not too long ago, was an unre-

lenting set of principles, conclusive

as taxes and undeniable as tides in

the sea or stars in flight. And, to most people, equally incomprehensible. Man-made satellites, more-rational-

than-man computers, the procreativeness of Miracle-Gro, the odoriferous success of experiments with

Christmas chemistry sets—these things were irrefutable. To understand their manipulations or to discuss

intelligently any aspect of science, it was necessary to grasp the sphere of the laboratory in one hand and at

least a B.S. in the other. The more one reads about science today, however, the more one sees that flexibility

is now its password. Science has jumped out of the test tube, so to speak, into diet, politics, music, into every

phase of life. Deciding that here was a broad continuing education subject, one that promised something for

everybody, we went as far afield as possible, all the way from science fiction to camping in Big Bend in the

name of human ecology. The scope is vast and wondrous—enter it, explore for yourself this new world

of science.
The If-it's-natural-it's-good Hoax
Science vs. Nature

If You Can't Pronounce It, It Must be Harmful!
Butylated hydroxyanisole (BHA). Butylated hydroxy-
If you took an inventory right now, chances are you'd
find most, if not all, of these in your kitchen. And if you
have been exposed to some of the currently popular books
(for instance, 200,000 Guinea Pigs. Poisons in Your Food,
Food Pollution. Consumer Beware. Chemical Feast), you
are probably convinced that these chemicals, and a few
others of the thousands of food additives which may be
lurking in your cupboards, are laboratory-conceived
villains that are out to pollute your "inner environment"
and scramble the genes of the next generation.

Unquestionably, people must be concerned. After all,
how else can we explain the contemporary rush to
"natural foods?" Jones Dairy Farm offers sausage without
"unnatural" preservatives. Dannon boasts of yogurt with
no chemical additives (a yogurt ideal for the "natural
generation"), and Borden's food division is test-marketing
organically grown tomato juice. Even certain beverage
companies, the ones which "know how we feel about
beer," have "gone natural." And the butter industry is
now attempting a comeback by advertising its product as
"a new margarine substitute...free of chemical additives,
based on an old family recipe passed down from cow to
cow."

The words "natural" and "good" have just about
become synonymous. Food additives are "artificial" and
therefore suspect. But, before you rush out today and fill
your shopping cart with organic goodies, consider two
very important facts: first, food additives have been
shown to contribute significantly to the maintenance of
health in this country. Second, quite a number of
"nature's own" foods have been found to be highly toxic—
and in some cases are known to be carriers of cancer-
causing agents. Additionally, some natural foods without
the preservative effect of additives can be particularly
dangerous.

Before getting into the specifics of the above state-
ments, it is useful to look into the factors which have led
to the creation of this natural foods bandwagon.

Eat It Today, Ban It Tomorrow
There are two critical factors which have brought us to
the Age of Natural and Organic Food. First, cancer rates
have increased dramatically since 1900. Cancer, in its
various forms, now represents the second leading cause
of death in this country. With no firm understanding of
this dread disease's underlying cause, everything in our
environment is suspect; but "natural additives" have
become particularly suspect because we eat them
regularly.

For those with cancer-phobia, just the hint of a link
between this disease and additives is enough. No facts
are necessary. But there are some highly relevant facts
which should be mentioned: statistics clearly indicate
that the rise in cancer deaths in the United States in the
past 70 years can be attributed to an increase in lung
cancer. There is no just way to link food additives with
lung cancer. The great frequency of cancer of the lung
mortality is directly related to the growth in popularity
of cigarette smoking between 1900 and 1964. It is im-
portant to note here that the frequency of cancer from
all other sites (for instance, the stomach, which one
might suspect could be affected by additives) has
declined or stabilized.

The cancer scare and its alleged link with additives,
however, was enough to lay at least the groundwork for
the swing to natural foods. Then a second, and very
much related, factor came into play; responding to public
concern about cancer, the Food and Drug Administration
entered an era of here-today-gone-tomorrow food
regulation. It all began with the precipitate recall of
cranberries and mushrooms in the 1960s; but what really
set off a panic reaction was the unprecedented banning
of the artificial sweetener, cyclamate, in the fall of 1969.
In what has been described as a mood of "cyclamania,"
the Secretary of Health, Education and Welfare dramati-
cally announced that all the sugar-free soft drinks, and
a large assortment of the diet foods we'd been eating for
the past few years, presented a potential health hazard.
Before we could even say "sweet and low," all foods
products and drugs containing cyclamate were whisked
from our shelves. And that was enough to make anyone's
sweet tooth ache. It was also enough to make us all
wonder about the safety of other food additives.

Within a year or so after the cyclamate ban, a certain
color additive and the cattle growth stimulant DES were
banned from our kingdom. Then saccharin, the only
remaining sugar substitute; MSG, the ancient flavor
enhancer, and nitrate and nitrite; and bacon and frank-
furter preservatives were all put on trial. (Incidentally,
there is more nitrate in one head of lettuce or one serving
of spinach than in a whole barrel of bacon or hot dogs.)
Alarming newspaper reports made us feel that eating was
hazardous to our health. Natural foods seemed to be a
secure haven—at least until the Food and Drug Admin-
istration made up its mind about what we should and
should not put on our tables.

Beware! It's Natural!
Unfortunately, the people who sought shelter in natural
foods assumed that, by definition, natural foods were
safe. In making such an assumption, however, they were
overlooking the results of many years of scientific
research. Consider just a few observations about some of
Mother Nature's very own products:

VITAMIN A
Everyone knows that Vitamin A is good for you and helps
you see in the dark (particularly important in the time
of an energy crisis)! Everyone does not know, however,
that under certain conditions Vitamin A can bring about
cancer in animals. Specifically, experimental feeding
studies (which are identical to those used in testing
"artificial" products such as cyclamate) have shown that
Vitamin A in excessive doses can bring about breast
cancer in mice.

CAFFEINE
Caffeine, a "natural substance" found not only in coffee
Continued on page 4
A MODERN FAIRY TALE

ARTIST & WRITER: SERGIO ARAGONES

NO PRESERVATIVES ADDED
NO ARTIFICIAL COLORING
100% PURE ORGANIC
NO CYCLAMATES
but in a variety of soft drinks, has been shown to be harmful to bacteria and plants and, in high doses, leads to birth defects in mice. In addition, much to the chagrin of heavy coffee drinkers, preliminary epidemiological evidence suggests that excess caffeine intake may be linked with the development of human bladder cancer.

YELLOW RICE
Included in a shipment to Japan after World War II was rice that had become contaminated by natural aging processes. This rice was fed to mice and rats, and both benign and malignant tumors were noted. A number of Japanese families that year felt very fortunate to have been spared the effects which would have accompanied the ingestion of this "natural" food.

AFLATOXINS
In 1960 thousands of turkeys died in England and elsewhere from what was temporarily called "turkey disease." Soon afterward it was learned that aflatoxin molds were the causative agent. The carcinogenic effects of these aflatoxins, which can develop naturally on a wide variety of substances including peanuts, rice, corn, soybeans and wheat, have been demonstrated in the rabbit, guinea pig, dog, cattle, duck, rhesus monkey, and mouse and other animals. Also serious attention is now being given to the hypothesis that aflatoxins from unpreserved peanut products may be involved in the development of human liver cancer. An epidemiological study in Swaziland, Africa, where liver cancer is the commonest of all malignancies, found that natives frequently ate untreated, natural ground nuts. These nuts may well have been the source of the cancer-causing agent.

A 1969 study in the Philippines noted that a large number of food products, particularly natural peanut butter, was highly contaminated with aflatoxins. It seems that some peanuts, and a great many other products, may need a preservative agent to prevent the natural development of a serious type of contamination which may be implicated in various diseases.

It's hardly comforting to learn that Dr. Virgil O. Wodica, of the United States Food and Drug Administration, has admitted that "trivial amounts" of natural aflatoxins can be found even in those United States peanut products that do have preservatives. (An organic peanut butter and jelly sandwich, anyone?)

TANNIC ACID
Tannic acid, which is found in both tea and wine, has been shown to be highly toxic when administered by injection (or by topical application) to rats. In a series of studies, 56% of rats receiving an injection of tannic acid for 100 days developed liver cancer.

VARIOUS VEGETABLES
Our major intake of nitrates in food stuffs comes from vegetables. Nitrates are natural constituents of plants, but they occur in extraordinarily great amounts in spinach, beets, radishes, eggplant, celery, lettuce, collards and turnip greens. As a matter of fact, the content of some samples is more than 3000 parts per million. Nitrates have the capacity to convert internally to nitrite—and nitrite is a potent cancer-causing agent.

Usually the conversion of nitrate-rich vegetables to nitrite either does not occur or, if it does, presents no known problem. But there is an important exception to this rule: when spinach, whether processed or unprocessed, is stored under conditions that permit the growth of micro-organisms, nitrate may be reduced to nitrite. A number of cases of "infant spinach sickness" have been reported following ingestion of fresh spinach that was left at room temperature for some time after cooking. Experts in the area of food chemistry now recommend that "home-prepared spinach should never be stored for subsequent feeding...[and] in view of the apparent sensitivity of young infants, prudence would dictate that foods such as spinach and beets, containing high levels of nitrate, should not be introduced into the diet of children below three months of age." (Remember your mother saying "Eat-your-spinach—it's-good-for-you"?)

SUGAR
Now what could be more natural than nature's own sweetener? Still there can be serious problems here, too. An English physician has evidence suggesting that the twenty-fold rise in the consumption of dietary sugar noted in recent years in the United States and England may be at least partially responsible for the parallel increase in coronary heart disease. This researcher has shown experimentally that persons ingesting large amounts of natural sugar undergo the types of physical changes associated with heart disease.

The list of problems that have been linked with certain natural foods is enough to fill a book (indeed, the National Academy of Sciences has just issued a book entitled Toxicants Occurring Naturally in Food). Yet what is the practical application of this information? Are we all supposed to starve to death?

The only two implications of the data we have on the potential toxicity of some natural and some artificial foods are these: first, it is probably not a good idea to eat excessive amounts of anything. Most all the problems in toxicity noted to date have followed ingestion of unrealistically high doses over long periods of time. Secondly, it appears that just because something is "natural," it is not necessarily good. The converse holds true also: just because a substance is described as "artificial," it is not necessarily harmful or suspect.

What Have Additives Done For You Lately?
"Additives" refers to any type of substance that is intentionally added to food for either ease in production and/or for change of taste, texture, appearance, nutritive quality or "preservability." Of course, additives are hardly new. Columbus sailed to the West Indies in search of food additives (spices), and anthropology books contain references to various cultures that utilized salting, smoking and marinating techniques to protect food from deterioration and to make it more palatable.

Some of the benefits of additives are clearly evident from reviewing their functional aspects: preservatives give the consumer (as well as the manufacturer) ex-

Continued on page 47
On September 29, 1971, in a state home for the aged, I stood in a doorway looking across a large dormitory-like room to a bed containing an elderly woman who was to be my first patient. I had been a student nurse for three weeks and was wearing a uniform for the first time. Needless to say, I was uneasy.

At the beginning of the month I had packed the accumulations of living two years in an old Cape Cod house, given away my two beloved cats, found and moved into an apartment in New York City, and started nursing school at the age of twenty-eight. I was determined to wrench myself out of the mind-numbing rut I had fallen into (in an isolated Woods Hole laboratory) in the hope that I might discover something my life lacked—contact with people.

The woman turned over when I introduced myself. She was an eighty-eight year-old Black, with lovely white hair, who had lived in the home for twenty years and had lost both her legs to diabetic complications. The special attention of a blue-uniformed student nurse must have frightened her, for she asked, "Are they going to kill me now?"

For the next two years I cared for a wide variety of people in many settings, ranging from a psychiatric V.A. hospital to a cancer research institution. Being addicted to photography, I took pictures of many patients. The photograph above is one of my favorites. Mrs. D. was a petite ninety-three year-old Italian, widowed for twenty years, who lived in a fourth floor walk-up. During my public health rotation, I visited her twice a week for six weeks to check her diabetic medication, soak the sores on her feet and legs, change the bed, and bathe her. Each visit found her tucked into that big bed. She would grab my hands, greet me with a kiss, and then caution me to respect my mother. "She carried you nine months in here," she would say while rubbing her stomach. When giving her the first bath I noted an old Caesarean scar on her abdomen; she had lost her first and only baby in 1910.

Nursing is a strange profession; it spends much time and many words trying to define exactly what it does. It requires an understanding of all the sciences and, I believe, a big dose of intuition. While training was about the most frustrating education I ever endured, there were, however, some incredibly good moments, such as the first time I saw the birth of a baby. Our obstetric rotation had just begun; I and five other students were gowned, scrubbed, and then physically pushed into a delivery room as the episiotomy was being performed. There was a lot of blood, and the mother was screaming in pain. Suddenly a very blue baby slid into the doctor's hands.

Continued on overleaf
I've never felt such a flood of emotions. I thought I was going to lose my breakfast, bawl, and faint—all at the same time. Instead, when the baby finally turned pink, the six of us all smiled under our masks, and we all cried. Even the baby.

I am now a pediatric nurse in a large New York City hospital. (Some of my little patients are shown on these pages.) I am still very green, having worked only five months as a "real" R.N. Most of my friends were surprised when I chose pediatrics, but I have my reasons. As a single woman who may never have children, I am surrounded by married friends with babies and am tired of feeling uncomfortable in the presence of children. I do not want to go through-life without knowing something about them. The nursing of children requires very subtle observation, as often they cannot tell you what hurts or how they feel. Also, pediatricians seem to me to be the most human of physicians. I enjoy working with them and find them to be more open to consideration of nursing observations in planning patient treatment.
Each child admitted to our unit is eventually scrutinized by all the nurses, and each seems to find a nurse who becomes especially fond of him/her. “Look at this one! Isn’t she precious?” “My God, have you ever seen such an ugly mug? Those ears!” I have yet to see a child unfavored by a nurse. An ill child in the hospital is filled with fear. He is often separated from his parents, stuck with needles, and cared for by a host of strangers. Yet it is amazing how well most children tolerate such insults. But pediatrics is not just children—there are parents, too, who are often overlooked. Watching parent-child interactions is an education in itself. We encourage our parents to take an active part in the care of their child if they wish to.

I am new to all this, feeling my way and working things out as I go. I have much to learn that only time will teach, and I am impatient. However, I love children and am fortunate that most of those I care for get well.
At least a hundred colleges and universities in this country now offer courses in science fiction as English literature; but, so far as I am aware, Connecticut College is unique in offering courses in science fiction taught by members of the philosophy and chemistry departments.

Some years ago I taught a course called "Contemporary Issues in Science," which turned out to be largely discussions of the influence of science and technology upon what was happening in the world at the moment. However, there were difficulties, for the bulk of the students were anti-science in their orientation and, when talking about the real world, tended to be very emotional in their appraisal of any issue and very prone to over-emphasize their personal experiences. Isaac Asimov's *The Foundation* and *The Naked Sun* were introduced as required texts in order to encourage discussions of fictional science and cultures in ways which permitted much more objectivity than we had previously been able to achieve. M. Crichton's *The Andromeda Strain* was also used as a way of introducing a situation of government security and its involvement with scientific development which closely followed the pattern of the Manhattan Project of World War II. All of these books were successful in setting off discussions of the type we had been hoping to achieve in this rather unusual course.

For some time Associate Professor Lester Reiss has been giving a very interesting science fiction course in the philosophy department, and during one summer session I sat in on the classes. Because it was a discussion group, enrollment was limited; but the demand for the course was so great that last year both of us taught sections of this course. While our two groups had some joint meetings, for the most part we went our separate ways. Both groups had the same reading list except that my group substituted Asimov and Crichton for three books by C.S. Lewis that were much more philosophical than scientific in their content. I was delighted with the hard work students put into this course and the high level of discussion that was generally maintained. Most of the students submitted an original science fiction story in lieu of a term paper, and many of these were of excellent quality. Of the numerous books we used in the course, I would particularly recommend *Cities in Flight* by James Blish, *Childhood's End* by Arthur Clarke, and *The World of Null-A* by A.E. Van Vogt.

The most realistic science fiction is written by authors who have a good basic understanding of where science is today and who answer their own question "What if...?" by an enormous extension of some scientific idea or trend in our society. As a rule the reader will recognize the idea or trend which the author uses as a point of departure, and the resulting predictions evolving from this will usually have a certain plausibility. The classic writers of science fiction have had a most impressive record of predicting developments which we have seen come to pass, and this makes it easier to at least half-way believe some of the present day writers in their predictions of the future.

Science fiction has its own set of conventions, which readers learn to adjust to without too much trouble. It is clear to almost everyone at the present time that none of the other planets of the solar system is suitable for colonization; but, at least in fiction, we like to restore the idea of an infinite frontier which we used to believe in when the west was young.

Since the sun is a rather typical star and because of the billions of stars that exist, there are probably an extremely large number of planets scattered throughout space with environmental conditions very similar to those on earth. If we could reach these other star systems, we would have an indefinitely large number of planets in which to increase and multiply and have no further need to worry about the finite resources of planet earth. However, any method of travel now known would involve centuries of travel-time even at speeds near the upper limit of the velocity of light. How do we avoid this difficulty in science fiction? Our hero travels almost instantly from one star system to another by means of a "jump through hyperspace" or the use of a "space warp." What makes these conventions have at least some plausibility? They are terms that have been around a long while in connection with Einstein's Theory and therefore have the proper appearance of scientific respectability. Since we have become increasingly aware of the vast complexity of the human brain and the fantastically large number of neural pathways that are present and since the findings of parapsychology seem to be merging with eastern
mysticism, we should not be surprised that a great deal of science fiction now makes certain assumptions. It assumes that our present brain is largely undeveloped and that in the future we may expect an enormous increase in human intelligence. Further, it assumes the development of powers such as telepathy and the ability to cause physical events by mental force alone. In many stories this is the result of mutation; in other stories it is the intervention of life-forms that have evolved to a much greater extent than man and are concerned with aiding man in his evolution. Another convention often found in science fiction occurs when the hero, through a unique set of circumstances, finds himself at the focal point of a crucial struggle that decides the fate of whole solar systems or even galaxies. Science fiction usually paints its pictures on an astronomically large canvas.

The rapidly developing pace of computers and the possibilities of machine-intelligence (as illustrated by the development of computer programs that play quite good games of chess), as well as programs that learn by their mistakes and because of their enormous memory do not repeat them, have led to a large number of science fiction novels based on the interactions of robots and human beings. Here again, conventions have sprung up in the genre, and most writers follow Isaac Asimov in his Three Laws of Robotics. These laws are set forth in the putative Handbook of Robotics, 56 edition, 2058 A.D.

1. A robot may not injure a human being, or through inaction, allow a human being to come to harm.
2. A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First Law or the Second Law.

Many of the robot stories are concerned with interesting ways in which the application of these three laws works out in particular cases. Obviously, these laws insure that a robot can never be a danger to any human being. But how does a robot, who is always entirely logical, react to the wide variety of human situations that are basically illogical? In Isaac Asimov’s Caves of Steel, and in its sequel The Naked Sun, we have a situation in which earth has changed almost entirely into vast underground cities of many levels where no one except robot farmers works in the open air. The population has become so dense that no real privacy is possible anywhere, and everyone has an assigned work classification which carries with it increasing privileges as one advances upward in the classification scheme. The introduction of humanoid robots into the cities is resisted by the population as a whole because it threatens their job security. However, the spacers have long ago settled many other planets and have made extensive use of robots while keeping their own populations very small.

An extreme case of this is the planet Solaria which for the first time in two hundred years needs a detective, and so an earthman named Bailey is sent there in company with a humanoid robot. Each person on Solaria has about 1500 square miles to himself and the services of ten thousand robots. For two hundred years Solaria’s population has been rigidly controlled at 20,000 people; and, except for the brief time required to insure pregnancy, every person lives to himself and visits with other Solarians only by “viewing”—a sort of three dimensional television that creates the illusion of physical presence. It is considered disgusting for two Solarians to be in physical contact except for rare cases when surgery is required since, because of the First Law, it would be too damaging to a robot to actually cut into a human being. Still, in spite of these unlikely circumstances, a murder has occurred, and a detective is needed. Since each human is observed most of the time by at least a few of his robots, and a robot never forgets anything he sees or hears, it would seem a simple matter to unravel the case, but it still proves difficult.

Most of us enjoy coincidences that seem almost impossible by the laws of probability. Jules Verne’s Twenty Thousand Leagues Under the Sea was written at a time when submarines were very primitive and tells the story of the submarine Nautilus. The first nuclear powered submarine was also called Nautilus and traveled almost exactly sixty thousand miles before its first charge of nuclear fuel was exhausted. Since one league is three miles, this coincidence is truly amazing.
They say a bird in the hand is worth two in the bush. Perhaps. But for Sam Test, a medical student at the University of Michigan, and me just the opposite is true. After several semesters of laboratory biology, we decided to spend a couple of months immersed in environments we had only read about, observing birds we had only seen as dusty specimens in mothballed drawers.

That was 1971 when Sam was a sophomore at Princeton and I was a student at Connecticut College—major, Human Ecology. Two weeks into summer vacation, we set out from Indianapolis (our home town) on an eleven-week, 14,000-mile trip that was to take us through Texas and the Southwest, up California’s coast, all over Oregon and Washington, and into Canada’s Rockies. The journal I kept during our travels was later rewritten as an individual study project, a portion of which follows.

Big Bend National Park is an 1100-square-mile chunk of desert and mountains nestled in a sweeping northward curve of the Rio Grande. Our main reason for coming to Texas was to visit Big Bend, and we planned to spend several days exploring its strange plant and animal life. We entered the park through Persimmon Gap, formerly part of an Apache trail, now an incongruous stretch of highway carrying air-conditioned vehicles across an overheated landscape. Although the park is one of the nation’s largest, it is far down on the list of popular tourist attractions. Its out-of-the-way location may be a reason for this; a more likely explanation is that Big Bend is an uninviting place. Instead of cool pine forests and misty waterfalls one finds weird gray plants that prickle and muddy streams that disappear overnight. One must acquire a taste for Big Bend.

Most of the campers had taken refuge in the Chisos Mountains, where, because of the altitude, temperatures remain in the eighties even in mid-afternoon. We chose to spend our first night at Rio Grande Village, only 1800 feet above sea level and a few miles from the mouth of Boquillas Canyon. The river has carved three gorges through Big Bend country, two of which, Boquillas and Santa Elena, are easily accessible to park visitors.

The heat at Rio Grande Village was debilitating. We spent the afternoon huddled under makeshift sunshades fashioned out of rain ponchos and string, unable to move without becoming drenched with sweat, unable to lie still without being constantly pestered by ants and flies. Only an occasional breath of wind would bring some relief, and the sun seemed to remain directly overhead until five o’clock.

Midway through our hours-long siesta, Sam decided to refill our five-gallon water container and temporarily left me under a tree reading a book. A few minutes later a middle-aged man appeared, apparently looking for an unoccupied campsite. I remembered seeing him at the campground entrance with another man the same age. “You got this campsite?” he growled. “Yeah, sorry, we’re staying here tonight.” For some reason he didn’t leave right away, and I looked up again from my book. He glared at me and said, “Where’s the other queer?” More than a little taken aback, I answered, “If you’re speaking of my friend, he’s after some water.” Fortunately he left with no further comment. That was our first and last run-in with hostile rednecks.

In the middle of the day the desert bakes under pale blue skies that rapidly evaporate one’s energy and enthusiasm and assault one’s eyes with an overexposed, shadowless landscape from which there is no relief. However, we were to learn that in the evening and early morning the cacti and creosote bushes, backlit by the low sun, cast long shadows over the dusty ground; then the desert is transformed into a vast primeval garden of fossil plants, where snakes and lizards emerge from a thousand hidden burrows to begin dark nights of ruthless predation.
From a rocky vantage point near Boquillas Canyon we watched the sun set behind distant thunderheads. And before darkness fell we negotiated a bumpy dirt road to Hot Springs, a tiny ghost settlement on the Rio Grande. Standing on the river's edge, we tossed rocks across its surprisingly meager waters into Mexico. Bats, as numerous as moths around a porch light, swooped in blind hunger at the pebbles we threw.

The next morning we got an early start in order to see Boquillas Canyon before the heat and the tourists arrived. The Rio Grande sliced through the middle of a vast plateau to form a gorge so narrow that the trail disappeared in a steep brushy talus slope only a quarter mile from the canyon entrance. Only the very tops of the cliffs were exposed to the morning sunlight, and the canyon floor was cool and moist.

Everywhere in the world there seems to be a bird for each habitat—each ecosystem, whose song is a perfect match for its surroundings. In the eastern forest this bird is the wood thrush; the lonely wilderness of northern lake country is evoked by the wail of the common loon. In the many rocky gorges of the Southwest, the canyon wren fills this function. Perched on a high ledge, the little brown and white bird emits a loud series of melodious, descending notes that bounce and cascade off cliffs and boulders to the narrow canyon floor. The chasm becomes so filled with music that the source of the sound is almost impossible to locate. Fortunately, wrens are restless creatures, and we were able to spot one hopping about high above us. We later found that nearly every canyon of the Southwest resounds to the call of this bird.

Unable to stomach the prospect of another sweltering afternoon, we decided to head for the Chisos Mountains. After backtracking about twenty miles, we headed our gear-laden Ford Pinto southward and began the climb up from the bottom of Green Gulch, through which the road finds its way to the central basin of the mountains. As the altitude increased, plant life became increasingly bizarre. Ocotillo, a peculiar whorl of thorny stems with tiny green leaves, was soon replaced by agaves and yuccas, many of which were sending up long stalks with clusters of white and yellow flowers. The most famous of these is the century plant, a member of the amaryllis family which, contrary to its name, rarely survives for over thirty years. However, it succumbs in style. After a quarter century or so as a low cluster of spiny leaves the plant puts up a towering stalk, sometimes reaching a height of thirty feet, with hundreds of brilliant yellow flowers borne on horizontal branches. Soon afterward the flowers wilt and the plant dies. Torrey yucca, sotol, and lechuguilla all resemble the century plant and are common on the mountainsides; but they have somewhat less spectacular flowering habits.

The mountains support vegetation considerably more lush than that of the surrounding desert. Drooping juniper, alligator juniper (named after the unusual texture of its bark), and, at even higher altitudes, Mexican pinyon pine grow in large numbers. We passed three or
four small madrones, conspicuous with their shiny leaves and reddish-brown bark.

The basin campground was indeed far cooler than Rio Grande Village. We spent most of the afternoon sunning on a pile of boulders, reading and watching turkey vultures soar over the campers in search of garbage.

Tuesday morning final preparations were made for an overnight backpacking exploration of the eastern portion of the mountains. Two trails, one on either side of Emory Peak, the 7800-foot summit of the Chisos, led over high passes to Boot Spring, where we planned to camp that night. Every time we glanced toward the Basin rim those passes seemed higher, reminding us that soon we would be snaking our way up a heavily switchbacked trail with backpacks feeling heavier at every step. But we also knew the trail was reasonably well-traveled and by no means truly rugged and that it would lead us into the quiet, wilderness home of one of the rarest birds in the United States.

The Colima warbler extends its limited range northward across the Rio Grande only far enough to include the Chisos Mountains, where it nests at altitudes nearly always exceeding 6000 feet. A small colony breeds every year in the vicinity of Boot Canyon, but these birds are nearly impossible to find elsewhere without crossing the border.

We set off at about 9:30, took a wrong turn, and, contrary to our plans, climbed the south pass instead of the northern one. We soon realized our mistake but were relatively unconcerned, for, although longer, the south route was essentially no less satisfactory.

Two-and-a-half or three exhausting but exhilarating hours later, we had crossed the notch and stopped to catch our breath and to eat lunch at Laguna Meadow, a resting place for horses carrying less energetic and wealthier wilderness buffs into the mountains. We were well up into juniper country; and the bird life, as we expected, had changed with the vegetation. Mexican jays, also mountain inhabitants from south of the border, proved to be as raucous as blue jays common at low elevations. We also spotted some bushtits, nondescript in appearance and common throughout the Southwest.

At Boot Spring, less than an hour away from Laguna Meadow, we found a shack, a cistern, a camping area, and four novice backpackers from Michigan. Their spokesman was about thirty or thirty-five and brimming with enthusiasm.

"Isn't it great up here?" he bubbled. "You just don't find many areas like this. We've been trying to find a place where you don't see any people at all, and that's not easy. We just climbed Emory Peak. Beautiful. Just beautiful. Where ya from?"

The others, a man and two women, just sat and sweated. They all had brand new backpacks, and every pack looked very full and very heavy. Struck once more by the spirit of adventure, the talkative outdoorsman soon departed, leading his troops off into the mountains. After a couple of hours of relaxation and an uninspired corned beef hash dinner, we did the same.

Our goal was the "rim" of the Chisos Mountains, the edge of a high plateau with a broad view to the south and...
southwest. Since we planned to return later in the evening, we left our backpacks at Boot Spring. Less than a mile (up a dry creekbed) from our starting point we found what we had been hoping for—a Colima warbler, perched in an oak tree at the bottom of a small ravine. Its plumage was hardly spectacular; the only patches of color were a yellow rump and a spot of red on its crown. Nonetheless, we were triumphant. To have returned to the Basin the next day without having seen one would have been disappointing.

We then climbed a two-mile trail to the top of a rugged plateau forested with pinyons and junipers, twisted and stunted from altitude and exposure. The trail led suddenly onto a rocky outcrop at the top of a cliff that marks the eastern rim of the main mountain mass. In front of us a half-dead juniper hissed in the wind, the only sound to reach our ears except for the croaking of ravens. Several hundred feet beneath us lay wrinkled foothills laced with ravines and dry washes that disappeared into the desert; splotched with the blue-gray shadows of cumulous clouds, they sloped gently toward the Rio Grande. The Sierra Del Carmen defined the eastern horizon, its high and flat-topped ramparts breached in only one tiny place, at the Boquillas Canyon—4400 feet below us and eighteen miles away. To the right the Rio Grande was a black pencil line in a narrow band of vegetation; and beyond were the anonymous mountain ranges of Mexico, slipping over the horizon at least one hundred miles off. From the south rim we could see Santa Elena Canyon, a narrow gate in a low rock wall. We stayed and watched the sunset turn the landscape red-orange.

Upon our return we found that the calm of Boot Spring had been thoroughly shattered by twenty-five noisy boys, members of a youth group on an overnight expedition; so we retreated a couple of hundred feet down the trail and managed a quiet night's sleep among the pricklypears. That night I heard a whippoorwill for the first time in my life. After growing up in Indiana where whippoorwills are supposedly common, it was odd that I should finally hear one in such an unlikely place.

The return to the Basin, once we reached the top of the pass, was a breeze. We flew down the switchbacks to the parking lot where we had left Godzilla, and as our old campsite was vacant, we took it over again. The park lodge, situated on the side of the Basin near our campground, rented showers for fifty cents. The rate was exorbitant, but I was desperate. (Sam decided not to waste fifty cents and found a free shower the next night.) In spite of the lack of hot water and the poor placement of the shower head—I received numerous superficial head injuries while shampooing—I was in ecstasy.

While I was showering inside, it showered outside; and since I had taken both the car and the sheet of plastic we used in lieu of a tent, Sam got a bit wet. However, when I returned, we quickly set up the plastic and were soon more than ready for a good night's sleep. But, unfortunately, by that time of day the campground was full and the noise level approached the intolerable. For example, one family of five, each on his own minibike, took several evening excursions. We considered teaching them a lesson by stringing a wire across the road but had second thoughts—and no wire. Nearly everyone had either a well-equipped trailer, a gargantuan Winnebago motor home, or a large tent with flaps, mosquito netting, and front porch. Charcoal fires were burning; soda can tops were popping; transistor radios were blaring. And in the midst of it all sat two unkempt youths with only a sheet of plastic and a Pinto to call home, only books and binoculars for entertainment. We nearly burst with pride.
Science, Politics, and the University

Minor Myers, Jr.
Assistant professor of government

After years of initial doubt, American universities welcomed Federal support of science, only to find that this necessary aid also brought difficulties—but not the ones they expected.

Science has been a part of the American college curriculum since the seventeenth and eighteenth centuries when professors of mathematics and natural philosophy (for our scientists were often called) instructed their students in the latest results of European research, often adding findings from their own experiments. Much of the “philosophical apparatus” these professors used for their research and demonstration came from the instrument makers of London, but some was made in the Colonies. In his *Apparatus of Science at Harvard*, David P. Wheatland describes a piece of eighteenth century room equipment of unquestionable American origin—the thunder house. It provided a readily comprehensible demonstration of a very practical American advance in science. With its lightning rod connected, this miniature, collapsible house of mahogany stood intact when it received a strong discharge of electricity; but with the rod disconnected, the electrical charge ignited a dish of gunpowder inside the house and sent the roof and sides flying in a cloud of smoke. It was a practical and, needless to say, dramatic demonstration of applied science with a piece of apparatus which, like even the most expensive telescopes, the Harvard College budget could easily afford then. Two centuries later American universities found themselves defending apparatus which their unaided budgets could not afford and in which their critics could see little practical application.

As science entered the twentieth century, professors and their graduate students worked in teams researching problems with the aid of increasingly complex, and therefore increasingly expensive, scientific apparatus. Although many scientists entered government service briefly in 1917, support of academic science remained primarily with the university budget and private foundation until the Second World War. Princeton’s prime support for science, and I shall use many Princeton examples as it is the university whose history I have been studying, came from Rockefeller money. In the twenties the General Education Board awarded Princeton one million dollars, which alumni matched with two million, to endow new research chairs in the natural sciences. The fundamental expectation was that the holders of these chairs would be basic researchers with few teaching duties and no overwhelming concern for the direct practical application of their research.

During the Second World War hundreds of university scientists took up very practical government projects, many of them carried on in their own laboratories. And it was the general sense of the scientific and political communities that many of the technological advances made at this time were possible only because of the basic re-

search that had been done in the preceding decades.

In 1945 Vannevar Bush, the wartime head of the Office of Scientific Research and Development, published his *Science the Endless Frontier*. He argued that America’s future strength would depend considerably upon progress not just in technology but in basic science. It was in the political interests of the nation, therefore, to begin a policy of continuing government support for basic science. Others balked, describing science not as the endless frontier but the endless expenditure.

Many administrators winced at the idea of Federal aid to science, or to any other discipline in the private university, because they feared that with aid would come control. For others the greater fear was that without such aid scientific progress would lag. The dean of Princeton’s Graduate School, Sir Hugh Taylor, calculated shortly after the Second World War that many of the scientists who had made the greatest contributions to the war effort were those who had held considerable fellowships just after the First World War. Fellowships, whatever their source, therefore not only trained scientists but trained good ones. After many years of debate and one presidential veto, in 1950 Congress established a National Science Foundation which President Truman approved.

In 1952 the NSF began distributing its fellowships and research grants to the universities for work in physics, mathematics and chemistry while Federal defense agencies, such as the Office of Naval Research, continued to contract for specific research. At the same time the National Institutes of Health (NIH) did for biology and medicine what the NSF was doing in other scientific fields. The need to win the cold war and to conquer disease began a tide of Federal money which flowed in ever increasing appropriations.

Although there were those who continued to worry about Federal support leading to Federal control and others who doubted whether the universities could really use the money appropriated for NIH, the universities absorbed virtually all funds that came their way. In 1956 with money provided by the Atomic Energy Commission, Princeton and the University of Pennsylvania began six years of planning and construction on the Princeton campus of an atomic accelerator costing forty million dollars. A series of significant experiments with the completed installation began in 1962.

1957 was a major year for Federal support of science. The Soviet Sputnik circling the earth carried a signal for American congressmen and their constituents, and millions of dollars were immediately channeled into space research and graduate education to build America’s intellectual resources. By 1965 appropriations for NSF and NIH had burgeoned, and the National Defense Education Act of 1958 (whose motivation is clearly explained in its title) established fellowships and support for training in the basic sciences, social sciences and languages. The National Aeronautics and Space Administration also bestowed millions annually on the universities.

During this financial heyday, when the tide of Federal money reached its peak, a graduate student in physics
might win a government fellowship paying his full tuition plus $2,800. University administrators were sometimes embarrassed to ask for larger fellowships when graduate student parking lots were dotted with Jaguars.

In retrospect the universities' original fear that Federal support would bring Federal control seemed unjustified. In 1962 Professor William G. Bowen, now President of Princeton, asked faculty and graduate students whether Federal financing and research contracts had put undue pressure on their choices of research topics. Very few reported such pressures.

What universities sometimes failed to fear was the possibility that the tide of Federal funds might turn. Much of a university's work in science, especially in the major universities, had become dependent upon Congress's annual inclination to appropriate needed funds. Without such appropriations, considerable parts of an institution's entire offering might be jeopardized; for, since Federal funds for science were readily accessible, a large share of the university's budget was often diverted to social sciences and humanities.

The tide did turn; it may be said that, if World War Two brought the money in, it was the Vietnam War that in many ways began keeping the money for science out. President Johnson repeatedly said that he wanted to be known as the "Education President," and he was particularly proud of each education bill he signed. Yet, with the expense of the war, funds to support scientific research were increasingly curtailed. The university's political champions in Congress—Representative Edith Green (D-Ore.), Representative Emilio Daddario (D-Conn.), Senator Wayne Morse (R, D-Ore.), and Senator Edward Kennedy (D-Mass.)—could only add to the cry of university administrators and scientists as Federal support dwindled.

In addition, protests against the war which exploded on many campuses inclined some congressmen to do by choice what, in any case, they seemed compelled to do by financial necessity; thus programs were slashed or eliminated altogether.

Scientists had another cause to criticize proposed NSF and NIH budgets. President Nixon might propose modest increases in these budgets (which some saw as deceptive when part of the funds appropriated was impounded), but these larger appropriations provided for an increased portion of contract research and a decreased portion of grants for independently designed basic research. In a "contract" the government asks a scientist to research an assigned problem and funds the work, but a research "grant" supports projects devised by the scientist himself. To the basic scientists' dismay the President, congressmen and taxpayers apparently preferred to contract for more practical results at the expense of grants for basic research. Mr. Stewart Udall, former Secretary of the Interior, addressed the American Association for the Advancement of Science in December, 1970:

For too long the American scientific community has sought a special status for itself, but has restricted its sense of responsibility. To put it briefly, some leaders of science have asserted that their profession merits public support without any assurance of value returned, public support without any guarantee that such largesse will be used in the long term national interest. Any scientist's immediate response would be that the real break-throughs in practical applications of science have come mainly from the most fundamental basic research. Without such research, practical improvement is less likely. Few scientists agreed with Dr. H. Bentley Glass, retiring president of the American Association for the Advancement of Science, when he told the association in 1970 that "the great conceptions, the fundamental mechanisms, and the basic laws are now known.... There are still innumerable details to fill in, but the endless horizons no longer exist."3

Lack of jobs for new Ph.D.'s in physics also appeared to justify cuts, and in 1972 a committee of the National Academy of Sciences, when asked to survey the field of physics, recommended limiting numbers of new young physicists. Virtual elimination of Federal fellowships was not what the committee had in mind, but it was imminent and accomplished the task. In 1973 one HEW document explained cuts in support to graduate students thus:

"The income expectations of doctoral-level scientists are such as to make it appropriate to expect them to bear the costs of their training themselves."4

The following table, which is taken from a recent article by Dr. Hans Rosenhaupt in the Educational Record, illustrates clearly the fall of Federal funding.
FEDERALLY SUPPORTED FELLOWSHIPS AVAILABLE
TO FIRST-YEAR GRADUATE STUDENTS, 1967—1973

Could universities maintain the elaborate programs and equipment that they had developed with Federal money? Harvard and Stanford spoke of cutting back their graduate enrollments by 20%, and Stanford found that it had to discontinue the use of its atomic accelerator for several weeks at a time.

Princeton cut its enrollment by only 7%, but it was forced to spread its own fellowship money more thinly; and, for the first time in many years, it admitted some graduate students without offering any financial assistance. The most dramatic change in Princeton’s program came on July 1, 1971 when the forty million-dollar accelerator was put into mothballs after only nine years of operation. Princeton itself was unable to provide the annual minimum of $1.2 million needed to maintain the facility, and the university’s arguments that the accelerator had many unique and unexplored potentials (including work in cancer research) were unavailing. The Atomic Energy Commission has stopped its support completely.

Scientists have confessed that perhaps they did not publicize their work enough; the message for the future is clear. Progress in science today—work on energy, cancer, heart disease, ecology and basic research—depends not just on the enthusiasm of the academic scientist. Progress depends upon public opinion, political support, and Federal funds. Only the government is capable of financing contemporary science. Harvard still has its thunder house, but the thunder house is not going to advance any basic or applied scientific knowledge—a facility like the Princeton-Pennsylvania Accelerator might, but only the government can put it in operation again.

---


*Estimated figures for 1973, based on 1972 budget proposals, were secured from government agencies administering programs.*
The Science of Living in a World of Scarcity

Robert N. Stearns
Assistant professor of economics

Economics long ago earned the nickname "the dismal science" due primarily to the dire predictions made by Thomas Malthus in 1798. He warned that there was a tendency for the world population to outgrow the word food supply and predicted that, in the long run, man was fated to live at a level of subsistence with a maximum sustainable population. If man did not limit his own growth (Malthus advocated moral restraint), "natural causes"—famine, plague, and war—would bring about the inevitable result.

Is this an idea whose time has finally come? Some recent works suggest that the answer is a qualified "Yes," qualified by the conditions of the twentieth century. These studies contain gloomy warnings:

Radical change is both necessary and inevitable because present increases in human numbers and per capita consumption by disrupting ecosystems and depleting resources are undermining the very foundations of survival.

Holders of this extreme position propose substantial changes in current government policy, for they claim that the world has little time in which to take the necessary action.

How to Keep the Barn Door Locked

Advocated policy changes include: 1) stricter population control; 2) a strong program of resource conservation; 3) redistribution of income; 4) adjustments in society's values. None of the ideas is new, but they assume a sense of urgency if the predictions made by these studies are correct.

In regard to the minimum requirement for population size, recruitment (births plus immigration) must, in the long run, equal the rate of loss (deaths plus emigration). There are those who would choose a target date of 1975 for accomplishing this objective. If, instead, it were to be put off until the year 2000, obviously the world's consumption of resources between 1975 and 2000 would be substantially higher than consumption by a world with a stable 1975 population. Estimates indicate that it would take 125 years for the smaller population to use up the same resources. The imposition of a strict population limit by 1975 involves strong measures; at least temporarily, the average family size would have to be less than two children. Some studies go even further, advocating a reduction of current levels of population in certain countries (and therefore an even smaller average family size). How can such objectives be accomplished? Not enough is known about the causes of population growth to make any proposal that would guarantee success. At the moment, increasing public awareness of birth control techniques and of the desirability of limiting population is the only suggestion made.

The second goal, the preservation of natural resources (including a clean environment), assumes importance because it is believed that a strong relationship exists between a country's capital resources and the rate at which it uses natural resources. A country can, therefore, restrict its use of resources by restricting the amount of capital available for production. Inevitably, such a policy would limit the standard of living to the extent that this standard is defined by material goods. Among specific proposals to limit resource consumption are a raw materials tax (proportionate to the availability of the raw material) and an amortization tax (in inverse proportion to the estimated life of the product).

Income redistribution also receives a great deal of attention today. One claim is that, while it may be possible to continue indefinitely a level of per capita industrial output that is "well above today's level... total average income per capita... [would be] about half the present U.S. average." Obviously, this level could be attained by poorer countries only if incomes in richer countries were reduced. Led by this view many economists call for income equalization not only within a country, but between countries.

Finally, the studies make a strong plea for reorientation of society's values. People must learn to enjoy...
literature, music, art, education and (perhaps) athletics to an even greater extent than they do now. One study advocates a decentralized society made up of largely self-sufficient communities (with a suggested size of 5,000 people). In this environment, man would be able to understand more completely the effects of his actions on the ecosystem.7

Is the Horse Gone?
For several reasons the studies have been severely criticized: first, because it is thought that their views of the future are unrealistic (ignoring technological change and the discovery of new resources); second, because their policy suggestions are not politically viable. In rebuttal critics use strong language:

The Limits to Growth pretends to a degree of certainty so exaggerated as to obscure the few modest (and unoriginal) insights that it genuinely contains. Less than a pseudo-science and little more than polemical fiction. The Limits is best summarized not as a rediscovery of the laws of nature but as a rediscovery of the oldest maxim of computer science: Garbage In, Garbage Out.8

Yet recent events could be interpreted as totally consistent with the “doomsday” predictions. A 1972 review of “A Blueprint for Survival” contains a passage which might have been revised (or eliminated) had it been written two years later:

Oil indeed may be the most vulnerable of the resources at present used, just as in Europe 2000 years ago native stands of timber proved not to be inexhaustible. But does it follow from this simple-minded calculation that there will come a time when, to everybody’s surprise, petroleum deposits are worked out and industry is forced to grind to a halt? Is it not much more likely, about a century from now, that prices for petroleum will be found to be so high that even the least successful nuclear power companies will find themselves able to sell reactors more easily?9

Today (February 1974), the long lines at gasoline stations and rooms that are never quite warm enough serve as constant reminders that, for the consumer at least, fuel is in short supply.

The energy crisis is only one example of shortages occurring in today’s markets. Grocery bags half full yet costing $10.00 are indicative that our food supply is lagging far behind demand. And domestic availability of fertilizer became so critical in late 1973 that all wage and price controls were removed from the industry. Also, a copper shortage has forced the government to consider making pennies out of aluminum rather than copper. The Wall Street Journal reports a noticeable change in the buyer-seller relationship.10 Buyers spend their time eagerly seeking out sellers, while sellers ponder the problem of determining which orders should be filled and which must be rejected. Every
businessman has his own story to tell of how some bottleneck or shortage is significantly holding back production. This state of affairs, in turn, means job layoffs; some have occurred already and many more are likely.

With so much bad news being reported simultaneously, it may appear that we are very close to that ultimate day of crisis. However, the doomsday hypothesis is not the only explanation for what is happening today.

Obviously, the Arab oil boycott exacerbates the energy problem. Even without the boycott, a crisis probably would be occurring because of the limited refining capacity in the United States. Some people claim that the shortage is artificial—an attempt by major oil companies to eliminate competitors and realize greater profits. None of these explanations, however, implies a world petroleum shortage at the present time. Beyond that, it is really energy, not oil, that is in demand, and the availability of energy is overwhelmingly greater than
we offer in these Shoes the results of many years' practical experience in the art of shoemaking; and it has been our endeavor not to see how cheap a shoe can be made, but how good a one for the price.

Our Spring and Summer Styles are made up in the fashionable colors of Velv Kid and Willow Calf, also Calf, Patent Calf, French Enamel, etc., on a variety of lasts new this spring. We can fit any foot and give you style, comfort and the best of wearing qualities in your shoes.

None genuine without name and price on bottom. If not convenient to our 56 stores in the large cities or any of the 5,000 dealers selling our shoes throughout the United States, try our mail-order department. We will send shoes anywhere in this country on receipt of price and 25c. extra for carriage. Catalogue from W. L. DOUGLAS, BROCKTON, MASS. Also Dealer's Special Catalogue from same address.

the world's current yearly consumption. Economist William D. Nordhaus estimates that by using only fossil fuels (oil, coal, etc.) current energy consumption could be maintained for 500 years. Utilizing these fuels plus nuclear energy, which can be produced by today's widespread techniques, the world's present consumption could be maintained for 8,000 years. If all possible nuclear resources are exploited (including breeder reactors and principles of fusion) the world has sufficient energy for 5.3 billion years. The rise in food prices is usually attributed to a rise in world demand plus a set of circumstances that in 1972 led to an actual reduction (by 36 million tons) in total grain production and to a sharp increase in the price of protein meal. Grain reduction was world wide, with bad weather a major factor, while the rise in protein meal prices (which are highly correlated with red meat prices) is generally attributed to "poor harvests, bad luck and adverse government policies." One such circumstance was a change in the temperature of the water off the west coast of South America; this led to a reduced level of anchovy production. Nothing in these explanations indicates that the ceiling level of world food production has been reached. Indeed, 1973 levels of grain production increased well beyond 1972 levels and were the largest in the world's history.

Wage and price controls may be blamed for some of our other shortages. Domestic prices are controlled but export prices are not, and at one point it becomes more profitable to export products than to sell them at home. This was exactly the case with fertilizer and led to the elimination of controls in that industry (and to substantial price increases immediately thereafter). Neither The Limits to Growth nor "A Blueprint for Survival," nor any other article with a similar point of view suggests that 1974 will turn out to be a turning point. (And other explanations can also be found for the 1972-73 experience.) But the challenges posed by such studies cannot be ignored. In the following section I suggest some changes in U.S. policy; these are inspired in part by the messages of the doomsday prophets and in part by the above analysis of the U.S. economy.

A Brand New Horse Race

Clearly changes must be made, and are being made, to cope with today's problems. The necessary solutions are not extreme, but still it should be recognized that our problems are not temporary ones and that we probably will never return to the old life style. The easiest change of all may be a voluntary restraint in wasting resources. Americans consume at an alarming rate. Current estimates show that this country with 6% of the world's population has relatively much higher percentages of world resource consumption. Teeth can be brushed by hand; clothes will dry in the sunlight; lights should be turned off when not in use; and much of what is thrown away can be re-cycled. The nation can begin to limit its dependency on the automobile by the introduction, or reintroduction, of mass transit systems. The price mechanism will "help" consumers make such decisions, for as resources become scarcer prices will undoubtedly rise, and it follows that conservation will become a way of saving money.

Wage price controls distort the price mechanism by creating problems such as those mentioned earlier in regard to fertilizer. Economists have never been fond
of such controls, especially in periods of high demand; dismantling the current program in the near future would, I believe, be wise. Government policies enter many other areas. For example, construction and maintenance of mass transit will in most cases require government action. The rate structure of utilities is established with government approval, and currently it favors large users by charging them less per kilowatt hour. But why, we ask, should they not be charged more per kilowatt hour rather than less?

The question of income redistribution is one that should be confronted immediately. If the rate of growth of per capita income is going to be reduced, it must be reduced more for high income groups than for low income groups. The current tax program of the U.S.—including income, sales and property taxes—is at best only mildly progressive. Tax reform is the logical way to help bring about the desired redistribution. In the past, reforms have meant generally lower taxes for all groups. What is needed now is a change whereby the rich pay more and the poor pay less (granted, a difficult political issue). It should also be kept in mind that income in terms of purchasing power is also redistributed when the price of one or more commodities increases by a substantial amount relative to wages and other prices. That is why many people advocate gasoline rationing as a means of artificially reducing demand. While it is beyond the scope of this paper to discuss the pros and cons of the issue, my own preference (if voluntary restraint fails) is for rationing provided people are allowed to sell unwanted allocations and permitted to purchase more than their monthly allotment at a substantially higher price even if they cannot buy additional ration coupons.

Another vital factor in resource conservation is population control. Little is known about the causes of growth; and, although certain evidence suggests that it is inversely related to income levels, it is difficult at present to foresee changes in population growth rates. A desired rate of growth may even come about naturally without any additional government action. New policies in this area are difficult to project since it is not clear what is needed; still, the critical nature of this problem should nonetheless be emphasized.

Finally, it is my hope that the plight of current conditions will not create such panic as to cause people to needlessly disregard their environment. There is value in clean air and clean water, and this should be properly considered in the production process. Certainly, if the choice is between houses heated at 60 degrees vs. burning high sulfur fuel, burning the fuel should be allowed. But most choices are not that obvious. Some environmental standards must be maintained, even if it means a higher dollar cost for certain goods. Unfortunately, the benefits of such a program have not been adequately measured, and more research in this area is clearly indicated. In any case, extreme positions on the environmental issue cannot be tolerated. Instead, society must come to better terms with the trade-offs involved.

Economics today may be defined as "the science of living in a world of scarcity," but the science will change as the world's view of its resources changes. The 1972-73 experience pointed out the need for seriously considering where we should be heading and what long run projections and policy recommendations can contribute to this goal. Fortunately, it appears that relatively high living standards can be maintained into the indefinite future—providing we take resource conservation, income redistribution and population control very seriously.


3Since the world’s net immigration and emigration rates are zero, the global strategy should be such that the birth rate equals the death rate.

4Limits to Growth, op. cit., p. 167.

5Because of increases in the average life span and the current age distribution of the population, the “two children rule” would mean an eventually stable population, but at a much higher level than the 1975 projection.

6Limits to Growth, op. cit., p. 165.

7"A Blueprint for Survival," op. cit.


11Nordhaus, William D., from a speech given at American Economics Association Meetings, Dec. 30, 1973. Not all fuel sources are equally accessible and Nordhaus estimates that energy prices will have to rise 2.2% faster than the increase in the general price level in order to promote the exploitation of new energy sources.


13Schnittker, op. cit., p. 600.

14Evidence suggests that this is no so much because of an inherent and peculiar characteristic of U.S. citizenry, but rather, a result of high per capita income levels in the U.S.
he development of four-channel or quad-
riphonic sound has been heralded in the
press, especially in the copy that splashes
forth from advertising agencies, as the latest technologi-
cal breakthrough in consumer audio equipment. In
the name of still higher fidelity we will be persuaded that
our "ultimate" stereo system of a few years ago is now
obsolete and in serious need of upgrading.

The profit motive of the manufacturers will, of course,
fool no one. Not only will the sale of more amplifiers and
speakers (you'll need four now, although the amplifiers
may be mounted on one chassis) rejuvenate the elec-
ronics firms, but once again the record companies will
be able to flood the market with new spectacular releases
of Beethoven's *Fifth* that will send us scurrying to our
local record stores.

Profits aside, what motives are there for such tech-
nological innovations? Realism, in particular concert-
hall realism, would appear to be a worthy aim. The
additional two channels of quadriphonic sound will
enable the ambiance of a performing hall to be duplic-
cated much more realistically than has been possible
heretofore. Stereo, first marketed in 1958, gave a similar
added dimension over monaural sound. The greater
realism will surely aid in our final decision to go four-
channel.

The various claims of "perfection," "absolute Realism,"
and the like are not new. We have heard them all before,
as have many of our parents and grandparents. As early
as 1878, one year after Thomas Edison had invented the
phonograph by mistake (he was working on a high-
speed telegraph transmitter), writers boasted of "abso-
lutely perfect reproduction of the voice."

Such claims were fanciful. Edison's early models con-
sisted of a cylinder covered with tin foil, and contrary
to the above hyperbole they sounded dreadful. Gradually
improvements were made. Flat records appeared as a
competing medium, but not until about 1900 could the
phonograph be considered a satisfactory medium for
reproduction of music.

Cylinders and records from early in this century hardly
seem to have captured our ideal of "concert-hall
realism," despite Victor's claim in 1906 that "it seems to
be Caruso himself singing to you instead of a machine."
To make these records, performers gathered around a
large recording horn that funneled the sound energy to a
diaphragm which, in turn, actuated a needle to etch the
master disc. Musical balance, always a sensitive prob-
lem, was achieved by placing louder instruments farther
from the horn and softer ones closer in. Many instru-
mentalists were required to stand on stools in order to
be heard properly, and French horn players, whose
instruments face backwards, had to sit backwards and
follow the conductor by mirror. Brass or woodwind
instruments were frequently substituted for violoncelli
and string basses because the strings made too little
impact on the recording horn.

These early records, even though they were clearly
deficient in many respects, give us an incomparable
glimpse of the performance practice of the time. Records
and record players were also prized enough in their own
day to become commercial successes; the Victor Talking
Machine Company (later to join with RCA) declared
assets of $2.7 million in 1902 and $33.2 million in 1917.
Record prices, however, were surprisingly high; in 1907,
when a dollar was worth many times its modern counter-
part, Victor charged $6.00 for a four-minute record (the
flip side was left blank) of the Quartet from *Rigoletto*.
Today, even with our drastically inflated currency, the
whole opera can be purchased for $6.00 or less.

To a country increasingly sensitive about wasting fuel
energy, the early phonograph must look too good to be
true. Recordings were both made and played back by
mechanical processes; no electricity, cords, or transistors
were required. This process, known as "acoustical
recording," lasted until 1925, when the system of elec-
trical recording revolutionized the entire industry. In the
electrical process microphones and amplifiers were used
on the recording end; in playback pickup cartridges fed
the signal to amplifiers which in turn powered loud-
speakers. Electrical recording gave immense gains in
realism. Frequency response was extended by an octave
and a half; sounds were heard from records that had
earlier been heard only in concert. Musicians no longer
crowded around a horn to record; microphones and
amplifiers insured that everything could be heard in
proper musical balance and in an airy concert-hall
"atmosphere," far superior to the cramped, unrever-
berant sound of the acoustic records. Furthermore,
records could be made to sound louder and with less
distortion.

The success of electrical recording was instantaneous,
and the years from 1926 until the beginning of the De-
pression were golden ones for the record industry.
Orchestral and operatic recordings benefited most
dramatically from the new medium as numerous works,
including complete operas, entered the catalogues for the
first time. Such works had to be recorded in segments of
four minutes, the maximum playing time of the 78 rpm
record. Experiments in long-playing records were con-
ducted by Edison and RCA Victor during this period, but
the Depression and World War II were to pass before
Columbia's microgroove LP appeared to do battle
with the 78s.
Columbia's technicians, then, were not the first to experiment with either slower speeds or narrower grooves, but in 1948 they were able to make a successful 33 1/3 rpm record. Their arch-competitors at RCA Victor were invited to join in, but RCA refused and launched the memorable "Battle of the Speeds" with their seven-inch 45 rpm records, the ones with the large center holes. The 45s, however, had no more playing time than the 78s, and in time RCA capitulated and published their classical releases on 33 1/3, while many companies used 45 rpm for their popular releases.

Sound quality and frequency response had improved steadily from the early days of electrical recording, but methods of recording changed little from the first use of the microphone (1925) until after World War II. Recording techniques were revolutionized after the war with the rise of magnetic tape recording. Actually the earliest attempts at magnetic recording were made in 1899 when Vladimir Poulsen, a Danish engineer, invented the Telegraphone. Poulsen's Telegraphone won a Grand Prix at the Paris Exposition of 1900; but, because it possessed the frequency response and volume of a 1900 telephone, it was unsuitable for musical reproduction.

Further development of magnetic recording was done by the Germans in the 1920's and 30's, and by the end of the Second World War their Magnetophon machines had achieved a quality of sound that surpassed the best phonograph records. The Allies captured the German tape recorder in 1944 from Radio Luxembourg, which had been under German control; further improvements and refinements followed in the hands of American industry, notably the Minnesota Mining and Manufacturing Company.

Tape was well developed by 1947, and many thought it would replace records as the chief medium of musical reproduction. Tape did not wear out, it could be spliced if broken, and it could play uninterrupted for 30 minutes; records had none of these advantages. It seems clear that development of the LP record was hastened by the threat of tape recording.

The influence of tape, however, reached far beyond that of providing healthy competition for the record industry. Up to 1947 recordings had been made directly onto discs. Any slight bloopers, if audible, meant a retake for the entire four-minute record. By recording on tape, however, mistakes could be patched up by splicing. One could choose the most minute portions of different "takes" and splice them together to make an "ideal performance," even though it might be no "performance" at all, just a collection of snippets. Tape recording, then, has caused a fundamental change in the way all recordings, whether destined for record or cassette, are made.

Modern recording studios are equipped with $20,000 tape recorders which can handle sixteen separate tracks (sometimes more). Every solo instrument or group of instruments in the orchestra is miked separately at as high a level as possible (in order to minimize background noise). Relative balance between instruments is ignored at this stage. Then, through a lengthy process, various takes are evaluated, the final "performance" chosen, and the producers mix down their multi-channel tape to stereo (or four-channel) and the records are produced. A single popular song can require an equivalent of five 40-hour weeks of studio time. The important role of the producer has been recently recognized by High Fidelity magazine; in the record reviews it now lists the record producer, presumably an "artist" in his own right, along with the performers.

If it seems that something has gone awry in our quest for concert-hall realism, it has indeed! Many modern recordings bear little resemblance to what one hears in the concert hall and hence to what the composer intended you to hear. Anyone familiar with RCA Dynagroove releases of a few years back will recall solo instruments or voices popping out of the musical texture for a few measures like soloists in a jazz combo. This kind of musical balance is far different from what the composer had in mind or what the conductor hears. I can also recall the accolades about five years ago when London Records issued the Strauss opera Der Rosenkavalier under the direction of Georg Solti. The trade magazines marveled that London engineers had averaged one splice every fifteen seconds through the duration of the 3 1/2-hour work. We clearly cannot speak of this product as a "performance" in the sense that we could when recordings were made without tape.

Continued on page 48
To Warrine Eastburn
Secretary of the college and
Assistant to the president

After twenty years of service
—retiring is a new horizon
—retiring is tributes from colleagues
—retiring is never having to say "good-bye"

by Rosemary Park

The position of assistant to a college president is surely one of the most difficult to fill without being overwhelmed by the apparent injustice of the world. If the job is done well, the president gets the credit; if there are failures, the assistant too often is blamed. Indeed, were assistants to become sardonic or bitter, they would have every justification. All these dangers adhered to the position which Warrine Eastburn accepted, to my great pleasure, in 1954. Somehow she avoided the pitfalls and became a colleague and friend who approached the problems and perplexities of academic life with humor and quiet competence. It is truly very difficult for me to believe that anyone could have been a more exemplary presidential assistant for Connecticut College in the last twenty years.

When I try to enumerate the reasons for her success, I find it hard to arrange her merits in any kind of order. In those days the inner security which expresses itself in humor was still a virtue, and this she possessed in full measure. In addition, Warrine has the kind of energy and directness which complemented my more devious nature. Without her, much less would have been accomplished in the president's office. Any dispatch was, I believe, her doing, and I welcome this opportunity to testify in open court to her eminent achievement.

Continued on page 46
by Charles E. Shain

I first met Warrine Eastburn nearly twelve years ago over the telephone. On a farm near Northfield, Minnesota, I had just received a telephone call asking me if I would like to be President of Connecticut College. I had said, "Yes." The next phone call was from Warrine Eastburn. I said, "Who?" She said, "I am Assistant to the President. 'East' as in east and west, 'burn' as in sunburn."

"What a clear explainer," I said to myself. It was the first of many clear explanations. In fact, Warrine and I have been explaining things and people (including ourselves) to each other ever since. I hope for her future ease of body and soul that the transmissions from my end for the past dozen years have been half as clear as hers.

One of the prime secrets of successful administrations, as I have come painfully to learn, is the deceptively straightforward one of trying to tell everyone the same story. To strive for this simple purity of line in the midst of all the administrative spaghetti that Warrine has tangled with in Fanning Hall is to aspire to secular sainthood. It calls, at the least, for remarkable human patience and a singular devotion to the central meaning of a college.

Faculty housing assignments, preparation of the catalogue, the supervising responsibility for text and pictures and make-up of all our publications, road-work with the alumni, street-work with the downtown merchants, party-work with our parents, commencement-work with senior students, liaison-work with the trustees—any one of these assignments, and there have been many more, would justify for most women or men temper tantrums at frequent intervals. Warrine Eastburn’s temper, if she has one, is very well hidden behind a very generous smile.

How much all of us in the Connecticut College community owe to her innate and level-headed sense of responsibility and loyalty! Her twenty years as Assistant to the President and Secretary of the College have made a large place for her in the history of our college.

by W.E.S. Griswold, Jr.

For two decades with Connecticut College you have held down the second hottest corner in Fanning Hall with skill, diplomacy and grace. After having served under two presidential administrations, even now you are expediting the search for a third. Answerable as you are to members of the college community in almost every corner of the campus, your style, energy and perception have won the respect and admiration of all.

Unseen and perhaps unknown to most on campus, your service to the Board of Trustees at meeting time is a demonstration of your superb talents for organization, preparation, timing and execution. To be effective a board must be provided with adequate advance information and documentation. It should have the benefit of orderly presentations by the administrative and academic personnel of subjects and problems of current interest. And its agenda of events and activities depends for success upon your very special knowledge and experience. To accomplish all this in limited time spans for some thirty trustees of widely varying interests, backgrounds and geographical location is no small feat.

The complex responsibilities you have carried for Connecticut College have been so smoothly executed that we often fail to comprehend the complexities that were involved. Another trademark of yours, Miss Eastburn. But on behalf of the Board of Trustees, let me salute your great service to Connecticut College and wish you in the years ahead all the joy and happiness you so richly deserve.

by John H. Detmold

In the space allotted I could not even list all the areas of Warrine Eastburn’s responsibility, much less comment on her performance. So I shall merely say a few things about her as a friend and colleague.

But for Warrine I would not have come to Connecticut. It was she who found me, ten years ago, at a Washington conference on Women’s College Development. Heading for my plane afterwards, I ran into Warrine. Would I consider moving to Connecticut College, and how soon could I visit the campus and meet President Shain?

I did fly back from California for that visit, and Warrine arranged everything: my room at Morrison, breakfast at the President’s House next morning, appointments in Fanning, lunch with her at Pennella’s, and visits with Trustees in Hartford, Farmington, White Plains and New York.

When I came aboard in July 1964, I soon found how often Warrine was responsible for the smooth execution of Presidential policy. I watched her oversee college publications, make arrangements for trustee meetings, fill secretarial vacancies, and attend effortlessly—it seemed—to all those other responsibilities I said I would not list.

I learned, too, that her trust and friendship were not lightly bestowed. One had to earn them. I think I did, but not easily and not at once—which made me prize her confidence all the more.

To the extent that this college has survived one of the most turbulent, fast-changing and difficult periods in its history as well as it has, with both applications and undergraduate enrollment at all-time highs and the budget, if strained, essentially in balance, the credit belongs first to Charles Shain, and second— a tie for second—to his chief supporters: a strong, committed Board of Trustees and the administrative staff, “the Shain Gang,” whose quiet leader, in my book, has been a former commissioned officer in the United States Navy, Women’s Reserve, Lieutenant Warrine Eastburn.
Do you realize that you automatically became a member of a large and active organization, the Connecticut College Alumni Association, on the day your class was graduated? This is a lifetime membership without any dues.

You are a member of one of our fifty-five alumni classes and may also be a member of one of our thirty-five alumni clubs located throughout the United States. You are part of our active mailing list of 11,782 alumni and receive annually a great many communications from Connecticut College.

Our records show that some of you live in all of the fifty states, Puerto Rico, the Virgin Islands and the Canal Zone. More than 250 live in Canada or in other foreign countries. Fifty-five percent, however, live in Connecticut, Massachusetts, New York or New Jersey. The next largest group lives in California, where there are more than six hundred alumni.

You are also part of an exceedingly mobile group as evidenced by the fact that last fall the alumni office processed an average of 450 address changes a month. Each change involved correcting records in at least a dozen places in the alumni office and other offices on campus.

Write To Us If You Can Top This One
From working on the family farm in Ireland at the age of 14: to three years on a nuts and bolts assembly line in England; to an apprenticeship as a plumber in the U.S.; to Conn. as a student after he met Margaret Keenan Sheridan '67; these are just a few steps Thomas A. Sheridan '74 has taken in his action-packed life. Add to this that Tony has again been elected president of the New London Central Labor Council—he's a master plumber; works for political campaigns; serves on social service agencies; and with Peg (who now has her Ph.D. and is an assistant professor of child development here at the college) owns a special nursery school on Williams Street for children with handicaps. As though all these accomplishments weren't enough, recently Peg and Tony had a son. What a team!

Education and the Press

by Bernard L. Faber, Assistant professor of sociology and anthropology

“Extra! Extra! Read all about it.” This charming street call, now lost except in the movies, heralded a totally new development in adult education, “Courses by Newspaper.” [See Connecticut College Alumni Magazine, Summer 1973, p. 15.] Extension and correspondence courses are not new phenomena, but the current attempt combined printed “lectures” in the mass media with classroom discussions, an innovation which promises interesting possibilities for the future of education.

Acting with Pat Hendel, director of the extension division, we decided to vary the prescribed format by arranging an additional lecture session at the beginning of the course. Then when the lectures began to appear in The Day early in October, we held our first class meeting to discuss the course organization, to answer questions, and to provide assistance with preparation for the course. This meeting was followed by two lecture classes, one in mid-October and one in mid-January, to discuss the substantive questions raised in weekly assignments.

Here at Connecticut College seventeen students enrolled. While this may seem a small number in contrast to the readership of The Day, our class size compares favorably with that of the University of Connecticut course, which has forty-three students registered at three different locations throughout the state. Of course, the actual enrollment is not a significant indicator of the full range of interest created by the course, as many individuals may have simply followed the articles as they appeared in the newspaper and others may have used the learning kit. Those who registered at Connecticut College are an interested and interesting group. We have attracted a relatively wide range of ages, but most of our students are middle aged, of middle class status, and predominantly female. Backgrounds involve work in education, electronics, investment banking, nursing and sheet metal work. Unfortunately the course has not attracted a wider cross section of students than conventional extension courses usually do at the college. We, you are part of an association which is growing older and younger simultaneously. This year will witness a milestone as we celebrate the 55th reunion of our first graduating class. At least half of you, however, are members of classes which graduated between 1957 and 1973. Whether old or young, each of you holds in common with almost twelve thousand others the great experience that Connecticut College was—and continues to be.

Louise Stevenson Andersen '41
Executive director of the alumni association

1944: “These Days of Shortages”
THE ALUMNAE FUND COMMITTEE
Reminders of “payment due” are sent to all alumnae in the early Fall of the fiscal year. The fiscal year of the Alumnae Association and the college is dated from July 1 to July 1. Contributions received in that interval are applied to the budget for that fiscal year. Prompt response is habitually made by a certain percentage of alumnae. Some, however, are in the habit of waiting weeks or months, until one or several, follow-up notices and letters have been received before making the payments they intended to make all along. Needless to say, the later contributions are useful and welcome in the work of the Association, but in these days of shortages it will be immensely helpful in the saving of paper, time, printing and postage if you will reply promptly to this request.
Reprinted from the September 1944 Connecticut College Alumnae News

and I am sure the organizers, had hoped that the format and minimal costs would serve as features to draw into extension education groups in the community which, up until the present, have not been participants in adult education programs.

Courses by newspaper are a logical development of conventional correspondence and extension courses. The utilization of the newspaper parallels the recent development of the Open University in Britain, which relies on television and classroom meetings to communicate not just information, but knowledge as well. The new format of “America and the Future of Man” serves to channel and direct the citizens’ attention to a set of relationships that underlie the discrete bits of information offered daily in the press. In this respect, education becomes an integral part of daily experience.
ON DELUDING THAT OULD SATHAN

It being one chiefe project of that oyled deluder Sathan, to kepe men from the knowledge of the Scriptures, as in former times by keeping them in an unknowne tongue, so in these latter times by perswading from the use of tongues that so at the least the true sence and meaning of the orignall might be clouded by false glosses of saint seeming deceivers, that learning may not be buried in the grave of our fathers in the church and commonwealth, the Lord assisting our endeavours:—

It is therefore ordered, that every towne in this jurisdiction, after the Lord hath increased them to the number of fifty househoulders, shall then forthwith appoint one within their towne to teach all such children as shall resort to him to write and reade, whose wages shall be paid either by the parents or masters of such children, or by the inhabitants in generall, by way of supply, as the major part of those that order the prudentials of the towne shall appoint; provided, those that send their children be not oppressed by paying much more than they can have them taught for in other townes; and it is further ordered, that where any towne shall increase to the number of one hundred families or househoulders they shall set up a gramer schoole, the master thereof being able to instruct youth so far so they may be fitted for the university; provided, that if any towne neglect the performance hereof above one yeare, that every such towne shall pay 5s. to the next schoole till they shall performe this order.

Records of Massachusetts, Vol. ii.
(A law enacted in 1647)

50 YEARS AGO

Students of Connecticut College, after a week of closed balloting, decided by a large majority that they wanted rigid enforcement of the "no smoking rule." The results showed that the Connecticut College girl was still the "old fashioned girl" and not a bit ashamed of it.

January 19, 1924

ATTENTION ALUMNI AND FACULTY AUTHORS!

If you have had a book published since July 1973 and would like it to be included in this magazine’s summer review of alumni and faculty books, please send a copy not later than May 15 to: Ms. Helen H. Johnson, Connecticut College, Box 1624, New London, Ct., 06360.

WHAT DO THEY TEACH NOWADAYS? ★ ★ ★ ★ ★ ★ ★ ★

To those who ask this question, we offer these three recent examinations as a means of comparing the approach in your day with that of the present. If you wish a grade, mail your answers to the alumni office before May 15.

English 111
The Dynamic Tradition
Miss Taranow

I. Assume that the characters listed below accompanied Chaucer’s pilgrims on their journey to Canterbury. How would Chaucer present them in the General Prologue? With which pilgrims would they tend to interact? What type of stories would they tell? Choose a minimum of six characters, and substantiate your assertions with textual evidence.

Faistaff, "a pair of compasses," Beowulf, Dr. Faustus, Helen of Troy, King Henry IV, Owen Glendower, The Fool, Hrothgar, Prince Hal

(100 minutes)

II. In 1681 Nahum Tate revised King Lear, and his revision proved so successful in the theatre that it usurped the place of the original for over 150 years. Significant among Tate’s alterations are the following:

1) The role of the Fool was omitted; 2) A love interest was created between Edgar and Cordelia; 3) Cordelia’s silence at the beginning of the play was attributed to her resentment of her father’s marital preference for Burgundy over Edgar; 4) Some soliloquies were rearranged, so that the play opened with Edmund’s “Thou, Nature art my goddess...”; 5) Goneril and Regan poisoned each other; 6) The kingdom was restored to Lear at the end of the fifth act; 7) Lear sanctioned the marriage of Edgar and Cordelia at the conclusion of the play.

On the basis of your reading of Shakespeare’s King Lear, compare the original tragedy with the later adaptation, emphasizing the advantages, or disadvantages, of character, structure, and tragic mode found in Shakespeare’s original.

(80 minutes)

Contemporary Science 111
Mr. Kasperek

1. What is feedback inhibition and what function does it have in the body?
2. The enzyme amylnase hydrolyzes only a (1-4) bonds in polysacharides to form maltose: Arrange the following polysacharides in order of increasing maltose production when equal amounts are hydrolyzed by an amylnase (i.e., the one which would produce the least maltose first): a) cellulose b) amylopectin c) amylnase d) glycogen
3. Describe the processes and pathways the body uses to get energy from food. You need not write out chemical formulas but be as specific as possible.
4. Suggest a reason why chymotrypsin, a digestive protease, is very hard to obtain in pure form.
5. Describe the structure of DNA including the function of the phosphodiester and hydrogen bonds.
6. A solution of equal concentrations of D and L form of alanine, an amino acid, has an optional rotation of zero, while another solution having equal concentrations of D and L glucose does not. Why?
7. How does a virus cause infection?
8. Explain why an enzyme is such a good catalyst.
9. Biochemistry texts all show the first step of glycolysis as a reaction between D-glucose and ATP. Stu Ped decided if he made food with B-D-glucose in it glycolysis could not occur and he could make a fortune in the diet food business. What is the error in his reasoning?
10. Describe the primary, secondary and tertiary structure of proteins.
11. How does your body protect itself from foreign invaders (i.e., describe the immune response)?
12. Describe in detail how the genetic information of DNA is used in protein synthesis.
13. You are on the City Council and must decide whether to allow a nuclear generating plant to be located in your area. What questions would you ask the people making the proposal?

HAPPY HOLIDAYS and a pleasant long vacation.

Part I: Use the symbolism of the propositional calculus to translate the following ordinary language statements. Example: Jebediah strummed and Gretchen sang.

1. If Alex comes and brings Amanda, I’ll scream.
2. It’s not the case that if you loan money to friends, you’ll lack either money or

27
friends; you'll lack both.
3. If you do it, you'll regret it; but if you
don't do it, you'll regret it; so you'll
regret it either way.
4. It's false that John didn't take the
money; he took the money and the 
beer, too.
5. Ephem did visit the apartment of the
deceased on the night of January 17,
but it's not the case that they quarreled 
and engaged in fisticuffs; for one thing 
we have evidence that the Ming vase,
in which the prosecutor is so interested,
was broken by the cat.

Part II: Determine, using complete 
truth tables, whether the following formulae 
are tautologies, contradictions, or con	
tingent statement-forms. Draw a box 
around the truth values of the main 
operator.
1. \( \neg (p \land q) \equiv (\neg p \lor \neg q) \)
2. \( (p \lor p) \equiv p \)
3. \( \neg (\neg p \land \neg q) \equiv (p \lor q) \)
4. Use the short truth table method or the 
oblique method to test the validity of 
the following argument. If you use the 
oblique method, circle any inconsistent 
truth value assignments that may arise.
Note: If you prefer, you may use the 
long truth table method.
\[
[(p \land q) \land (r \lor s)] \equiv [(q \lor \neg r) \land (\neg p \land s)]
\]

Part III. State the four Whitehead-Russell 
postulates used by Brennan in systema	
tically, the propositional calculus, and 
derive the following three theorems. 
Annotate your proofs completely.
1. To prove: \( (q \land r) \equiv (p \land q) \lor (p \land r) \)
2. To prove: \( (p \lor q) \land (q \lor r) \equiv (p \lor r) \land (q \lor r) \)

For this proof you are given \( (p \lor q) \land (q \lor r) \)
3. To prove: \( (p \land q) \lor (q \land r) \lor (r \land p) \)

For this proof, you are given: \( (p \land q) \lor (q \land r) \lor (r \land p) \)

Part IV. Write an essay of no more than 
one hundred and fifty words, give or 
take ten, (i.e., one substantial para
tograph), on any one of the four following 
topics. Try to think out your statement 
first, and write simply and economi
cally:
1. an interesting family of informal 
fallacies
2. logical truths and logical laws 
3. deductive inference; its strengths 
and drawbacks
4. the value of logic study for 
non-logicians

End of examination. (Please feel free to 
plan to discuss your examination with 
me.)
Job Hunting?
The Office of Career Counseling and Placement has joined Catalyst, a national organization, designed to assist college-trained women in realizing their full potential and in pursuing their career goals. It is dedicated to the principle that women should not have to choose between the traditional alternatives of family and career but should have the option to participate concurrently in both spheres. Catalyst provides services which will assist them in developing their plans and preparing for professional, administrative, managerial and technical positions which will fully utilize their educational background, skills and training either full or part-time.

Connecticut College is one of over eighty resource centers in the United States and four in Connecticut. An alumna may go to any resource center for overall career counseling, for help in résumé preparation, or for discussion of job hunting techniques. By filling out the Catalyst questionnaire, she can be listed in the monthly national roster of applicants arranged by career field.

general preference, past experience, major and highest degree attained. The roster includes only women over 24 who have completed at least one year of college. Some of the pre-publication subscribers are: CBS, Central Savings Bank, Chase Manhattan Bank, CUNY, DuPont, Equitable Life Assurance Society, Exxon Corporation, Ford Foundation, IBM, Johnson & Johnson, McGraw Hill Book Co., Metropolitan Life, Mobil Oil, Mount Sinai Hospital, Raytheon, Reader's Digest, Shell Oil, TWA and Xerox. The roster is arranged by occupational fields and alphabetically by state within a field. (A computerized job bank of positions is planned for the future.) Grants from the Kellogg, Ford and Mellon Foundations, and Rockefeller Family Fund are supporting these activities.

Since its inception Catalyst has focused attention on flexible work patterns and will continue to devote special efforts to the "returning woman" since they believe it is she who faces the most difficult problems in pursuing a serious career. One project with the Massachusetts Department of Public Welfare where two graduates shared one case worker position was so successful that it has been continued indefinitely. A recent paper surveying the opportunities for part-time study in master's degree programs in social work found that almost all the schools had some students who attended on an extended, work-study, or half-time basis.

A number of Catalyst publications are available in our career library. These include booklets on "Planning for Work" and "Your Job Campaign," an Educational Opportunities Series encompassing such fields as counseling, urban planning, psychology, business administration, health services, law, environmental affairs, social work and teaching. The Career Opportunities Series deals with specific occupations ranging from advertising to real estate, personnel and banking. A career "Baedeker" in the Catalyst book, How to Go to Work When Your Husband Is Against It, Your Children Aren't Old Enough, and There's Nothing You Can Do Anyway, formed the basis for the latter series. Our library contains most of the entries listed in Careers for College Graduates—An Annotated Bibliography of Vocational Materials published in 1972 by the College Placement Council under my editorship. This has sold over 2,000 copies and was cited in the July 1973 issue of Glamour. ("Working in the Seventies" was the title of an article also on Catalyst in the January Mademoiselle.)

We hope many of our alumnae will avail themselves of the services of Catalyst. The national headquarters at 6 East 82nd Street, New York, N.Y. 10028 will send a list of the resource centers in a given area and a copy of their questionnaire. Naturally we are always ready to offer counseling and assistance to any who seek it.

Betsy James, director
Office of Career Counseling and Placement

William J. Farnam
A Note of Thanks, a Word of Assurance

By now alumni have been informed through CC News that Connecticut College has named a new president—Oakes Ames. The twelve member selection committee was composed of trustees, faculty, alumni, and students. With four alumni serving on the committee, alumni interests were well represented from initial screening through final interviews. On behalf of the committee, I would like to express thanks to the many alumni who suggested prospective candidates. Your recommendations were weighed carefully and were much appreciated.

With our search concluded, the selection committee is unanimous in its confidence that leadership of the college will continue in capable hands. It will not be easy to succeed President Charles Shain, who has wisely guided Connecticut through some of the most difficult years in the history of American colleges. But I am sure that the congenial relationship between alumni and college enjoyed during Charles Shain’s able administration will be maintained under Oakes Ames.

During the interview Mr. Ames evinced great interest in alumni association activities and in lines of communication between alumni and Connecticut. He expressed his conviction that a college is what it does, not what it says, and that alumni are its most tangible results and valued ambassadors.

We wish President and Mrs. Shain continued success and fulfillment in the years ahead and extend an enthusiastic welcome to President-elect Oakes Ames.

Patricia Wertheim Abrams ’60
President of the alumni association

Work: an Enjoyed Reality

After reading Emily Madoff’s article, Looking Back at the Student: Looking Now at the Alumna, I find it interesting to see how other alumni found their transition from college to community. Unfortunately, the cruelties of life do not allow us unlimited time to ourselves.

In college, some of us become very narcissistic, but the reality of the outside world quickly changes our point of view. We are forced to become independent and to earn a living for ourselves. The greater the independence we had at college, the easier the transition from a sheltered college life to the stark realities of the world of employment.

Those of us who are able to combine employment with the role of service to others will find this an easier transition to make. Employment should not only be a means of earning income but should either fulfill one’s individual needs or perform a service to others. With this in mind, one should not have to be concerned primarily with hours away from work.

I was one of those who found the shift very pleasant. I got my job as a social worker at the Lawrence and Memorial Hospitals in New London from another Conn. alumna and started training in the spring of my senior year. I was able to continue my education in sociology and social work for a long time after graduation. Although I did not have long hours of free time to myself, I learned to enjoy using my time helping other people in my work.

I have never had such a vacation as I did at Conn., but I have certainly learned to appreciate the two weeks off each year that I have been able to earn. Work has become very fulfilling. It is a reality which I am truly enjoying. I hope others have experienced this same feeling.

Glenna Methes Moalli ’71
New London, Connecticut

From Worm to Moth—or Vice Versa?

In looking back on my freshman year in the “real world,” [see Looking Back... Looking Now... by Emily Madoff ’73, winter issue] I can recall congratulating myself, as I completed Form 27B at a Manhattan employment agency, because my job description prerequisite was so open-ended and flexible: “anything creative” was the only requirement. My interviewer was courteous enough not to laugh me out of her office; she’d run into my type before: typing speed minimal, shorthand nil, expectations great. “B.A.,” I heard her thinking, “No skills. Probably even a philosophy major.”

The extreme case of the inability to make the transition from the world of ideas to the marketplace was Socrates. He drank hemlock. My poison was a fancy title (the job, by any other name, would have been the same) somewhere near the middle of the bottom of an upwardly mobile major corporation. I had entered the business world through the back door of an elevator shaft, and I was doing it at VISTA wages. Of course I knew what I was getting into, but mine was the kind of knowledge
that, instead of soothing me, merely repeated, "I told you so.
"
The job was what is called, euphemistic circles "a learning
experience," and shortly after I got wise, I quit.

The integrated life, which was so much a part of being-at-
Connecticut, de-integrated as my life became compartmental-
ized. I didn't want to bring my job home, and I couldn't bring
my personal views to the office.

The most frightening realization was that what had counted
as excellence in academe had so little importance, and such
potential for inspiring fear. In my job, that part of myself which
I had been trained to take most seriously often seemed merely
beside the point.

In brief, my transition from worm to moth (as Dean Noyes
put it) was not facile, but that was because of what I wanted
and the way I found the world, not because Connecticut had in
any way failed me. I never thought that it was the role of a
college to prepare one for the big bad world. After all, one would
expect a degree in liberal arts to guarantee safe-conduct only if
one were entering a world of liberal artists.

There is a great debate raging on campuses now over the
relative importance of teaching those things which it is nice to
know versus those things which it is necessary to know. There
is another great debate raging off campus, in less friendly
circles, over whether college encourages maturity or prolongs
adolescence. The worst I can say is that, if Connecticut pro-
longed my adolescence, it made puberty worthwhile. And if
college isn't reality, it is one terrific appearance.

To paraphrase C.S. Lewis on the topic of love: college may
have no survival value, but it is one of those things which give
value to survival.

Nancy A. Horowitz '69
Brandeis Graduate School

"...Can Anybody Find My Generation?"

I only rated an MQW (Master of Quick-Wittedness), and it was
hard work at that. The quiz [see fall issue 1973, p. 11] made
plain that I am as much of the '40s as the '30s. But I really blew
the first category of "Colors" by circling #3, Yellow Press,
which put me in the '10s. Memories of the yellow press printed
underground" in Bridgeport are vivid. During my freshman
year President Blunt was scorch for being a radical and
fostering a hot bed of Communism at Conn. She was called as
a witness against the paper, which was well before the days
plain that I am as much of the '40s as the '30s. But I really blew
hard work at that. The quiz [see fall issue 1973, p. 11] made
plain that I am as much of the '40s as the '30s. But I really blew
the first category of "Colors" by circling #3, Yellow Press,
which put me in the '10s. Memories of the yellow press printed
underground" in Bridgeport are vivid. During my freshman
year President Blunt was scorch for being a radical and
fostering a hot bed of Communism at Conn. She was called as
a witness against the paper, which was well before the days

Ten years? He also predicted that women's colleges had no-
acceleration of change. Let's see now, how long is a generation?

The dates are important. I bridged a generation graduating
in '38 and going back as a faculty wife in '45. Tea-dancing was
already losing ground while I was an undergraduate, and I
mourned its loss at the time, for I did like being met "under
the Clock." Yet some of us took the headlines seriously: sit-ins,
strikes, New Deal legislation, the plight of sharecroppers, the
funding of theatre and art projects as well as highways by the
WPA, the ILGWU's musical Pins and Needles. We felt duty-
bound to read those proletarian novels neither Mr. Willauer
nor I can remember today, though I have a core recollection of
radical union organizers fomenting with their worshipful
female counterparts (or the boss' daughter) while the

The scene is with them as it was with us in the
Victory Gardens then. And the knitting drove him quietly batty,
the lectern in his gardening clothes. Faculty members all had
preferable to lecturing to the tops of heads bent to the notebook

Working with the young in the '70s, just past my 35th reunion,
no accident. The scene is with them as it was with us in the
'30s (and '40s, etc.). Attitudes toward sex and personal relation-
ships are altered by widespread use of contraceptives, legalized
abortion, the greater incidence of divorce, Women's Lib. But
ships are altered by widespread use of contraceptives, legalized
abortion, the greater incidence of divorce, Women's Lib. But

ASU didn't make a dent. The national office sent speakers,
and finally staff members, to instruct us in ways of jogging
our middle class, conservative campus population into aware-
ness. It got to be embarrassing. And painful. So many young
recruits wanted sorting out with their problems about paternal
authority. I hardly sorted out mine. Perhaps that is why I'm
with the London Youth Advisory Centre today.

Anyway, I settled for editing Quarterly, at which point Presi-
dent Blunt sent for me, ostensibly to offer congratulations. I
came away on a cautionary note regarding how far radical
fervor should go in print. "Left of center" she called it. Little
did she know, nor did I deign to tell her, that I'd quite resigned
myself to brightening my own corner and letting my apathetic
peers stand or fall where they stood.

Besides, cheek-to-cheek dancing went on. None of us was
so radical as to overlook the big bands and Ivy League house-
parties. I can still hear Helen O'Connell belting out I Dreamt I
Dwelt in Marble Halls at Wesleyan. Moreover, we had Artie Shaw
my senior year. In fact, we had super dances in Knowth the
whole of my four years in college. Our dates sent us corsages.
I wouldn't know what to do with a corsage today, but I did then.
I confess (sotto voce) that we broke the rules against partying
in hotel rooms reserved for our dates. So far as I know it wasn't
noticed that a number of pictures taken at those parties are in
the 1938 Koine, which broke with traditional academe format
under the influence of picture-oriented magazines.

That's the other category in the quiz that put me off: maga-
zines. I find it hard to believe Life was not as much of the late
'30s as the '40s. Anyway, editing Quarterly convinced me I'd
make a better social worker than writer. But I remain deeply
indebted to gifted teachers like Hamilton Smyser and Rosemond
Tuve, who instilled a love of literature. And to my husband,
who asked the first time we met, "Are you a subversive
element?" He considered that he was, in the sense that The
New Yorker was more subversive than The Nation and The
New Republic. Think about it, my generation; that's a very

It's useful to look back and good to know we had solid experi-
ence of a particular era that is applicable to today.

Frances Walker Chase '38
London, England
Where there's a will...

Of all man's knowledge about those things which daily affect us and our children, perhaps no area is so peopled with misinformation as that which concerns the disposition of our estates.

For example, many people believe that only the rich need a will or that a will is necessary only when one has dependents or troublesome relatives. Others are convinced that the laws of all states are basically the same and that a will once properly drawn never needs revision. Still others are sure that only the very wealthy can afford to provide for their favorite charitable institutions through their wills.

Fallacies such as these are the despair of attorneys, as is the fact that over fifty percent of the adults in this country do not have wills.

A valid, up-to-date will, carefully drawn by an attorney and periodically revised, is the only effective means of assuring that your wishes will be respected after your death—for your own family, for other relatives, and for any charitable institution you may wish to remember.

Of the approximately two billion dollars bequeathed to charity last year, a great portion was in the form of large bequests we read about in the newspapers. That we read only about the multimillion dollar bequests probably accounts for the general feeling that only the very rich can provide for other than their immediate families through wills.

Nothing could be further from the truth; unreported are the thousands of smaller bequests made each year to colleges and other favorite charities. In 1972-73, for example, Connecticut College received $176,712 in bequests from alumni or their parents. The range of these bequests was great, from a thousand dollars to over $100,000—but none was large by national newspaper reporting standards. In their collective importance to the college, however, their effect was substantial.

Bequests constitute a very important source of financial support for the college, both now and in the future. To learn more about providing for Connecticut College through your will, write to John H. Detmold, Director of Development, Connecticut College, New London, Connecticut 06320.
CLASS NOTES

19 One more first lies ahead for the pioneers of C.C.—19's 55th reunion May 31—June 1. President Prent has been making plans since before leaving Boston for a Thanksgiving holiday with niece Roberta Bitgood '29 in Mich.

Winona Young at Crestfield Nursing Home, Manchester, Conn. sent Christmas greetings.

Marion Kotsky Harris and Frank were looking forward to a trip to Cal. and a visit from Lillian Shadd Elliott of Pasadena if she could get gas.

Esther Batchelder and housemate Jane, after 9 years, plan to leave Italy in June for Malaga, Spain, to spend 4 months learning to speak good Spanish. They then will be off to a home in Puerto Rico that faces the sea between the ancient fortresses of El Morro and San Cristo-bal, and which they restored according to guidelines of the Commonwealth's Cultural Institute. They ended a happy year traveling in Europe before setting sail for the U.S. After two weeks in America they returned to Rome. Next season's greetings will be from their "Pra Naris" in San Miguel.

Pauline (Poly) Chrisle is "enjoying my retirement to the full and keeping pleasantly busy" with trips to Hawaii, Canada, Europe and a convention in Portland, Ore, as a messenger from her church. "When anyone says, Go, I'm ready at the drop of a hat."

Cards or letters came from Julia Hach, Vt.; Mildred Miller, Michigan, from "the Senior Center a have a dinner this year...I'm dabbling in arts and crafts, macrame and painting", Florence Leonard Romaine, Hartford, Sue Wilcox, New Haven; Edith Harris Ward, New Milford; Ruth Avery French, Vt.; Florence Carns; Ruth Trail McCall, wintering in Honolulu; Margaret Mitchell Goodrich, Portland, Conn.; and Allison Hastings Thompson, Melbourne Beach, Fla. with another of her exquisite poems.

The sympathy of our classmates is extended to the families of four who have recently died: Clementine Jordan Goulart, Cora Nellian Henrici, Esther Barnes Cottrell, and Dorothea Peck. Correspondent: Mrs. Enos B. Comstock (Juline Warner), 176 Highwood Ave., Leonia, N.J. 07605

21 Eleanor Haas finds her greenhouse a full time job but when in July and Aug. it is empty, she goes to Edisto Island. She still continues to write a weekly column on gardening for a local paper, is "special project" chairwoman for the Garden Club and gives frequent Garden Club talks.

Charlotte Hall Holton wrote, "No news has to be good news and that's my story." She and her husband had a trip to Colorado in the fall and a shorter one for Christmas with their younger son in Palo Alto.

Harriette Johnson Lynn moved to Fla., and enjoys her new home at Spanish Lakes, Port St. Lucia. Harriette wishes she had had the courage to move to Fla. long ago.

Margaret Jacobson Cussick has moved to Manhattan. She has a class in non-fiction writing for retired professionals, who have their own section in the New School for Social Research and is on the editorial board of the group's magazine. Back in her old profession of writing and editing.

Olive Littlehales Cortin and Emory plan a summer trip to the West Coast and the Canadian Rockies. They had their daughter and family and son for the Christmas holidays. Olive does some "extempore theatre readings and other bits of drama here and there."

Laura Dickinson Swift and Ray were in Fla. last winter. Laura and some high school classmates flew to Eleuthera in the Bahamas for 8 days. A grandson is in his 3rd year at the Univ. of Cincinnati (architectural engineering) and a granddaughter is at the same Univ. training to become a nurse. Louise Avery Favorite is busier than ever now that she has retired. She had Thanksgiving dinner at her aunt's in Groton with Abby Gallup. Dorothy Wulf Weatherhead hopes to travel to China next with the same congenial group which made the extensive trip to S.E. Asia last summer.

Dorothy Gregson Stocum made her annual trip to Calif. to visit her daughter, explored Ore. and had another trip into Louisiana in the flooded period. "Roberta (Bobbie) Newton Blanchard visits us for a few days and does so much it quite takes my breath away."

Ellie McCollum Valtieth and her husband divide time between their co-op in N.J., their old Mansfield, home, and their house in Vt. They also have a log cabin on the lake front below the house. Gladys Beebe Millard and husband spent several days with them in Oct.

Dorothy Pryde is on the Orange Bicentennial Committee and has traveled through Scotland, England and Ireland. She met cousins and friends in Edinburgh. Helen Rich Baldwin and husband celebrated their 51st wedding anniversary in Fla. and visited Harriette Johnson Lynn. Billy says "they will have a great life what with daily golf and club and craft activities."

Anna Brazos Chalmers, your correspondent, and husband celebrated their 50th wedding anniversary by retracing much of their honeymoon canoe trip in the Adirondacks. This was followed in Conn. by a gala family wedding anniversary by retracing much of their honeymoon canoe trip in the Adirondacks. This was followed in Conn. by a gala family reunion arranged by their children with over 40 people present.

Correspondent: Mrs. Alfred Chalmers (Anna Mae Brazos), Box 313 Rt. 4, Hendersonville, N.C. 28793

23 Ethel Kane Fielding entertained at luncheon in honor of Lavinia Hull Smith who was on route to her home in the Bahamas after a 47-day North Cape cruise. We agree with Ethel in pride that 63 out of a possible 75 of our class contributed to the Alumni Fund during the year ending June 73.

Helen Hemingway Benton has two children working for Encyclopaedia Britannica Educational Corp.: daughter Louise as VP/marking and son John as chairman of the board.

Charline Mitchell Bailey's daughter writes that her mother would enjoy hearing from classmates although she is unable to reply. Correspondence should be sent in care of the daughter, Mrs. Robert Carney, Crombie House, Francesctown, N.H. 03043.

Jesse Bigelow Martin moved from Washington, D.C. to Alexandria, Va. and Ethel Adams from NYC to Jamestown, N.Y.

Anna Buell retired from Children's Center in Hamden, Conn.; her last assignment was working in adoption where she placed many older ones with Oriental children. In Aug., '73 she joined VISTA and is now employed with PRISON Ltd., which finds jobs for ex-military.

Jane Gardner is extremely busy with exhibitions and commissions for specific works: a one-man show last spring in Seattle, Del; the "Baby and Holiday Art Show" and the U. of Del. commissioning from the U. of Del. (landscape for the Music Dept. and an edition of 25 etchings of its Purnell Hall). By invitation she will show her work at the 13th Regional Art Exhibition at the U. of Del. early in '74.

We are sorry to report the deaths of Marie Louise Berg of Switzerland, Vivienne Cecile Mader of NYC. Dorothy D. Randle of Jackson-ville, Fla. and Elizabeth Dickinson Clary of Peterborough, N.H.

Correspondents: Mrs. Carleton A. Leavenworth (Katherine Stone), 26 Field Road, Southborough, Conn. 06488; Miss Anna K. Buell, 750 Whitney Ave., New Haven, Conn. 06511

24 Aura Kepler works part time again and plans to return for our "very special" 50th reunion, May 31—June 1. Emily (Mac) Meahley Lowe hopes to get to Sarasota this winter if the gas situation does not interfere.

Gladys Westerman Greene's husband fell on his boat and broke several ribs, following which he had a serious automobile accident, and later was operated on to save the sight of an eye. Glad has recovered from scoliosis. Her granddaughter Laura lives with her now.

Margaret Dunham Cornell is working on our reunion plans.

Estelle Hoffman Susman and her husband do their bit to ease the crisis in Israel.

Louise Hall Spring and Emia, busier the longer they are retired, have a new Jeep which helps them get about in the severe winter in Michigan. Occasionally they see their son and daughter who live down-state from Kolin. N.H.

Agnes Jones Staebner, in Hampton, Conn. for several months, shares with her sister Hazel the care of two elderly half-sisters and a half-brother.

Dorothy Brockett Terry's granddaughter, Cindy Stokers, recently married Jim Thompson, a petroleum engineer whom she met in Paris. Cindy is completing her senior year at the U. of Houston.
ALICE HANDY GEROW '70 has been appointed assistant investment officer in the securities department at The Travelers Insurance Companies in Hartford, Conn., according to an announcement made by Travelers Chairman of the Board and President Morrison H. Beach. Alice, who joined the company in 1970 as an analyst, is a member of the Hartford Society of Financial Analysts and is a registered representative of the National Association of Securities Dealers. Regarding the appointment, Carolyn Lewis Jennings '65 wrote: "...she became the first female to receive this honor. My husband, who also works in the investment department, reports that there was genuine rejoicing throughout the department over this breakthrough."

Lucille Moore, within walking distance of a convalescent home where her sister lives, is with her quite a bit. Eugenia Walsh Bent and her twin sister Chut celebrated this summer their "140th." Genie's husband Bernie had a heart attack this fall but goes to his office part time each day.

Marion Armstrong, when the indoor thermometer reached 30° during Conn.'s ice storm, had to evacuate. Christmas Day was spent at church serving dinner to more than 150 people from all sections of the community—a great though exhausting experience.

Janet Crawford How, whose granddaughter is to graduate from Conn. this year, plans on returning for reunion.

Gloria Hollister Anable and Tony are engaged in the Mianus River Gorge Wildlife Refuge and Botanical Preserve of which they were founders in 1953 and which keeps them working from dawn to dark.

Dorothy (Dixie) Wood Couch's daughter Martha lives near her and her grandson Michael, spends some time with her. Dixie practiced runs FISH for the lawns of Washington and Warren, and finds the work, which she can do from her wheel chair, rewarding. She had a call from Dorothy Ryder Coullhart, who now lives in Canada, when she was visiting Conn.

Marie Jester Kyle's husband was hospitalized this fall but she and Ted hope to get away for their usual winter vacation.

Ann Rogeh Cohen expects to return for reunion if her husband's health permits.

Dorothy Cramer had a delightful trip to England last spring with Catherine Calhoun '25 and the Conn. Historical Society group. Last fall Dot took a course on England at the Community College in Winnetka and is going to London this winter with the class. She spent the summer at her cottage at Highland Lake and finds retirement most enjoyable.

Hazel Comey has plans to move into an apartment as soon as her house is sold. She and Lucy Moore see each other now and again.

Elinor Hunken Torpey suggested that each member of the class contribute at least $50 in recognition of our 50th reunion—$1 per year since graduation.

Helen (Blub) Fitch tried exercising to eliminate arthrits in her back but found putting her toes under a couch and trying to sit up disastrous.

Elizabeth (Betty) Holmes Baldwin plans to come back for reunion.

Ava Muhlolland Hilton was aboard a freighter headed for the Orient with the first stop in Manila on Christmas Day and Hong Kong New Year's; she returned to New York around Mar. 1. Ava plans to be back for reunion.

Correspondent: Mrs. David North (Helein Douglas), 88 Maple Ave., North Haven, Conn.

25 Betsy Allen, our fund agent, reports a great Alumni Council: Constance Parker, vice president, also represented the class. Betsy blacked out in Dec. and now is working on her blood pressure. She spent two weeks in Ariz. last year, while there she lunches with Charlotte Lang Carr. Eleanor Harriman Kohl is now a resident of So. Yarmouth, increasing the 1925 cell on Cape Cod. Betsy summers there and Eleanor has an apartment in the same building with Emily Warner. Susy is active in church, the Yarmouth Historical Society, Church Women United of Cape Cod, and enjoys doing a radio program occasionally for the Mental Health Assn.

Margaret Meredith Littlefield moved into a condominium in her retirement spending, winter in Fla. Her children live in Riverside and Old Greenwich. Peg reports seeing Sarah Jane Porter Merrill and hearing from Suzanne Stickenbeek, Georgia, and others. Charlotte Beckwith Crane mentions "a series of unpredictable operations in the last four years," the latest for a cataract. She could not drive for 10 months, an inconvenience when living 3½ miles from the nearest store, but vision is now good.

Edna Louise Haas Gaudet, now retired, has travel as her interest. In 1973 the high point of a world tour was the Gobi Desert where she stayed in native yurts, drank fermented mares' milk-loving-cup fashion, visited a camel station, heard herders play instruments, and was surprised to find edelweiss and other flowers in the desert. In spite of an authentic Mongolian performance of singing and dancing with beautiful costumes, and visits to Japan and Siberia, Louise felt that this trip should not be recommended except to a masochist. In 1972 she took an exciting cruise to the Arctic, visiting, among other places, New Alesund Spitsbergen.

Marie Barker Williams and Lowell keep in close touch with their 7 sons and innumerable grandchildren. Mary Auwod Bernard married into the Coast Guard with 25 years service. Capt. Douglas Williams, USN is commander of the Navy Oceanographic System of the U.S. Atlantic Fleet.

Mary Auwod Bernard continues to love Ariz., especially the parts reached on horseback only, and still does the annual 5-day ride in May with some 50 other enthusiasts. She swims summers and does volunteer work all year.

Alice Taylor lives in a nursing home. She is partially paralyzed since a stroke. Classmates might like to send her a card at Sunny Shores Villas, 125 56th Ave. So., St. Petersburg, Fla. 33706.

Correspondent: Dorothy Kilbourn, 84 Forest St., Hartford, Conn. 06105

27 Elizabeth (Betty) Cade Simmons brushed up on Spanish and flew off to Spain and the British Isles with a friend. Betty is a member of the local Spanish Club, Belen Chateau Colony of New England Women, and DAR.

Emilie Koehler Hammond arranged herb-ariums as Christmas gifts and made her own greeting cards with dept designs. Her son Ivan invented a linear activator, an intricate machine with a motorized telescope driver, sold to and installed in large companies.

Mary Wilcox Cross and Wilford in Jan. explored Mexico, finding that country "more enchanting than Puerto Rico.

Margaret Graham Reichenbach and Clayt moved into an apt. in Santa Fe, "...we have lovely homes only 80 miles away." Peg joined the Waterbury C.C. Club "which is fine, but most members are so darn young!"

Gretchen Snyder Francis, after Alumni Council, said, "You should visit the campus as it is today and in action to see what it's really like. Plan now to come back for our 50th."

Elizabeth (Betty) Tremaine Pierce and Neil enjoyed the holidays with daughter Marion, C.C. '57, after spending a memorable '73 in travel: Japan; a Philippines' visit with son Bill; the South Pacific and across the International date-line to tropical Tahiti.

Frances (Fafi) Williams Wood is moving from Me. to Penn., maybe to reside in a retirement village there.

Sally Pihouse Becker is chairman of the Philadelphia Spring Flower Show, the largest in the East, and Chairs is teaching gardening classes for the 27th year in a row. Sally is trustee on several committees, including trustee at Friends Select School.

Barbara Tracy Coogan and Peter plan to spend spring in Dummerston. Peter is "Practitioner in Residence" at Duke School of Law. Bob's son Peter is in Garrett Hoag's law firm (Peg Ewing, C.C. 25) and Marlene joined Helfron's Baltimore firm.

Elizabeth Higgins Capen and John own a farm house in Boonton, N.J. with acres now bursting into bloom. Lib is a specialist in narcissus and daffodils; she tests varieties for qualities. John specializes in day lilies, hybridizes them, gives them new names.

Constance Delarganroux writes that she and Del had a flight to Mexico; a trip through the Grand Canyon, shooting the rapids; an 8-day trip via the narrow gauge railway; another flight to Salt Lake City; and finally, Greece—In the midst of the revolution. While in Calit., Connie enjoyed two visits with Minnie Watchin- sky Pec.

Frances Joseph reports that a third of us have paid dues for '73-74. She attends an illustrated series of art history lectures at Lyman Almyn Museum.

Alice Cronbach Uchitielle boasts about 12 grandchildren, the latest born in '73, named Noah which means Peace. She goes to local C.C. meetings—"awed by the loveliness of the Oh-so-young!"

Lydia Chatfield Sudduth reports 1927 first in the AAPG with a total of $3,199.75 credited to our class. "Great. But I urge each one of you to raise the percentage." Even in our declining years I hope to see constant fidelity to fuller participation.

34
On behalf of us all Lyda sent notes of sympathy to Frances Fletcher Kruger who lost her second husband, and to Col. William M. Adams whose wife, Eleanor Herman, died after a long illness.

Correspondent: Mrs. L. Bartlett Gatchell (Constance Noble), 6 The Fairway, Upper Montclair, N.J. 07043

29 Mark the date: Reunion, May 31-June 1. MARRIED: Wilhelmina Fountain Strickland to Earle E. Murphy. Willie and her husband live in a retirement community in Wickenburg, Ariz.

Ruth Ackerman, who moved to Santa Rosa, Calif., spends much time gardening and perfecting the plan she took up at a junior college and found it an eye-opener. In 1972 she went to Europe.

Adeline Andersen Wood in Me. is selling the big farm but has bought a cottage on a lake nearby and plans to winterize it. Arlene (Brownie) Brown Stone and Leon spent last summer and much of the fall at their shore cottage. Dorothy Betsiey, who works in Boston, spent the 2 weeks in Sweden last year.

Margaret Anderson Hatemester retired after 25 years with the Alaska Dept. of Public Welfare. She plans to remain in Seward. Marg has rented a one-bedroom apt. as a hobby studio and guest house and welcomes "any and all classmates visiting Seward."

Elizabeth McLoughlin Carpencher keeps busy with needlework, garden club, bridge, and as board treasurer of "Amasa Stone House," a home for aged ladies. She and husband Joel, retired, drove to Los Angeles last year. Joel is a new owner of Cloaring Falls, Ohio. Their oldest grandchild is at Colo. School of Mines, a geology major. Lib sees Normah Kennedy Mandell regularly and is her bridge-o-rama partner.

Jane Kinney Smith and husband enjoyed a Mediterranean cruise in '72 and in '73 took a 6-weeks trip through the Orient. In Singapore they were entertained by friends who had lived there for 24 years.

Grace (Beth) Houston Murch and husband Alanson, since their retirement, have done much traveling. In the winter of '72 they took a tour into Mexico to Los Moches via the Chihuahua-Pacific R.R. The following spring they drove to Bellington Gardens, then on to Mardi, Ind. Officials won't let them go to Spain and Tangier. Beth does substitute teaching.

Margaret (Migs) Linde Inglessis and John love their peaceful life in Heritage Village, Southbury, Conn. and "what with visits from family and friends, Portugal in Mar., embroidery and sewing," she couldn't be happier.

Verne Hall has made a slow but steady recovery from his heart operation. In Oct. he and his family went to Spain and Tangier. Beth does substitute teaching.

Elaine Liess Smith, your correspondent's freshman year roommate, is energy crisis coordinator for New Milford and has her hands full trying to allocate fuel oil, gas, etc. fairly.

Eleanor Wells Smith spent Thanksgiving and Christmas on Cape Cod with her daughter-in-law's parents. Last fall they came to Conn. to help her with a tag sale in her basement. She is disposing of as much as possible before her prospective move to Dallas.

Alice Hangen, retired as of Nov. 30, decided, since her father is 87, she should spend more time at home.

Jennie Fusco Ripko is retiring as of end of July.

Thursa Barnum still teaches and enjoys it. She moved back home to live with her brother after her mother died last April.

Dorothy Cluthe School and Herb spent 5½ mos. in Europe last year. They rented their house in Charlotte for 6 mos. Daughter Gretchen's home in Bethesda is rented and they are visiting her and his family are in Jacksonville where Dottie and Herb spent a week over Thanksgiving.

Mary Innell Jennings' husband Jack had a rough time with eye operations, his right eye for a cyst and his left eye for a detached retina. They took a delayed vacation trip to Malaga in November.

Caroline B. Rice and brother Chet took an early spring journey to the mid-southeast last year via train and rented car; on their return they became embroiled in a controversy concerning a proposed superhighway which would entail condemnation of some of their property. They incorporated an organization called Citizens for Balanced Environment and Transportation Inc., with Chet as treasurer and C.B. as a trustee.

Your correspondent had a pleasant surprise visit last spring with Janet Boom Barnard '29 (roommate of my junior year) and her husband, and to Col. William M. Adams (whose wife, Eleanor Herman, died after a long illness). They were on their way from Kennett Square to Villanova. Ros and I drove to Rachelle's in Ohio before Christmas, stopping in Boston to pick up John. The day after Christmas, not only did Rilla, Bill and Louis arrive from Mich., but my college roommate, Mildred Shear with an old friend of mine from Wellesley also came for a visit. She had a lost summer having fallen and broken her left shoulder. She and her sister did get to Mid-Pines in N.C. and Tidewater Inn, Va. before the accident.

Co-correspondents: Mrs. Ross D. Spangler (Mary Louise Holley), 810 South Hill St., West Chester, Pa. 19380, Mrs. Ernest Seyfried (Wilhelmina Brown), 37 South Main St., Nazareth, Pa. 18064

33 MARRIED: Martha Johnson Hoagland to Otto C. Willig '11 Feb. 19, 1972, Sheila Hartwell Moses and Moe spent a month last spring on a chartered boat doing the canals in Holland, then Brussells and London. They have two terribly active grandchil-
dren. Sheila is trying to play tennis, bowl, swim and sail.

Else DeFong Smith still enjoys her work at Travelers Insurance, especially time out for Choral Club rehearsals.

Katherine Hammond Engler and Ken cruised for 6 weeks to the Scandinavian countries. On their return they created a new granddaughter, daughter of Enid, C.G. '86, and Ken Jr.

Barbara Mundy Groves spent 5 weeks in Labrador, hating to leave their home with wood stove, woodchips and the like. They visited the grandchildren in Ontario. A trip to Mexico last year wound up a busy year.

Helen Peasley Comber moved again. Bill teaches at Stanford Tech in Albermarie, N.C. Helen started a Newcomers' Club, is painting up a storm with beginners at Tech, class at home and having a local one-woman show.

Paula Reymann Speltz sends this message to the classmates. Ever since each other often now that K.J. has leisure time and the interstate roads from Pitts-
burgh to Wheeling are completed.

Harriet Kister Brown is living near a small town with the tornado this winter. They took their annual cruise as far south as Venezuela. Last Aug., she and Oliver went north to help their "youthful" Mother celebrate her 85th birthday.

Anna May Derge Giller and Tom enjoy their waterfront home, sailing in summer and sometimes skiing in winter. Tom wrote a text and introduction to a new series of art books on sailing craft. Victoria Stearns drove over from Potomac, Md., to have a good time "catching up." Dorothy Hamilton Algire gets to Bethesda with her father, the charming artist 92.

Sarah Buchsate is winding up a full year of retirement and reunions. At Alumni Council Bucky saw Grace (Gay) Stephens who came via three ferries to represent our class. While in Bloomfield Hills, Mich., she saw Winifred DeForest Colfin whose sense of humor has not been fractured despite her troubles. I saw the picture of Winnie, dressed fit to kill, on a stretcher, attending a reception for the doctor where she and her sister did get to Mid-Pines in N.C. and Tidewater Inn, Va. before the accident.

Alice Record Hooper is archivist for the Montreal Council of Women, preparing material dating back to 1893 to go to the National Archives in Ottawa. Working on her own family
archives, she does research in Va. If winter is grim in Canada, they will probably head for a warmer climate when husband finally retires.

Ruth Ferree Wessels has return engagements of her side talk on their raft trip down the Yampa River in Colo., enjoys yoga and tennis, and likes not having a regular job. Virginia Swamp Parrish and Karl met her son Steve by chance in Copenhagen while enjoying a trip to Scandinavia and Austria.

Margaret (Sunny) Ray Stewart and Jack went to Curacao this fall. I see them walking their beautiful Airedale every evening.

As for me, Virginia Schanher Porter, life is busy—being secretary at a private club, planning parties, doing the year book—and with golf, swimming, paddle tennis, tennis and curling activities.

The class extends deepest sympathy to Joanna Eskin Despres whose husband, Emile, died at 36 and doesn't return to Cape Stphanm whose husband Arthur passed away Jan. 6, '74. It is with regret that I report the death of Frances Field Haignere on Nov. 2. The class extends deepest sympathy to her family.

Correspondent: Mrs. William C. Porter (Virginia Schanher), 19 Warwick Rd., Wrinelka, Ill. 60093

34th reunion May 31-June 1. If you can't come COMMUNICATE!

Florence Baylis Skeaton's Susan lives in Athens, teaches English to pupils from a 5-year-old to a retired general. Babe spent a month touring Greece last spring.

Jean Berger Whitehead's fringe benefits as a doctor's wife included a convention in Holland, then on to Paris and London. Youngest son Bruce is engaged to an English girl—so it's back to Cornwall in July for wedding.

Sermma Blodgett Mowry works in a doctor's office 5 mornings a week, does courier duty at Westerly Hospital one afternoon.

Libby Blumenthal Jacob and Seymour went to a Miami convention in Jan., then on to a Caribbean cruise to beat the chill.

Marion Bogart Holtzman and George were "bumped off" their plane to Greece after waiting 2 weeks, and George gained her 2 hot flings just before take-off—so, they are spending the winter in Fla.

Sylvia Brown Gross, widowed some years ago, has a wonderful job in Hartford.

Winifred Burroughs Southwick "graduated" from the Bookmobile to head of the reference dept. in her library.

Muriel Die Vellus's son Bob is in Norfolk, "protecting us from the Russians," Nick still at the Pentagon, John at West Point.

Alice Galante Greco and Carme celebrated their joint retirement last summer—5 weeks in Italy. In Jan. they shed winter woollies for Costa Rican bikinis!

Emma Howe Waddington's Christmas "pome" summed up retirement activities—highlight a trip to Europe.

Ruth Jones Wentworth and Bill splurged on a trip to Alaska, via Bafft, Lake Louise and Vancouver.

Cait Lewis Witt was featured recently in an article about the New England Gourd Society (she's a charter member) and her tales of this plant are fabulous.

Barbara Meaker Walker's Ted theoretically retired in Jan. Son Steve and wife just bought a house and a dog. Nancy and husband are in Grand Isle, Neb., armed with new M.S. she's working in a mental health clinic.

Edith Mitchell sneaked off to the British Isles this fall, visited many houses connected with famous Victorians.

Grace Nichols Rhodes' family is scattered: Roger and wife attending medical and law school, respectively, in Minneapolis; Richard and Judy in Los Altos (Nicky and Arnold plan to case the joint for possible retirement home); Natalie and George both working at U. of Mass. Nicky, bubbling with reunion chairma ideas, plans to "board the bus with a bag full of goodies for breakfast and cocktails." How can any of us resist?

Alma Nichols spent 3 weeks in N.H. last summer with family. In spite of unsuccessful cardiac conversion, she's still gamely independent.

Fannie Rasch still teaches at N.F.A., seriously considering retirement.

Lydia Riley Davis and Harrison went to France by boat so they'd have time to brush up their French—but daughter Peggy had a beautiful blonde tutor for them ("How H. did concentrate on his lessons"). They traveled all through France and Belgium—"French instructors and universities an advantage."

Dorothee Russen Tuten tells me not to envy her seat was seen at the ballet or opera. Can't move because Disney-theme parties, doing the year book—and with golf, swimming, paddle tennis, tennis and curling activities.

HeLEN LEHMAN BUTTENWIESER 27 recently filled Dana Hall when she spoke to an audience about her experiences in the People's Republic of China. Among her listeners were many students and faculty members of Asian Studies and the Chinese department, as well as fellow members of the board of trustees and friends of the college from the community. As a member of the United States-China Peoples Friendship Association, during her three week tour Helen was able to examine many facets of contemporary life in China: factories, communities, hospitals, schools, etc. Of particular interest, however, were her comments regarding the esteem with which Chinese hold the arts. Museums were always full of families and even an empty seat was seen at the ballet or opera.

Christmas Day in Madeira, New Year's at Caseblanca; had trips last year to Japan and Bangkok, plan on Easter in London.

Millie! Waghorn Collins took an exciting trip down the Colorado River rapids, another by auto through Nev., Utah, 7 states in all.

Elizabeth Waterman Hunter's son Gordon is a pilot with a national air line. Mom, with special flight privileges, has been flying high. Maybe even to reunion?

Olga Wester Russell was in a bad auto accident but hoped to recover in time for sabbatical from U. of Me. in Jan.

Emily Wilt Charshee's 50th reunion of music group, and piano recital, will keep her from C.C. in May.

Cede Zisselt Libutzk and Fred sent a card from Chile; they're sailing around S. America to the Virgin Islands.

Our beloved honorary member, Alice Ramsay, writes, "Looking forward to sharing your reunion—after my 50th, you'll all seem like kids!"

Correspondent: Mrs. J. Arthur Wheeler (Ann Crocker), Box 454, Naantic, Conn. 06357

35 Mark the date: Reunion May 31—June 1.

Irene Larson Gearling and Les' son John is at Bates College. Son and her husband live in Calif. Irene hopes to make reunion if recovery from an ailing hip (and possible surgery) will permit.

Doris Merchant Wiener and husband Frederic, who retired from law practice and plans to write, moved to Phoenix. Doris continues her genealogy research and is editing a book. Rebecca (Becky) Nims Trel and John planned to attend son Tom's Feb. wedding in Berkeley, Calif. Son John, married and father of two, has his own accounting business in New London.

France Rushie Rush Caldwell and Bill have not been East in 16 years. Due to Bill's health Fran won't be able to make our reunion. Their three married children provided five grandchildren.

Mary Savage Collins is thawing out, like so many Nutmeggers, after a week of no power, no heat, and no water during near-freezing temperatures. Mary will undergo surgery in early Feb. and vacation in Naples, Fla. in Apr. She hopes that everyone will make our reunion a huge success.

Priscilla (Pudge) Sawelle Ehrlich anticipates a trip to Spain. She is giving a multi-course at the Boston Museum of Fine Arts during this semester—to add to her full schedule of activities.

Cell Silverman Groder and husband took their two daughters to Bermuda last year. Son Brian, married and father, will get his doctorate in psychology at the U. of N. Mexico. Richard will receive his law degree in June from the same university. Robert is a dental student in Washington, D.C. Lauren, at Brown U. Terri is at Mt. Vernon High. Cell hopes to make reunion.

Lois Smith MacGiehan and Neal are in Green ville, S. C. where he is a vice pres. of a mortgage company. Daughter Susan is studying ballet and modern dance with the Hartford Ballet Company School. Distance will keep Lois from reunion.

Barbara (Babs) Stott Tolman and Henry spent the Thanksgiving holiday with daughter Jody and her family in St. Louis. Then Nancy and Gary were with the Tolmans for Christmas. Florida may be out this year due to the gas situation.

Nanci Walker Collins will attend a C.C. Alumni sponsored seminar in Guatemala and the Yukon in Mar. Also our class reunion.

Vera Warbasse Spooner and Will are retired but busy sailing and skiing. In their 36' sailboat they cruised down the St. Lawrence Seaway, around the Gaspe and tied up at Cape
Cod some 3000 miles and 4½ months later. They spent six weeks skiing in the Rockies and plan to be “on the go” during most of 1974.

Marion (Marty) Warren Rankin and Doug, with their daughter Jean and her family went sailing out of Branford last summer. The kids entertained Sabrina (Subbie) Burr and Harry Sanders, Dorothea Schaub and Kurt Schwarzkopf, Catherine Jenks and Dick Morton, Marion White and Rene Van der Leur, and Marion Ferris and Julius Ritter during Christmas holidays. Marty hopes to be at reunion.

Katherine (Kay) Woodward Curtiss and Dan are in Bradenton, Fla. sympathizing with those of us enduring the wintry blasts up North. They enjoyed swimming with Ruth Fordyce and Tom McKeown who are sojourning nearby. Kay will be at reunion “energy permitting.”

Ruth Worthington Henderson and Jim had a wonderful year with accomplishments around their home, church work, and travel around the country, plus 5 weeks in N.H. They enjoy the stops made in LeGrange by so many friends.

Virginia Latham Pearce writes from Kinston, N.C. that in July ‘72 her husband passed away after a long bout with emphysema. Virginia visited daughter Susan and her husband in San Diego and later on friends in L.I. and in New England. She is teaching better nutrition to lower-income group.

Dora Steinfield Todd and her family of four children and their families held a 10-day reunion in Aug. at their Muskoka, Ont. cottage—a first time gathering of all the family in many years.

Virginia Whitney McKee and Henry sold their home in Hudson, Ohio, and moved to a condominium in St. Petersburg. They live near the families of the son and families. Virginia and Henry play golf, bridge, and paddle tennis. She may get to reunion.

Elizabeth (Beth) W. Sawyer says, “Retirement doesn’t offer much to write about, if it is like mine, one of leisure. I expected to be bored long before this but I still love it.”

Heien Kirtland Pruy wants to be kept posted re reunion because there is a possibility that she and Bill (living in Honolulu) will be on the mainland in May. All four of their progeny are on the mainland.

Catherine (Kay) Cartwright Backus, your correspondent, and Gene toured New England before the so-called “energy crisis,” in the company of their Labrador retriever. Last July I spent a day in Farmington with Audrey and Course Parsons who is as vivacious as ever.

Lydia (Jill) Albree Childs and Sam, semi-retired, are busy as board members of Half-Way Drug House. Thanks to Jill and Jim and Savage Collins for their work on our class reunion in May.

Margaret (Peg) Baylis Hrones and John spent Christmas in Boston with their two sons. Son John Jr. was married this summer.

Helein (Teddy) Bear Longo went on a Christmas Caribbean cruise, is now at home breeding and training miniature poodles. She had great success in shows and made a tremendous article in the N.Y. Times sport section.

Dorothy (Petey) Boomer Karr and Neal love their new home in Fla. and are busy boating and golfing. They drove to Canada last fall and saw their children in New England—also visited Hazel Dewar Holden and Map in R.I. and New Jersey.

Sabrina (Subbie) Burr Sanders works part time learning to be a disabilities tutor. She has a “new son 17, an orphan cousin of Harry’s.” This Christmas all four sons were home for the first time in four years.

Jane Cosgrove and Jim enjoy a slower paced life with only Margaret at home. Jane is the first woman trustee of the Cathedral of St. John Chrysostom. The entire family gathered for Christmas except Penny.

Virginia Diehl Moorhead enjoyed thoroughly her two years in Japan. Now she is going to Europe with a friend, Atsuko Nagano, who has been studying in the U.S. The latter will return to Japan.

Merion Ferris Ritter and Julius (retired) are as busy as ever. He and Merion remodelled their house and have Ruthie and Larry living with them. Merlon is involved with Red Cross, Camp Fire Girls, Health Planning Committee, church, AAWU, and now, with Julius, heads a new chapter of AARP in Lebanon and runs a defensive driving course.

Maylah Hallock Park’s two daughters are happily married and their two sons are about to take the big step.

Janet Haines McMeen, after 10½ years of widowhood, married Albert McMeen Jr. and is living a full and happy life. Janet’s two married sons live nearby. Al has a married son and a daughter Marcia, C.C. ’85. Janet was mother of the bride when Marcia married.

Barbara Hervey Reussow and Charles fell in love with Santa Fe last summer, the way to Colo. Within a month they sold their home in Fla. and moved into a fully furnished model home. They acquired 1.6 acres of land at 7100, overlooking three mountain ranges. Barbara will see Adreon Finneghan Partington ’36 on her next trip from Phoenix to Colo. She plans to call Margaret Royall Hinck ‘33 who also lives in Santa Fe.

Elizabeth Murphy Whelan ’85, whose article appears on page 2, is a medical writer. She has written: Human Reproduction and Family Planning: a Programmed Text; Sex and Sensibility: A Girl’s Guide to Growing Up; and The Baby Game (now at the publisher’s), besides articles in professional journals and popular magazines. In January National Review ran her article on cyclamates and saccharin, and currently she is working on a book entitled The Natural Food Hoax. The Population Dilemma: Which Way From Here?, which appeared in 1970, was her first contribution to our magazine. Beth holds a master’s in Epidemiology and Health Education from the Yale School of Medicine and a doctorate in Population Studies from the Harvard School of Public Health.
Short Hills, N.J. and Wellfleet on Cape Cod.

June Bissell Carroll had a wild time running for first selectman of Branford and really learned a lot about campaigning. Joan Blair Carter spends summers in Warren, Puerto Rico, and winters in Sea Island, enjoying lots of golf.

Norma Bloom Hauserman does volunteer teaching with children who need remedial reading assistance. Her oldest daughter works at the Metropolitan Museum where her husband is assistant to the chief curator.

Sara Bowman Sun and her husband have a married daughter living in N.C. where they visit for golf and to see their grandson. They look forward to a trip to London and golfing in Scotland.

Rosnick Dean Reed spent the summer getting their retirement home organized after a 9 months trip on their boat from Greenport, L.I. to Delaware Bay, through the Inland Waterway, to Miami and a stay at Key Marathon before flying to San Juan. They were back in Niantic in June.

Edith Burnham Carlough enjoys an active C.C. club. She finally returned to work as a library secretary. Her husband took early retirement due to arthritis.

Constance Campbell Collins had another trip across territorial苏联, visiting Moscow, Leningrad, Warsaw, Bucharest, Prague, West Berlin, and getting an insight of social and economic conditions. At home they enjoy traveling to Hawaii.

Shirley Cohen Schrag's daughter is a senior at C.C. Shirley and her husband had an interesting trip to Mexico last spring and enjoyed life in Key Biscayne.

Priscilla Cole Duncan and husband, retired, travel by trailer and their boat. With her knowledge of income tax laws, she works briefly during the season.

Lorraine Cook quaint teaching due to fatigue after her father's death. She would like to enter the antique business and continue writing.

Virginia Deuel had an exciting trip to the Antarctic last winter, flying to S. America and continuing by ship. Jacques Coutseau was aboard for three days. Ginny plays a lot of golf and won two club championships.

Barbara Fawcett Schreiber went to Bermuda to celebrate their 35th anniversary. She is in her 10th year with the Canton, Ohio, Board of Education and very much occupied with the Social Studies Committee.

Dorothy Fuller Higgins slowed down on substitute teaching after 18 years. They went back to gardening and filled their freezer and they look forward to the sunny days of spring. Her husband is involved in politics and Dot is active in church clubs, etc.

Elizabeth Gilbert Gehle is back in this country after 17 years in Bogota, Colombia. Bill recently retired from WestINGhouse. All four children are married and "spread around the world."

Leonore (Lee) Gilson Williams' daughter Mary, C.C. '73, graduated cum laude with distinction in her major field of child development, married a U.S.C.G. graduate and is now in San Diego.

Adelyne Gittings Wilson still teaches. Her husband took early retirement from teaching because of illness.

Margery Mayo Feagin and husband had a delightful 10-day cruise in a chartered boat. They have also cruised the Dalmatian coast. She enjoys her work on the board of the museum as well as for the Tulsa Philharmonic and Tulsa Opera.

Frances Minson Blighood's husband Royal, retired as detective New London Police Dept., is now with Conn. Motor Vehicle Dept. Fran, retired from State Police Dept. and U. of Michigan Survey Research Center, is now busy with church, civic work, and gardening in East Lyme. They enjoy trips to Missouri visiting their married daughter.

Edith Munroe Russell with children in Ariz. and Mo., also goes to Delray Beach in Fla. for sunshine and to enjoy golf.

Eleanor Terafield Koenitz and Kenn (retired after 32 yrs. and 15 moves covering 20,000 miles) celebrated their 34th wedding anniversary. Their home is across the Mississippi River from Current City and they are involved in Republican politics.

Correspondent: Mr. H. Bradford Sauer (Dorothy Clarke), 84 Hop Brook Road, Simsbury, Conn. 06070

39 Mark the date: Reunion. May 31—June 1. Mildred Weitlich Gieg still feels that her only place to live in the world is Cape Cod. Her oldest son, an attorney in Richmond, Va., has a C.C. graduate wife, Midy and her husband make 18th century 1 inch to 1 foot scale models. They had a real C.C. mini-reunion in Oct. with a weekend in Vt. with Elizabeth Patton Warner, Jean Ellis Blumlein, Jane Krepps Wheeler '38 and their husbands. 

They were in Cape Cod from Ruth Brodehead Heintz and Howie, Elizabeth Parcell Arms and Chuck, and the Blumleins. Elizabeth Patton Warner, after a 5-year battle with rheumatoid arthritis, is now more active and re-employed as the Fairfield County chairman of the United Negro College Fund. Husband Phil is on a new venture as a director of development from closed circuit TV for business. Daughter Wendy is mid-west manager of Girl Talk magazine.

Jean Ellis Blumlein recently showed her daughter Anne, a college senior, pictures of her new house in Philadelphia. Her husband's retirement is "and is very busy doing work as a consultant for several firms including one in Stockholm.

Nancy Wroe Sweeney's husband retired as chief of the Anesthesia Dept. at Maine Medical Center. They then moved from their farm to a new home on the ocean, finding time to do what they have always wanted—cruising, fishing, bird and deer hunting.

Carol Prince Allen and Lew changed their camping style from tent to tent-trailer for vacations on N.C.'s Outer Banks and Martha's Vineyard with weekend excursions in N.J.

Virginia Taber McCamey's husband starts a new position as director of the NorthEast region of the National Union of Teachers. With a retirement home in mind, Frank and Ginny purchased 37 acres on a mountain ridge inside the Chattahoochee Natl. Forest in Ga. In Sept. they drove to Minn. for a canoe trip in a still unspoiled area.

Barbara Curtis Rutherford's travels took her and her husband to Costa del Sol in Spain during the fall. Winter plans consist of a sailing trip in the British Virgin Islands with five other couples in two boats.

Elizabeth Mullord de Groff and Ed crossed the country and back this year in their Beach Travel trailer. They visited our APS students, in each city, they really appreciated the "desolate southwest desert." After visiting daughter Judy, C.C. '69, and family in Calif., they returned by the northern route.

Sylvia Basoss Moriell still enjoys country life in their remodeled schoolhouse. Sylvia works half days at the Southern Ill. U. (in academic advising) where her youngest son is a senior. Two other sons are in Europe and her daughter in Berkeley.

Elizabeth Parcell Arms and Chuck had a wonderful trip in France. They were in Paris, toured the Louvre, and sailed to Maine during the summer. They plan to take it to Mystic Seaport for our RE-UNION.

Edith Gray Burger spent '73 largely recuperating from two bouts of hepatitis. In her volunteer work, happy shifted her main interest from the field of general health to mental health and is on the board of the Mental Health Agency in C.C. Her son David is a junior at C.C.

Beatrice Dodd Foster works as an executive secretary but she and husband Bud spent weekends and vacations at her daughter's summer home at Groton Long Point. Daughter Wendy flew home for a vacation from her school for translation connected with the U. of Munich. When she finishes she will be a certified translator in both German and French.

Henrietta Farnum Gatchell had a year filled with travel and volunteer activities. Two trips to Europe, one in Sept. and one in Nov. (to Greece, made more interesting by the political turmoil). Henny is a trustee at Dana Hall, the school she once attended. As a board member of a home for aged women, she is part of the 13-member building committee. 


41 So many new addresses—among them Ann Breyer Silson to Summerland Key, Fla., Jeanne Turner Creed to Tulsa, Okla., Lois Vanderveltham to Hot Springs, Ark., Sally Schley Manegold to Hartland, Wis., Shirley Stuart Fick to Westampton Beach, N.Y.

Stue is in her 16th year of teaching in Saybrook School.

Janet Fletcher Eilrod has a son at N.Y. Medics College and a daughter headed for Wharton School for her M.B.A. Janet directs a nursery school in Armonk.

Louise Stevenson Anderson reports the addition of a new wing to their home in Noank, a big job but it will enable them to entertain more of their old friends. She is thinking ahead to reunion plans in 1976.

Rosalie Harrison Mayer's husband Oscar won several prices for his movies shot on safari.

Betsy Downey Bames has a married daughter in Fla. and a son who received his M.B.A. from Harvard.

Virginia Newberry Leach managed a three-week N.J. Garden Club tour of the Orient. The girls arrived in Hong Kong and rode Chippa Conlon Vaux, Nell, and Andy for a reunion weekend. The girls grew up together in Ridgewood, N.J. but hadn't gotten together in 26 years. Zannie, their C.C. grad has an interesting job with Lincoln Center Film Society.

Priscilla Duxbury Wescott was appointed director of public affairs of Wheaton College. Prior to this she served as field director for the Development Office of C.C. was exec. Secretary of the Mass. LWV, director of the student program of the Foreign Policy Assoc. in NYC, and U.N. observer for the N.J. Overseas Education Fund. Dux and Bob have two children at C.C.

Doris Goldstein Levinson teaches sociology at Mitchell.

William Lassans (Jane Kennedy) visited Miriam Rosnuck Dean and Harold last fall and enjoyed a dip at Ocean Beach and many memories told about Izzy's and Dean's. Mimi and Elizabeth Byrne Anderson do volunteer work at the hospital.

Dr. Mary Hall is C.C. physician and president of the Northeastern Assoc. of College Doctors. She is on the board of the Planned Parenthood League and can be found in Who's Who in American Women.
Eileen Barry Wilderotter received her master's degree in library science at the U. of Mich. Lee took the prize at reunion for having the most children—nine. She now works in the Flint Library.

Correspondent: Mrs. John Newman Jr. (Jane Kennedy), 41 Old Pascack Road, Woodcliff Lake, N.J. 07675

The class sends belated sympathy to Thelma Gustafson Wyland whose son Brooks died in the summer of 1971.

Correspondent: Mrs. John S. Morton (Mary Jane Dole), P.O. Box 497, Aromas, Cal. 95004

Mark the date: Reunion May 31—June 1.

Constanz Geraghty Adams' son Matt is off to college at U.C. Davis. Daughter Pat takes courses in archaeology and ceramics at the U. of R.I., in connection with her job at the R.I. Historical Preservation Commission in Providence.

Jean Leinbach Breitinger's husband suffered a stroke and is still undergoing physical and speech therapy. Jean had to take over on the home front but still finds time for community work and tennis.

Elise Abrahams Josephson and Neil traveled to Israel during and observed the spirit of the Israeli people in response to the October War. They toured cities, youth villages and kibbutzim, archaeological sites, and holy places open to pilgrims of all faiths. Neil and Elise also worked as volunteers in a hospital for wounded soldiers in Jerusalem.

Edith Miller Montgomery wrote from Mess. General Henry, where a metal plate was removed from her leg, the final step in recovery from a skiing mishap. The Montenegroys spent Aug. in England, visiting friends and son Tom who had just finished a year at Oxford. They also saw Meredith, now spending her jr. year at the U. of Strasbourg.

Betty Rabinowitz Sheller and Ralph moved to a smaller house on the river in Westport. Ralph was home all summer recuperating from a heart attack. Daughter Ann is married; Doug is out of Lehighton; and Jan, at Harvard, plans to be a doctor.

Mary Kent Hewitt Norton, '44 reunion chairman, reported an excellent response to an early questionnaire sent to class members, many of whom plan to attend their 30th reunion. A number of husbands plan to be there too. Some classmates will be kept away by various factors, but all expressed interest and offered many concrete suggestions to make the reunion a memorable one.

Co-correspondents: Mrs. David Oberlin (Ellinor Houston), 6401 Caviller Corridor, Falls Church, Va. 22044; Mrs. Richard Vogel (Phyllis Cunningham), 230 E. 71st St., New York, N.Y. 10021

Patricia Tuchon Norton happily reports that after 1 1/2 hospitalizations her husband Blackie is doing fabulously; driving with a false leg, he gets around without crutches and plans his golfing.

Doby Royce Stimpson's Phoenix news clipping reported that she came in second in her age group in the 12th U.S.G.A. Sr. Women's Championship at San Marcos C.C.

Charlotte Service Church is her husband's secretary and son Skip is also in business with his father.

Elizabeth Trimble Croxton was promoted to senior systems analyst at Ethicon, Inc., a division of Johnson & Johnson in N.J.

Patricia Wells Caulkins particularly loved her recent vacation at Catalina for 9 days. Nancy teaches a public school kindergarten. Nancy teaches a unit in cancer in Aug.

Joan Truscott Clark moved to a new home in Lawrence, Mass. She is now a Jr. League sustainer, gardener, portrait painter and on the N.J. Symphony Committee.

Margaret Hartley Schaefer and Gertrude Prosser Fuller are close N.J. neighbors. Peggy is a Jr. League sustainer, gardener, portrait painter and on the N.J. Symphony Committee.

Anne McCarthy Miller, after 8 years as a widow, married Earl W. Garrison in June '73. They each have two children in their late teens.

FOR THE SCHOLARSHIP FUND

Folding table. Black with gold Connecticut College seal. $15.95 (15% off, 11 1/2" wide, 16" high)

Price includes prepaid parcel post within the USA. On deliveries in Connecticut add $1.04 state sales tax per table. Checks payable to Connecticut College Club of Hartford.

Mail order to: Mrs. Page G. Harman 185 Stoner Drive West Hartford, Ct. 06107

Martha Harris Raymond moved to Lafayette, Calif. The family went back to Cleveland for a week at Christmas.

Joan Truscott Clark moved to a new home in Haddonfield, N.J.

Norma Kochenour Kline's 2 daughters keep up a busy schedule.

Lis Sessions Spratley's son, Fred, 6th tall at 16 makes Sugar the "shrimp in the family and cuts down on parental authority."

Nancy Clapp Miller's husband Walter recently acquired a pilot's license which provided flying fun for all. Nancy loves her part-time job as a secretary.

Barbara Nash Hanson's daughter Lynn is going on to dental studies.

Dorothy Cramer Maltlan went back to school this fall to get her R.N. degree started many years ago at Yale where she met her doctor husband Alex.

Barbara Wiegand Pilotte and Bob were in Bermuda last year.

Joann Appleford Schepert and her family were in Bermuda last Easter. Jo's father died of cancer in Aug.

Nancy Bohman McCormick was elected to a second term on the Albany, Ore., school board and convinced her community of the need for a public school kindergarten. Nancy teaches piano at the local community college, "a pioneer program with 5 students and an entirely different philosophical approach to education from C.C.'s demands for excellence."
Helen Johnson Leonard's daughter Jessica was married last summer.

Janice Schaumann Bell and Roy bought a condominium in Denver and in Nov. went to Russia for a week. At the American Bankers Convention in Chicago Roldah had a good visit with Joan Truscott. Mary Martha Suckling ran into Elizabeth Johnson and ran into Mary Hume Keck in the café and had a carpet firm's office gives her a chance to work with agroup of English speaking people, working with a mixture of Indians, Pakistanis, Persians, British and Americans. The archeological diggings are fascinating and ‘surface picking’ is a favorite pastime. Phyl is involved in teaching tennis and teaching, learning batik and block printing, a craft/thrift shop, PTA, Mah Jongg and travel. She has been to Bombay, Karachi, Sri Lanka, Singapore and in Germany with her whole family.

Barbara Thompson Stabile and family are happy to be in New London where her husband and in Nov. for a year's sabbatical in Nairobi, Kenya. Susan Askin Wolman's oldest child, Paul, is at Washington U. in St. Louis.

Ann Andrews Hafton left with her husband and children in Nov. for a year's sabbatical in Fair. The annual meeting of the Connecticut College Alumni Association will be held at the college on Friday, May 31, 1974, at 1:30 P.M. The agenda will include reports from the officers of the association, an alumna trustee, and chairpersons of standing and special committees.

**OFFICIAL NOTICE**

The annual meeting of the Connecticut College Alumni Association will be held at the college on Friday, May 31, 1974, at 1:30 P.M. The agenda will include reports from the officers of the association, an alumna trustee, and chairpersons of standing and special committees.

**53**

BORN: to David and Patricia Kohn Hadad of Clifton, Patrick Goodman, 6/29 in Toronto, Canada.

Virginia Bowman Nicewonger, whose aunt lives with her and her family in Greensburg, Pa., comments, “We have three generations in our household and always have a good time. Helen Johnson Leonard's daughter Jessica was married last summer.

Janice Schaumann Bell and Roy bought a condominium in Denver and in Nov. went to Russia for a week. At the American Bankers Convention in Chicago Roldah had a good visit with Joan Truscott. Mary Martha Suckling ran into Elizabeth Johnson and ran into Mary Hume Keck in the café and had a carpet firm's office gives her a chance to work with a group of English speaking people, working with a mixture of Indians, Pakistanis, Persians, British and Americans. The archeological diggings are fascinating and ‘surface picking’ is a favorite pastime. Phyl is involved in teaching tennis and teaching, learning batik and block printing, a craft/thrift shop, PTA, Mah Jongg and travel. She has been to Bombay, Karachi, Sri Lanka, Singapore and in Germany with her whole family.

Barbara Thompson Stabile and family are happy to be in New London where her husband and in Nov. for a year's sabbatical in Nairobi, Kenya. Susan Askin Wolman's oldest child, Paul, is at Washington U. in St. Louis.

Ann Andrews Hafton left with her husband and children in Nov. for a year's sabbatical in Fair. The annual meeting of the Connecticut College Alumni Association will be held at the college on Friday, May 31, 1974, at 1:30 P.M. The agenda will include reports from the officers of the association, an alumna trustee, and chairpersons of standing and special committees.

**OFFICIAL NOTICE**

The annual meeting of the Connecticut College Alumni Association will be held at the college on Friday, May 31, 1974, at 1:30 P.M. The agenda will include reports from the officers of the association, an alumna trustee, and chairpersons of standing and special committees.

**53**

BORN: to David and Patricia Kohn Hadad of Clifton, Patrick Goodman, 6/29 in Toronto, Canada.

Virginia Bowman Nicewonger, whose aunt lives with her and her family in Greensburg, Pa., comments, “We have three generations in our household and always have a good time. Helen Johnson Leonard's daughter Jessica was married last summer.

Janice Schaumann Bell and Roy bought a condominium in Denver and in Nov. went to Russia for a week. At the American Bankers Convention in Chicago Roldah had a good visit with Joan Truscott. Mary Martha Suckling ran into Elizabeth Johnson and ran into Mary Hume Keck in the café and had a carpet firm's office gives her a chance to work with a group of English speaking people, working with a mixture of Indians, Pakistanis, Persians, British and Americans. The archeological diggings are fascinating and ‘surface picking’ is a favorite pastime. Phyl is involved in teaching tennis and teaching, learning batik and block printing, a craft/thrift shop, PTA, Mah Jongg and travel. She has been to Bombay, Karachi, Sri Lanka, Singapore and in Germany with her whole family.

Barbara Thompson Stabile and family are happy to be in New London where her husband and in Nov. for a year's sabbatical in Nairobi, Kenya. Susan Askin Wolman's oldest child, Paul, is at Washington U. in St. Louis.

Ann Andrews Hafton left with her husband and children in Nov. for a year's sabbatical in Fair. The annual meeting of the Connecticut College Alumni Association will be held at the college on Friday, May 31, 1974, at 1:30 P.M. The agenda will include reports from the officers of the association, an alumna trustee, and chairpersons of standing and special committees.

**OFFICIAL NOTICE**

The annual meeting of the Connecticut College Alumni Association will be held at the college on Friday, May 31, 1974, at 1:30 P.M. The agenda will include reports from the officers of the association, an alumna trustee, and chairpersons of standing and special committees.
think I was for it but find myself being influenced mightily by it."

Ann Hutchinson Brewer does volunteer teaching of water and forest ecology in the public schools and is a licensed real estate salesman. She and Bill live in Villanova, Penn.

Jocelyn Haven Mickie lives in NYC and has a paying job.

Hildegarde Drest Hamann and husband are translators and are helping raise funds for the American Friends Service Committee's North/ South Vietnam fund.

Nina Davis Jackson works out of her home in Lawrenceville, N.J. She has a husband, a nice big old Victorian house, and three teenagers.

Judith (Judy) Morse Littlefield and Walter built a skiing rink at their home in West Boxford, Mass.

Marlyn (Mull) McLuggage Thyrre's husband Rolf is an airline pilot. The family went to Denmark last summer and they spent part of every year in the Bahamas with their boat. Coral Gables, Fla. is home but Mull goes to bridge tournaments all over the country.

Mary Field Parry has lots of non-paying projects (LWV, UNICEF, church) and recently acquired a horse.

Eugenia (Jeannie) Eacker Olson lives in Peoria, Ill. and is doing study materials for women 40-93; recently she took a week's course in Dallas on how to train Sunday School teachers. She works with children in remedial reading and art of ages.

33 responses to the questionnaire showed 92 children, an average of 2.79—30 boys, 45 girls and 10 unspecified; 77 pets (9 dogs, 14 cats, 10 horses, 6 gerbils, 2 rabbits, 1 duck, many fish): a general feeling that Women's Lib is good but its wayout proponents make you nervous: the most boring jobs are mainly teaching of water and forest ecology in the Ukraine.

Rolf is an airline pilot. The family went to Denmark last summer and they spend part of every year in the Bahamas with their boat. Coral Gables, Fla. is home but Mull goes to bridge tournaments all over the country.

Mary Field Parry has lots of non-paying projects (LWV, UNICEF, church) and recently acquired a horse.

Eugenia (Jeannie) Eacker Olson lives in Peoria, Ill. and is doing study materials for women 40-93; recently she took a week's course in Dallas on how to train Sunday School teachers. She works with children in remedial reading and art of ages.

33 responses to the questionnaire showed 92 children, an average of 2.79—30 boys, 45 girls and 10 unspecified; 77 pets (9 dogs, 14 cats, 10 horses, 6 gerbils, 2 rabbits, 1 duck, many fish): a general feeling that Women's Lib is good but its wayout proponents make you nervous: the most boring jobs are mainly teaching of water and forest ecology in the Ukraine.

Rolf is an airline pilot. The family went to Denmark last summer and they spend part of every year in the Bahamas with their boat. Coral Gables, Fla. is home but Mull goes to bridge tournaments all over the country.

Mary Field Parry has lots of non-paying projects (LWV, UNICEF, church) and recently acquired a horse.

Eugenia (Jeannie) Eacker Olson lives in Peoria, Ill. and is doing study materials for women 40-93; recently she took a week's course in Dallas on how to train Sunday School teachers. She works with children in remedial reading and art of ages.

33 responses to the questionnaire showed 92 children, an average of 2.79—30 boys, 45 girls and 10 unspecified; 77 pets (9 dogs, 14 cats, 10 horses, 6 gerbils, 2 rabbits, 1 duck, many fish): a general feeling that Women's Lib is good but its wayout proponents make you nervous: the most boring jobs are mainly teaching of water and forest ecology in the Ukraine.

Rolf is an airline pilot. The family went to Denmark last summer and they spend part of every year in the Bahamas with their boat. Coral Gables, Fla. is home but Mull goes to bridge tournaments all over the country.

Mary Field Parry has lots of non-paying projects (LWV, UNICEF, church) and recently acquired a horse.

Eugenia (Jeannie) Eacker Olson lives in Peoria, Ill. and is doing study materials for women 40-93; recently she took a week's course in Dallas on how to train Sunday School teachers. She works with children in remedial reading and art of ages.

33 responses to the questionnaire showed 92 children, an average of 2.79—30 boys, 45 girls and 10 unspecified; 77 pets (9 dogs, 14 cats, 10 horses, 6 gerbils, 2 rabbits, 1 duck, many fish): a general feeling that Women's Lib is good but its wayout proponents make you nervous: the most boring jobs are mainly teaching of water and forest ecology in the Ukraine.

Rolf is an airline pilot. The family went to Denmark last summer and they spend part of every year in the Bahamas with their boat. Coral Gables, Fla. is home but Mull goes to bridge tournaments all over the country.

Mary Field Parry has lots of non-paying projects (LWV, UNICEF, church) and recently acquired a horse.

Eugenia (Jeannie) Eacker Olson lives in Peoria, Ill. and is doing study materials for women 40-93; recently she took a week's course in Dallas on how to train Sunday School teachers. She works with children in remedial reading and art of ages.
Jim heads the Physics Dept. Rachel directed 20 students in a dance concert on campus in early Dec.

Nancy Keith LeFevre has written to Juuane Solmssen Steedman on the phone.

Wendy Elizabeth Smith and Steve recently stopped by to have a vacation. Dale has visited Elizabeth (Betsy) McGrady and White Mts. Philip manages the family investments.

Karen Johnson Dehlin and Bruce live in Monroe, Conn., where Bruce is in charge of a data processing firm, is busy renovating their apartment.

Susan Jenkins Greene and Arthur are in Glen Ellyn, Ill., with daughter Jennifer and son Andrew.

Cynthia Pearson Berg, Norman and their two sons had a delightful 6-week stay in Honolulu while Norm was teaching. Cynthia saw Laurie Blake Sawyer who recently had her third child, and their daughter relaxed last summer on Cape Cod. Bonnie Campbell Jameson and her daughter recently visited the Smiths.

Carolyn Boyan Torson Walker, a co-correspondent, and family were delighted to move to Toledo. Jay finally went into business for himself and is president of a forest-products related company. After spending two sedate years in Wisc., I am anxious to resume my participation in Children's Theatre, and Jr. League, redecorate an old colonial and take a graduate course at U. of Toledo.

Co-correspondents: Mrs. Jay N. Torok (Caryllyn Boyan), 55 Canterbury Court, Toledo, Ohio 43616; Mrs. Per Hellman (Robin Lee), P.O. Box 2093, Myrtle Beach, S.C. 29577

Beatrice Robinett Porter is a program coordinator for UCLA and lives in San Francisco. Her extracurricular activities include dancing and teaching dancing to children.

Marian Bingham Hubbell, husband Bill, Drina and the Gruners last summer were swimming and sailing in France. Marian teaches stoneware and porcelain ceramics with a studio and kiln at home. Bill is director of photography for an audiovisual film strip company.

Teresa (Terry) Rachlele Pinto is Democratic committewoman in Wayne, N.J. With husband Mike and their children, Pam, Michael and Andrew, Terry spends summers at their beach house in Bay Head. Mike is director of internet practice for the American Inst. of CPA's in NYC.

Evelyn Ortmann Long finished her education at the U. of Mich., while Bill worked at Ford. They have two children and now live in Philadelphia.

Marie LaFerriere Laffey received her M.A. in English lit., from the U. of So. Cal. Husband Glenn is a civil engineer for the Los Angeles County Flood Control District. Marie did editing for the English lit. book before son Glenn was born. The Laffeys have remodeled an old Spanish house in Glenelg between trips to Europe and Japan.

Judith (Judy) Judson Tan, husband Djin, (a psychiatrist) and their four children live in Cheshire, Conn. Judy is active in AAUW as corresponding secretary.

Roselyn Raskin Grundhofer lives in NY with husband Arthur. Ros, a media coordinator for a data processing firm, is busy renovating their apartment.

Eunice Schenkel Banes still plays the piano part time with a trio in Wayne, N.J. Chick is secretary at Bach & Co. in Paramus. Husband Keith is with the technical staff of ITT. Their twin daughters enjoy nursery school.

Barbara Thomas DeVries and Dick rented Sally MacIntyre Hines and Steve's house in Alexandria, Va. while the Hines were at Otis AFB. Recently the DeVries moved to Bath, Maine, her husband being a manufacturing engineer at the Dictaphone Corp. in Bridgeport; she "opted for a career instead of children at this time" and enjoys working in a male oriented field.

Beverly Coppeto teaches French in Waterbury, Conn. She recently received her master's degree with honors at Southern Conn. State College.

Anne Backus lives in Cambridge, Mass., working toward a Ph.D. in tropical ecology at Boston U. She plans on heading to Costa Rica soon to start her dissertation.

Diane Goldberg Levine's husband Bob just accepted a position as senior research engineer with a research center in Ridgefield, Conn.

Jean Torson Walker and husband Bob keep busy with their new daughter and son Carl.

Anne Taylor Wadsack thinks having fraternal twins is a "most efficient way to have your family." She continues to practice law in Madison, Wisc. with a private law firm and is a member of the Board of Directors of the Family Law Section of the Wisc. State Bar Assn. This year past Anne served as state chair of the American Bar Assn committee on juvenile law. She is currently curriculum ad-, visor to the Madison Area Technical College.

Katherine Cory DeGrace and her family moved from N.J. to the Penn. Dutch country.
JOANNE VLECIDES '64, who has been appointed Manager of the Department of Long Range Planning and Development of the Chicago Transit Authority, is the first woman executive in Chicago's transit history. At the CTA a department manager is comparable to a vice presidency in the administrative organization of a corporation. After graduate work at George Washington University in Washington, D.C., Joanne worked for the Aetna Life Insurance Company in Hartford before joining HUD, as director of financial assistance programs for nonprofit sponsors of housing under the Federal Housing Administration.

Taylor Johnson, Karen Taylor 8/31; to Ted and Suzanne Mitchell Stanford, Theron Jex 3/18/73; to Andy and Tracy Marshall Whitelaw, Oliver Marshall 5/10/73; to Mark and Alexandra Green, Brandon 2/72; to Pel and Susan Croft, Alysia 6/13; to Lillian Balboni Prestley and Peter, Peter Dec. 10, 73.

Suzanne Mitchell Stanford works at Control Data Corp. on a part time basis since becoming a mother and is currently working on a design for a data base management system. Jackie King Donnelly completed her master's in French lit. prior to getting married, and is now the only French teacher on the faculty of St. Augustine Seminary in Holland, Mich.

Tracy Marshall Whitelaw and Andy moved to Los Angeles. Tracy is busy mothering, paint-
Babette Gabriel Thompson, who graduated from Temple Law School in '72, is on the house counsel staff of I.U. State Consumer Protection Agency.

Anne Perno counsels elementary school children in the Boston area.

Ann Barber, after two years with Lighthouse, works with older blind adults and teaches at the Center for Independent living in N.Y.

Joan Horsner Smith and her son are in Fla. where husband Derek attends law school.

Betsy Benner McSherry and Bill bought a house in Menlo Park, Cal., which Betsy is decorating while caring for Kerith.

Judith Bamberg Atkinson is a bookkeeper in Springfield, Mo.

Ellen Aronoff Kent keeps busy with 2 children while Don completes his residency in ear, nose and throat surgery at Yale.

Helen Bergoff Cohen has just completed her Ph.D. in special ed at U. Conn. teaches at Hunter College.

Leslie Fisher Stuen teaches junior high in Colo. Both she and Roger are ardent backpackers and skiis.

Ellen Robinson Epstein is the director of the Center for Oral History, a project which preserves personal memories via tapes and interviews.

Susan Schwab Turfl and George both received degrees from Washington U. Sue her MSW and George his MD. While George interns in pediatrics, Sue has "retired" to care of Beth.

Leslie Fenig was in Tonga with the Peace Corps for two years, returned to Conn. to complete her masters in engineering science.

Evelyn Marenberg is in the MFA program in film at UCLA.

Carol Bunevlch works with disturbed teenagers at Bellevue.

Carla Welsh Snyder teaches dance at Agnes Irwin School and studies philosophy at Bryn Mawr.

Sheila Ryan Wilkinson and Peter bought a house in North Haven, Conn. Sheila took a leave of absence from teaching to study for her master's and care for son Peter.

Peggy Croft Enichen and Bill both work for IBM, she as a programmer. They spend their weekends in a handbuilt kayak and skiing.

Audrey Kuh Burt is active in local politics at Beverly.

Carla Welsh Snyder teaches dance at Agnes Irwin School and studies philosophy at Bryn Mawr.

Jan Macdonald Montgomery and John had two children in the Boston area.

Mary Scheckman Hubka and Terry bought a farm in Bridgton, Me., where they farm organically. Mary is active with the hospital guild.

Judy Millman Kenton and Don have two children. Judy teaches Russian to private students.

Patricia Gumo, after studying music and Italian in Florence, works for an Italian importer in N.Y.

Kathleen Buckley Griffits is busy with her son and daughter and husband in New London. Peggy has been busy with two Peace Corps. She completed her executive training program and is currently a consultant for AFS International Scholarships in the Philippines.

Christina Balboni Patterson, prior to getting her master's in teaching English as a Foreign Language, worked for a philosophy graduate student at Bryn Mawr.

Mary Scheckman Hubka and Terry bought a farm in Bridgton, Me., where they farm organically. Mary is active with the hospital guild.

Claudia Klobas Blake is completing her master's in public health, a joint program in health education and population planning, at U. of Mich.

Barbara Pite is at Mich. in the MBA program.

Sara Roe Heckscher was the Cincinnati Christian College Student Council president and was recently loaned to the Portland United Crusade as a fund raiser. Keith and Linda Platts Critchlow, who does research on health care; and Phil and Alice Reid Abbott, who studies social work and works for Boston's Public Welfare Dept. Cyn is in charge of mental health services and services for retardation.

Leslie Dahn Sundberg teaches Spanish-language classes at the University of Miami.

Karen Wright Hilton lives in Gainesville, Fl. where Gordon is doing his residency in psychiatry.

Catherine Robert teaches English at Lafayette College while writing her dissertation.

Susan N. Rosenzweig teaches in a high school near Boston where Steven is a doctoral candidate at B.U. and a school psychologist.

Nina Berman Schafer develops programs in Israel for high school and college students under the auspices of the Union of American Hebrew Congregations. In between trips to Israel, Nina collects antique quilts, is a board member for an alternative school project, and a philosophy graduate student at Bryn Mawr. She is currently working on a project to bring together the academic community in the Philadelphia area.

Sara Busch, after completing her M.A. and doctoral coursework in Renaissance history, teaches history at Brooklyn Community College in N.J.

Ann Weinberg still works for Westminster Learning Corp. and does volunteer work for Planned Parenthood and Suicide Prevention. She is active in the Women's Movement.

Kathryn Kayser is an economist for the Dept. of Agriculture's Economic Research Service in Washington, D.C.

Kim Warner O'Malley and Jim are busy with Brian and the old estate cottages they're fixing up.

Susan Cannon Trillinger, while her husband does post doctoral research at Purdue, teaches nursery school classes.

Judith Hellyer Zavitkovski and Paul teach at the American School in Warsaw, Poland, "a mini-United Nations."

Candace Lindsay works in Los Angeles.

Rebecca Brown Foley and Kevin moved to Wellesley after Kevin's Navy tour was completed.

Harper Morrison Bogaty is in Tokyo with Will. Heather studies Japanese and collects contemporary woodblock prints.

Harriet Kocis Berman is studying for her Master's in guidance at Tufts.

Mary Scheckman Hubka and Terry bought a farm in Bridgton, Me., where they farm organically. Mary is active with the hospital guild.

Judy Millman Kenton and Don have two children. Judy teaches Russian to private students.

Patricia Gumo, after studying music and Italian in Florence, works for an Italian importer in N.Y.

Kathleen Buckley Griffits is busy with her son and daughter and husband in New London. Peggy has been busy with two Peace Corps. She completed her executive training program and is currently a consultant for AFS International Scholarships in the Philippines.

Josephine Balboni Patterson, prior to getting her master's in teaching English as a Foreign Language, worked for a philosophy graduate student at Bryn Mawr.

Mary Scheckman Hubka and Terry bought a farm in Bridgton, Me., where they farm organically. Mary is active with the hospital guild.

Claudia Klobas Blake is completing her master's in public health, a joint program in health education and population planning, at U. of Mich.

Barbara Pite is at Mich. in the MBA program.

Sara Roe Heckscher was the Cincinnati Christian College Student Council president and was recently loaned to the Portland United Crusade as a fund raiser. Keith and Linda Platts Critchlow, who does research on health care; and Phil and Alice Reid Abbott, who studies social work and works for Boston's Public Welfare Dept. Cyn is in charge of mental health services and services for retardation.

Leslie Dahn Sundberg teaches Spanish-language classes at the University of Miami.

Karen Wright Hilton lives in Gainesville, Fl. where Gordon is doing his residency in psychiatry.

Catherine Robert teaches English at Lafayette College while writing her dissertation.

Susan N. Rosenzweig teaches in a high school near Boston where Steven is a doctoral candidate at B.U. and a school psychologist.

Nina Berman Schafer develops programs in Israel for high school and college students under the auspices of the Union of American Hebrew Congregations. In between trips to Israel, Nina collects antique quilts, is a board member for an alternative school project, and a philosophy graduate student at Bryn Mawr. She is currently working on a project to bring together the academic community in the Philadelphia area.

Sara Busch, after completing her M.A. and doctoral coursework in Renaissance history, teaches history at Brooklyn Community College in N.J.

Ann Weinberg still works for Westminster Learning Corp. and does volunteer work for Planned Parenthood and Suicide Prevention. She is active in the Women's Movement.

Kathryn Kayser is an economist for the Dept. of Agriculture's Economic Research Service in Washington, D.C.

Kim Warner O'Malley and Jim are busy with Brian and the old estate cottages they're fixing up.

Susan Cannon Trillinger, while her husband does post doctoral research at Purdue, teaches nursery school classes.

Judith Hellyer Zavitkovski and Paul teach at the American School in Warsaw, Poland, "a mini-United Nations."

Candace Lindsay works in Los Angeles.

Rebecca Brown Foley and Kevin moved to Wellesley after Kevin's Navy tour was completed.

Harper Morrison Bogaty is in Tokyo with Will. Heather studies Japanese and collects contemporary woodblock prints.

Harriet Kocis Berman is studying for her Master's in guidance at Tufts.

Mary Scheckman Hubka and Terry bought a farm in Bridgton, Me., where they farm organically. Mary is active with the hospital guild.

Judy Millman Kenton and Don have two children. Judy teaches Russian to private students.

Patricia Gumo, after studying music and Italian in Florence, works for an Italian importer in N.Y.

Kathleen Buckley Griffits is busy with her son and daughter and husband in New London. Peggy has been busy with two Peace Corps. She completed her executive training program and is currently a consultant for AFS International Scholarships in the Philippines.

Josephine Balboni Patterson, prior to getting her master's in teaching English as a Foreign Language, worked for a philosophy graduate student at Bryn Mawr.

Mary Scheckman Hubka and Terry bought a farm in Bridgton, Me., where they farm organically. Mary is active with the hospital guild.

Claudia Klobas Blake is completing her master's in public health, a joint program in health education and population planning, at U. of Mich.

Barbara Pite is at Mich. in the MBA program.

Sara Roe Heckscher was the Cincinnati Christian College Student Council president and was recently loaned to the Portland United Crusade as a fund raiser. Keith and Linda Platts Critchlow, who does research on health care; and Phil and Alice Reid Abbott, who studies social work and works for Boston's Public Welfare Dept. Cyn is in charge of mental health services and services for retardation.

Leslie Dahn Sundberg teaches Spanish-language classes at the University of Miami.

Karen Wright Hilton lives in Gainesville, Fl. where Gordon is doing his residency in psychiatry.

Catherine Robert teaches English at Lafayette College while writing her dissertation.

Susan N. Rosenzweig teaches in a high school near Boston where Steven is a doctoral candidate at B.U. and a school psychologist.

Nina Berman Schafer develops programs in Israel for high school and college students under the auspices of the Union of American Hebrew Congregations. In between trips to Israel, Nina collects antique quilts, is a board member for an alternative school project, and a philosophy graduate student at Bryn Mawr. She is currently working on a project to bring together the academic community in the Philadelphia area.

Sara Busch, after completing her M.A. and doctoral coursework in Renaissance history, teaches history at Brooklyn Community College in N.J.

Ann Weinberg still works for Westminster Learning Corp. and does volunteer work for Planned Parenthood and Suicide Prevention. She is active in the Women's Movement.

Kathryn Kayser is an economist for the Dept. of Agriculture's Economic Research Service in Washington, D.C.

Kim Warner O'Malley and Jim are busy with Brian and the old estate cottages they're fixing up.

Susan Cannon Trillinger, while her husband does post doctoral research at Purdue, teaches nursery school classes.

Judith Hellyer Zavitkovski and Paul teach at the American School in Warsaw, Poland, "a mini-United Nations."

Candace Lindsay works in Los Angeles.

Rebecca Brown Foley and Kevin moved to Wellesley after Kevin's Navy tour was completed.

Harper Morrison Bogaty is in Tokyo with Will. Heather studies Japanese and collects contemporary woodblock prints.

Harriet Kocis Berman is studying for her Master's in guidance at Tufts.

Mary Scheckman Hubka and Terry bought a farm in Bridgton, Me., where they farm organically. Mary is active with the hospital guild.

Judy Millman Kenton and Don have two children. Judy teaches Russian to private students.

Patricia Gumo, after studying music and Italian in Florence, works for an Italian importer in N.Y.

Kathleen Buckley Griffits is busy with her son and daughter and husband in New London. Peggy has been busy with two Peace Corps. She completed her executive training program and is currently a consultant for AFS International Scholarships in the Philippines.

Josephine Balboni Patterson, prior to getting her master's in teaching English as a Foreign Language, worked for a philosophy graduate student at Bryn Mawr.
Brian Robie (class of '73) in Aug.; Barbana White to Edmond Monroe '85; Lynne Miller to Avishalom Moche 2/12 in Israel.

Cathay Alexander Milanp continues her modelling as well as her photography in Peewaukee, Wis. This spring she will do the 470-Olympic class sailboat racing circuit with her husband Chuck.

Beverly Allan is studying for her M.S. at U. of Penn.

Kristine Alexander Eschaulier and husband Peter recently bought a townhouse condominium in Meriden. Kris teaches physical education to handicapped children.

Sally Bemis works (waitressing) at Holiday Inn in her favorite place, Lake Placid, N.Y.

Lucy Boswell is managing editor of the Western, a newspaper/magazine for women in Loschford, Conn.

Deborah (Debb) Gayle works in Kenosha, Wis.

Sandi Bauman Edestin is an officer's assistant (having completed management training) at Chemical Bank in NYC.

Nancy Boyd is busy working for Rep. George Danielson of Cal. in Washington, D.C.

Faith Barash Whitsett and Peter's wedding took place in Harkness Chapel on one of those beautiful spring days. They live in Uncasville.

Carol Blake will complete her nursing at New York Medical College.

Barbara Camp lives and works in Chicago as administrative assistant in the public affairs division of Continental Bank.

Gail Coed is in her final year of the MBA program at Stanford. She gets practical experience working in Palo Alto in economic planning and studies.

Barbara Cooper is working at the Veterans' Hospital in N.H. and waiting part time.

Theodore (Ted) Chapin works with Alan Arsin at the Export Sales Director of MacMillan Publishing Co. Last summer she had an adventurous time in the bush of West Africa; she and her friends were sensations in each native village.

Daisy did some work for C.C. and hopes to do more. She has given up her practice in New London area in the spring of '72 with husband Jerry and daughter Kendra. Their son was born Jan. 18, '73 and Kristine returned to classes at Conn. a week later.

Susan (Connie) Gómez moved from Fla. to Boston last July, delighted to be back in New England. She works for an advertising agency and enjoys her apartment, complete with fireplace.

Andrew Hyde, now in NYC, works for a master's of public health at the Columbia School of Public Health.

Patricia Golden Aym is studying for a master's in public health at Yale and is busy planning next August's bicycling trip through France with her father and friends.

Beverly Spig Myresar enjoys Cases Western Reserve Law School. Bev and John are painting and redecorating their home.

Kathleen Wilson, after two years in Cambridge, England, moved to London to work for the Export Sales Director of MacMillan Publishing Co. Last summer she had an adventurous time in the bush of West Africa; she and her friends were sensations in each native village.

Nancy DelVecho Renn teaches science in Quinacy, Mass. and works on her master's in special education at B.U.

Norma Denzel is now an administrator and research ass't to psychiatric services at Waterbury Hospital. Her future plans include "figuring out what I really want to do with my life.

Daisy Park McDonald lives in Kansas City.

Dalcy did some work for C.C. and hopes to do interviewing. She and Lucila (Cila) Henderson spent some time on a Wyo. ranch last summer.

Nancy Hughes Rend and George bought and restored a 1702 colonial saltbox in Essex, Conn. Nancy works as a program evaluator for the Conn. Crime Commission. Both look forward to a wilderness backpack trip to Spain this spring.

Correspondent: Mrs. Mrs. Arthur H. Napier III (Mrs. Napier, the Ethel Walker School, Bushy Rd., Southbury, Conn. 06070)

MARRIED: Catherine Alexander to Charles Milikan 9/22; H. Sandra Bau- man to Howard Edestin 6/24; Corinne Can- nell to Al Buoni 6/24; Lynne Holzapfel to Timothy Hagstrom 8/12; Kathryn Jacobs to John Hauslauf 9/1; Louise (Oni) Morreese to

72 NEEDLEPOINT SEAL KIT
For the Scholarship Fund

Each kit includes hand-painted design on 14 mesh mono canvas (seal is 13" in diameter; completed work is 14" square). Nantucket Twist 100% virgin wool (blue for design and white for background), needle and instructions. Additional yarn upon request. Price $28.50

Send check payable to Connecticut College Club of Chicago to:
Mrs. John T. Falconer
2550 Shannon Road
Northbrook, I11. 60062

day care center in Silver Spring, Md. She is active in Common Cause and takes ceramics classes in the arts.

Sally Erdman will receive a master's in social work from Smith in Aug. She is presently a psychotherapist in adult psychiatry at South Shore Mental Health Center in Quincy, Mass.

Betsy Frawley is with an educational consulting firm in Boston.

Marguerite (Meg) Gemson worked as a research assistant at the U.S. Environmental Protection Agency in Washington, D.C. until May '73. After that she travelled cross country.

Patricia Handley teaches 2nd grade at St. Agnes Episcopal School in Va.

Lynne Holzapfel Hagstrom is enrolled in the doctoral program in the dept. of history at Indiana U.

Mary Holdaway is studying at the U. of Conn.

School of Social Work.

Kathy Jacobs Housiaux and John live in Groton, Wisc. (home for K.J.). Kathy is an instructional aide/teacher working and co-ordinating with the head of the reading center at a neighborhood school there.

Pat Kreger is studying broadcasting and journalism at B.U. after having worked as a staff ass't at Harvard Medical School.

Jacqueline McGinty Smith is studying biopsychology at Downstate Medical in New York.
Candace (Candy) Thorson lives in Boston and works for Little, Brown, Publishers. Oni Moores Robie and Brian are studying at the U. of Va., he in counseling education and Oni in art history. Oni also works in the university museum.

Lynne Miller Moshe, in Israel with the Sherut Lfts, is involved in local history and English teaching in two elementary schools. She is quite fluent in Hebrew after attending a summer program in Jerusalem for foreign English teachers.

Ann Taylor Brown is a business manager at the B.U. business school.

Barbara McLean Ward and her husband are doing graduate work at B.U. in American studies and live in Salem.

Deborah Zilly works with John Detmold in the development office at Conn. After graduation Debbie worked in the admissions office at Brown before coming to Conn.

I. Lynn Black is still at Northfield-Mt. Hermon School in Northfield, Mass., (counselor to 165 students at the Northfield Center); live in a dormitory; and keep very busy with office work, dorm responsibilities, and the classroom as a team-teacher in a senior history course, "Women in Society." I see Kris Alexander Esch, the new dorm proctor, often when she and Peter come to NHH, their alma mater.

Co correspondents: Miss Lynn S. Black, Kenarden Hall, NMH School, E. Northfield, Mass., and Ms. Black, 1681 Chenico, 4 Circle End Drive, Ramsey, N.J. 07446

73 MARRIED: Kimberly Francis to Gary Heil 5/13 at the USCGA chapel; Susan Lynch to Jeff Nelson 9/21; Candice Prior to T. Stephenson Toney 11/10; Brian Roble to Oni Moores 1/6; Liz Ann Smith to Susan Shepard to Brad Ball 6/30; Frances Wojcicki to Robert A. Edger ton Jr. 8/30; Susan Baldwin to Mitch Mulholland 6/5.

Pamela Barnett travelled ALL over Europe for four months, visiting friends and seeing innumerable art and historical treasures.

Steve Bergen received an M.A. in math at Wesleyan on June 2.

Candace Chase is working on an MBA at the U. of Chicago Business School.

Valerie Fletcher studied German at the Goethe Institute near Munich. From there she goes to Paris to work/study/live.

Kim Francis Heil works and plays golf in Calif. with her husband is at sea with the Coast Guard.

Vicki Sandwich Hastings works for the Rochester Historical Society and is a Sat. inst. in drawing at the Rochester Museum and Science Center. She and husband Mark got together with Christine Clarke and Jean Kelleher last summer at the Watkins Glen concert.

Lynn LeLoup is at the U. of Conn. working on a one year master's in learning disabilities. She has a full fellowship from the U.S. Dept. of Ed. for teachers and includes only six people.

Jay Levin is at U. Conn's Law School in Hartford. He is helping various inner-city agencies try to obtain federal grant monies and is still involved in local state politics.

Alexandra Lindquist is a representative of the Social Security Admin. in New Haven.

Mark Litvin is stage manager for Bella Lewitas' "The Cocket" at the Hollywood Bowl. Jean Mayshar works for Southern N.E. Telephone as an economic engineer. She went to school for 13 weeks at the Bell System Center to learn telephone engineering (electrical), management and economics. She was married Dec. 29.

Jodie Meyer, Anne Ginsberg and Mary (MaryAnn) Roraback are travelling around Greece, Istanbul, Yugoslavia and Italy.

Jeanne Montague lives in the Big Apple, working on an MBA at Columbia Business School.

Phyllis Annunziata teaches language arts to 6th graders at Branford Intermediate School in Branford, Conn. and finds it a fantastic experience. She enjoys visiting friends in the New Haven area.

Susan Cates lives in Washington, D.C. where she works for three different national plan psychiatric institutes all over the country. Sue takes art courses at the Corcoran Gallery of Art and began a course on Japanese language in Feb.

Sue Baldwin Mulholland and Mitch spent the summer at the U. of the Americas in Mexico. Mitch is working on his Ph.D. and Sue on her M.A. in economics.

Elaine Bjorhus traveled in Europe with Judith Blass and M. Cindi Gregg last summer. She's presently employed by Conn. General as an underwriter.

Mary (Molly) Cheek acted at the Dinner Theater in Nashville in Black Comedy directed by Jim Crabtree during the summer. She spent the rest of the year in Europe with Anne Ginsberg and Jodie Meyer. Running into Karen Frank in London and Margie Bussmann in Florence. She is now touring W. Va. in Under the Yum-Yum Tree.

Katharine Brigham enjoyed a skiing holiday in Colo. She works as a counselor at the N.Y. State Narcotic Addiction Control Commission, a position she finds both demanding and rewarding.

Nancy Williams works on a bookmobile in North Branford, Conn., and does volunteer teaching in an open classroom in a Uniden school private school.

Karen Winer is an admissions counselor at the New England Conservatory of Music. Co correspondents: Wendy S. Wade, Box 532, Black River Falls, Wis. 54605; Mary C. Cerretto, 4754 18th Ave. N.E., #201, Seattle, Wash. 98105

Phyllis Annunziata teaches language arts to 6th graders at Branford Intermediate School in Branford, Conn. and finds it a fantastic experience. She enjoys visiting friends in the New Haven area.

Susan Cates lives in Washington, D.C. where she works for three different national plan psychiatric institutes all over the country. Sue takes art courses at the Corcoran Gallery of Art and began a course on Japanese language in Feb.

Sue Baldwin Mulholland and Mitch spent the summer at the U. of the Americas in Mexico. Mitch is working on his Ph.D. and Sue on her M.A. in economics.

Elaine Bjorhus traveled in Europe with Judith Blass and M. Cindi Gregg last summer. She's presently employed by Conn. General as an underwriter.

Mary (Molly) Cheek acted at the Dinner Theater in Nashville in Black Comedy directed by Jim Crabtree during the summer. She spent the rest of the year in Europe with Anne Ginsberg and Jodie Meyer. Running into Karen Frank in London and Margie Bussmann in Florence. She is now touring W. Va. in Under the Yum-Yum Tree.

Katharine Brigham enjoyed a skiing holiday in Colo. She works as a counselor at the N.Y. State Narcotic Addiction Control Commission, a position she finds both demanding and rewarding.

Nancy Williams works on a bookmobile in North Branford, Conn., and does volunteer teaching in an open classroom in a Uniden school private school.

Karen Winer is an admissions counselor at the New England Conservatory of Music. Co correspondents: Wendy S. Wade, Box 532, Black River Falls, Wis. 54605; Mary C. Cerretto, 4754 18th Ave. N.E., #201, Seattle, Wash. 98105

EASTBURN

Continued from page 24

Before the word accountability attained its present fashionable-ness and as her first important assignment, Warrine directed a self-study of the college's administrative and auxiliary services structure, which then led to a number of economies in operation. At the same time she was working in the college's teacher training program to enhance our relationships with neighboring school systems and provide opportunities for students to observe good teaching and learn how to emulate it. In the following years she had a major role in planning the new buildings in cooperation with our extraordinarily creative and devoted business manager, who is B. Lambdin. Indeed, whenever I look in my rich memories of Connecticut College, I almost always discover Warrine at work efficiently, quietly and effectively. The college and all of us who were her associates are indebted to her and grateful beyond measure for her magnificent contribution to the development of Connecticut College.
panded time periods between production and use, an efficiency that leads to lower prices. Thickeners, emulsifiers, firming and leavening agents are necessary for the production of various foods. Without them, our menu would be very limited and certainly less appealing. Some health aspects of additives are fairly obvious. The introduction of preservatives has alleviated many of the problems of malnutrition in underdeveloped countries by making food more plentiful and readily available. Goiter has all but disappeared since the introduction of iodized salt and the use of Vitamin D in dairy products and baby food has practically eliminated rickets.

Other health benefits which are not immediately evident are also derived from the use of additives. Data compiled by the American Cancer Society and the National Cancer Institute suggest that our eating habits are less likely to lead to cancer than they once were. Early in this century, for instance, stomach cancer was the leading cause of cancer death in men, and second only to uterine cancer in women. Stomach cancer is now a relatively infrequent cause of death in this country, its rate having declined 33% for men and 25% for women since 1930. There is reason to believe that a widely used antioxidant-type food additive introduced into this country after 1920 may have contributed substantially to this decline. In countries such as Iceland, Hungary and Poland, where smoking and marinating techniques are still used instead of chemical preservatives, high stomach cancer rates still prevail.

So don't take the benefits of additives too lightly. Even the much criticized coloring agents may be playing a critical role. Perhaps you wouldn't care if your favorite juice was transformed one day from perky purple to gangrenous green, but most people do like their food to be pleasingly colorful. When margarine was introduced after World War II, it was illegal to add a yellow coloring agent—lest it become confused with butter. The oleo makers were, however, allowed to add a separate packet of dye which housewives could mix with the white mass of lard. And most of them did. Additives play an important role in our modern life, and there is no reason to suspect that they present a threat to health. If some of our natural foods were subjected to the same rigorous testing as additives (and probably some of them should be), we would probably find that additives fare very well in the comparison. As summarized by Dr. Frederick J. Stare, Professor of Nutrition at the Harvard School of Public Health:

As a physician and student of nutrition for the last thirty years, I am convinced that food additives are safe. The consumer is in far greater danger from improper food preparation, storage and plain overeating than from food additives whose use is carefully regulated and revised when necessary. The very, very few instances of harm from excessive or careless use of additives or from their unanticipated effects, are far outweighed by their many beneficial effects.\(^2\)

**How Do We Regulate Our “Inner Environment?”**

When you shop in “The Good Earth,” or whatever the name of your local natural spot is, you can't help wondering about some things. Most fundamentally, are these products really naturally and organically grown? Or were they purchased at the regular grocery market earlier that day and marked up in price? Spot analysis of samples of some so-called “natural” products has revealed that this type of misrepresentation occurs relatively frequently. Even if they are truly organic foods, how do you know they are safe? One's confidence is hardly buoyed by seeing shelves of sassafras tea, one of the health store's leading products, when safrole, the natural substance from which sassafras tea is made, has been shown to be highly carcinogenic (its synthetic version was removed from root beer in 1960 because it brought about cancer in animals). Furthermore, most of these so-called health foods are packaged without preservatives—and we've already seen what happens to peanut products that are left untreated. You really begin to wonder about these things when you get to the checkout counter and find you are paying up to twice as much as you would for regular food.

It is becoming more and more clear that the “if-it's-natural-it's-good” line is a hoax, one which is catering to our fear about food-borne diseases and cancer. Some people are now demanding that more rational approach to food regulation be taken—one which evenly uses both natural and artificial foods. Advances in technology using food laboratory techniques may be in the best interest of everyone. Consider margarine and the new liquid egg substitutes now on the market. Yes, they have “artificial” ingredients and aren't as “natural” as butter and whole eggs. On the other hand, they offer a marked advantage to those keeping their cholesterol levels low. Similarly, Bacos and other vegetable protein imitation bacon products should be evaluated on their merits—and not immediately condemned because they have “chemicals in them.” After all, what doesn't have chemicals? Actually all foods are “chemicals.” Why do we insist upon separating “artificial” from “natural” chemicals when in a laboratory they would be indistinguishable?

Unfortunately, from the viewpoint of our peace of mind and a desire for rational food control, we are influenced by the Delaney Clause, a piece of legislation that requires the FDA to remove from the market any good additive leading to cancer when eaten by man or animal—even if one experiment indicates cancer! The problem of the Delaney Clause became evident in the cyclamate fiasco. In October 1969, a study of 240 rats fed high doses of cyclamate, saccharin and another chemical indicated that eight at the highest dose levels developed cancer of the bladder. This was the first study in eighteen years of scientific research that linked cyclamate with animal cancer, hardly a direct link when one knows that two other chemicals were involved in this study. Nonetheless, the Delaney Clause was called into action, and cyclamate was condemned to oblivion. (In this case the amendment might have received a push from the sugar industry, which was funding studies to discredit cyclamate because artificial sweeteners were replacing 700,000 tons of sugar annually in the United States.)

The irony of this situation became evident when we recently learned that saccharin may now be banned and cyclamate returned to our shelves within a year. It seems that the precipitously banned sweetener wasn't so bad after all! Since it was recalled in 1968, a number of studies from all over the world have shown that cyclamate is perfectly safe. In August 1973, a team of German scientists released the results of a large rat study which indicated that absolutely no tumors could be found in a large group of rats fed the equivalent of 200-400 bottles of diet soda per day throughout their whole lives!
So we may be back to the cyclamate-based non-caloric sweet life soon again. Perhaps the reversal of this major decision on an artificial sweetener will call attention to shortcomings in our approach to regulating foods and food additives in this country. Maybe, eventually, we will arrive at a point where the things we eat are judged not by whether they are "natural" or "artificial" but rather by their own individual benefits, safety and acceptability.


MUSIC
Continued from page 23
Whereas we have undoubtedly gained sonic realism in recent years, it is questionable whether we have brought into our homes a realistic representation of music as it is actually performed. Should we endorse superhuman performances patched together from "imperfect" takes that have been filtered, equalized and otherwise contorted into something "ideal"? I leave this question unanswered because there are obvious delights in flawless performances and because there remains the philosophical question of whether the main goal of recordings need be concert-hall realism. I am impressed, though, at reading that the legendary pianist, Sergei Rachmaninoff, recorded a piece eleven successive times until he got what he wanted. The "perfection," I am sure, is no more startling than what today's pianists produce on records, but it is comforting to know that in Rachmaninoff's case he really could play that well.


P.S. You won’t forget the Alumni Annual Giving Program, will you? The 1973-74 year ends on June thirtieth.
A Joint Reunion-Commencement Celebration  
MAY 31—JUNE 1  
Featuring  
A Portfolio of Knowledge

Detailed programs and reservation forms will be sent to members of reunion classes only.

All alumni are urged to attend any or all Reunion Weekend events. Those whose class is not meeting this year join together as the "Class of 1911." Please request reunion information forms from the alumni office.

Members of classes who have already celebrated their 50th Reunion are invited to be guests at the Saturday luncheon. Please make reservations through the alumni office.