Institute of New York (formerly Brooklyn Poly), hand in their computer decks in Brooklyn, the machine room isn't next door — it's out at Stony Brook. And when computing personnel rip output off the high speed printer at the new SUNY College at Purchase, their data has traveled the distance from Westchester to Stony Brook and back.

Remote job entry stations and terminals connected to Stony Brook's main computers make physical proximity irrelevant — and have made Stony Brook's Computing Center not just a campus resource, but a regional one. Metropolitan area users can be connected directly to the IBM 370/155 for batch processing, or through dial-access terminals to the smaller PDP-10.

Like some dozen other colleges and government agencies, SUNY-Purchase and Polytechnic Institute of New York (PINY) rely on Stony Brook's Computing Center for specialized computing needs. To varying degrees, the Center serves as a resource for many users that do not have a demand high enough to justify their own computer facilities.

The Center's cooperative operations began in mid 1971. Trying to cut back on expenses, PINY was able to eliminate its own computing facilities with a remote card reader and printer hooked directly into Stony Brook's main IBM computer. PINY has all the benefits of having its own computing center with little of the personnel, expense, and administration that would be necessary to run its own facility. At PINY, three time-sharing terminals, primarily used by students, are hooked into Stony Brook's smaller, interactive PDP-10 system.

A similar arrangement exists with the State University College at Purchase. With a leased line to Stony Brook's computer, all its computing needs, both administrative and academic, are met through computers here.

Other cooperative programs link Stony Brook to Old Westbury and Southampton colleges, several Suffolk County departments, and numerous state agencies and non-profit research centers.

But, despite the number of groups with access to the computer, the vast majority of the Computing Center's resources are devoted to on-campus work. Computing Center Director Rex Franciotti estimates that non-campus work makes up less then 10% of the machine work load. "We're not denying the campus any services in order to sustain these other groups — the priority has always been that the campus comes first," he said. "But there is no way of banking computer time," he explained. "If you don't use it in the instance that it is available, the time is gone."

John Stier, the Computing Center's regional services coordinator, sees machine demand in terms of peaks and valleys. "We have to have a big machine to handle complex scientific work, but when those programs aren't running, the machine just cannot be fully utilized. . .So we have to have the capacity to handle the peaks, and we fill in the slack periods with all the little things that come in," he said.

Stier, who serves as a combination liaison and troubleshooter for off-campus users, sees the cooperative effort as a valuable service for outside agencies. "Their usage might be minimal compared to our overall load," he said. "But we can be very important to them if their minimal demands are also 100% of their computing needs."

He cites as an example the Strang Clinic in New York City, a non-profit cancer research institute which sends its computing work to Stony Brook. "We wouldn't even notice any less demand on machine time if they stopped coming to us, but their relatively minimal requirements are very important to them," Stier said.

Similarly, the Computing Center serves the academic needs of Southampton College with just one interactive terminal hooked into the PDP-10. Students learning computing maximize their usage of the machine — writing, executing, and debugging programs — all on the one remote terminal.

Dial-access terminals located in Albany allow state agencies and legislative commissions direct access to the campus Computing Center; they often use Stony Brook's facilities for statistical analysis. Locally, Suffolk County offices, from the Department of Public Works to the Department of Mental Hygiene, run scientific and research studies on campus. Similarly, as a regional depository for census data, the Computing Center regularly processes demographic information for the Suffolk County Planning Commission.

But the cooperative program goes beyond mere machine usage. When Old Westbury began courses in computing sciences, John Stier advised them on how to set up the program, and even taught the first course. And when Dowling College, Stony Brook's academic neighbor on the South Shore, began feasibility studies for computing facilities, representatives from the Computing Center began providing technical expertise, helping to transform a non-computing school to a college that will be using computing in administrative as well as academic programs.

Currently, Computing Center staff and major users are in the process of examining the need for a replacement system, one that will serve the dual purposes of the IBM 370/155 and the PDP-10. A single replacement system would eliminate the current lack of compatibility in the two systems, and meet the projected needs for additional processing and storage capacity.

As computer usage continues to grow in education and governmental research on Long Island, Stony Brook's role as a regional center will continue to keep pace, supplying the needs of sophisticated scientific research.

Stony Brook Offers Computer Course In 5 L.I. Schools

"Computer Literacy," a graduate-level course designed to provide a basic understanding of digital computers, is being given by Stony Brook's Center for Continuing Education with classes at five local school districts in Nassau and Suffolk Counties.

Students enrolled in the special extension course meet one night a week for 15 weeks at Suffolk's Half Hollow Hills and Southampton school districts and in Nassau's Valley Stream, Lindenhurst and Great Neck school districts.

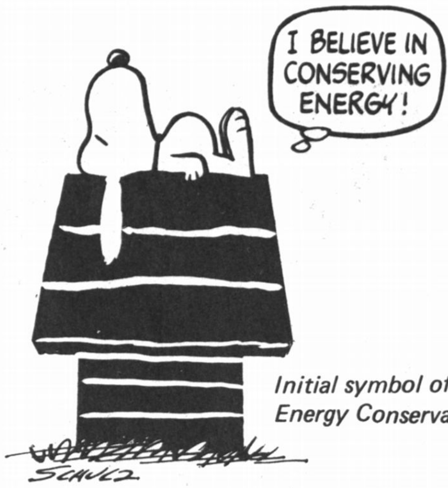
Dr. Ludwig Braun, professor of engineering, teaches the course, which he sees as a pilot program that could serve as a model for future courses. "Universities must begin to reach out into the communities that they serve," he said. "In a region as spread out as the Bi-County area, it is especially appropriate that we begin making education more accessible to people in their own communities." With the current shortage of gasoline, he sees this semester as a timely beginning for extension courses which bring educational facilities closer to the people that they serve.

The subject of "Computer Literacy" is digital computer equipment and its applications in business, education, medicine and government. The role of the computer in the arts, music, and film will be discussed, along with new uses of the computer in medical diagnosis and in the classroom. The course will also analyze the benefits that computer use brings to a society and the threats that they pose.

Class sessions include a videotaped lecture by Prof. Braun, aided by discussion leaders at each class, and a call-in question and answer period following the videotaped presentation. Each class is visited by Dr. Braun three times during the semester.

Actual experience with the computer includes an introduction to programming, learning how to formulate problems into algorithms so the computer can solve them, and running off existing programs. Each classroom is equipped with a remote terminal to Stony Brook's Computing Center. The terminals are used for demonstrations and to allow students to prepare and run their own programs.

The course carries three graduate credits and can fulfill degree requirements for students enrolled in master's degree programs at Stony Brook; it may also be transferred to graduate programs at other institutions. Course enrollment is open to all who possess a bachelor's degree; no prior experience with computers is necessary.



Initial symbol of the Federal Energy Conservation Campaign

The Energy Crisis: An Overview

BY DR. JOHN G. TRUXAL
Dean of the College of Engineering

In 1965 a major study showed that, if existing growth rates of energy usage continued, the United States would face a serious energy crisis by the middle of the 1970's. By 1970 the President's Science Advisory Committee and Science Adviser were emphasizing the urgency of a vastly expanded research and development program in energy. The National Science Foundation commissioned a set of major studies of energy consumption, possibilities of significant conservation, and promising research directions.

Early in 1971 the President sent a special message to the Congress — the first message on energy by any chief executive. The primary thrust of the message was the emphasis on clean sources of energy, in tune with the environmental interest which at that time so strongly dominated the science scene. In February 1973 the second energy message emphasized the necessity of funding new sources of petroleum and natural gas and the required increase in imports. This was followed by a series of pronouncements starting in June and increasing in frequency as the severity of the crisis became clear to the public.

While the 1973 Near East war and the associated use of oil as a diplomatic weapon sharply accelerated the motion toward a national crisis, the situation the United States now faces was foreseen nearly a decade ago. Unfortunately, the political, legislative, sociological and scientific actions required to ameliorate the situation can not be combined until the crisis state has been reached and recognized. With the continuing growth in the rates of change of our "future shock" society, the momentum is so great by the time the crisis is recognized that it is an increasingly traumatic experience to accomplish the required slowing down of the exponential growth rates.

WHY?

The present crisis results from four principal causes:

(1) A wastage ethic exists, unparalleled in history. Modern architecture and engineering of commercial buildings, for example, are based upon an assumption of unlimited energy availability. Summer air conditioning is often accomplished by cooling the air to 40°F to remove the moisture, then heating it back to 70°F — so that furnaces are used almost as much in August as in January. Indoor (and much of outdoor) America is illuminated to totally unnecessary levels day and night. Familiar examples abound in transportation, industry, and every facet of our lives (including the small item of 15 million electric toothbrushes, each using 20 cents worth of electricity per year).

(2) The economics of energy systems have evolved over decades of custom and practice, commonly in directions developed when energy demands were small and industrial growth the goal. Thus, energy industries do not charge the consumer directly for the total cost, which includes environmental impact, health effects, depletion of natural resources, etc.

(3) Any motion away from the resulting low cost and unlimited availability of energy profoundly affects the social structure of an urban-suburban America which is desperately attempting to retain manufacturing industry in the cities and to maintain the central city. For instance, a slight rise in the cost of energy is frequently the deciding factor in convincing an industrial concern to move out of the city and build a modern plant in a rural area.

(4) Finally, the very recent dependence of the United States on Near East oil and the much greater reliance of most of the other advanced nations promise to lead to major readjustments of foreign policies. Again, the 1973 war merely accelerated these shifts which were inevitable under the growing economic strengths of the oil-rich countries. Even without the war, one could foresee an oil royalty income of $5,000 per person per year in Saudi Arabia, with part of the money devoted to building automated industries (e.g., plastics) which could dump products on the world market at totally arbitrary prices. The diplomatic power held by the Arab nations is not as complete as suggested by the current press: oil wells can not be shut down completely. If they are, gas bubbles form underground and oil removal can not be resumed from the original well. (One reason for the recent heavy sales of United States drilling equipment to the Arab countries is so they can build new wells to replace shutdown, inoperable ones.)

THE PROBLEM TODAY

Petroleum use in this country has been increasing at 5% per year. On this basis, in the winter of 1974, Arab oil would have represented 11.5% of the United States consumption. An additional 3.5% will be lost from imports because of competition arising from increased prices offered by Europe and Japan, so the United States can expect to be 15% short. Domestic production can be upped slightly, but probably not more than enough to offset the emergency help we will have to provide places like the Netherlands, which is in a truly critical situation. The principal change in the United States is likely to be a diversion from gasoline toward heating and industrial oil.

Thus, if Arab oil does not flow again in 1974, the impact will be not only the impossibility of the annual 5% growth, but even beyond that a 10% cutback from last year. This cutback will hit most heavily in gasoline (perhaps 15%) and less in heating and industrial oil (maybe 5%), if the program is managed successfully from the federal level. In the gasoline area, the fuel used by airplanes is less than 10% of that used in cars, and the energy efficiency of commercial air travel is now better than that in urban and suburban driving. Hence, by far the principal source of saving is in urban auto travel: the reason for the prospect of gas rationing and the intensified interest in mass transit, in preference to the direct, but politically unattractive step of limiting the urban use of cars.

ALTERNATIVE ENERGY SOURCES

Energy problems are certain to be with us at least through this decade. The time required for technological change ranges from five years upward, so until 1980 we are constrained to learning to live within the present supply system. Coal presents the most promising alternative to oil (since America includes more than half the world's coal reserves and enough coal to supply our total energy needs for centuries). However, expecting coal to substitute for missing oil in the next few years is not realistic because:

- Very little oil or gas burning equipment can be readily converted to coal.
- Unless exceptional measures are taken, coal is extremely dirty.
- Gas or oil derived from coal is expensive and the processes are not yet adequately developed and tested.
- There are only about 50,000 coal miners, where it is estimated five times that many would be required if a major shift to coal were made over the next five years. Coal mining is not a career with widespread appeal (payments for sufferers of associated diseases and dependents total over $1 billion annually). Likewise, equipment is not available.

There are possible, new sources of oil — the Alaskan pipeline, coastal drilling in the Atlantic, and the shale of the Colorado region. None of these can contribute significantly before the Alaskan resource in 1978, and that will only increase U.S. production by 20%. Shale recovery is twice the cost even after recent price increases; without governmental assurance of a market, industry is not likely to be interested in a source which, once developed, can be severely undersold by Near East competition.

New technologies hold promise for assisting by the 1980's, again only with appropriate government support for development, testing and evaluation until a market is reasonably certain. Solar energy can unquestionably contribute to domestic heating. Since this use represents only 12% of energy consumption, half the homes in the country would have to have solar heating equipment to achieve a 3% energy saving (solar heating provides only half the heat because of cloudy days and sharp dips in the wind-chill factor). This would mean modifying half the existing homes — clearly not possible without a national program and federal financing.

Other promising possibilities are wind and geothermal sources, but again the time lag in new technology is typically seven years, and it is another ten years before the new equipment is sufficiently common to play a major role in the total energy picture (nuclear energy today accounts for only about 1% in spite of the enormous federal investment over the last 25 years).

Even more distant are the promises of such research areas as nuclear fusion, where even the ardent proponents admit that the contribution can not be significant in this century. When the *New York Times* on its editorial page argues for more fusion research (which may indeed be an appropriate national commitment) as a response to the energy crisis, one seems to lose sight entirely of the time lags inherent in technological development.

Thus, the new science and technology (which are the foci of university and industrial research efforts) do not hold any real promise of success in Project Independence by 1980. Furthermore, unless well focussed and implemented, extensive federal programs are launched now, the situation will be even more glum through the 1980's.

THE SOLUTION

The only options available to us for the near future are:

- Adaptation of our diplomatic and economic policies to dependence on the oil-rich countries, or
- Short-term "social engineering" to change radically our way of life: the love affair with the automobile, the use of aluminum cans (at one half kilowatt hour each in manufacture) for packaging, and so forth.

In the decade of the 1960's we witnessed a similar social-engineering feat, as the children-per-family rate fell from four to two as a result of a major change in values and way of life. If an energy-conservation ethic is to be realized which will significantly ameliorate the energy problem through this decade, even more radical changes must be effected, with the public achieving mobility, recreation and comfort through media which minimize energy demands.

If the second option is selected, the real national challenge is whether this can be accomplished without serious economic disruption and without focussing the sacrifices on that portion of the population least able to accept them. In other words, can the social engineering be effected in a way which leads smoothly to an improved quality of life?

Lest we lose perspective, however, we should note that the engineers and scientists who were trying in 1965 to alert the nation to the "future" energy crisis are now warning of the shortages of critical materials which will be the crisis of the 1980's.

photo by Michael Weintraub

Signs encourage the University community to save energy.

How Stony Brook Is Conserving Energy

In recent months, the University has instituted a number of measures, both voluntary and mandatory, to help ease the energy crisis. As a consequence, the University is using less oil this year than last year, in spite of the fact that several additional buildings have been opened and heated since last year.

An Energy Conservation Committee, composed of members of the faculty, staff and student body and chaired by Dr. John Truxal, Dean of the College of Engineering, was formed in October to make recommendations regarding energy-saving measures. The fuel conservation goal at the moment is to save 15-20% of last year's fuel oil consumption, without interfering with University programs.

Following are some of the actions being taken to help alleviate the problem:

- Thermostats throughout the campus have been lowered to 68°.
- The temperature of hot tap water has been reduced by 10°.
- All night shift custodial personnel have been switched to days.
- 13,000 fluorescent tubes have been removed from classrooms, offices and corridors.
- Signs reading "For energy conservation, please turn off lights when room is vacant" have been posted above light switches.
- All academic buildings are being shut down as early as possible in the evenings.
- Where possible, use of building heating and ventilation systems are curtailed nights and weekends.
- The Institutional Services Department and the Civil Service Employees Association are attempting to assist employees in organizing car pools. Dozens of car pools have been started and others are in formation.
- Two experimental bus routes have been established, one for faculty, staff and students commuting to the campus from the Huntington-Commack-Smithtown area, and one for students wishing to shop at Smith Haven Mall.

At the same time these measures are being taken, data are being collected and analyzed to discover additional ways to save energy. For instance, detailed studies of heat loss in buildings have already revealed facts which are being used to revise heating and ventilation systems to improve efficiency and save oil.

Should the energy crisis worsen, the committee is preparing for more drastic measures, such as the closing of specific buildings and converting to a shorter work week.

How to Keep Warm, Conserve Fuel - and Save Money, Too!

BY DR. A. L. BERLAD
Professor of Engineering

Over the past few months we have been awash in the Energy Crisis. We have turned down our home thermostats, packed additional insulation into the house, reduced lighting levels, reconsidered energy-intensive aspects of our mode of living — and wondered about the future. As individuals, we have attempted to soften the impact of increasing energy costs on the family budget. But there are limits to the effectiveness of individual efforts — limits that can be lifted only with the aid of various private sector and/or governmental institutions. Generally, we associate such possible action with Washington, D.C. decision-making. It is less generally recognized that local institutions can do much, now, to help effect substantial economies in the increasing energy costs that our families are asked to sustain. The most significant unconsummated economy that is easily achievable in the home (at no sacrifice of comfort) is that associated with increasing the unpardonably low efficiency of the typical home heating system.

The "efficiency" of a home heating system (gas or oil-fueled) is a direct measure of the fraction of chemical energy released by the combustion process that goes toward heating our homes. If your home heating system has an "efficiency" of 60%, it follows that such a continually operating system is wasting 40% of the oil or gas (and dollars) used to fuel it. What happens to this wasted energy? It is lost through the chimney used to vent the combustion products generated by the heating system. What then is a reasonable expectation for the efficiency of such a device? More importantly, how can we, as homeowners and laymen, achieve such reasonable efficiency for our homes, without having to become home heating system experts?

We now zero in on our problem. When our TV set "goes bad," we can generally get it repaired (with some cost and aggravation) without any expertise as electronic technicians. Correspondingly, we arrange for the repair and maintenance of a large variety of household appliances without substantial knowledge of their operational details. Why can't we (we don't, do we?) achieve similar results with our home heating systems? There are several reasons. Foremost among these is our ability (or lack of ability) to identify an unsatisfactorily operating device and, after service and maintenance, to recognize that the device is operating properly. Our eyes and ears tell us when a TV set needs service. In a similar manner, we determine that needed TV repairs are effective and satisfactory. Unfortunately, the quantitative measurement of a heating system's "efficiency" cannot be made by the average homeowner. Although a relatively simple measurement will yield "efficiency," specialized equipment (about $150 worth) is required. Clearly we could deal effectively with this appliance's repair and maintenance requirements if we could know its "efficiency." We could then call our serviceman. When he asks "what's wrong?" we can tell him that our home heating system has an efficiency of x percent rather than the expected y percent. After repair and maintenance (about which we need know little), knowing the "efficiency" enables us to recognize that the effort was productive and that, indeed, y percent efficiency is achieved. Well then, how to know?

If your home is gas-heated, it is within the obligation of the gas supplier to maintain "satisfactory service." If your home is oil-heated, it is typically arranged that the oil supplier will provide "satisfactory service." It is necessary then, that all parties to the system whereby home heating is achieved recognize and accept that "satisfactory efficiency" is an essential element of "satisfactory service." Who are the parties to the system? They are the homeowner, the fuel supplier, and, if necessary, the regulatory arms of local government. There is no need for governmental action if all fuel suppliers view their service and maintenance obligations as inclusive of the following:

(a) regular measurement of the "efficiency" of a home heating unit and provision of a satisfactory operating efficiency.
(b) written certification that the required y percent efficiency has been achieved — and a listing of the data used to determine "efficiency."

Although some fuel suppliers are willing to accept such obligations, it is unfortunately true that high "efficiency" operation of your home's heating system has not been a major concern of the typical supplier. Recent studies of home heating systems on Long Island (including one conducted by myself and others at Stony Brook) show that

(a) quite average home heating equipment is capable of an "efficiency" of 80%.
(b) an efficiency increase (and a corresponding dollar and fuel savings) of 15% is possible, on the average.
(c) many home heating systems have efficiencies of less than 60% — candidates for a fuel (and dollar) savings of better than a third.
(d) on the average, inefficiently heated homes represent substantially greater smoke and fire hazards than do efficiently heated ones.
(e) some 50% of the first hundred (oil-heated) homes visited during the Stony Brook investigation provided clear evidence that an "efficiency" measurement had not been made on a given heating system during its entire history.

There are clear long term solutions to this problem which involve a series of requirements to be satisfied by the manufacturers, installers, and maintainers of home heating equipment.* All reputable businessmen will have no difficulty in easily satisfying these proposed requirements.* These proposals, however, are concerned with new homes and with the years ahead; but, what about your home, here, this winter?

First, call your serviceman and ask that he check your heating unit's efficiency. Then, ask him to raise the operating efficiency to its optimum value; and inform you, in writing, of that value; and provide the data used to deduce that value; and, if the achieved "efficiency" value is substantially less than 80% have him explain why (a very few marginally designed or installed units cannot achieve 80% efficiency.) Hopefully, he will be willing to accept these requests as part of his obligation to provide "satisfactory service."

If you are saddled with an unresponsive fuel supplier, the problem is more complex. It is difficult to imagine that the one gas supplier to a large region would be unresponsive to your request. Such a supplier is too susceptible to public and legislative pressures to condone gross energy wastage. But some fuel oil suppliers now have more customers than they can properly supply. Perhaps a nasty dispute may jeopardize your home oil heating supply? Here, one can only respond with another question: Isn't it the job of both business and local government to assure that no home is deprived of heat?

Before you consider the "home heating problem" to be peculiarly local, be assured that it is not. There are some 12 million oil-heated homes in this country — wasting over 2 billion gallons of oil per year through avoidable efficiency losses. More oil can be conserved, nationally, by achieving optimum home heating operating efficiencies than by turning down thermostats by six degrees. But don't wait for Washington, D.C. to upgrade the performance of your home heating system. First, ask your local business and governmental institutions to do the required job. Good luck!

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*Berlad, A. L. and Batey, John "Performance Evaluation and Economic Impact of Oil-Fired Residential Heating" *Urban Analysis 1,* pp. 95-104 (1972).

Conquest of Space

Phoenix

The Pained American Eagle of the Early '70's

Sculptor Develops 'Psycho-Adventure Art'

"My sculptures are living objects," says George Koras, sculptor and Stony Brook professor of art. "A piece of sculpture is like a human being – it should have intelligence, heart, form, texture, and even personality – individuality."

He risked the chance of not being understood early in his career. Faced with the problem of communicating with the public in a language it could easily understand, thereby restricting himself, or using a language he alone could hear, he decided to "close the door and deal with myself and my soul. In this perfect privacy, fantasy and freedom and sensitivity increase and a new art is born – an art that speaks the language of the subconscious.

"Art for me," he says, "is like a secret lover to whom I go and reveal my inner world." He believes that that inner relationship should be of interest to us all because it "reflects the outside world of which I am a member and a product. I express our society in my work, and what I say with it should concern our society, if I express myself well."

George Koras' titles clarify his message. "The Challenge of Youth," "Pursuit," "Black Power," "Attacking," "Fighting Eagles," "Family" – each, he comments, enable him to "reveal my inner world, not preach. When I created 'The Pained American Eagle of the 1970's,' I created a powerful eagle in agony from self-inflicted wounds – America in the agony of our times." The piece is on display in the Marcus Building in Hauppauge.

Two of the sculptor's other recent bronzes, "The Challenge" and "Family," were commissioned by the City of New York for schools in Queens and in the Bronx, where they are each on permanent display.

Often of great height and weight (many are more than 15 feet high and weigh more than 1000 pounds), Koras' bronzes seem to exhibit a dynamic and intricate use of space and diverse surface textures, says Dr. Jacques Guilmain, professor of art and chairman of Stony Brook's art department. According to Dr. Guilmain, Koras' works have won more than 20 awards and are included in prominent museums and collections throughout the United States.

George Koras' evolution as an artist has taken him through many phases of development. He graduated from the Academy of Fine Arts in Athens, Greece, and then studied in Italy and France before coming to the United States and studying for a short time in New York City's Art Students League. From 1955 until 1960 he was an assistant to the late, internationally acclaimed sculptor, Jacques Lipchitz.

From the strict, formal studies of the Academy, his style began to expand to impressionism, then expressionism, then cubism, then abstract impressionism, and then to non-objective expressionism. He calls his present style 'psycho-adventure art' because it enables him to "travel to undiscovered territories within me so that I may discover them and reveal them in my art." He describes psycho-adventure art as "a self-defense in our troubled life, an escape, a relaxation into art that produces balance and peace within myself."

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