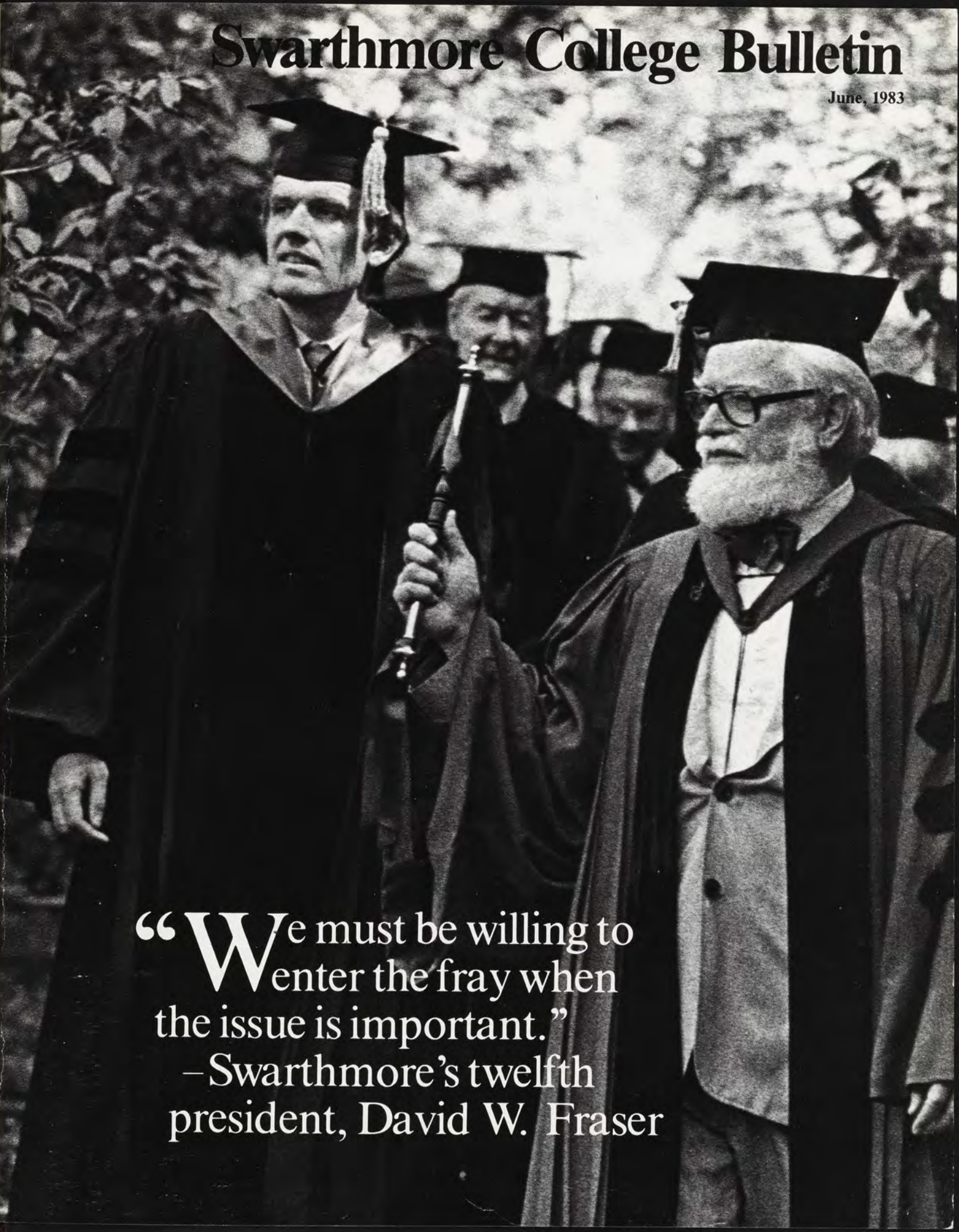
Swarthmore College Bulletin

June, 1983



"We must be willing to enter the fray when the issue is important."
–Swarthmore's twelfth president, David W. Fraser

SWARTHMORE INAUGURATES ITS TWELFTH PRESIDENT

"There is a peaceful grandeur, a power that is created here as the energy of our daily lives meets the serenity of the trees that form this hollow—a standing wave of purpose, of resolve that we can call upon in months and years ahead as we try to translate our aspirations into action and our actions into accomplishment," David William Fraser told alumni, faculty, and students gathered in Scott Outdoor Auditorium April 30 to celebrate his inauguration as Swarthmore's twelfth president.

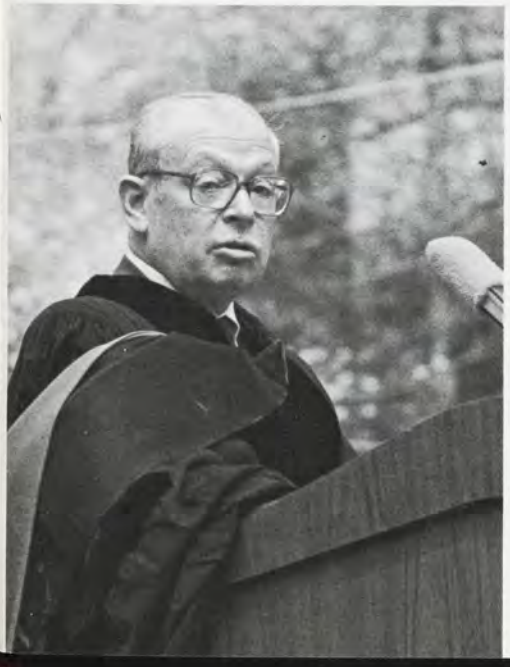
After eight consecutive weekends marred by snow and rain, the sun shone down on Crum Woods as over 100 delegates from as far away as Stanford University and Whittier College in California joined in a colorful, robed procession from Parrish to the stage of the outdoor amphitheater. Two past presidents of the College, Theodore W. Friend and John W. Nason, as well as the presidents of twenty-five other colleges took part in the ceremonies.

An alumnus of Haverford and Harvard Medical School, Fraser led the federal government's successful search for the cause of Legionnaire's Disease and won national recognition for his work on toxic shock syndrome before assuming the duties of president at Swarthmore last November.

Two past presidents of the College, John W. Nason (above right) and Theodore W. Friend (above left), joined in the inaugural ceremonies. Students, in both formal and informal attire (right), enjoyed a picnic lunch afterwards.

PHOTOS BY STEVEN GOLDBLATT '67

Haverford President Robert B. Stevens, pictured on the left with Swarthmore Provost Harrison M. Wright, was one of twenty-five college presidents from across the country who took part in the inaugural ceremonies held in the Scott Outdoor Auditorium (below). Eugene M. Lang '38 (bottom left), chairman of the Board of Managers, introduced President Fraser to alumni, faculty, and students gathered for the occasion. Alumni Association President Marshall Beil '67 and his predecessor, Ruth Wilcox Mahler '49, (bottom right) represented alumni on the inaugural platform.



A REPRIEVE FOR CONDOR

Biologist Noel Snyder '62 and his endangered species research team are developing new techniques to deliver the California condor from extinction.

COURTESY OF THE SAN DIEGO ZOO

The prospect of being stranded high in the Coastal Range Mountains, more than twenty miles from civilization, is not something most of us would accept as a likely scenario in our jobs. But for biologist Noel Snyder '62 and the fifteen members of the U.S. Fish and Wildlife Service-National Audubon Society research team he co-heads, it is an unavoidable risk if they hope to save the giant California condor from extinction. Sometimes, though, it must seem that balancing the competing political considerations involved in the effort is nearly as treacherous as actually tracking the condor through the canyons and passes.

It's six a.m. At his home in the foothills north of Los Angeles Noel Snyder is busy already in his backyard gathering strawberries for breakfast. The night before, he was asleep by nine, totally exhausted following a frustrating day spent trying to reach three staff members who were

Sisquoc and Tecuya, the first condor chicks hatched in captivity, will help form a captive-breeding flock to restock wild populations.

PHOTO BY FRED SIBLEY
U.S. FISH AND WILDLIFE SERVICE

THE

By Larry Elveru

marooned in the rugged mountains by torrential rains that had swollen streams into rivers.

"I was out in the field all day yesterday, trying to get three people out. We've had heavy rains and the roads are impassable," Snyder says. "The terrain is very inhospitable. You don't just walk through it the way you walk through Crum Woods. You have to cut your way through.

"We're hoping to get two of them out today and get food through for the third. But it's literally a twenty-mile hike *when* we can cross the river. Sometimes we have to use helicopters to function out there. That particular nest is an incredibly hard one to deal with because of the logistics involved," Snyder explains.

Despite these difficulties Snyder is buoyant, for just a few weeks earlier his research team's efforts had been rewarded with Sisquoc—the first condor chick ever to hatch in captivity. The event made headlines across the country, followed by the news four days later that a second chick, Tecuya, had hatched in an incubator at the San Diego Wild Animal Park.

Snyder and his team had camped out in the mountains for weeks in February, watching patiently from camouflaged pup tents, waiting for an opportunity to take these eggs from their cliffside nests. Each egg was then carefully packed into a specially cushioned and heated suitcase and carried a mile or more to a spot where it could be picked up by a helicopter and quickly transported to the San Diego Zoo. There, the eggs hatched in incubators normally used for premature human infants.

Altogether, Snyder so far has taken four eggs from condor nests in the mountains northwest of Los Angeles. The snatching of eggs is aimed at building up a breeding colony of condors in captivity as quickly as possible to retain the widest possible variety in the condor gene pool. Rather than simply raising condors in captivity, though, Snyder hopes first to stabilize the wild population and eventually to reverse the ongoing decline of the condors.

"By hatching these eggs, and then raising the birds and releasing them," Snyder explains, "we can probably increase the number of condors in the wild very significantly and counter the current rate of decline. The best figures we have suggest a net loss of about two birds a year from a population that we now estimate to be down around twenty. If we can make up for that yearly decrease and begin to release a couple of extra young each year, we'll be able at least to hold the line on that wild population."

Snyder's hopes for saving the condor from extinction hinge on his research team's recent discovery that most nesting condors will lay a second egg to replace one that is removed from the nest. Normally, a condor pair produces only one egg every two years. "This discovery represents a tremendous breakthrough," Snyder explains, "because we now have a tool that, regardless of the conditions out there, enables us to help the reproductive efforts of the species enormously.

"If a condor, for instance, lays an egg during the breeding season in February, normally the offspring won't fledge (be able to fly) until the fall. Even then, the young will be dependent for several months after that. Sometimes the condor

PHOTO BY HELEN SNYDER

Noel Snyder (right) rushes a condor chick down a mountainside to the San Diego Zoo.

pair can turn around and have young again the next year, but other times they just keep on tending the fledgling. Very often that means they're breeding only once every two years.

"But now we've found that you can take their first egg and hatch it in captivity and they will respond to the taking of the egg by producing a second egg. Right off, that means we can at least double what they're doing out there." In fact, one pair of condors produced a third egg this spring after its first two eggs were removed by Snyder, an unprecedented event that biologists find encouraging.

Andean condors, the closest relatives of the California condor, already are breeding well in captivity and have fared well when released in the wild. "There is a real hope that this kind of approach will be successful as an interim solution for the California bird," Snyder says. "But while we buy time with it, ultimately the goal is a wild population that can sustain itself out there."

Despite these promising discoveries and the successful hatching of condor eggs in captivity, Snyder says that some people still question the value of spending tax dollars on a program to save the condors. Although a third of the funds marshalled for the effort come directly from the National Audubon Society, about $25 million has been budgeted for the program by the federal government. And along with critics who insist such expenditures are a waste of scarce public monies, some conservationists, including the powerful Friends of the Earth, at first opposed granting permits to Snyder and his colleagues to collect condor eggs.

They and some Sierra Club members argued that restrictions on all types of hunting throughout the range of the condor, combined with a ban on poisons used by ranchers to kill ground squirrels and other rodents the condors often feed on, would be more effective in the long run than a captive breeding program. Collecting eggs might even hasten the demise of the condor, they suggested, by increasing stress on the few remaining breeding pairs in the population.

"The Friends of the Earth are very concerned about habitat protection, as we are," Snyder says. "But they see that as the total solution to saving the species. Our feeling is that the salvation of the species does not rest completely on the strict preservation of their habitat at this point. We agree that you have to preserve the habitat, but we feel that you have to do much more than that to get the species to recover. We don't know enough yet to know what we need to do to save the species. But if we don't establish a captive population that's doing well, soon we won't have any condors left to study."

Besides setting up a captive breeding program, Snyder emphasizes the importance of using the best available technology to keep track of the remaining population. Up until a couple of years ago, for instance, the condor census was conducted solely by correlating the sightings of trained bird watchers who manned strategic lookouts two weekends a year. Since beginning his work with condors, though, Snyder has compiled photographic files on the remaining population and can identify individual birds by their distinctive markings and such things as feather damage. The current count of twenty condors now can be verified by reference to photographs of each individual.

Another more controversial technique is now being used to keep track of the comings and goings of individual condors. About a year ago Snyder's team began trapping condors in nets baited with carrion so that they could attach tiny, solar-powered radio transmitters to the birds. By using the transmitters to readily monitor the movements of individual birds, Snyder and his colleagues hope to document the reasons for the high mortality rate among condors.

"They evidently are dying faster than they are breeding, but just what is knocking them off, we don't know, " Snyder says. "It could be some sort of environmental contamination, or that they are being shot, or that they are colliding with power lines. All these things are suspected, but there's no hard evidence and without hard evidence you can't do very much about these problems.

"You cannot, for example, stop all hunting in the range of the condor. You might think it would be a prudent thing to do if you suspect shootings are the problem. But already we have hunting closures in several critical areas and every one of them arouses some kind of backlash. If we were to totally shut off hunting in the area, the backlash it would engender would swiftly lead to losing the rest of

The Swarthmore College Bulletin (USPS 530-620), of which this is volume LXXX, number 6, is published in September, November, December, January, April, and twice in June by Swarthmore College, Swarthmore, PA 19081. Second class postage paid at Swarthmore, PA and additional mailing offices. Postmaster: Send address changes to Swarthmore College Bulletin, Swarthmore, PA 19081.

the birds—there's no doubt about it. There would be some people who would be so angered by having those hunting privileges taken away that they would just eliminate the condors completely.

"These are the political realities. You can't accomplish such things until you have laid an irrefutable scientific base for them. So we have to proceed cautiously with these kinds of approaches simply because in practical terms we can't move any faster without losing our credibility and risking serious backlash problems.... We can't go to all the ranchers out there and tell them to stop poisoning ground squirrels until we have clear evidence that it harms the condors. We need the cooperation of the ranchers, because that's where the condors feed. It's a very politically sensitive kind of program."

Interestingly enough, there are actually some indications that vultures like the condor are unaffected by fairly large amounts of pesticides, Snyder notes. "There have been laboratory experiments in the past actually dosing vultures with these materials and they have appeared, at least in this short term study, to be very resistant to such poisons."

There is another more unusual type of poisoning, though, that Snyder suspects may prove to be the single most important factor in the decline of the condor—lead poisoning. Like most other vultures, condors readily feed on whatever carrion is available to them and often that includes animals or the remains of animals that have been shot by hunters. Frequently, those tissues contain lead fragments from the bullets or shot used to kill the animals, Snyder points out.

"For example, there's a lot of deer hunting out on some of these ranches and deer hunters commonly gut their deer right after they shoot them and it's safe to assume that a certain fraction of these remains have pieces of lead in them. We know that condors feed heavily on these remains when the hunting season is on. We also know that in captivity there have been a number of cases where vultures have been inadvertently fed carcasses that contained lead and it killed the birds outright.

"In fact, there's enough lead in one buckshot to kill a vulture if it is largely absorbed by the bird. They seem to be very vulnerable to lead poisoning. But it'll be tough to prove it's a major cause of death until we've got radio transmitters on enough birds over a long enough period of time so that we can find their carcasses and analyze them for lead poisoning. Without radio telemetry, finding condors after they die, when they are spread so thin in such a large area, would be a matter of colossal luck."

Unfortunately for the condor, there is really no satisfactory substitute for lead bullets in deer hunting and steel shot is more likely to cripple, rather than kill, other game. For these reasons, completely eliminating the threat of lead poisoning, should that prove to be a significant cause of death, may be nearly impossible without severely restricting hunting in those areas where the condors feed.

"The most cautious approach, of course, would be to move everyone out of Southern California. That probably would be the best thing we could do for the condors, but obviously we can't do that. So we have to figure out a course that's both biologically and politically viable if we want to save the condors."

A "birder's" eye view

"How can anyone be blasé about condors? They're beautiful, exciting birds. You think a redtail knows how to fly. Then you see a golden eagle and you think it's a pretty skillful performer. Then you see a condor: It's a 747!" exclaims veteran bird watcher Jan Tarble, a member of Swarthmore's Board of Managers. Tarble works closely with the U.S. Fish and Wildlife Service directing annual censuses of migratory birds in California's Mojave Desert and over the past seventeen years has been involved in seven or eight counts of the remaining population of California condors.

Although condors, like most vultures, are repugnant to many people, Tarble and other "birders" clearly see much to admire in the creatures. "They're black and have beautiful white patches under their wings so that when the wings are spread you can see these lovely V-shaped patterns," she says "and they have short, broad tails and wide, wide wings, which make them consummate flyers. They can soar and soar and soar."

Seeing a condor soaring over the canyons of California, by all accounts, is indeed a majestic sight. Adult condors, the largest of all North American land birds, measure nearly fifty-five inches long and have a wingspan of up to nine feet six inches. They once ranged from British Columbia all the way down to Baja California. The species dates back to the days when the sabre-toothed tiger roamed the region. Hundreds of condors remained in central California two centuries ago, but by 1940 the number had dwindled to just sixty. Today, there are no more than twenty in the wild and four adults in captivity.

"They're odd creatures," Tarble acknowledges. "Their feet are suited only to walking about, not to clutching, ripping, or hoisting things aloft like eagles and falcons. Yet, stories persist about their carrying off small children and animals, so they have always been a target for hunters. Anything that size is tempting to take aim at."

The condors' susceptibility to bullets and other man-made hazards, combined with an extremely slow rate of reproduction, has made them prime candidates for extinction, Tarble explains. "It takes six years or more to learn to become a full-fledged condor. They're not sexually mature until then, and they can't raise and fledge a bird of their own in less than twelve months. So they lay an egg just once every other year, instead of yearly like most birds.

"They don't build a nest of any kind. They just lay their egg on a ledge under an overhanging rock on a cliffside. But like many birds of that type, their eggs are pointed at one end and very round at the other so that when they roll, they only roll in circles." Still, she points out it is not unusual for condors to break their eggs accidentally by stepping on them or knocking them against a rock.

Tarble says she is "tremendously encouraged" by the recent successful hatching of condor eggs in captivity as the first step toward building a breeding colony to replenish the supply of condors in the wild. "I can't go along with those who say we should just let them die out with dignity. I don't want to have to tell our grandchildren that we let the condor go."

—Larry Elveru

by Robert E. Savage

There is no reason for not considering human extinction. In fact, it is very likely, though I admit to the tendency to discount the issue as something ecologists use to scare Senator Proxmire into funding grant applications. My intuition tells me that the organism, Homo sapiens, is practically in perpetuity already, but in reality that is nowhere near the case. There is no doornail deader than dinosaurs, yet they triumphed gloriously on earth for 130 million years before their extinction. That is a lot closer to perpetuity than we have yet come. As the genus Homo, we have survived only one or two million years so far. Some of our current fellow travelers on earth, like the dragonflies, have been around 300 million years.

Moreover, *most* species on earth have gone extinct, some with descendants in the form of new species (like early man and the dragonflies), others without direct lineage into the present (like many of the dinosaurs). In fact, in 1952 G. G. Simpson estimated that there have been some half billion species on earth in its 4.5 billion years, based upon what one sees and infers from the fossil record. An estimate of the number of species alive now is about ten million. If both numbers may be taken seriously, that means that ninety-eight percent of the species that have at sometime existed on earth have become extinct. With that sort of past experience to go on, why should we not anticipate extinction for Homo sapiens, too?

Furthermore, it looks as if the rate of extinction among higher animals is increasing. Since the seventeenth century, fairly accurate records have been kept of extinction among birds and mammals. In the last 400 years, some 130 species of the fewer than 13,000 have disappeared. In other words, about one percent of the species that existed then are now gone. Much cruder estimates—of the sort that gave rise to the ninety-eight-percent figure cited above—suggest that the rate of extinction before 1600 was of the order of one percent per 2,000 to 20,000 years. Again, if we may take these numbers seriously, they imply that the rate of species extinction in the last four centuries has accelerated between five and fifty times. Need I suggest what accounts for the acceleration? If you guess, you will guess right. It is man. Biologist Paul Ehrlich reports that there are now about 300 *more* species of higher vertebrates on the endangered species list. If only a fifth of them disappear in the next two decades, then the rate of extinction will be nine or ten times what it has been since 1600.

And one final estimate from the past: As best one can guess, the "life span" of higher vertebrate species seems to be between 200,000 and 2,000,000 years. Well, we are right in there near the lower end if you count "us" as Homo sapiens, near the upper end if "we" are all the prehistoric and current human-like species.

What I mean to suggest is that the human species has not been here forever, is of the sort of animal that exists for about as long as we already have, is part of life on a planet where in the past nearly all species have gone extinct, and where the rate of species extinctions has been accelerating in the last few centuries. In short, it would be quite extraordinary if Homo sapiens did *not* become extinct.

EXTINCTION

Is Homo sapiens an endangered species?

The question, then, is when? Do we face immediate extinction or not?

By way of an answer, there is an outside certain limit to our survival. When the sun cools, so shall we—as all else living on earth. But in human terms that is very far off, at least two or three times the length of time earth has already existed. If we survive any major portion of that time, it may just as well be said that we all have been in perpetuity. If that event—the death of the sun—also constitutes the date of our own demise, then there is no basis for worrying about human survival today.

Extinction Now?

Curiously, there has always been an undercurrent of worry among human beings about the species' survival, as well as our individual survival. It has been part of the Judaic-Christian tradition that there will be an end to all— *Dies irae*. That extinction, though, was to be an act of God, retaliation for the wickedness of Homo sapiens. The methods for that denouement were to be natural—fire, frost, flood, or famine. So far as other species are concerned, their extinctions have apparently been functions of just those sorts of things. But in regard to humans, it has not happened yet. That being the case, once again, why bother with the issue now?

Are humans investing in their own extinction through the wholesale wiping-out of plant and animal species?

The reason for thinking about the issue now is that a number of events of the past year or so have very forcefully raised the question of human extinction. Again! Similar sorts of events pushed the issue into public awareness just twenty years ago, too.

The issues raised this year that force us to think about human survival are these:

1. There are wars going on in many corners of the world in which the U.S. and the U.S.S.R. are indirectly involved. These are the two powers that have the nuclear warheads (16,000 between us, containing more force than twenty billion tons of TNT) which for three decades we have known could lead to a nuclear holocaust.

2. Despite the existing stores, there are some in U. S. military and governmental circles who want to increase our nuclear armaments, although it hardly seems necessary and we can ill afford it.

3. There appeared Jonathan Schell's

extraordinarily depressing book, *The Fate of the Earth*, wherein he very persuasively details the events that could well follow a nuclear holocaust and lead to human extinction.

4. Then in April, Ground Zero week was observed, in which a variety of anti-nuclear groups underscored the points Schell raised.

In regard to the relationship between a nuclear holocaust and extinction, I urge that those of you have who have not read Schell's work, please do so. One can argue about whether or not there is a likelihood of such a holocaust, but I fear that all will agree it is within the realm of possibility. What I wish to do as a biologist is to assure you that the events that Schell describes as possible consequences of a nuclear holocaust seem to me to be sound.

It is, of course, not that the blasts themselves would wipe Homo sapiens off the face of the globe (although it might be possible to eliminate close to a billion of us at once), but that the ecological and geophysical perturbations that followed could lead to extinction. Let me quote from the book:

"The view of the earth as a single system, or organism, has only recently proceeded from poetic metaphor to actual scientific investigation, and on the whole Dr. [Lewis] Thomas's observation that 'we do not really understand nature, at all' still holds. It is as much on the basis of this ignorance, whose scope we are only now in a position to grasp, as on the basis of the particular items of knowledge in our possession that I believe that the following judgment can be made. Bearing in mind that the possible consequences of the detonations of thousands of megatons of nuclear explosives include the blinding of insects, birds, and beasts all over the world; the extinction of many ocean species, among them some at the base of the food chain; the temporary or permanent alteration of the climate of the globe, with the outside chance of 'dramatic' and 'major' alterations in the structure of the atmosphere; the pollution of the whole ecosphere with oxides of nitrogen; the incapacitation in ten minutes of unprotected people who go out into the sunlight; the blinding of people who go out into the sunlight; a significant decrease in photosynthesis in plants around the world; the scalding and killing of many crops; the increase in rates of cancer and mutation around the world, but especially in the targeted zones, and the attendant risk of global epidemics; the possible poisoning of all vertebrates by sharply increased levels of vitamin D in their skin as a result of increased ultraviolet light; and the outright slaughter on all targeted continents of most human beings and other living things by the initial nuclear radiation, the fireballs, the thermal pulses, the blast waves, the mass fires, and the fallout from the explosions; and, considering that these consequences will all interact with one another in unguessable ways and, furthermore, are in all likelihood an incomplete list which will be added to as our knowledge of the earth increases, one must conclude that a full-scale nuclear holocaust could lead to the extinction of mankind."

In the third part of his book, Schell presents what he considers to be absolutely necessary if this sort of disaster is to be avoided: The superpowers must first negotiate disarmament, then rethink and redesign our political systems to obviate the reappearance of nuclear weapons. Moreover, he suggests that all of us as individuals learn to love one another.

Neither he nor I is at all sure that nations or individuals can make it in time to prevent a holocaust—by intent or blunder.

"The mind may be our ultimate weakness, but it is also our ultimate hope."

BLACK-FOOTED FERRET

Ecological Disaster?

Sadly, a nuclear holocaust is not the only human attack on human existence. As Schell writes: "A nuclear holocaust, because of its unique combination of immensity and suddenness, is a threat without parallel; yet at the same time it is only one of countless threats that the human enterprise, grown mighty through knowledge, poses to the natural world."

In part, what he fears, naturally enough, is an assault by Homo sapiens on the world's ecosystems. It was fashionable,

GALAPAGOS GIANT TORTOISE

"It will take millions of years to correct the loss of genetic and species diversity (caused) by the destruction of natural habitats."

in the early 70s, to be very concerned about ecology, but it has lost its attraction now, perhaps because nothing obvious happened. Do you remember using low-phosphate detergents and biodegradable plastics?

But whether or not "nothing happened" or will happen depends on the informed sensitivity of the observer. If one has been nurtured on an intellectual diet that includes awareness of events that led to the dust bowl, to enlargement of deserts, to the acidification of northeastern lakes and the consequential change in native populations in these regions, then one's imagination is sufficiently keen to see the symptoms of the possible consequences of strip mining, of relaxation of clean air and nuclear waste disposal laws, of the absence of toxic waste disposal policy, and of the "opening up" of the North American preserve forests and Amazon River basin for the short-term benefit of Homo sapiens. There are readily available, to all who care to read them, grisly descriptions of their consequences that sound like those of Schell's I just read to you.

In the May, 1982, issue of *Bio Science*, Paul Ehrlich, a professor of biology at Stanford, claims we already have passed the long-term carrying capacity of the earth. "Only a change of paradigms leading to reduction of human numbers and impacts, and a comprehensive system of *reserves*, can prevent catastrophy," he writes. The most blatant symptom of this, he argues, is the rapid consumption of non-renewable fossil fuels. How will it be possible to feed, clothe, and shelter 4.5 billion Homo sapiens after the year 2000 if we run out of oil?

Rubbish! responds Julian Simon, a professor of economics and business ad-

ministration at the University of Illinois. We always have made it and so we will continue to do. Homo sapiens will make liquid fuel from renewable resources, squeeze energy from nuclear fusion, and —as he wrote in an unfortunate hyperbole in a 1980 issue of *Science*—make copper from other metals if we run out of mineable sources. We have a whole universe to collect from.

What I take to be Simon's hyperbole in that instance is probably unfortunate because every alumnus of "Biology 2" will surely have questions to ask about the energetics involved in that alchemy. Moreover, it provided Dr. Ehrlich, who is not prone to undertstatement, with ample basis for rebuttal.

And sure enough, in 1981, Ehrlich and his wife published a volume entitled *Extinction*. Aside from the damage a nuclear holocaust would wreak on Homo sapiens and the world's ecosystem, we are investing in our own extinction, they claim, through the wholesale wiping-out of many other plants and animals.

As Harvard sociobiologist E. O. Wilson has written: "The worst thing that can happen—will happen—in the 1980s is not energy depletion, economic collapse, limited nuclear war, or conquest by a totalitarian government. As terrible as these catastrophes would be for us, they can be repaired within a few generations. The one process ongoing in the 1980s that will take millions of years to correct is the loss of genetic and species diversity by the destruction of natural habitats. This is the folly our descendants are least likely to forgive us."

What is so great about species diversity? Setting aside aesthetic arguments, the Ehrlichs point out that they provide us "ecosystem services."

"Ecosystem services include maintenance of the quality of the atmosphere, amelioration of the weather and regulation of the hydrologic cycle, disposal of wastes and recycling of nutrients essential to agriculture, generation and maintenance of soils, provision of food from the sea, control of the majority of potential pests of crops and vectors of disease, and maintenance of a vast genetic 'library' from which humanity can withdraw, among other things, some of the germ plasm required for the continuance of high-yield agriculture."

Can we really get along without these "services?" Can we adjust our standard of material satisfaction downward so as to alleviate our constant pressure on habitats other organisms need for their survival?

DNA is the Problem

The problem is, of course, that our DNA is not very good when it comes to survival. It doesn't code for much of a coat of fur, so we have to grow cotton, raise sheep, and mine oil to clothe ourselves, and then cut trees, dig up stones, and refine metals to house ourselves. Our DNA also doesn't code for an estrous cycle, so we are always engaged in reproduction, which leads to 4.5 billion exemplars that need space, and food, and clothing, and shelter.

But our DNA does code for too good a brain that is forever engaged in diabolical invention, like oil-fueled instruments of destruction, such as automobiles (that, incidentally, demand acres of macadam and concrete on the earth's surface), and airplanes and rockets (that also like pavement and, moreover, spew toxic, ozone-destroying gases into the atmosphere, and drop nuclear devices), and guns, and bombs, and so on. The problem is that our brains are extraordinarily bright in reasoning, but not necessarily very wise.

Finally, our DNA has not equipped us with any great amount of instinctual behavior to enable us to build good human societies. What we need are ritualized ways of settling our intraspecies differences, as some of the other animals have.

Our nearest relatives, the apes and monkeys, have a number of good mechanisms for settling territorial claims and other sorts of disputes. The howler monkeys of Central America settle their territorial conflicts by opening their mouths into magnificent ovals and emitting unbelievable howls. Other apes simply drop their eyelids and drive off offending individuals with withering disdain. Still others show enemies their bottoms in the very epitome of insult. Unfortunately, we are ill-equipped in these ways. If our DNA coded for more ritualistic methods of conflict resolution, we probably would be less likely to fight with nuclear weapons.

Why Bother?

The obstacles to trying to avert the disasters of nuclear war and ecological deterioration are so enormous as to wear down even the most energetic of goodhearted persons. At times they seem so overwhelming as to give rise to the feeling, "Oh, why bother? Perhaps I as an individual will just make it through the remaining decades of my life before the inevitable explosion. Or perhaps I will go in the first bang—so suddenly as to be painlessly." Then, too, in the context of all life on earth, perhaps the demise of the whole Homo sapiens species, including me, would not be so bad anyway. After all, if the condors, whales, and snail darters were capable of contemplating human extinction, *they* surely would not take its likelihood as self-evident tragedy.

As a matter of fact, the first time I questioned the value of human species' survival occurred only very recently, but not at all in the context of a nuclear holocaust or ecological disaster. One of the last segments of David Attenborough's "Life on Earth" series on television was about monkeys and apes. In one scene, the TV camera was focussed on a great gorilla, apparently not more than three yards away.

It sat solidly and roundly in the African forest, its sleekly furred body in complete repose, while its surprisingly dainty hands gracefully stripped green bark from a plant and pushed it into its methodically munching mouth. Only its eyes showed any hint of uneasiness, perhaps because in the foreground, between the gorilla and the camera, sat a Homo sapiens.

In contrast to the gorilla, Attenborough was skinny, his crumpled shirt wet with sweat or rain, his hair was in disarray; he was awkward and brilliant, and he sat edgily as if he were about to bolt. His unease was accentuated by the fact that he whispered to us, probably because the gorilla sat three yards behind him. It looked like the meeting of Buddha and Puck!

But Attenborough told us, *sotto voce*, that this great animal is a vegetarian, that his plant-collecting area is miniscule compared with what human beings require to

(continued on page 26)

GIANT PANDA

ILLUSTRATIONS COURTESY OF FRIENDS OF ANIMALS

REAGAN'S MODERATE MONETARIST

Reagan's moderate monetarist William Poole '59 is 'bullish' on America

Last December, William Poole '59 took a seat on President Ronald Reagan's Council of Economic Advisers. Prior to his appointment, Poole was chairman of the Economics Department at Brown University.

Poole first studied economics at Swarthmore under the guidance of Frank C. Pierson '34, who is now professor emeritus of political economy at the College. After graduating with High Honors from Swarthmore, Poole went on to the University of Chicago for his master's and doctorate. There he combined broad academic training in economics and finance with intensive work on the operations of the Federal Reserve System, a rare combination of expertise. "He is one of a very small group of economists who is equally respected by both conservative and liberal economists in this field," Professor Pierson notes.

Ideologically, Poole is most closely identified with the views of well-known conservative economist Milton Friedman. Friedman is generally regarded as the leading proponent of the "monetarist" school of economic thought. Professor Pierson explains that "monetarists believe that changes in the quantity of money in circulation are the principle influence in determining major changes in the general price level and in the money or dollar value of the nation's total output of goods and services. By contrast, changes in such factors as interest rates, tax levels, government expenditures, budget deficits, and the like are believed by these economists to be of secondary, or even negligible, importance."

When Poole was on campus recently, we asked Professor Pierson to interview his former student about plans for dealing with the pressing economic problems facing our country. The following is an edited transcript of their conversation.

F. Pierson: Let's start, Bill, by talking about your first years after leaving Swarthmore. You went to the University of Chicago and you started at the business school, but then you shifted over to a straight graduate program in economics. How did this come about?

W. Poole: If you remember, Frank, you were the one who persuaded me to go to Chicago because of your recent study of business education. I went to Chicago on its MBA program, and after I was there for a quarter or two, I switched to the Ph.D. program in the graduate school of business. A few quarters later, I became attracted to academic life and rearranged my program to take

PHOTO BY JEAN GWALTNEY

many courses in the economics department but remained in the business school.

F.P.: That all must have been quite a shock in one sense, coming from Swarthmore: Business school can be quite technical, detailed sort of work.

W.P.: Work at the graduate level necessarily has a different thrust to it from work at the undergraduate level. And I'd say that I was very well prepared for that by Swarthmore, with one exception. The exception was, if you don't mind my joshing you a little bit, that my advisors did not push me to take enough mathematics at Swarthmore. That's where I was behind.

F.P.: You're known as a moderate monetarist. How do you distinguish between a moderate monetarist and a more pure, convinced one?

W.P.: All this is a matter of the attitude of the labeler. I suspect that some monetarists call me a wishy-washy monetarist, so you can add any label you want.

F.P.: To push it one step further, what makes you a moderate exponent of monetarism? Do you play down, in some degree, the all important money supply?

W.P.: The peculiar thing about this is that in most respects I share the views of Milton Friedman. I have difficulty in defining just what a moderate monetarist is supposed to be, on the grounds that if Milton Friedman is not an extreme monetarist, then I don't know who is.

F.P.: Do the drop in the rate of inflation and the very rapid increase in unemployment mean the Federal Reserve Board and other monetary authorities now have more leeway in formulating their policies than during earlier periods of severe inflation?

W.P.: A lot of our problems come from what I call "NOPS"—the number-one-problem syndrome. When inflation is the number-one problem, then we adopt policies that are designed to reduce inflation and we do not pay enough attention to the fallout. In times when unemployment is the number-one problem, we spend so much effort on that, that we do not pay enough attention to inflationary potential.

What we need to have is a policy that pays more attention to the longer run, one that does not careen back and forth from one extreme to the other. It's impatience on both fronts that is a good part of our current problem.

If you go back to the beginning of this great American inflation, which is by far the greatest inflation we've had in U.S. history, starting in 1965, you'll find that we've bounced back and forth, ending up with an economy that is more inflationary and more unstable, and that unemployment has gone up in dramatic fashion on a couple of occasions.

When you look back on this period, you can see very clearly that in 1966 monetary policy tightened up sharply and we had a short recession in 1967 that was called a mini-recession. It was not even an official recession, but there was concern that the economy was weak.

So the Federal Reserve stepped on the gas, and monetary policy got away from us in '67-'68. Inflation was built into the system and inflationary expectations rose. Then there was a political reaction because of NOPS, if you will, and suddenly inflation was the number-one problem. So we pursued a very tight policy and we had a recession again in '69-'70.

We now have another recession. We've got to find a way of getting off the roller coaster. That means we have to think about our problem as that of designing policies that are more or less good for the long run. This does not involve a diet of attempting to manage the situation. We have not been successful at managing the situation. We've got to turn away from the number-one-problem syndrome.

F.P.: From what you have been saying, I take it that you feel our severe unemployment problem can be effectively dealt with by a long-range view of monetary policy and that there is no reason why our economy cannot generate sufficient jobs over the next two or three years to reduce the unemployment rate to perhaps 8 percent.

W.P.: We ought to be able to do a great deal better than that. I do not believe that there is any tradeoff between unemployment and inflation except possibly in the short run. But the reason I'm so concerned about getting policy on a stable, understandable track is precisely that I'm concerned about the average level of unemployment over a period of time.

The so-called full-employment level, with the present structure of the labor force, is in the neighborhood of 6 to 7 percent unemployment. We should be simultaneously pursuing policies to dampen the business cycle in order to get off the roller coaster and to reduce the level of structural unemployment.

F.P.: I assume you are fairly pessimistic about any quick progress on structural unemployment as far as government efforts are concerned.

W.P.: Unfortunately, one of the most severe parts of this problem is the disincentives for people to work, disincentives especially for low-skilled people.

We have tended to put our governmental efforts into job matching and retraining, which no doubt are of considerable value, although evidence is mixed as to exactly which one seems to work. But we have not paid enough attention to the incentives, and there are incentives columns on both sides of the market.

The minimum wage is one of the items that are clearly counter-productive. It means that people whose skills do not justify the minimum wage are simply not hired and cannot be hired by profit-seeking firms.

So I would favor doing whatever we can to do away with the minimum wage, a very difficult political maneuver. The Reagan administration is attempting to take the first crack at that by its proposal to have a sub-minimum wage for youth in the summer time. If it shows some real dividends, perhaps attitudes toward the minimum wage will begin to change.

F.P.: You don't feel the problem of displacement of older workers by a sub-minimum wage for youth is very serious, then?

W.P.: I believe that that is a question during the transition, but if we had not had a minimum wage at all, then you would simply find more work being done. There is no fixed amount of work to be done. The amount of work done depends fundamentally on the amount of work people want to do. That's clear to anyone who works Saturdays instead of taking Saturdays off.

Professionals know that. The amount of work to be done is the amount of work they want to do. Academics know that. There is always another journal paper to be written if they want to write it. So, in the long run, the economy will generate job opportunities for people who want to work. In the short run, there will be a transition caused by changing institutional arrangements. That's always true.

On the other side of it, the incentives side, the effective tax rates for the poor are very, very high. When poor people go to work, they lose some of their welfare support, they lose some of their food stamps, they lose eligibility for medicaid and public housing. It's not surprising that a lot of people do not want to go to

work because the net benefit of going to work is near zero.

I think the reform of our income maintenance system ought to be a very high order of priority, if only to provide a more coherent system that has fewer gaps in the safety net. Everybody knows there are some gaps there, but we also need a system that provides incentives so that people who want to work are able to do so.

F.P.: How does this bear out the administration's recent proposal to tax unemployment benefits?

W.P.: That is a related issue. The proposal was not to tax unemployment benefits, but to include unemployment benefits in taxable income. Let's take two people. Assume one of them has earned income of $10,000 and $1,000 in unemployment benefits in a particular year. The other one earned $11,000.

My notion of what is fair is that people with the same income ought to be in the same tax position. And, in particular, I find it upsetting that a person who received $1,000 of income from the state for not working, in fact, has a lower tax burden than another person who earned all of his income. It seems to me, on equity grounds, that all income from whatever sources ought to be taxable.

F.P.: Let's turn now to one other difficult problem: the huge deficits that are emerging from the federal budget. In general, how did we get into this terrible situation—these huge deficits?

W.P.: We got into it fundamentally because there has been a long, upward creep in government spending. I would emphasize particularly the non-defense part of the budget, including the entitlements, which have been growing rapidly over the past twenty years. Defense, on the other hand, has been cut back.

So we get to 1981, and the president feels strongly, as everyone well knows, that we need to devote more resources to defense. We need to check the overall growth in the government, and we need to reduce taxation in order to provide more incentives for a more efficient economy. The expectations when the president came in, that the non-defense part of the budget could be substantially reduced, have not proven to be the case.

When people make commitments, let's say, to buy a house because there are tax advantages to buying a house, it is extremely difficult and not clearly wise or fair to take away the tax advantages of buying a house. People have made commitments in good faith to arrange their affairs in a certain way and it becomes extremely difficult to know how to handle that situation.

But there is general agreement that large parts of the federal budget ought not to be there. People agree on different parts, sure. Although you will find that liberal and conservative economists will agree, to quite an amazing extent, about a lot of the same parts. These parts are wasteful and nonproductive. . . .

PHOTO BY BOB WOOD

PIERSON: "How did we get into this terrible situation—these huge deficits?" POOLE: ". . . large parts of the federal budget ought not to be there."

When you look at the budget document, you can't help but be impressed by the enormous number of small, at least relatively small, programs. Politicians like to complain about the inefficiency and the overlapping of various programs, but often it's really quite deliberate.

Because these programs generally are very complicated and benefit relatively few individuals, those individuals naturally have an intense interest in hanging onto them. And because these programs are so numerous and relatively small, generally a few hundred million dollars here and there, most taxpayers don't even know of their existence. So there are lots of horrors that you and I don't hear anything about.

That's because there's an important structural defect in the budget process. In large part, it's just politically expedient for Congress to set things up this way, since taxpayers in general don't know about these programs, but their constituents who receive the particular benefits do.

Even when citizens find out about one of these programs, no individual taxpayer has the incentive to go after it. Take a fairly big program, say $2 billion. Roughly speaking, that's about $10 per capita in the United States. To most taxpayers that amount of money is really insignificant compared to the rest of their tax bill. Even for someone supporting a family of five, that's still just $50. So virtually no one has a financial incentive to go after these programs, even when they know about them.

I think there is also a problem in the efficient use of the defense budget. An easy way to see why is to ask congressmen pushing for reductions in defense expenditures whether there is room to reduce expenditures on the defense bases in their own districts, or procurements that involve plants in their districts. The answer is always, "No." It's always somebody else's procurement that needs to be cut.

F.P.: I gather that you feel the main problem is the failure of the government to work out a balanced program and that there is no underlying structural reason for the decline in private investment—that is, that declining industries like steel and automobiles represent unique situations, rather than common problems afflicting the entire economy?

W.P.: Well, there are always lagging industries and declining industries. There has been some problem of insufficient investment in physical plant in the United States because of tax disincentives, particularly in their interaction with inflation. That's changed a lot under the tax laws passed in '81 and '82.

But I think it's too bad we emphasize only physical capital. We have done a very good job of investing in human capital. We devote a lot of resources—I think this is correct—more than any other country in the world by far, to education, to human capital. I don't want to short change that at all.

No, I don't think there is anything fundamentally wrong with the U.S. economy. It is an extraordinarily versatile and vital and resilient kind of economy, much more flexible than the European economy. We are able to move resources, find capital for new ventures, in a way that makes people around the world jealous.

In Search of

ROCKWELL KENT

My interest in Rockwell Kent, first as an artist and then as a person, began—as did all of my present interests—at Swarthmore. I had come to the College with a narrow background of knowledge in practically every subject, but as I attended classes, talked with other students, and worked in the stacks of the library, my horizons widened.

Among the books I shelved was an art book with an interesting cloth cover, printed in blue and with the more than interesting title *Rockwell Kentiana*. Curious, I riffled through the book and then looked a little more carefully at the representations of the work of the artist, Rockwell Kent. He was unknown to me. The black-and-white reproductions of the oil paintings were not memorable, but those of the wood engravings were strong and magnificent and so very new to me.

One print in particular stayed with me. The subject is simple. A man is lying on a dock at night with the stars above him. He is only partially visible. His right foot is trailing in the water; his left leg is bent at the knee; his two arms are raised up, the left hand clasping the right wrist. He seems to be reaching for the stars. You know what he is feeling at this moment because you, too, have stretched upward in the night and tried to reach the dazzling display of stars above.

I placed the book on the shelf in its

by William Spangler '49

Before being blacklisted during the McCarthy era, Rockwell Kent (1882-1971) was one of America's best-known artists.

proper order and forgot it for some seventeen years. Then, one day in 1965, when I was living in Philadelphia and working as a librarian, I looked in the window of a book store on East Market Street and saw a small Christmas book with a decorative blue cover of angels and candles which brought back memories of that first Kent book that once had so intrigued me in the stacks of the College library. It was indeed a book illustrated by Rockwell Kent. For the modest price of ten cents I obtained the first item in my Kent collection.

About a month later, browsing through another used-book collection—this one in a stall of Zern's Farmers Market in Gilbertsville, Pennsylvania—I took a thin book from the shelf. At that time I was naive enough to think that all thin books were valuable. As I leafed through the pages of *City Child* by Selma Robinson, I realized that the drawings at the head of each poem had a familiar style. On the title page appeared the inscription, "Illustrations by Rockwell Kent." For thirty-five cents, the Robinson book became number two in my Kent collection.

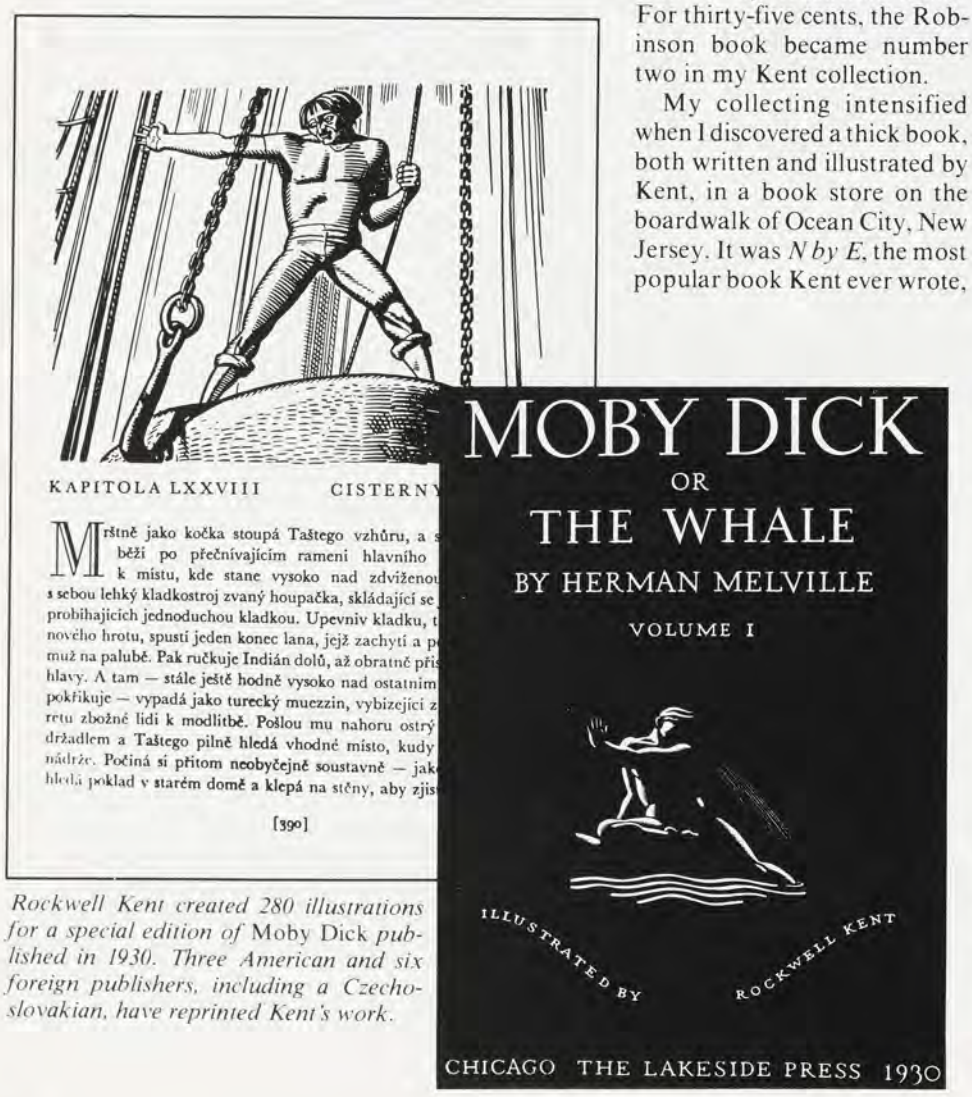
My collecting intensified when I discovered a thick book, both written and illustrated by Kent, in a book store on the boardwalk of Ocean City, New Jersey. It was *N by E*, the most popular book Kent ever wrote, a Literary Guild selection which went through eight or nine printings. Kent collecting became a major avocation in my life with the purchase of this book for one dollar in 1966.

Subsequently I learned that Kent was alive, 84 years old, and living and painting on his farm in northern New York State. One of the tenets of librarianship is to go directly to the source, so I wrote to Mr. Kent. He was very courteous and sent me a copy of a special issue of the *American Book Collector*, with several bibliographies in it, and two other books he had written or illustrated. I wrote again but this time he advised me to correspond with Dan Burne Jones of Oak Park, Illinois, his designated bibliographer. I tried several times to arrange a visit to the farm to meet Kent in person, but I was never successful. He died in 1971, having lived a life filled with adventure, success, notoriety, and finally obscurity.

Louis Untermeyer wrote in 1936: "Rockwell Kent is probably the most versatile man alive.... I suspect he is not a person at all, but an Organization...." Kent had strong needs and acted upon them. His need for adventure carried him to Monhegan Island, Maine; Fox Island in Alaska; Tierra del Fuego; Newfoundland; Ireland, and in the later years, Russia. He built houses, fished for a living, rebuilt a small sailing ship, survived a shipwreck in another, lived among the Eskimos of Greenland at several different times, lived as a hermit on an Alaskan island, fought for the right to have a passport, and challenged Senator Joseph McCarthy on his own turf.

Kent was successful as an artist in many different media. He wished to be remembered as a worker in oils, but this fame has not yet been achieved. The vitality of his work in this medium, however, reflecting the vigorous life he led in places like Alaska and Greenland, was admired by many critics and other artists such as John Sloan and George Bellows. As a printmaker, Kent used a number of methods. He considered lithography his strongest medium, but his most memorable works were wood engravings. At his death he was remembered as a great book illustrator. Some of his best drawings accompany texts by Shakespeare, Chaucer, Whitman, Boccaccio, and Melville. *Moby Dick*, for one, stands high in a list of the finest books ever printed.

A different form of illustration can be seen in the more than 200 bookplates Kent designed, using small pictures that



Rockwell Kent created 280 illustrations for a special edition of Moby Dick *published in 1930. Three American and six foreign publishers, including a Czechoslovakian, have reprinted Kent's work.*

Besides illustrating literary classics, Kent designed common household items, including silverware and the chinaware shown above. Kent also designed over 200 bookplates, five of which are shown on the right, to supplement his income so he could "afford the luxury of painting pictures." Despite his preference for painting, Kent's distinctive lithographs (like the one above and those on the opposite page) are more widely known.

PHOTOS BY J. MARTIN NATVIG

illustrated one aspect of the plate owner's life or character or career. Even though the headstrong artist argued that there was no such thing as "commercial art," he demanded and received high fees for his illustrations which were used in more than 100 advertisements. Many of his drawings, prints, and paintings were adapted for greeting cards. His work was chosen by the Vernon Kilns for use on three sets of its chinaware. Plates, cups, casseroles, and tumblers were brightly decorated with pictures of whaling ships, Eskimos, or scenic spots of America.

In addition to this tremendous output of art, Kent managed also to do a variety of other things. He was active in labor unions, trying to persuade his fellow artists that they should unite in a single union. Just before World War II he made a successful lecture tour, prompted in part by his need to help support two ex-wives, a current spouse, and six children.

Kent supported sixty different Socialist organizations. His devotion to the precepts of Socialism began in his youth and continued throughout his life. It brought him into the direct line of fire from Senator Joseph McCarthy in the 1950s. Kent tried to read a statement before the Senator's committee; when denied this right, he became an uncooperative witness. The American art world was quick to disown the "tainted" member of its ranks, and for the next twenty years Kent's name never appeared in American art journals. The only news of him reported in the newspapers of this period was his successful fight to acquire a passport. Kent took the case up to the U.S. Supreme Court and won. Upon his death in 1971, he became newsworthy again, and his obituary appeared on the front page of the *New York Times*.

Because Kent's reputation had declined in the 1960s, I was able to buy two Kent prints at Freeman's auction in Philadelphia for only $10.50. To my regret, I passed up a small collection of Kent's prints offered by Sessler's book store because the $20 price for each print seemed high. George Mears, the book collector who ran the history department of Leary's book store on Ninth Street, learned of my interest and persuaded me to invest in Kent first editions. Other book dealers wanted to know why I wanted to buy material by "that Communist."

I learned more about Kent's life when I read his autobiography, *It's Me, O Lord*, but my real education took place when I visited Jacqui and Dan Burne Jones, both avid Kent collectors. Jones was Kent's bibliographer and an artist in his own right. The two men worked closely together to try to locate Kent's works, but were not able to recall everything. My searches in book stores, at flea markets and auctions, and in book catalogues uncovered twenty-five pieces of ephemera unknown to Jones. For example, I found the Margaret Sanger bookplate through a catalogue from a Vermont used-book dealer. He told me the book had come from a New England college; a letter to the librarian provided me with a second copy for Jones.

In 1974, Dan Burne Jones published the *Prints of Rockwell Kent*, the first major work on Kent since 1953. This book marked the re-entry of Rockwell Kent onto the art scene. David Traxel's biography, *An American Saga*, was published in 1980. In September, 1982, Knopf published an anthology of Kent's writings, which contains also ninety-six colored plates and about 400 black and white illustrations. The foreword has been written by artist Jamie Wyeth, who now owns the studio that Kent built on Monhegan Island over seventy years ago.

My collecting and research of Kentiana have become more specialized in recent years. I have chosen the ephemera—bookplates, Christmas cards, chinaware, advertising pieces, etc.—as my particular interest. When I retire I hope to put together a small book about Kent's advertisements and to publish a third volume of Kent's bookplates to match the two volumes Kent himself produced in 1929 and 1936. And, of course, there will always be the need to seek out more information and to document what an excellent artist Kent was.

In the trio of one-act plays that make up Sarnoff's triple bill, Milgrim runs the gamut from a mousy housewife, to an officious social worker, to what one critic describes as "a flashy, tart-tongued redhead." But perfecting her "Vegas showgirl" persona for this last role was not easy for Milgrim. Below is Milgrim in a different guise with co-star Christine Estabrook (left).

OFF BROADWAY

Lynn Milgrim '60 and Rosita Sarnoff '64 stage *Win/Lose/Draw*, an off-Broadway triple treat.

PHOTO BY CAROL ROSEGG

Late on a fine spring evening, while seated in a booth in a Greenwich Village tavern drinking in a conversation between actress Lynn Milgrim '60 and producer Rosita Sarnoff '64, one can easily become intoxicated with their love of the theater.

"An actor, someone once said, is a dancer whose partner is the audience. Sometimes you have to drag that partner around, but it's wonderful when the audience will dance with you," Milgrim says, beaming.

It is five days after the opening of *Win/Lose/Draw*, Sarnoff's new off-Broadway production of three one-act plays, and as one of the two stars of the show, Milgrim clearly has reason to smile. In the course of the three plays that make up the evening—*Little Miss Fresno*, *Final Placement*, and *Chocolate Cake*—Milgrim runs the full gamut of emotion, playing first a shy suburban housewife, then an officious social worker, and finally what one critic describes as "a flashy, tart-tongued redhead."

It is in this last role, as the brassy Delia Baron in *Chocolate Cake*, that Milgrim

most delights audiences and critics alike. The *New York Times Magazine* labeled the one-act "hilarious" shortly after the April 27 opening, while another critic simply wrote: "Milgrim's Delia is perfect." Yet, perfecting Delia's "Vegas showgirl" persona—complete with red wig, mink coat, and slinky black dress—did not come easily to Milgrim.

"I had enormous problems with that character, especially saying all those horrible things she says. But then one day, Chris (Milgrim's co-star, Christine Estabrook) and I were walking out of rehearsal and we saw this gorgeous redhead with a mink coat and a man on each arm, and I said: 'That's Delia!'

"At first, I had had a very different image of Delia—someone with very black, curly hair. But when I put on that red wig it was like . . ." And with that, after a brief, but dramatic, pause, Milgrim raises her right hand and nonchalantly snaps her fingers.

While Milgrim and her co-star have settled into what might be called a comfortable three-step with their audiences each night, chief producer Rosita Sarnoff, along with her three co-producers, finds she must be ready to improvise to capitalize on the show's good reviews.

"We have a good show here; people are loving it. Now, it is simply a matter of getting everybody to come to the theater—of sustaining the show long enough to generate word-of-mouth advertising, which is really what sells a show," Sarnoff explains. "So far, so good.

"Then there's the question of advertising. How much do you spend on advertising and where can you save? People generally come to off-Broadway shows on the weekend, so we're running big ads in the papers on Fridays. I'm very optimistic about the show," she says. "I think we've got a real crack at a long run."

Sarnoff found two of the three plays on her triple bill at a festival of new plays in Louisville in 1981 and then commissioned the authors to write a third play together. "The two playwrights, Mary Gallagher and Ara Watson, didn't know each other, but their plays were very similar in sensibility," Sarnoff notes, "so we thought it would be interesting to have them write something together to round out the evening. The result, *Little Miss Fresno*, is a curtain-raiser that sets the tone for the evening very nicely."

Despite the continuity of tone running throughout the three plays, there are stark contrasts between the characters portrayed in each. The producers had a difficult time finding two actresses versatile enough to shift from light comedy to serious drama and then to dark comedy, especially since there is barely enough time to change costumes between plays.

"We had to find not only brilliant actors," Sarnoff explains, "but character actors who have a sense of humor and can play very serious drama. I don't think there are very many women who could have done these roles, and certainly not many who could have done them as well as Lynn and Christine. The auditioning process was very long and tedious," she notes; "it almost killed us all."

Milgrim's ties to Swarthmore, however, had nothing to do with the producers' decision to cast her in *Win/Lose/Draw*. In fact, as Sarnoff recounts, she had no idea Milgrim was a fellow Swarthmorean until previews were well under way.

'I didn't know Lynn went to Swarthmore until one night when my parents came to see the play and pointed out the reference in the program notes," Sarnoff explains. "So I couldn't wait until the end of the performance to go and tell Lynn. I thought it was a great coincidence. There was no special consideration given her. Her audition was brilliant, so we hired her."

Milgrim traces her initial interest in the theater to plays she saw as a child in the Swarthmore area.

"My parents often took the trolley car out to Media [Pa.] to go to the Hedgerow Theatre," Milgrim recalls, "to see things like Shaw's *Man and Superman*. Then, when I was a ten-year-old my mother took me to acting school, and when I was sixteen I was asked to join the Hedgerow Theatre.

"Actually, I was part of the Hedgerow company when we were asked to perform at Swarthmore. It was Dylan Thomas' *Under Milkwood*. I was a sophomore at Swarthmore at that point."

Although she was already performing with professionals at the age of 16, Milgrim wanted to get "a straight liberal arts education" at Swarthmore, she says, "because actors are made up of all the things they know and experience in life.

"I majored in English literature, so I got acquainted with all sorts of things that feed into my work as an actress. For instance, I'm glad I'm familiar with *War and Peace*, although I have to admit I read only the first half of it. The broader your outlook is, the better actor you'll be."

Producer Rosita Sarnoff gave up television for the theater.

Milgrim appeared in two of the longest running hits of recent Broadway seasons: Simon Gray's *Otherwise Engaged*, directed by Harold Pinter, and *A Bedroom Farce*, directed by Sir Peter Hall. Her feature film credits include Otto Preminger's *Tell Me You Love Me, Junie Moon* and *Enormous Changes at the Last Minute*, a film soon to be released.

Both Milgrim and Sarnoff have worked extensively in television, as well as in the theater. Many daytime television viewers know Milgrim best as "Susan Shearer" on NBC's *Another World*, while Sarnoff spent seventeen years as a producer of television shows before turning her talents to the theater. Sarnoff has co-produced two other off-Broadway plays: Sam Shepard's Pulitizer Prize-winning *Buried Child*, and Elizabeth Swados' Obie Award-winning *Night Club Cantata*.

"I am a great proponent of live theater," Sarnoff explains. "I worked in television production for many years after getting out of college, but I stopped about a year ago. I realized I really didn't like it. The process of putting together television shows was no longer satisfying to me.

"But the theater, which is just as hard, sometimes harder—I just love it. Believe me, though, I can't understand why anyone wants to be an actor," Sarnoff says with a wry grin. —*L. E.*

By Kate Downing

4 top Swarthmore athletes match an urge to learn with the will to win

Mark Handwerger

What, you might ask, is a shortstop who bats .400 and wants to play professional baseball doing at Swarthmore?

For one thing, Mark Handwerger is getting an education in economics in the event his dream of a pro career doesn't work out.

For another he's a member of a varsity team of all freshmen and sophomores that this year won the College's first ever Florida Baseball School Tournament division title, and he himself was named "most valuable player" among the ten teams. (The Florida School is the site of the annual spring training for Swarthmore baseball teams.)

Certainly not too bad for a sophomore. But does he have what it takes—including the right exposure for professional scouts—to play major league ball?

"The most important thing the pros look for is speed," says Ernie Prudente, Swarthmore's head baseball coach. "You have to be able to run sixty yards in under seven seconds. Next you must have a good throwing arm. After that they worry about fielding and hitting. Mark possesses a very good throwing arm and runs the 60-yard dash in 6.7 seconds."

Last year, as a freshman, Handwerger led the Swarthmore team in hitting (.433 in MAC league games) and in stolen bases. The team, however, won only two games in the entire season and was 0-10 in the MAC. This year's team did considerably better with a 14-5-1 record, 6-4 in the MAC.

"Last year," says Coach Prudente, "we were known as the 'soft touch,' an easy team to beat. This year we've been working on getting respect. Now the other coaches are saying that next year we'll be the team to beat."

As for getting scouts to take a serious look at a player, the problem, says Handwerger, can be solved by getting into the "right" summer college league. "I've been accepted by the Cortland State league and hope to get into the one on Cape Cod. It's the most prestigious of the leagues for college students in the country."

Coach Prudente also can help gain recognition. Professional scouts send letters out yearly to college coaches asking for names of players to keep an eye on. Prudente's letter begins: "Mark Handwerger is one of the best shortstops I ever had the privilege to coach on the college level."

Handwerger also has other essentials to make it in the pro ranks—the desire to win and commitment. "I talked with my parents (his mother is Gretchen Mann Handwerger '56) and they've let me lead my own life. I certainly wouldn't have foregone college to play baseball because, if I'm not successful at it, I can always turn my interests elsewhere. But I want to give it a couple of years."

So if you're reading about the rookies in the sports section some spring day in 1986 or '87, remember Mark Handwerger's name. He might very well be on a team roster.

Michele Fowler

In the vernacular, Michele Fowler is known as a triple threat.

Actually, that description covers only the sports she played this year, not the range of her talents.

Originally interested in joining Swarthmore's women's basketball team, Fowler started the school year as goalie on the soccer team, played guard/forward in basketball during the winter, and rounded out the year with spring softball.

According to Bunny Watts, who was Fowler's contact with the College while she was still in high school and now coaches her in basketball: "She came out of high school with good, basic skills which go hand in hand with the natural talent she has. I knew that Michele excelled in sports other than basketball in high school."

Fowler's freshman year was full of "firsts." She played right field on the softball team which finished its season with a record of 10-4 and is probably the best softball team in the College's history. She also helped debut the women's soccer team in its first season as a varsity sport.

But her first love is basketball, and in her first year as a collegiate player she came off with impressive statistics: high scorer with 321 total points (an average of 14 points per game), and second places in free throw percentage (64.4%) and rebounding (177 rebounds for the season). She also was the only member of the team named to the Philadelphia Association of Intercollegiate Athletics for Women's all star-team, an especially high honor since all-star status is bestowed by other coaches in the association.

Says Coach Watts: "It's unusual for someone to come here who is so heavily into athletics. But Michele does want to do her best mentally as well as physically. The best thing is that she's so coachable. She really has a good attitude and she's not afraid to learn. She's improved a lot in her first season and recognizes she *can* do something better with practice."

Fowler credits her parents for their encouragement and support of her enthusiasm for athletics. Her one brother, she says, "isn't sports oriented. But *I* can't live without sports. I really don't think I could survive if my life consisted of nothing but academic work all the time. Besides, it's a good way to meet people and blow off a little steam."

PHOTOS BY ALAN DIXON '83

An engineering major, Fowler is as serious about her studies as she is about her sports. That's why she chose Swarthmore, she says, instead of a bigger school that could have offered her an athletic scholarship.

"You hear about some college athletes who don't go to classes and don't learn anything. I don't want that to happen. I want to be able to live a productive life after school."

Steve Brown

Last fall while Steve Brown spent the semester in Vienna, Austria, and considered spending the entire academic year there, the standing joke on the tennis team was that a "kidnapping squad" would have to drag Brown down from the Alps. Not that the junior is that enamored with skiing, but this fiction does reflect his relaxed attitude about his tennis. He didn't pick up a racket in four months.

Brown began this spring season ranked number two in singles play among all male tennis players in Division III of the NCAA. And even for Swarthmore, whose tennis teams have won every MAC conference championship in the last ten years, Steve stands out.

Coach Mike Mullan recruited Brown from his Cincinnati high school where his team was always one of the top four in the state, and his best personal record was in the top eight.

"I had heard about Swarthmore and it ended up having the combination I was looking for—a quality education and a competitive tennis team. Not many schools in Division III have that to offer."

As a freshman, Brown played in the number three spot on the team, winning one round in the national tournament and ending up as a quarter finalist in doubles. By the next year he had been moved up to the number one slot, ended up one of the top eight players nationally in the division, and was named an All-American.

Coach Mullan has watched Brown "grow and develop" since he first came to the College. "He really has carried the team, especially in a match this year against the University of Southern California at Santa Cruz. When it looked like everyone on the team was losing, Steve turned around and won.

"If he can win at number one, he boosts the team," Mullan says. "On the other hand, when he loses, he's not down for long. He keeps his tennis in perspective."

Both on and off the court Brown has a reputation as a worker. Says Mullan: "He conditions himself mentally to get the maximum out of whatever he does. He works hard, playing with his head and using all the tactics and strategy he can muster."

A political science major, Brown isn't yet sure what career he'll pursue after graduation, but he *does* know it won't be as a tennis pro.

"I play because I like it. We're certainly not the same level as the better (and bigger) college players, but we want to play competitively and get a good education at the same time. Besides, it's more fun to be a big fish in your own small Division III pond."

Joe Valis

When Joe Valis graduated in May he left with not only his degree, but also one of the most outstanding records ever achieved in Swarthmore men's lacrosse.

As junior and senior co-captain and four-time MAC all-star, Valis ended his collegiate career as the all-time leading scorer in Swarthmore lacrosse, breaking the record set by Avery Blake, Jr., '53 in the 1950-53 seasons.

Says his coach, Jim Noyes: "Joe dominated the game more than any other athlete I've seen in this sport here. He consistently set the pace and was a leader in every sense of the word."

In the spring of 1979, Valis was a much heralded high school lacrosse player from Fallston, Maryland. He visited the Swarthmore campus to see the College take on Widener in lacrosse and watched the Garnet lose 7-6. That season they ended up with a dismal 1-11 record.

"Joe came to a program that was 4-19 after my first two years here," says Noyes. "He could have played anywhere in the country but instead he put his educational goals ahead of his lacrosse goals. He made a very difficult decision when he came to Swarthmore and I'm delighted that things have worked out for him."

Originally Valis was contacted by football coach Tom Lapinski, and the talented young man did play football for three years as the team punter.

"I like lacrosse a lot better," he says, noting the somewhat lonely existence of kickers on any football team. "I feel that I've developed more and was a much better team player in lacrosse. They say team sports help build leadership and character and looking back I feel it's really true. In a lot of contexts teamwork is the key to success."

Success, indeed! Three years after Valis joined the team as an attackman, the Garnet "stickmen" finished the '82 season with a 10-3 record and defeated heavily favored, nationally seventh-ranked Franklin and Marshall for the MAC championship.

Says Valis: "It was kind of a culmination of experience, confidence, and good basic lacrosse. When I came to Swarthmore, I saw the opportunity to contribute to the lacrosse program and assist in achieving a number of goals Coach Noyes had set. When we won the MAC, it meant we had achieved our first goal, and the next logical step was to repeat as MAC champions this year and gain an NCAA Division III playoff berth."

(Unfortunately, the team lost the MAC championship game to Gettysburg, 16-6, and did not go to NCAA playoffs.)

Armed with his degree in political science, Valis is now looking for a position in investment banking and would like eventually to attend business school. But lacrosse, he maintains, will always be a part of his life.

THE COLLEGE

Delta Upsilon removed from campus organizations list

Following a year of probation for a "series of unhappy actions that members of the fraternity had undertaken in the several previous years," Delta Upsilon has been removed from the list of approved campus organizations for at least two years.

In making the announcement early this spring to cancel the lease of the DU lodge, President David Fraser said he had made the "difficult decision" following a recommendation of a committee of faculty, staff, and students and acceptance of that recommendation by Dean Janet Dickerson.

"In this year," President Fraser said, "when the fraternity was effectively on probation, some welcome signs of more responsible behavior [of fraternity members] were evident. I sensed cautious optimism that the corner had been turned."

But several days before final recommendations were to be made on the future of the fraternity, the secretary of Delta Upsilon produced and distributed to members an "offensive set of minutes" of one of the fraternity's weekly meetings. Among other things, two freshmen women were named in the minutes as having been raped by particular men in the community. The women, in fact, had not been raped and the men identified as the assailants were not members of DU.

Several copies of the minutes, which were not individually addressed or in envelopes, appeared in mailboxes of other than DU members (including one in the Dean's box) on the afternoon they were stuffed. Days later they were distributed campus-wide by a group of non-DU students who objected to the content of the minutes and signed their names.

"Those minutes," said President Fraser, "caused quite an uproar generally on the campus. DU responded to that expression of community concern by suggesting that the minutes had been taken out of context. There is widespread feeling that the response by the DU undergraduate officers was quite inappropriate since it suggested that the minutes were justified in the context of the fraternity."

President Fraser said he had wrestled with the "problem of selecting a penalty for the fraternity sufficiently harsh to convey an unambiguous signal that this type of behavior is unacceptable at Swarthmore and to break the chain of antisocial actions that have plagued DU's recent history.

"At the same time," he continued, "I recognize that having DU on campus has been of considerable value to the College over many years and that alumni of DU have contributed greatly to its strength."

President Fraser added that he hoped "that DU can be reconstituted after those two years because I think that Swarthmore stands to gain a great deal from the distinctive views about life and Swarthmore that those interested in fraternities can bring to the College.

"For this to happen," he said, "this year's sophomores will need the guidance of DU alumni and the administration in charting their way through a couple of difficult years and in deliberating about how the good aspects of fraternities can be captured in a reborn fraternity."

According to William F. Lee, Jr. '60, a member of the Board of Managers and a DU alumnus, President Fraser has met on many occasions with groups of DU alumni. "There's a clear understanding of how DU can constructively propose to reconstitute itself and a group of us has already begun to do so," Lee said. "President Fraser has indicated he will accept a proposal from DU in June, 1984."

The proposal would include the following points: What does DU mean to its members, past and present? What has DU meant to the College in the past? What suggestions does the fraternity have to eliminate what has been viewed as negative aspects over the past few years?

Said Lee: "If the administration feels the proposal is worthwhile, it will be examined in the fall of 1984 as part of a campus-wide discussion on the role of fraternities.

"We feel," Lee added, "the College has a problem with the quality and diversity of its campus life. We also feel DU can help solve it."

In the interim, the lodge has been rented to a member of the administrative staff.

Board of Managers divests Dresser Industries stock

Early this year the College, through its investment advisors, divested itself of 6,000 shares of common stock in Dresser Industries, Incorporated. The Board of Managers took this action because of its concern about the corporate activities of Dresser Industries in the Republic of South Africa.

The College, concerned that no external mechanism exists to ensure compliance by Dresser Industries with the Principles for Operation in South Africa announced by the company, "feels obligated to refrain from continued investment" in the company.

The Board is monitoring the activities of all companies in its investment port-

folio to ensure their compliance with racial equality principles formulated by the Reverend Leon Sullivan (Hon. '68). Those principles include equal pay for equal work, non-discrimination in the use of facilities, and opportunities for training and advancement for Black employees. The College is attempting to encourage those companies in which it is a shareholder to follow policies aimed at promoting equality among Blacks and Whites in South Africa.

College fights law linking student aid to the draft

Citing its determination to preserve the integrity of the College's "need-blind" admissions policy—under which qualified students are admitted to Swarthmore without regard to their ability to pay—the Board of Managers decided on February 26 to replace financial aid withheld from draft nonregistrants by the federal government under a controversial new law.

The Board's action came just two days after President David Fraser told a congressional subcommittee that the new law should be repealed because "it discriminates against poor and middle-income men, because it inflicts punishment without prior trial, because it threatens the spirit of free inquiry so essential to our colleges by restricting their ability to assemble student bodies on educational criteria alone, and because it unwisely makes access to education contingent on compliance with a totally unrelated law."

Earlier in February the College had joined the University of Minnesota in support of a lawsuit by Minnesota students to halt implementation of the law, known as the "Solomon Amendment." On March 9, a U.S. district court judge in Minneapolis issued a preliminary injunction barring the government from enforcing the Solomon Amendment, stating: "Enforcement of a law likely to be found unconstitutional is not in the public interest."

Although that ruling is now being appealed by the Justice Department, the Department of Education announced on April 7 that students would not be *required* to sign statements affirming their compliance with the draft registration law pending a final court ruling. The education department did, however, suggest, in a letter to college student aid administrators dated April 15, that they strongly encourage students *voluntarily* to sign such a statement.

Besides delaying implementation of the Solomon Amendment, the Department of Education has revised its proposed regulations, at least temporarily easing the burden placed on colleges and universities in administering the law. Instead of requiring student aid recipients to produce a document from the Selective Service System certifying they have registered for the draft, prior to 1985 colleges would need only to have students sign a form stating that they have registered.

In his testimony before Congress, President Fraser estimated that following the validation procedures initially proposed by the Department of Education would force even a small college like Swarthmore to hire an additional person to work "one-half or three-quarters time just to handle the extra work." Rather than having colleges police the draft registration law in this way, Fraser has proposed that students merely submit affidavits affirming that they have registered, or are not required to, for verification by federal personnel.

Student charges increased for 1983-84 academic year

The need for modest enhancements in operations and programs, coupled with the need to maintain competitive salaries for faculty and other personnel, has resulted in a 9.5 percent increase in student charges for the 1983-84 academic year.

In approving the budget, the Board of Managers said that despite the decline in interest rates that has affected the College's investment income, the College will look to its endowment for an additional 11.8 percent in spending and to annual giving donors for a 10 percent increase over the 1982-83 budget. In these ways it hopes to spread the costs that exceed estimated inflation.

Tuition will increase to $7,840, up $710 from last year, while the general fee will be raised from $540 to $590. Room and board charges will total $3,260, an increase of $260 over 1982-83, bringing total charges to $11,690.

The increased charges and a slight increase in the student body—to about 1,275—will require an increase of slightly more than 18 percent in the financial aid budget.

Despite the increases, charges are still lower than those at many schools of comparable status and perceived quality. Yale has officially announce charges of $12,980, a 10.1 percent hike, and Princeton will charge $12,410, an increase of 12.6 percent.

Claude C. Smith, former Board chairman, dies

Claude C. Smith '14, chairman of the Board of Managers from 1952 to 1966, died at his home in Swarthmore on May 11. He was 94.

Raised in Indiana, he taught in the public schools from 1905 to 1910 while attending Central Normal College, where he received his bachelor of science degree in 1911. He then came to Swarthmore as a political science major and continued his education at the University of Pennsylvania, where he obtained his law degree in 1917.

That same year he was admitted to the Pennsylvania bar and joined the Philadelphia law firm of Duane, Morris, and Heckscher. He was named a partner in the firm in 1923 and in 1938 was admitted to practice before the U.S. Supreme Court.

Smith's ties to Swarthmore were deep. He experienced Swarthmore as a student, a faculty member, member and emeritus member of the Board for forty-seven years, the husband of Mary Roberts (also a member of the Class of 1914, who died in 1948), and the father of four children, all of whom graduated from Swarthmore: Richard L. '41, Gene Smith McCulloch '42, Nancy Smith Hayden '46, and Carter '51. He also had four Swarthmore grandchildren: Corey Smith '65, Stephen Smith

'71, Deborah Smith Hilke '73, and Robert G. Hayden, Jr., '81.

In an open letter to the College community, President David Fraser said: "When Claude Smith retired as chairman of the Board, an article in the *Alumni Bulletin* called him the 'uncommon chairman.' For the fourteen years he presided over the Swarthmore Board of Managers, he conducted meetings in an unorthodox manner, he refused to put consideration of the law, though a lawyer himself, ahead of consideration of the human relationships involved, and he made speeches on and off the campus which pulled no punches and hit at the heart of the matter."

Smith told a gathering of local alumni in 1956: "The Board of Managers must assure academic freedom, free inquiry, allow criticism and open discussion; permit dissent from prevailing ideas and accepted beliefs; maintain an open market for new evidence for new ideas.... The College must produce graduates who are willing to support their convictions, their sense of fair play and justice, by leaning against the winds of popularity." In 1967 the College awarded him an honorary LL.D.

He is survived by his wife Virginia, four children, twenty grandchildren, and twenty great-grandchildren.

Six students win honors in German Week competition

Six Swarthmore students won top individual honors and as a group won the most prizes among finalists during German Language Week competition in late March.

Sponsored by educational and cultural organizations in the Philadelphia area, the week of events was held for the second time to encourage interest in German studies and language and in commemoration of the founding of Germantown in 1683.

Eighty colleges, universities, and high schools sent participants to compete in language proficiency and German culture tests.

Winning prizes in the highest level language tests were senior German majors Mark Montgomery and Ferrel Rose. Montgomery won a round-trip flight to Germany this summer, the top prize given in the competition. Rose won a graduate-level summer school course and is an alternate for a German Academic Exchange Service scholarship for summer study at a German university.

Christine Marx '86 won the top cash prize given for the second highest level language test. Also receiving cash prizes, for culture test competition, were seniors Harlow Ballard, Christopher Gwilt, and Holt Meyer.

David S. Cowden, professor of English, dies at 63

David S. Cowden, 63, who taught English at Swarthmore for more than forty years, died May 20 at Bryn Mawr Hospital following a brief illness.

Cowden's long association with the College began as an undergraduate, and he earned highest honors and membership in Phi Beta Kappa in 1942. He joined the faculty in 1949 after completing doctoral work at Harvard and serving in the Army Office of War Information in London during World War II. He was promoted to full professor of English in 1968.

Known for his interest in the nineteenth-century novel, Cowden also contributed to the College by service on a wide variety of committees, most recently as chairman of the Committee of Fellowships and Prizes, and served as Secretary to the Faculty from 1967 to 1970.

He is survived by his sister, Rosemary Cowden Cadigan '35, and six nieces and nephews.

Contributions may be made in his memory to the David S. Cowden Scholarship, which he established in 1977.

Extinction *(continued from page 9)*

sustain themselves, and that it has no natural enemies except Homo sapiens. Except Homo sapiens!

Suddenly my subconsciousness whispered to me: Why should Homo sapiens be sitting so uncomfortably in that scene, anyway? What right has that species to impose itself on the gorilla? Would it really be so tragic if that species disappeared altogether?

Let's Bother

Actually there are reasons for bothering. In his *New Yorker* articles, Jonathan Schell gives some arguments for caring. They are based on the nature and heritage of the beast, Homo sapiens, and its responsibility to future generations. I, too, have reasons for bothering, though they are personal and unrelated to biological needs. I find enormous pleasure in a great deal of the species' creative expression. For me the universe would be significantly lessened in value if the sort of human creativity heard in Bach's Goldberg Variations, seen in the architecture of Machu Picchu, read in the novels of Tolstoy, felt in hand-woven cloth, smelled in home-baked bread, enjoyed in the simple elegance of the chemiosmotic-coupling hypothesis, laughed at in the distilled irony of a political cartoon—if all this vanished into the ether. It is this quality of the human mind that constitutes the basis for my concern about human extinction.

There is, though, a curious thing about this creative quality that needs now to be underscored. It is just this expression of the human mind that also creates the threats to human survival—the nuclear and ecological threats. Yet, even more curiously, it is to that same mind that the species must turn if there is to be any hope of counteracting the destructive impulse.

The mind, after all, may be our ultimate weakness in regard to survival, but it is also our ultimate hope. When compared with other animals, the one thing Homo sapiens is really good at is learning. We cannot run very fast compared with other animals, swim very well, fly at all (except with help), climb trees with agility, swing from branch to branch, or hang by our tails with any expertise at all. But we can *learn*; and we have been doing that just about fast enough to survive destructive acts of God and acts of man.

Perhaps, then, we can learn in time to compensate for the deficiencies of our DNA, for our instinctual shortcomings, by carefully considering what actions may be good for the human species as well as for the individual, and at least half the time deciding in favor of the species when there is a conflict of interest.

A year ago, the Class of '82 asked Swarthmore Professor Robert E. Savage, a cell biologist, to deliver the traditional "Last Collection" address. He settled on "extinction" as his topic because of growing concern among students and the general public about the threat to human survival posed by nuclear weapons. This article is adapted from Savage's address to the Class.

In this issue:

Editor:
Maralyn Orbison Gillespie '49
Managing Editor:
Larry L. Elveru
Assistant Editors:
Kathryn Bassett '35
Kate Downing
Editorial Assistant:
Ann D. Geer
Designer: Bob Wood

Cover: Chief Marshal Paul Mangelsdorf, Jr. '49 is shown leading the inaugural procession, followed by President Fraser, former president John W. Nason, and Board Vice-Chairman J. Lawrence Shane '56.
Photo: Steven Goldblatt '67.

June, 1983 / Second-class postage paid at Swarthmore, PA 19081 and additional mailing offices.

Swarthmore College Bulletin

President Fraser and wife, the former Barbara Gaines, an attorney.

"The busy campus and the peaceful woods lie juxtaposed and we who live or visit here gain much from the juxtaposition," said President David W. Fraser in his inaugural address. "We feel a creative ambivalence pulling us at once into the refuge and out onto the open ground. As a metaphor for contrasting attractions of the academic refuge and the outside world, this ambivalence underlay the foundation of the College in the 1860s and plays upon its inhabitants today. Some years the pull seems to be stronger in one direction and some years in the other, but the tension between the two is always there."