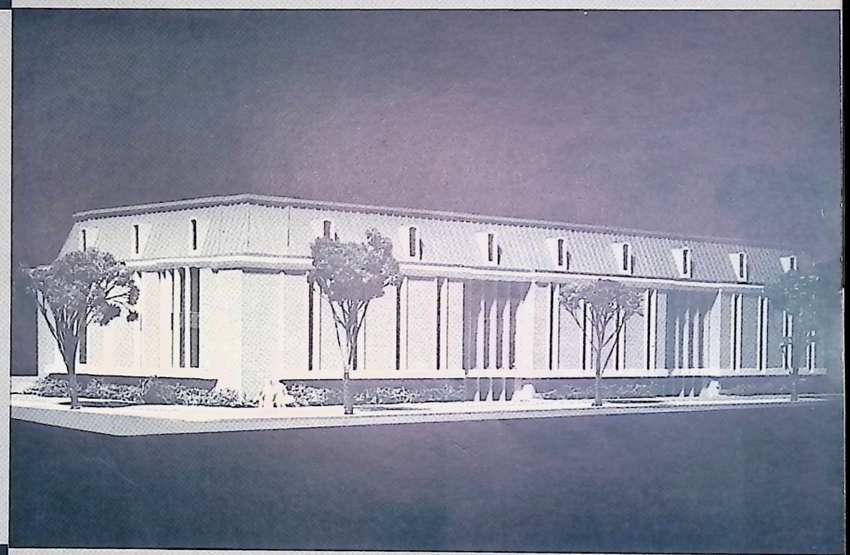
Alumnus

WILKES COLLEGE



SPRING

Volume III § No. 14

MAY, 1966

IN THIS ISSUE . . .

ON THE COVER . . .

VIEW OF ARCHITECT'S MODEL OF PROPOSED LIBRARY FROM SOUTHEAST CORNER OF WEST SOUTH AND SOUTH FRANKLIN STREETS

WILKES COLLEGE ALUMNUS

Wilkes College ALUMNUS is published quarterly for the Wilkes College Alumni Association by the Wilkes College Alumni Office, 184 South River Street, Wilkes-Barre, Pennsylvania, 18703. Second class mailing privileges have been authorized at Wilkes-Barre, Pennsylvania. Subscription — $2.00

. . . A NEW LIBRARY FOR WILKES

Cost —	$2,105,000
Government Grant —	605,000
To be Raised —	1,500,000
Raised as of May 1 —	1,156,000

Wilkes has long known that it must have a new library. Kirby Hall, the present building, served the College well for many years. But it cannot meet the demands of 3,200 students (day, evening and summer), 100 faculty members and an expanding curriculum that calls for the addition of thousands of new books and periodicals each year to keep pace with the explosive increase in recorded knowledge.

Despite the shortage of space, Wilkes has continued to build its library resources and now has a fine, well-balanced collection. However, shelf room has been exhausted and any further additions will bring serious danger of overloading the structure itself.

All library services have been seriously hampered by the continuing shrinking of space. Although library use has more than doubled in the past few years, there is less room than ever for study areas and practically none at all for faculty research, cataloging, binding, microfilming and other essential services.

The Capital Gifts Campaign to raise $1,500,000 to construct the new library has reached $1,156,000. Of this total Alumni support is $45,000. The campaign continues with the hope that Alumni will ultimately contribute $100,000.

This is a great challenge for the Alumni Association. There is no doubt that $100,000 can be raised from Alumni if all of us carefully consider the importance of a new library to Wilkes and then be as generous as possible in helping provide our Alma Mater with the needed funds.

Subscriptions to the Library Fund are payable over a three-year period. The Wilkes College Share Plan provides an opportunity for alumni to subscribe to shares and to have their names listed on a permanent plaque in the foyer of the new Wilkes College Library.

THE WILKES COLLEGE SHARE PLAN

	12 Quarterly Payments	3 Annual Payments	Total Share
Keystone Share	90	360	1080
Builder Share	60	240	720
Pioneer Share	45	180	540
Achievement Share	30	120	360
Progress Share	15	60	180

Those who subscribe to Shares will have their names listed on a permanent plaque in the foyer of the Wilkes College Library.

The College urges all alumni to assist in the raising of funds for the Library. Friends of Wilkes have been very generous and they look to alumni for corresponding generosity. Won't you help your Alumni Association raise $100,000 for a much-needed new library.

References to human overpopulation usually cite countries of Asia as prime examples. Actually the United States of America are overpopulated. The overpopulation of human beings in the United States is apparent in the generally deteriorating environment which is resulting through the failure of the citizens privately and collectively to protect the world in which they live. Unfortunately the fact is that the majority of the citizens **do** tend to cause deterioration of the environment through their ignorance, through their stupidity, or through their selfishness. Deterioration of the environment in the United States results primarily because western man, with his advanced technology and its availability to the general populace, is far more capable of wrecking the environment than the people of less technically advanced countries. Thus, fewer Americans with modern equipment, often referred to as "advantages," are damaging the environment to a much greater extent than are vastly greater numbers of people in more underdeveloped countries. While it is true that Americans in general enjoy a higher standard of living than nationals of other countries, they are doing so at the expense of a deteriorating environment, within and without the boundaries of the United States.

DR. CHARLES B. REIF
Professor of Biology, Dept. Chairman

OVERPOPULATION,
the Mark of Uneducated Men

The environment on planet Earth has two component sets of factors. The first set of factors, the physical factors, include those understood through the study of astronomy, meteorology, oceanography, and geology. The physical factors of the environment may exist without the second set of factors, the biotic factors of the environment. The biotic factors are expressed as the interactions between organisms living within the framework of the physical environment. Thus, the physical factors provide essentials such as energy in the form of sunlight, air with its mixture of necessary gases, the chemicals and water needed for life, the rocky surface of Earth; and the organisms themselves create the biotic factors of the environment. The many kinds of plants and animals have evolved on Earth because their physical requirements have been met; but in seeking to utilize those physical advantages the organisms have come into competition with each other and thus have brought into play the biotic factors of the environment. No kind of organism can exist on Earth without a multiplicity of interactions with other organisms, both those of its own kind and those of other kinds.

The plants with their chlorophyll, having the ability first to convert the energy of sunlight into sugar, act as producers. Both the plants which initially make sugar, and the animals which eat the plants, further synthesize sugars into starches, fats, and proteins which are essential in living matter. The animals, being dependent upon the plants, sooner or later, are called consumers. However, many plants have evolved working relationships with certain animals and in some way have become dependent upon the continuing activities of those animals. Populations of organisms, therefore, increase or decrease as the interactions, the biotic factors of the environment, improve or lessen their chances for living.

The distribution on Earth of the plants and animals, thus the places at which the biotic factors of the environment operate or are expressed, is not without pattern. Organisms live in ecological communities within which the continuation of the complex interrelationships is necessary to the success of every kind of organism in the community. An ecological community, which may be a few feet in diameter or hundreds of miles in diameter, is generally assigned a name with reference to the most influential kind, or kinds, of plant in the community. Thus, in an oak forest community, the organisms of that community live under the protection of the oak trees which take most of the brunt of environmental extremes. Only remnants of the native communities now remain in much of the United States, but before the white man came North America held vast hardwood forest communities, extensive grassland communities, pine and spruce forest communities, as well as tundra to the north and tropical communities to the south. The most influential kind of organism in each community is known as the ecological dominant of that community, and as we have stated, is usually some kind of plant. The plants being producers nearly always contribute to the welfare of the community. If animals, however, being consumers, become the most influential organisms in a community they tend to have a detrimental effect. Thus in any community, on land or in the water, in the north or in the south, when one kind of animal becomes numerous enough to be the most influential of the community, that kind of animal is in a state of overpopulation and may damage the community to the extent that the nature of the community is changed. Such outbreaks, that is, such cases of overpopulation, usually end when the population has consumed its food supply, or has polluted the environment with its waste products, or has laid itself open to the attack of natural enemies.

Man evolved originally as just another kind of creature which fitted into many kinds of natural communities, but with the advent of urban society many small patches of human overpopulations appeared. A city in which dwell large numbers of people is not a natural community because it is not self-sustaining. Cities must be supported by contributions from surrounding natural communities in the form of lumber and fish, for example, or contributions from surrounding artificial (man-made) communities in the form of grain, milk, fruits, and such. Also, each city needs a water supply, a waste disposal system, and a transportation system. In the United States many cities have grown from distinct entities into an anastomosing generality, the so-called urban sprawl. Although the artificial communities and the production of consumer goods have kept pace with the growth of American cities, the waste disposal systems have in general failed, the water supply is critically low, transportation is difficult, and decay of the inner-city areas has created many social problems.

What has happened, or is happening, is that man through his technology has kept one step ahead of disaster. He has increased his mechanical advantage to the extent that he is now the most influential organism on the North American continent, and has thus become the ecological dominant. The westernization of the rest of the world probably has made man the dominant animal of the entire planet. And, as the dominant organism, man is more and more exerting a detrimental influence on the environment. Much of what man does is to his advantage but still at the expense of the natural communities. Thus, human agriculture, which replaces the natural communities with artificial communities, that is, single-species communities such as cornfields, wheat fields, and such, tends to expose the soil to erosion especially during the fall, winter, and spring. Granted that agronomists have made advances in protecting the soil and that artificial communities such as hayfields, orchards, and lawns do protect the soil, the North American continent has suffered the loss of much of its real top soil.

Certain of the detrimental activities carried on by man are of a collective nature, but many are pursued by individuals. Construction of buildings, highways, shopping centers, auto graveyards, culm banks, and such generally involves a corporation or a municipality. But everyone who drives a car which gives off exhaust, everyone who heats a house with coal, or oil, or gas, everyone who smokes, everyone who flushes a toilet or runs a garbage disposal unit which is not connected to a sewage treatment plant, everyone who litters, everyone who puts his interest above those of human society, is personally contributing to deterioration of the environment.

Whereas this has been written in terms of the non-human natural community, one must recognize that the majority of people are completely unaware of the natural community. They are aware only of the little group of people with whom they have some kind of interaction. Thus, one must realize that for everyone, other human beings are factors in his personal environment. One must also realize that in their dealings with other people, certain individuals are producers or consumers. Granted that no one is completely a producer or completely a consumer, some people do contribute much more to the common good than others, and some are notorious in getting more than their share. Unfortunately, the over-all balance appears to be toward those who are consumers along with a deterioration of standards despite the tremendous efforts of a multitude of organizations and individuals to put in more than they take out. Much of the effort put forth by the "character-building" organizations, religious organizations, service groups, and individual philanthropists goes toward making better citizens who, **ipso facto,** thus tend to be more producer than consumer. The individual who is educated need only to look about himself to discover many ways in which he can contribute to an improvement in his immediate environment.

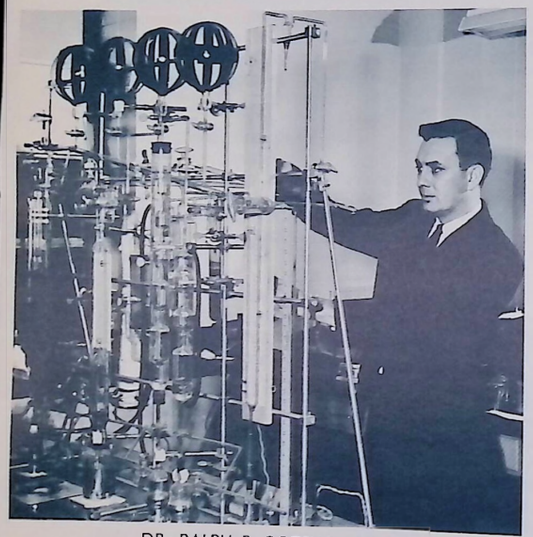
To many the practice of conservation in terms of preserving as much of the natural environment as possible has been the answer. Their efforts deserve applause and not only our support but the thanks of those alive today for what they have saved for the present population to appreciate. However, a new interpretation of the meaning of conservation has arisen. To conserve means to use wisely and what is to be conserved must include not just the elements of the non-human portion of the environment, but the best of human qualities as well. Actually, conservation of the total environment, here meant to include those values of the human mind and spirit, requires that all people approach the task with a broader point of view. The bounty of Earth is limited and only wise use of what is available can make possible the continuing of life such as the citizens of the United States have come to expect if the strain of an increasing population also continues. The uneducated must be informed of the danger and the educated must realize that everyone, regardless of intelligence and training, contributes to overpopulation. Mankind may tap extraterrestrial sources of materials and he may harness more efficiently the energy of the sun, but man's human contribution to the environment must involve greater wisdom and unselfishness or extraterrestrial supplies will merely postpone the end.

One more general principle should be mentioned here. The process of organic evolution has brought man to his position as the ecological dominant on Earth. Social evolution, the evolution of science, and the continuing evolution of the non-human portion of the environment are changing the world in which man lives. Change of such a kind is a continuing part of the picture. One may generalize that change is the only constant. Each new generation must live in the world of its time, it cannot go back, it may retard the rate of change, but it changes. To many people the deterioration of the environment either is unnoticed or is considered to be the normal course of evolution. They see no danger in an increasing population and the resulting strain being put upon the resources of this planet. The mark of the uneducated man is a shrug of the shoulders and a comment to the effect that such is nature. The uneducated man may be very close to the truth, but the educated man has had as part of his education a glimpse of what the human mind and spirit can achieve. The educated man sees that the strain of overpopulation on the environment is very real. He may not be fully aware of the high price each person must pay to maintain an environment in which one can find beauty and opportunity for self-expression, but he does know that mankind must pay dearly to maintain a decent place in which to live. Ignorant, stupid, and selfish deterioration of the environment replaced by enlightened productivity may mean survival.

Research Studies at WILKES . . .

The ALUMNUS presents these articles which briefly highlight several of the important science research projects now in progress at Wilkes College. Gratitude is expressed to the authors and to Edward Wallison, Director of Public Relations, who initiated the idea of presenting this series.

PROBLEMS OF WATER POLUTION . . .



DR. RALPH B. ROZELLE
Professor of Chemistry, Dept. Chairman

Pollution may be defined as an action that affects a given thing, such as air or water, in such a manner as to render it unclean and cause it to be contaminated. Air pollution is rapidly becoming a real problem for many of our nation's larger cities, and is a subject that would warrant extensive and separate consideration. Our discussion will focus solely on the pollution of water.

We might make clear at the onset that a particular release of a foreign discharge into natural waters is a pollutant only if it renders the water unacceptable for some use. Thus, pollution is a term which depends on the anticipated use of the water or how it will affect those who come into contact with it. For example, the quality of water necessary for use by swimmers, for support of fish life, for boating, or solely for transport of streams would differ greatly. Although we would like to have all our waters as clean as possible, the use of the water must be considered in determining the economic feasibility of producing waters of varying qualities.

Pollution of natural streams has increased considerably over recent years and has escalated into one of the most significant problems facing our nation today. Treatment or control of industrial and municipal wastes which discharge into fresh water streams presents a formidable challenge to science to develop new technology.

In regions of this country where extensive mining is carried on, a particularly complex problem in pollution is that caused by mine drainage. Although mine drainage discharges are as old as mining itself, little has been done until recently to investigate methods of reducing pollution resulting from it. Drought conditions in the last few years, however, have accentuated the problem and accelerated study in this area.

The major pollutants in mine drainage are acid and iron, although other materials such as manganese and aluminum are usually present in smaller quantities. For some water uses, the latter materials also may be undesirable.

At this time, it appears that the major origin of acid and iron in mine water is sulfritic material. One of these materials is called iron pyrites and has been known for many years as "fools' gold." When water, containing air, comes into contact with pyrite in the presence of certain bacteria, an oxidation occurs in which an iron sulfate and sulphuric acid are produced. Upon discharge of this water into streams, the iron may be oxidized further to produce more acid and reddish-brown iron oxide precipitate called "yellow boy." This reddish-brown solid is deposited on rocks and other materials in streams and river beds and is familiar to many people in this area. (We might point out that the chemistry of the above processes is by no means completely understood.)

The problem to be solved in mine drainage pollution involves reducing the acid and iron content of mine water before it enters streams, either by chemical treatment or by storing the mine water and releasing it at a time when the concentration of these materials will not significantly affect the streams.

Research on abatement of pollution by mine drainage has been underway at the Wilkes College Research and Graduate Center for approximately two years. Support of this project is a part of the extensive research program on mine drainage being sponsored by the Coal Research Board of Pennsylvania and local Coal Operators who offer additional financial support. The main purpose of this project is to investigate methods of removing the iron from the mine water.

Following an intensive literature survey, the primary research effort has been concerned with the use of ozone as an oxidizing agent for the removal of iron. (Ozone is a high energy form of oxygen produced by electrical discharge through air or oxygen.) Since little had been previously published concerning the iron-ozone reaction, the fundamental aspects were to ascertain the chemistry involved. These investigations are now nearing completion and an economic evaluation of the process will soon be possible.

Most methods of treatment of mine drainage, including the ozone process, are probably going to be expensive. However, this is not surprising when it is considered that the volume of mine drainage in the Wyoming Valley area alone is greater than 100,000,000 gallons per day — equivalent to a small river. (This includes both deep mine and strip mine drainage.) Determination of future uses of this water will be a prime factor in considering which method or methods of treatment must be employed.

It is now quite clear that increasing demands for water from a rapidly expanding population may in the future make mine water a valuable commodity. Indeed, if new sources of water for domestic or industrial use become a matter of necessity, then ozone, which is a very strong bacterioside, may very well be one of the agents used in the resurrection of mine water as one of these sources.

CARDIOVASCULAR DISEASE . . .

DR. ROBERT W. SOEDER
Assistant Professor of Chemistry

Today cardiovascular disease is the biggest killer in the United States. In 1963, according to the U. S. Public Health Service, 983,000 deaths were caused by this disease while 830,000 deaths were attributed to all other causes.

Cardiovascular disease, which involves an impaired blood circulation in the heart, brain, and blood vessels, takes a multitude of forms. These include heart attack, stroke, hypertension, congestive heart failure and angina pectoris.

The cause of these forms of the disease is generally atherosclerosis, the formation of deposits on the walls of blood vessels. At the present time there is a great controversy over the many factors suggested to cause these deposits. The cholesterol-saturated-unsaturated fat theories are continually heard in public debate. Heredity, smoking, weight, emotional stress, sex, and personality patterns are other suggested factors.

As atherosclerosis progresses, usually unknown to the individual, the blood vessel, either at one position or throughout the system, is continually narrowed by the deposition of a complex fatty material (plaque). A heart attack, the largest killer of the cardiovascular diseases, usually occurs when a thrombus (sometimes referred to as a blood clot) blocks the flow of blood in a narrowed heart artery. As a result, the part of the heart which depends on that particular artery for its blood supply (thus oxygen and nutrients) is damaged or destroyed. In the case of loss of a limited area, the heart may continue to function. Sudden death is the result of a loss of large area.

One of the methods used to reduce the incidence of heart attacks among atherosclerotic individuals and previous heart attack victims is the administration of anticoagulant drugs. These drugs are chemicals designed to reduce the tendency of the blood to coagulate (to form a thrombus or clot). They are not designed to prevent clotting completely, for under such conditions profuse bleeding could result from a small cut.

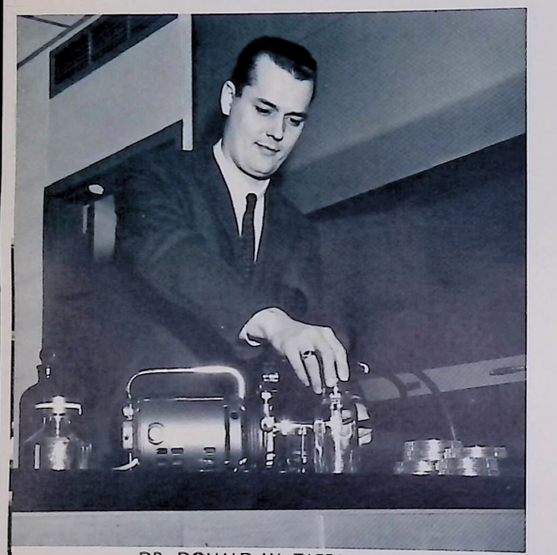
Our research group at the Wilkes College Graduate and Research Center is studying the synthesis of chemical compounds with potential as anticoagulants. Although predictions in the field of pharmacology are very difficult, because small changes in the structure of a compound may result in large changes in the physiological activity, compounds of potential activity can be theoretically designed by consideration of the physiological and chemical properties of known substances. Components which appear to be responsible for the anticoagulant activity of certain drugs are built into new compounds. Both graduate students and undergraduate students are then assigned to the task of actually making the compounds in the laboratory. This is frequently a difficult and time-consuming job.

In the course of this laboratory work, much is learned about basic organic chemistry and drug synthesis. The compounds, when prepared, are tested on animals at the University of Texas Medical School at Galveston for anti-

coagulant activity, toxicity, side effects, and the ability to be counter-acted by vitamin K therapy.

During the course of our studies, which have been underway since 1963, the project has been supported financially by the Northeastern Pennsylvania Heart Association, the Research Corporation of New York, the National Heart Institute of the National Institutes of Health, and Wilkes College.

Competitive Characteristics of Various Water Flea Species . . .



DR. DONALD W. TAPPA
Assistant Professor of Biology

The occurrence of closely-related species living in the same area has been the subject of much speculation. These speculations have been concerned with the competitive exclusion principle which has been variously defined but basically implies that two species which live in the same way cannot co-exist in the same area indefinately. The decrease in the number of newspapers serving the New York City area illustrates a non-biological analogy of this principle. (Not too many years ago the city supported twenty newspapers, but since the economic life of these papers depended upon circulation and advertising revenues many of them were unable to withstand the competition. As a result New York City will soon be left with only five newspapers.)

This same type of competition occurs in the natural environment, the difference being that plants and animals compete for sunlight, food, breeding space, etc., rather than for advertising revenue. Although the competitive exclusion principle has been subjected to various criticism it has had great ecological value since attempts to prove or disprove it have stimulated numerous investigations into the habits of closely-related species and analysis of the factors permitting them to co-exist. Closely-related species are subjected to the most intense competition because their way of life is very similar.

Useful in Research

My own work in this field has been concerned with the analysis of multiple-species associations (lakes containing more than one species) of the water flea **Daphnia.** Ecologists regard this ubiquitous zooplankton form as one of their most useful research animals much in the same way as geneticists regard the fruitfly **Drosophila.**

Daphnids are particularly useful in ecological studies because of their widespread distribution from deep lakes to temporary ponds and because they are easy to find and collect in large numbers. (Dr. Charles Reif of our department estimated that a population of over 200 billion was present in Harveys Lake on July 4, 1965). In addition, many species occur in a small geographical area (a total of seven species were found in the lakes and ponds in and around Wilkes-Barre last summer), they are easy to culture and they represent an important link in the food chain of the aquatic environment.

During the summers of 1961 and 1962, I examined the world's largest known multiple-species association of the genus Daphnia. This unique association of six species occurred in Aziscoos Lake, Maine. Since all six species appeared to be living in much the same way, this situation presented an unparalleled opportunity to critically evaluate the competitive exclusion principle. Analysis of population density, birth rates, death rates, gut contents, vertical distribution, day/night distribution, seasonal distribution and other factors showed that several of the species had neatly partitioned the lake on a seasonal as well as a physical basis to minimize competition.

For example, one species lived on the lake bottom all during the summer and effectively removed itself spatially from any interaction with other species. Two other species which dominated the warmer, upper waters were most definitely in direct competition throughout the year. However, because each species was adapted to living under different temperature conditions, each was favored at different periods of the year and the competition, though intense at times, could not lead to extinction of one or the other since each alternately was given a competitive advantage as the normal temperature sequence of the lake progressed. Thus, Daphnia galeata mendotae was favored during the winter and early spring when lake temperatures were cold while Daphnia catawba was favored during late spring and during the summer when the temperature of the lake had risen. By the time of the fall overturn, water temperatures were sufficiently reduced so that D.g. mendota was again favored. It would appear that this alternation of physical factors is enough to enable these two species to co-exist indefinitely. However, should there ever be a general warming or cooling trend over a sufficient number of years, it is very probable that one or the other species would be excluded from the lake as there were no other observed factors separating the ecology of these two species.

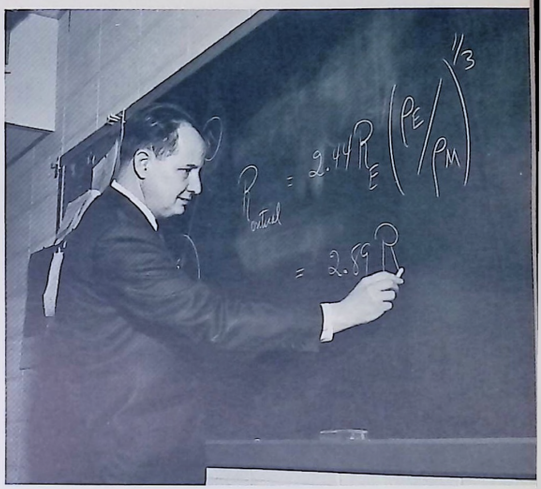
Delicate balances in the environment such as just described are prevalent among plants and animals and it is man's lack of understanding of these relationships that is causing distress among ecologists as they observe the air, water and land around us become more and more polluted by man's lack of insight and planning and through the by-products of our technology. When such balances are sufficiently disturbed an organism will be thrown into direct competition with other closely-related species and will either eliminate the other species from the environment or be eliminated.

Such a condition is occurring in Aziscoos Lake. Data show that one of the six species was a dominant in the zooplankton community 25 years ago and is today barely maintaining its population. It is difficult to state why this species is being excluded from the lake since data for the 25-year period are not at hand. However, the two obvious hypotheses explaining this decrease would be alteration in the physical-chemical make-up of the lake itself and/or competition with a better adapted species.

Since the same species which occurred in Maine have been found in local lakes, a proposal has been submitted to the National Science Foundation for funds to study similar multiple-species associations in these lakes. The lakes to be examined are Winola, Carey and Oxbow. All three support a variable number of water fleas — four, two and one respectively. Aside from information concerning competition among these water fleas, it is also expected that a study of these lakes will yield data relating to the number of daphnids a lake can support. Why is it that Winola supports four species and Oxbow only one? Why is D.g. mendotae and not another species found in Oxbow Lake? Is the population of a lake determined by chance introduction or are certain lakes more suited in the physico-chemical sense for certain species?

As with all problems in basic research, it is not always easy to tell where the results of one's data will lead; however, an analysis of such problems may lead to a greater understanding of the abundance and distribution of animals. Because of the importance of the water flea in the aquatic food chain, these results may also have direct application to those biologists who have the responsibility of maintaining the productivity of our lakes for both commercial and recreational use.

PLANETOLOGY . . .



DR. FRANCIS J. DONAHOE
Associate Professor of Physics

This is the age of space exploration, a time of great adventure, when achievements which were regarded as wildest fantasies a few decades ago now seem within our grasp. But many still ask, "Why, when there are so many problems to be solved here on earth, should we support expensive programs of exploration of the moon and the nearby planets? What is the need for it?"

Part of the answer is simply exuberance. We do things because we can, when we can. A baby does not learn to walk because it wants to get from one place to another. Crawling is faster and far less hazardous. So we progress from small adventures to greater ones.

Search for Information

There is another compelling reason, which is information. Man has a great need to know his place in a universe vast beyond imagining. Lord of creation on earth — what is his role in the overall scheme of existence? Is Mother Earth the only hospitable place for life — intelligent life? Man doesn't want to be alone. He has populated the heavens with gods and the bogs with leprechaun. More recently "will o' the wisp" is a UFO.

How can one make at least an intelligent guess as to the odds of finding within the visible universe, a planet which is the abode of life? These odds must be one, if

the sample includes the region occupied by the earth, but how large must they be if the sample does not include the earth?

Theories of Creation

To estimate the odds one must have theories of the origin of stars and planets. (This is called small creation, to distinguish it from big creation; by big creation we mean how did the stuff which makes stars and planets come to be?) These theories of small creation are developed to the point at which we have reasonable expectation of finding planets around every star.

Meanwhile, one is forced to speculate on matters still imperfectly known. In our own solar system the planet Venus, in many respects is Earth's twin. It has a slightly smaller radius and total mass, but the density and surface gravity are almost the same. But here the similarity ends. The surface of Venus is covered by a thick, opaque atmosphere which serves to trap the sun's heat, much as the glass roof of a "green house." As a result, Venus' surface is hot enough to melt lead.

Similar, Different

But where did all this atmosphere come from? Or, more important, why the difference between earth and Venus? Suppose we ask the question in a different manner. Instead of asking why Venus has so much, should we not ask why earth has so little? Because earth has so little atmosphere, life has developed. It is, in fact, possible to explain the entire present atmosphere of earth in terms of volcanic emission in past eons, plus the activity of the green plants in breaking down carbon dioxide and liberating oxygen. The atmosphere of Venus, however, seems much too abundant to explain in this manner. Its total surface pressure has been estimated in excess of 100 earth atmospheres.

A crucial test of the question of whether earth and Venus were formed by different processes would involve a determination of the proportion of the so-called noble gases in the atmosphere of Venus. The element, neon, for example, is exceedingly rare on earth compared with its abundance in the universe at large. If the abundance of this gas could be measured in Venus' atmosphere, and if it proved to be present in significantly greater abundance than in the earth's atmosphere, then one would be forced to explain how a planet as large as earth could be formed without an atmosphere as dense as that of Venus, rather than the other way around.

Atmosphere Study

One of our concerns at the Wilkes College Research and Graduate Center, then, is to consider methods for making measurements of the composition of Venus' atmosphere and to persuade NASA of the desirability of making such measurements. Detection of neon in Venus' atmosphere from an experiment performed by a "fly-by" space probe will be difficult. One method by which it might be done is to defect flourescence in the atmosphere after excitation by a laser beam.

If it should prove true that Venus has retained primordial gas, one does not have to look far for a probable mechanism for the loss of earth's primordial gas. There is the moon. At present moving away at a leisurely pace, while tides in earth's oceans slowly convert earth's rotational energy to heat, it must have been closer in the distant past, close enough for a very strong interaction to have occurred. All we can say for certain of this ancient encounter is that enough energy was available to strip completely away from earth an atmosphere more dense than the one Venus now has. Part of the record of these happenings may still be preserved on the moon.

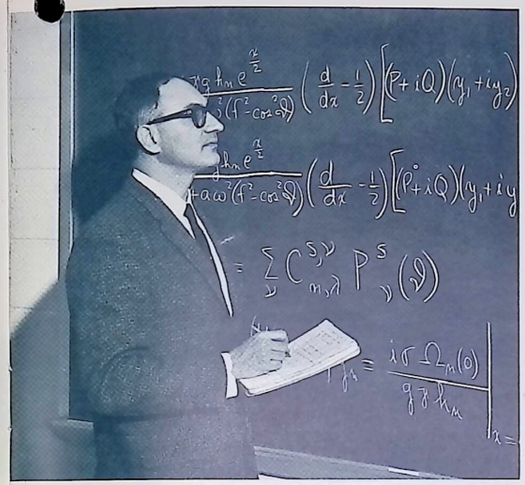
Earth Unique Planet

What we are now facing is a new aspect of the uniqueness of the earth as a planet. It is the only planet in the solar system known to support life and the only planet to possess a satellite whose mass is greater than 1% of the primary body. If these twin distinctions are related, the odds of finding another "earth" will be much smaller, since it will have to be not too large (Jupiter), not too small (Mars), but just right (earth or Venus) with a big moon (earth) within a span of distance from its star such that it is neither too hot nor too cold. It is the requirement of a large satellite which deserves detailed attention since it is a crucial factor in the over-all analysis.

The problem is by no means a simple one. However, through a continuation of research such as that currently in progress at Wilkes College, we would hope eventually to arrive at the solution.

Concluding this series
of science research projects
at Wilkes is
Dr. Alvan Bruch's article
Tidal Winds of the Stratosphere.
Research in this area is carried out
under sponsorship of the
Air Force Cambridge Laboratories
and is conducted in the
Research and Graduate Center
of the College.

TIDAL WINDS OF THE STRATOSPHERE . . .



DR. ALVAN BRUCH
Associate Professor of Physics

The twice-daily rise and fall of the ocean are familiar to everyone and are known as tidal movements. These tides are caused by the gravitational attraction of the sun and moon; the moon exerts the primary influence because it is so much closer to the earth.

Although it is not too commonly known, variations in wind and pressure similar to the ocean tides occur in the atmosphere as well. These would hardly be familiar to the average person in that the winds associated with them are scarcely noticeable near the surface of the earth. Higher in the atmosphere, however, roughly 20 to 50 miles above the earth's surface, in the region we call the stratosphere, these winds may be expected to become stronger, reaching speeds as high as 50 miles per hour. Until recently we have had no direct measurement of the winds in this region, so our knowledge is still quite limited.

The atmospheric tides, unlike the ocean tides, are not caused by gravitational forces, but rather by the expansion of air heated daily by the sun. Some of this heating takes place at the ground, where most of the sunlight is absorbed; some takes place directly in the air due to the presence of water vapor, which also absorbs some sunlight. Recent advances in tidal theory, however, indicate that perhaps the most significant effect on air tides is the direct heating of ozone, which exists in substantial quantities in the stratosphere and completely absorbs all the high-energy ultra-violet rays from the sun.

In light of this latest advance, the theory of tides explains fairly well the changes in pressure observed regularly at ground level. Regularly varying wind fields throughout the atmosphere are associated with these pressure changes, however, and it remains to be seen if the existing theory will successfully predict these wind variations.

It is not a simple matter to examine wind records and separate regular variations from irregular variations. This is so in that irregular variations — like noise or static — mask and often obscure the regular changes. However, if a sufficiently extensive record of observations is available, standard statistical techniques can be used to suppress the "noise" and highlight the regular variations. The length of record necessary to accomplish this would naturally depend upon the degree of regular variation observed. In other words, the greater the regular variation, the shorter the record need be.

In 1959 a Meteorological Rocket Network was created for the purpose of measuring stratospheric winds by rocket techniques. Basically, the process involved is relatively simple. Small, solid-fuel rockets are fired to heights of about 50 miles, whereupon a radar target — either a parachute, a balloon, or metal foil chaff — is released and tracked by radar as it falls back to earth. The drift of the falling target provides a measure of the wind field through which it passes. These measurements have been made at the major rocket launch sites since 1959 and provide the basic data needed for the analysis of the tides.

The investigation, then, that Wilkes College is carrying out under sponsorship of the Air Force Cambridge Research Laboratories is twofold in nature: (1) Those wind variations in the stratosphere which are attributable to daily ozone absorption are being obtained by mathematical solution of the tidal equations; (2) the stratospheric wind observations which have been taken by the Meteorological Rocket Network since 1959 are being analyzed statistically to determine the regular wind variations which actually occur. Should the two fail to correspond, assuming the wind record is sufficiently long, a revision of the tidal theory would be necessary. But, as you know, this is the way science progresses.

Once the regular variations are well understood, it will be possible to begin a theoretical attack on the irregular. These irregular variations may be related to surface weather in some way, or may be closely linked to variations in solar radiation.

However, of more immediate value would be the increased ability to predict winds in the region already being traversed by our rockets and soon to be the realm of jet aircraft and re-entry vehicles. It is clear that just such an increase in predictability will be brought about by a successful determination of the tidal wind fields.

And, thus, as man begins to extend his environment to the realm of space, we continue in our research efforts to effectively predict the phenomena he is destined to encounter.

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To Keep Pace with America

WHAT ON EARTH is going on, there?

Across the land, alumni and alumnae are asking that question about their alma maters. Most of America's colleges and universities are changing rapidly, and some of them drastically. Alumni and alumnae, taught for years to be loyal to good OLD Siwash and to be sentimental about its history and traditions, are puzzled or outraged.

And they are not the only ones making anguished responses to the new developments on the nation's campuses.

From a student in Texas: "The professors care less and less about teaching. They don't grade our papers or exams any more, and they turn over the discussion sections of their classes to graduate students. Why can't we have mind-to-mind combat?"

From a university administrator in Michigan: "The faculty and students treat this place more like a bus terminal every year. They come and go as they never did before."

From a professor at a college in Pennsylvania: "The present crop of students? They're the brightest ever. They're also the most arrogant, cynical, disrespectful, ungrateful, and intense group I've taught in 30 years."

From a student in Ohio: "The whole bit on this campus now is about 'the needs of society,' 'the needs of the international situation,' 'the needs of the IBM system.' What about *my* needs?"

From the dean of a college in Massachusetts: "Everything historic and sacred, everything built by 2,000 years of civilization, suddenly seems old hat. Wisdom now consists in being up-to-the-minute."

From a professor in New Jersey: "So help me, I only have time to read about 10 books a year, now. I'm always behind."

From a professor at a college for women in Virginia: "What's happening to good manners? And good taste? And decent dress? Are we entering a new age of the slob?"

From a trustee of a university in Rhode Island: "They all want us to care for and support our institution, when they themselves don't give a hoot."

From an alumnus of a college in California: "No one seems to have time for friendship, good humor, and fun, now. The students don't even sing, any more. Why, most of them don't know the college songs."

What *is* happening at America's colleges and universities to cause such comments?

Today's colleges and universities: busy faculties, serious students, and hard courses

IT BEGAN around 1950—silently, unnoticed. The signs were little ones, seemingly unconnected. Suddenly the number of books published began to soar. That year Congress established a National Science Foundation to promote scientific progress through education and basic research. College enrollments, swollen by returned war veterans with G.I. Bill benefits, refused to return to "normal"; instead, they began to rise sharply. Industry began to expand its research facilities significantly, raiding the colleges and graduate schools for brainy talent. Faculty salaries, at their lowest since the 1930's in terms of real income, began to inch up at the leading colleges. China, the most populous nation in the world, fell to the Communists, only a short time after several Eastern European nations were seized by Communist coups d'état; and, aided by support from several philanthropic foundations, there was a rush to study Communism, military problems and weapons, the Orient, and underdeveloped countries.

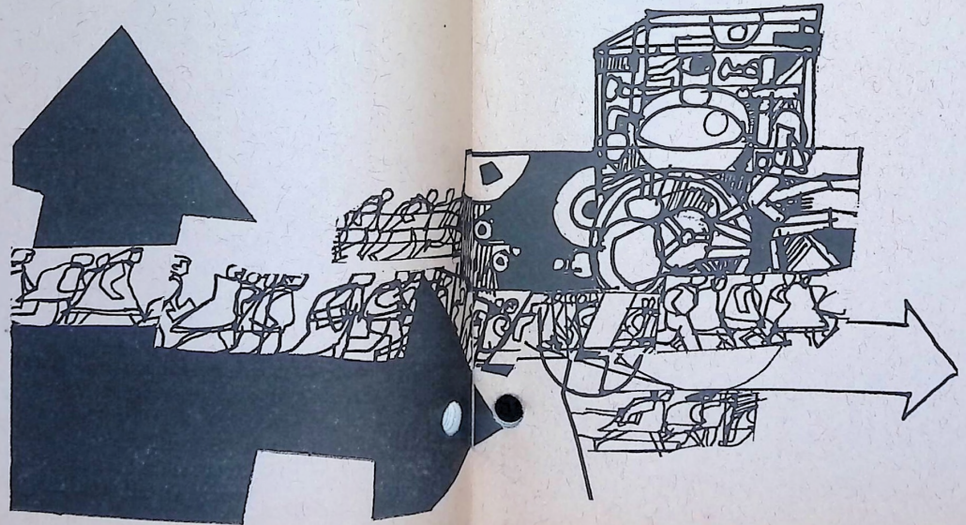
Now, 15 years later, we have begun to comprehend what started then. The United States, locked in a Cold War that may drag on for half a century, has entered a new era of rapid and unrelenting change. The nation continues to enjoy many of the benefits of peace, but it is forced to adopt much of the urgency and pressure of wartime. To meet the bold challenges from outside, Americans have had to transform many of their nation's habits and institutions.

The biggest change has been in the rate of change itself.

Life has always changed. But never in the history of the world has it changed with such rapidity as it does now. Scientist J. Robert Oppenheimer recently observed: "One thing that is new is the prevalence of newness, the changing scale and scope of change itself, so that the world alters as we walk in it, so that the years of a man's life measure not some small growth or rearrangement or modification of what he learned in childhood, but a great upheaval."

Psychiatrist Erik Erikson has put it thus: "Today, men over 50 owe their identity as individuals, as citizens, and as professional workers to a period when change had a different quality and when a dominant view of the world was one of a one-way extension into a future of prosperity, progress, and reason. If they rebelled, they did so against details of this firm trend and often only for the sake of what they thought were even firmer ones. They learned to respond to the periodic challenge of war and revolution by reasserting the interrupted trend toward normalcy. What has changed in the meantime is, above all, the character of change itself."

This new pace of change, which is not likely to slow down soon, has begun to affect every facet of American life. In our vocabulary, people now speak of being "on the move," of "running around," and of "go, go, go." In our politics, we are witnessing a major realignment of the two-party system. Editor Max Ways of *Fortune* magazine has said, "Most American political and social issues today arise out of a concern over the pace and quality of change." In our morality, many are becoming more "cool," or uncommitted. If life changes swiftly, many think it wise not to get too attached or devoted to any particular set of beliefs or hierarchy of values.



Of all American institutions, that which is most profoundly affected by the new tempo of radical change is the school. And, although all levels of schooling are feeling the pressure to change, those probably feeling it the most are our colleges and universities.

AT THE HEART of America's shift to a new life of constant change is a revolution in the role and nature of higher education. Increasingly, all of us live in a society shaped by our colleges and universities.

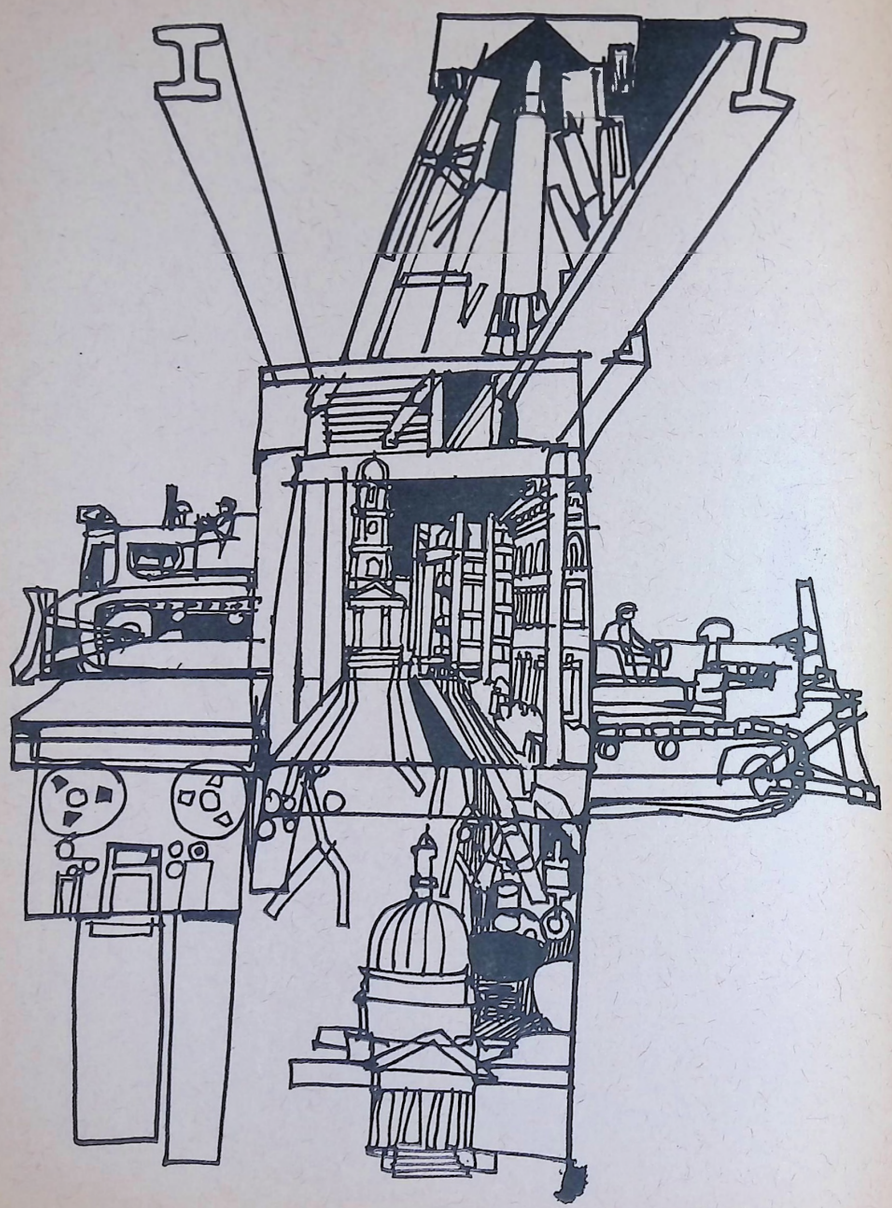
From the campuses has come the expertise to travel to the moon, to crack the genetic code, and to develop computers that calculate as fast as light. From the campuses has come new information about Africa's resources, Latin-American economics, and Oriental politics. In the past 15 years, college and university scholars have produced a dozen or more accurate translations of the Bible, more than were produced in the past 15 centuries. University researchers have helped virtually to wipe out three of the nation's worst diseases: malaria, tuberculosis, and polio. The chief work in art and music, outside of a few large cities, is now being done in our colleges and universities. And profound concern for the U.S. racial situation, for U.S. foreign policy, for the problems of increasing urbanism, and for new religious forms is now being expressed by students and professors inside the academies of higher learning.

As American colleges and universities have been instrumental in creating a new world of whirlwind change, so have they themselves been subjected to unprecedented pressures to change. They are different places from what they were 15 years ago—in some cases almost unrecognizably different. The faculties are busier, the students more serious, and the courses harder. The campuses gleam with new buildings. While the shady-grove and paneled-library colleges used to spend nearly all of their time teaching the young, they have now been burdened with an array of new duties.

Clark Kerr, president of the University of California, has put the new situation succinctly: "The university has become a prime instrument of national purpose. This is new. This is the essence of the transformation now engulfing our universities."

The colleges have always assisted the national purpose by helping to produce better clergymen, farmers, lawyers, businessmen, doctors, and teachers. Through athletics, through religious and moral guidance, and through fairly demanding academic work, particularly in history and literature, the colleges have helped to keep a sizable portion of the men who have ruled America rugged, reasonably upright and public-spirited, and informed and sensible. The problem of an effete, selfish, or ignorant upper class that plagues certain other nations has largely been avoided in the United States.

But never before have the colleges and universities been expected to fulfill so many dreams and projects of the American people. Will we outdistance the Russians in the space race? It depends on the caliber



of scientists and engineers that our universities produce. Will we find a cure for cancer, for arthritis, for the common cold? It depends upon the faculties and the graduates of our medical schools. Will we stop the Chinese drive for world dominion? It depends heavily on the political experts the universities turn out and on the military weapons that university research helps develop. Will we be able to maintain our high standard of living and to avoid depressions? It depends upon whether the universities can supply business and government with inventive, imaginative, farsighted persons and ideas. Will we be able to keep human values alive in our machine-filled world? Look to college philosophers and poets. Everyone, it seems—from the impoverished but aspiring Negro to the mother who wants her children to be emotionally healthy—sees the college and the university as a deliverer, today.

Thus it is no exaggeration to say that colleges and universities have become one of our greatest resources in the cold war, and one of our greatest assets in the uncertain peace. America's schools have taken a new place at the center of society. Ernest Sirluck, dean of graduate studies at the University of Toronto, has said: "The calamities of recent history have undermined the prestige and authority of what used to be the great central institutions of society. . . . Many people have turned to the universities . . . in the hope of finding, through them, a renewed or substitute authority in life."

New responsibilities are transforming once-quiet campuses

THE NEW PRESSURES to serve the nation in an ever-expanding variety of ways have wrought a stunning transformation in most American colleges and universities.

For one thing, they *look* different, compared with 15 years ago. Since 1950, American colleges and universities have spent about $16.5 billion on new buildings. One third of the entire higher education plant in the United States is less than 15 years old. More than 180 completely new campuses are now being built or planned.

Scarcely a college has not added at least one building to its plant; most have added three, four, or more. (Science buildings, libraries, and dormitories have been the most desperately needed additions.) Their architecture and placement have moved some alumni and students to howls of protest, and others to expressions of awe and delight.

The new construction is required largely because of the startling growth in the number of young people wanting to go to college. In 1950, there were about 2.2 million undergraduates, or roughly 18 percent of all Americans between 18 and 21 years of age. This academic year, 1965–66, there are about 5.4 million undergraduates—a whopping 30 percent of the 18–21 age group.* The total number of college students in the United States has more than doubled in a mere decade and a half.

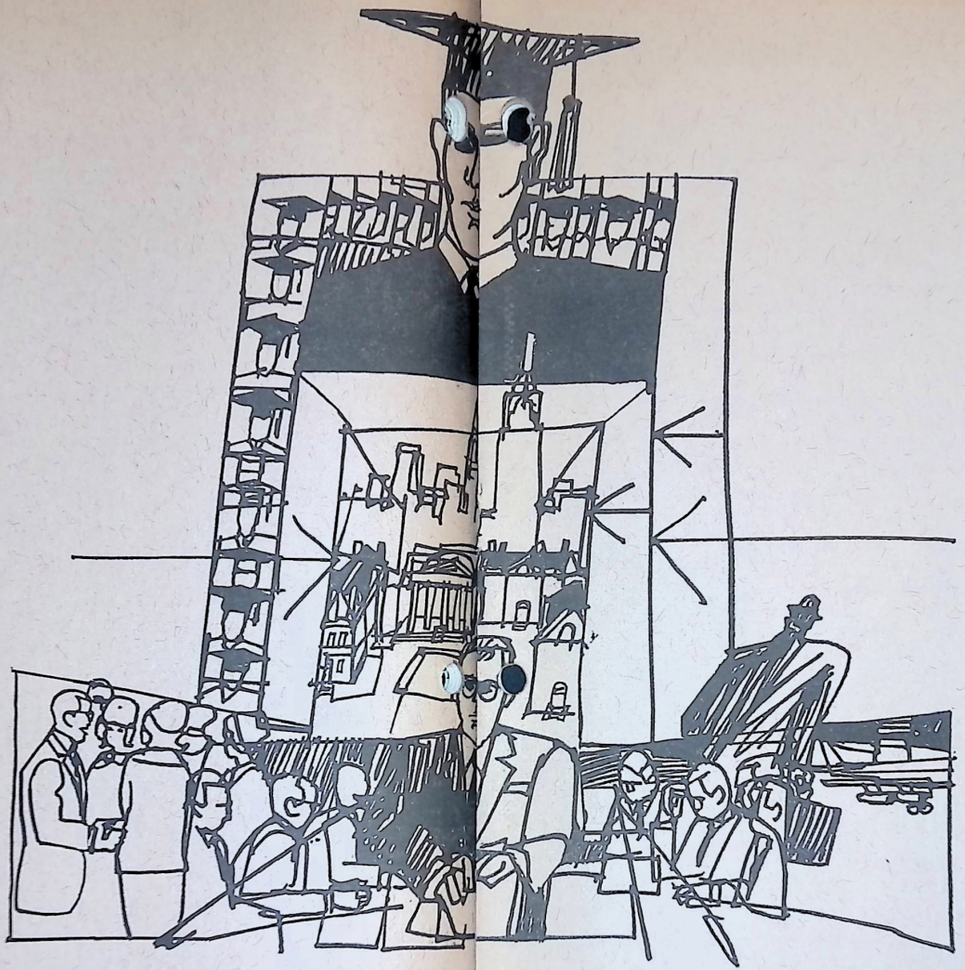
As two officials of the American Council on Education pointed out, not long ago: "It is apparent that a permanent revolution in collegiate patterns has occurred, and that higher education has become and will continue to be the common training ground for American adult life, rather than the province of a small, select portion of society."

Of today's 5.4 million undergraduates, one in every five attends a kind of college that barely existed before World War II—the junior, or community, college. Such colleges now comprise nearly one third of America's 2,200 institutions of higher education. In California, where community colleges have become an integral part of the higher education scene, 84 of every 100 freshmen and sophomores last year were enrolled in this kind of institution. By 1975, estimates the U.S. Office of Education, one in every two students, nationally, will attend a two-year college.

Graduate schools are growing almost as fast.

*The percentage is sometimes quoted as being much higher because it is assumed that nearly all undergraduates are in the 18–21 bracket. Actually only 68 percent of all college students are in that age category. Three percent are under 18; 29 percent are over 21.

Higher education's patterns are changing; so are its leaders



While only 11 percent of America's college graduates went on to graduate work in 1950, about 25 percent will do so after their commencement in 1966. At one institution, over 85 percent of the recipients of bachelor's degrees now continue their education at graduate and professional schools. Some institutions, once regarded primarily as undergraduate schools, now have more graduate students than undergraduates. Across America, another phenomenon has occurred: numerous state colleges have added graduate schools and become universities.

There are also dramatic shifts taking place among the various *kinds* of colleges. It is often forgotten that 877, or 40 percent, of America's colleges and universities are related, in one way or another, with religious denominations (Protestant, 484; Catholic, 366; others, 27). But the percentage of the nation's students that the church-related institutions enroll has been dropping fast; last year they had 950,000 undergraduates, or only 18 percent of the total. Sixty-nine of the church-related colleges have fewer than 100 students. Twenty percent lack accreditation, and another 30 percent are considered to be academically marginal. Partially this is because they have been unable to find adequate financial support. A Danforth Foundation commission on church colleges and universities noted last spring: "The irresponsibility of American churches in providing for their institutions is deplorable. The average contribution of churches to their colleges is only 12.8 percent of their operating budgets."

Church-related colleges have had to contend with a growing secularization in American life, with the increasing difficulty of locating scholars with a religious commitment, and with bad planning from their sponsoring church groups. About planning, the Danforth Commission report observed: "No one can justify the operation of four Presbyterian colleges in Iowa, three Methodist colleges in Indiana, five United Presbyterian institutions in Missouri, nine Methodist colleges in North Carolina (including two brand new ones), and three Roman Catholic colleges for women in Milwaukee."

Another important shift among the colleges is the changing position of private institutions, as public institutions grow in size and number at a much faster rate. In 1950, 50 percent of all students were enrolled in private colleges; this year, the private colleges' share is only 33 percent. By 1975, fewer than 25 percent of all students are expected to be enrolled in the non-public colleges and universities.

Other changes are evident: More and more students prefer urban colleges and universities to rural ones; now, for example, with more than 400,000 students in her colleges and universities, America's greatest college town is metropolitan New York. Coeducation is gaining in relation to the all-men's and the all-women's colleges. And many predominantly Negro colleges have begun to worry about their future. The best Negro students are sought after by many leading colleges and universities, and each year more and more Negroes enroll at integrated institutions. Precise figures are hard to come by, but 15 years ago there were roughly 120,000 Negroes in college, 70 percent of them in predominantly Negro institutions; last year, according to Whitney Young, Jr., executive director of the National Urban League, there were 220,000 Negroes in college, but only 40 percent at predominantly Negro institutions.

THE REMARKABLE GROWTH in the number of students going to college and the shifting patterns of college attendance have had great impact on the administrators of the colleges and universities. They have become, at many institutions, a new breed of men.

Not too long ago, many college and university presidents taught a course or two, wrote important papers on higher education as well as articles and books in their fields of scholarship, knew most of the faculty intimately, attended alumni reunions, and spoke with heartiness and wit at student dinners, Rotary meetings, and football rallies. Now many presidents are preoccupied with planning their schools' growth and with the crushing job of finding the funds to make such growth possible.

Many a college or university president today is, above all else, a fund-raiser. If he is head of a private institution, he spends great amounts of time searching for individual and corporate donors; if he leads a public institution, he adds the task of legislative relations, for it is from the legislature that the bulk of his financial support must come.

With much of the rest of his time, he is involved in economic planning, architectural design, personnel recruitment for his faculty and staff, and curriculum changes. (Curriculums have been changing almost as substantially as the physical facilities, because the explosion in knowledge has been as sizable as the explosion in college admissions. Whole new fields such as biophysics and mathematical economics have sprung up; traditional fields have expanded to include new topics such as comparative ethnic music and the history of film; and topics that once were touched on lightly, such as Oriental studies or oceanography, now require extended treatment.)

To cope with his vastly enlarged duties, the mod-

Many professors are research-minded specialists

ern college or university president has often had to double or triple his administrative staff since 1950. Positions that never existed before at most institutions, such as campus architects, computer programmers, government liaison officials, and deans of financial aid, have sprung up. The number of institutions holding membership in the American College Public Relations Association, to cite only one example, has risen from 591 in 1950 to more than 1,000 this year—including nearly 3,000 individual workers in the public relations and fund-raising field.

A whole new profession, that of the college "development officer," has virtually been created in the past 15 years to help the president, who is usually a transplanted scholar, with the twin problems of institutional growth and fund-raising. According to Eldredge Hiller, executive director of the American Association of Fund-Raising Counsel, "In 1950 very few colleges and universities, except those in the Ivy League and scattered wealthy institutions, had directors or vice presidents of development. Now there are very few institutions of higher learning that do not." In addition, many schools that have been faced with the necessity of special development projects or huge capital campaigns have sought expertise and temporary personnel from outside development consultants. The number of major firms in this field has increased from 10 to 26 since 1950, and virtually every firm's staff has grown dramatically over the years.

Many alumni, faculty members, and students who have watched the president's suite of offices expand have decried the "growing bureaucracy." What was once "old President Doe" is now "The Administration," assailed on all sides as a driving, impersonal, remote organization whose purposes and procedures are largely alien to the traditional world of academe.

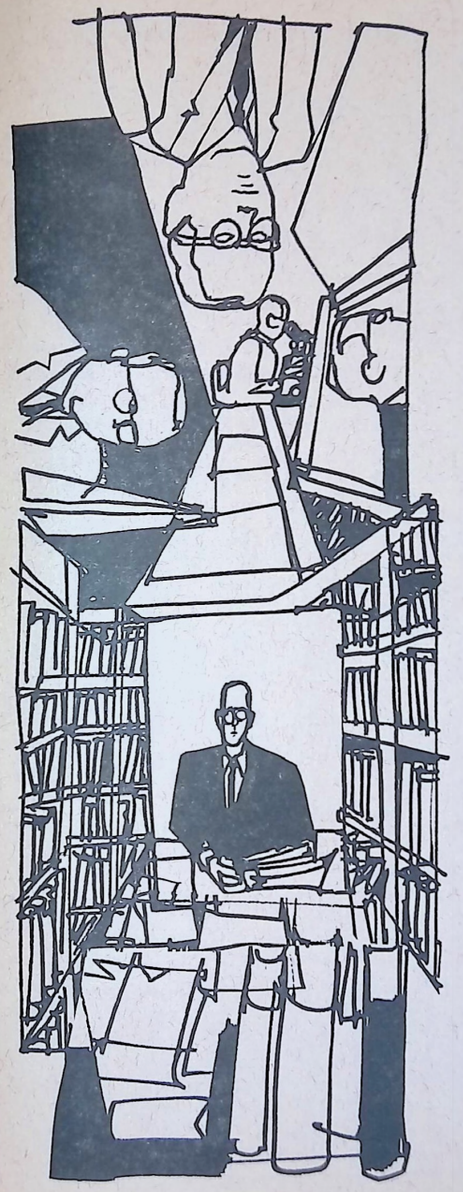
No doubt there is some truth to such charges. In their pursuit of dollars to raise faculty salaries and to pay for better facilities, a number of top officials at America's colleges and universities have had insufficient time for educational problems, and some have been more concerned with business efficiency than with producing intelligent, sensible human beings. However, no one has yet suggested how "prexy" can be his old, sweet, leisurely, scholarly self and also a dynamic, farsighted administrator who can successfully meet the new challenges of unprecedented, radical, and constant change.

One president in the Midwest recently said: "The engineering faculty wants a nuclear reactor. The arts faculty needs a new theater. The students want new dormitories and a bigger psychiatric consulting office. The alumni want a better faculty and a new gymnasium. And they all expect me to produce these out of a single office with one secretary and a small filing cabinet, while maintaining friendly contacts with them all. I need a magic lantern."

Another president, at a small college in New England, said: "The faculty and students claim they don't see much of me any more. Some have become vituperative and others have wondered if I really still care about them and the learning process. I was a teacher for 18 years. I miss them—and my scholarly work—terribly."

THE ROLE AND PACE of the professors have changed almost as much as the administrators', if not more, in the new period of rapid growth and radical change.

For the most part, scholars are no longer regarded as ivory-tower dreamers, divorced from society. They are now important, even indispensable, men and women, holding keys to international security, economic growth, better health, and cultural excellence. For the first time in decades, most of their salaries are approaching respectability. (The national average of faculty salaries has risen from $5,311 in 1950 to $9,317 in 1965, according to a survey conducted by the American Association of University Professors.) The best of them are pursued by business, government, and other colleges. They travel frequently to speak at national conferences on modern music or contemporary urban problems, and to international conferences on particle physics or literature.



In the classroom, they are seldom the professors of the past: the witty, cultured gentlemen and ladies—or tedious pedants—who knew Greek, Latin, French, literature, art, music, and history fairly well. They are now earnest, expert specialists who know algebraic geometry or international monetary economics—and not much more than that—*exceedingly* well. Sensing America's needs, a growing number of them are attracted to research, and many prefer it to teaching. And those who are not attracted are often pushed by an academic "rating system" which, in effect, gives its highest rewards and promotions to people who conduct research and write about the results they achieve. "Publish or perish" is the professors' succinct, if somewhat overstated, way of describing how the system operates.

Since many of the scholars—and especially the youngest instructors—are more dedicated and "focused" than their predecessors of yesteryear, the allegiance of professors has to a large degree shifted from their college and university to their academic discipline. A radio-astronomer first, a Siwash professor second, might be a fair way of putting it.

There is much talk about giving control of the universities back to the faculties, but there are strong indications that, when the opportunity is offered, the faculty members don't want it. Academic decision-making involves committee work, elaborate investigations, and lengthy deliberations—time away from their laboratories and books. Besides, many professors fully expect to move soon, to another college or to industry or government, so why bother about the curriculum or rules of student conduct? Then, too, some of them plead an inability to take part in broad decision-making since they are expert in only one limited area. "I'm a geologist," said one professor in the West. "What would I know about admissions policies or student demonstrations?"

Professors have had to narrow their scholarly interests chiefly because knowledge has advanced to a point where it is no longer possible to master more than a tiny portion of it. Physicist Randall Whaley, who is now chancellor of the University of Missouri at Kansas City, has observed: "There is about 100 times as much to know now as was available in 1900. By the year 2000, there will be over 1,000 times as much." (Since 1950 the number of scholarly periodicals has increased from 45,000 to

95,000. In science alone, 55,000 journals, 60,000 books, and 100,000 research monographs are published annually.) In such a situation, fragmentation seems inevitable.

Probably the most frequently heard cry about professors nowadays, even at the smaller colleges, is that they are so research-happy that they neglect teaching. "Our present universities have ceased to be schools," one graduate student complained in the *Harvard Educational Review* last spring. Similar charges have stirred pulses at American colleges and universities coast to coast, for the past few years.

No one can dispute the assertion that research has grown. The fact is, it has been getting more and more attention since the end of the Nineteenth Century, when several of America's leading universities tried to break away from the English college tradition of training clergymen and gentlemen, primarily through the classics, and to move toward the German university tradition of rigorous scholarship and scientific inquiry. But research has proceeded at runaway speed since 1950, when the Federal Government, for military, political, economic, and public-health reasons, decided to support scientific and technological research in a major way. In 1951 the Federal Government spent $295 million in the colleges and universities for research and development. By 1965 that figure had grown to $1.7 billion. During the same period, private philanthropic foundations also increased their support substantially.

At bottom, the new emphasis on research is due to the university's becoming "a prime instrument of national purpose," one of the nation's chief means of maintaining supremacy in a long-haul cold war. The emphasis is not likely to be lessened. And more and more colleges and universities will feel its effects.

The push to do research: Does it affect teaching?

BUT WHAT ABOUT *education*—the teaching of young people—that has traditionally been the basic aim of our institutions of higher learning?

Many scholars contend, as one university president put it, that "current research commitments are far more of a positive aid than a detriment to teaching," because they keep teachers vital and at the forefront of knowledge. "No one engaged in research in his field is going to read decade-old lecture notes to his class, as many of the so-called 'great professors' of yesterday did," said a teacher at a university in Wisconsin.

Others, however, see grave problems resulting from the great emphasis on research. For one thing, they argue, research causes professors to spend less time with students. It also introduces a disturbing note of competitiveness among the faculty. One physicist has put it this way:

"I think my professional field of physics is getting too hectic, too overcrowded; there is too much pressure for my taste. . . . Research is done under tremendous pressure because there are so many people after the same problem that one cannot afford to relax. If you are working on something which 10 other groups are working on at the same time, and you take a week's vacation, the others beat you and publish first. So it is a mad race."

Heavy research, others argue, may cause professors to concentrate narrowly on their discipline and to see their students largely in relation to it alone. Numerous observers have pointed to the professors' shift to more demanding instruction, but also to their more technical, pedantic teaching. They say the emphasis in teaching may be moving from broad understanding to factual knowledge, from community and world problems to each discipline's tasks, from the releasing of young people's minds to the cramming of their minds with the stuff of each subject. A professor in Louisiana has said, "In modern college teaching there is much more of the 'how' than the 'why.' Values and fundamentals are too interdisciplinary."

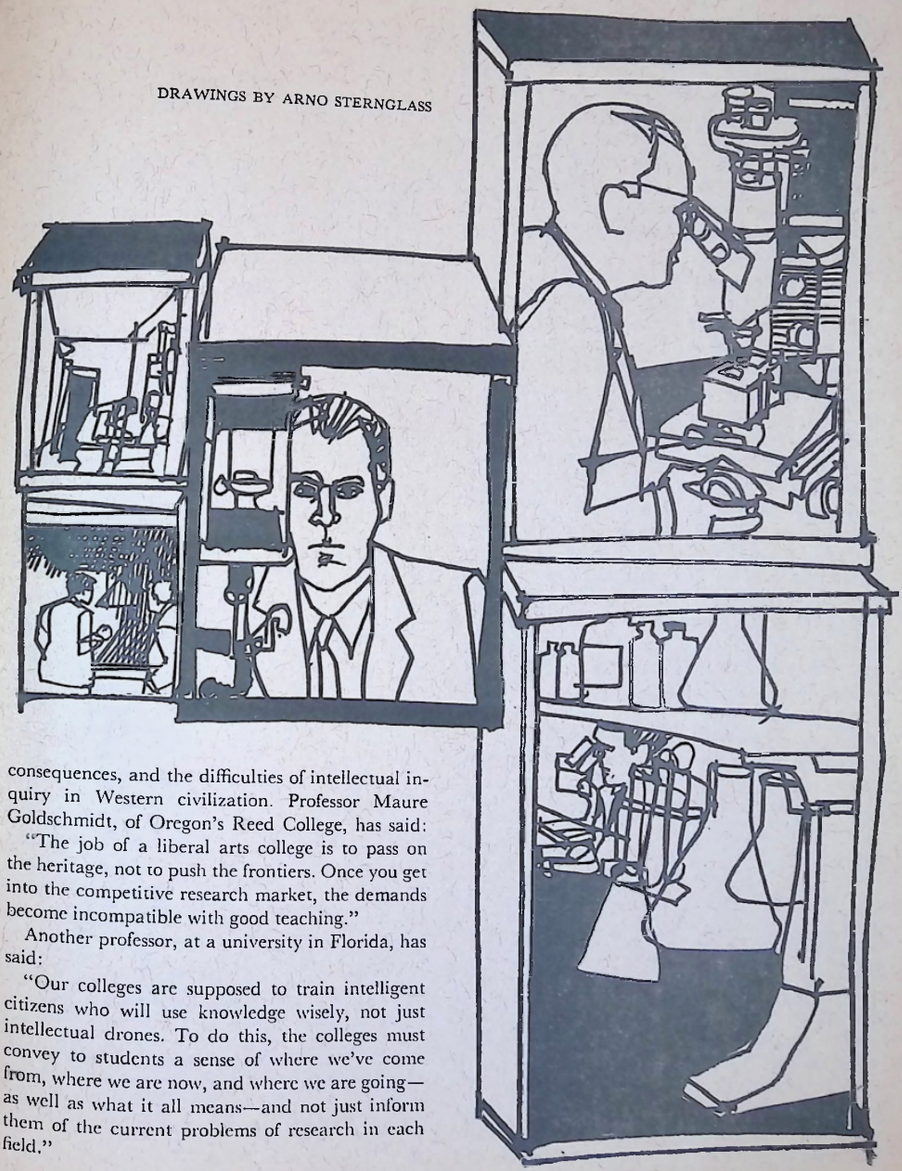
And, say the critics, research focuses attention on the new, on the frontiers of knowledge, and tends to forget the history of a subject or the tradition of intellectual inquiry. This has wrought havoc with liberal arts education, which seeks to introduce young people to the modes, the achievements, the consequences, and the difficulties of intellectual inquiry in Western civilization. Professor Maure Goldschmidt, of Oregon's Reed College, has said:

"The job of a liberal arts college is to pass on the heritage, not to push the frontiers. Once you get into the competitive research market, the demands become incompatible with good teaching."

Another professor, at a university in Florida, has said:

"Our colleges are supposed to train intelligent citizens who will use knowledge wisely, not just intellectual drones. To do this, the colleges must convey to students a sense of where we've come from, where we are now, and where we are going—as well as what it all means—and not just inform them of the current problems of research in each field."

DRAWINGS BY ARNO STERNGLASS



Somewhat despairingly, Professor Jacques Barzun recently wrote:

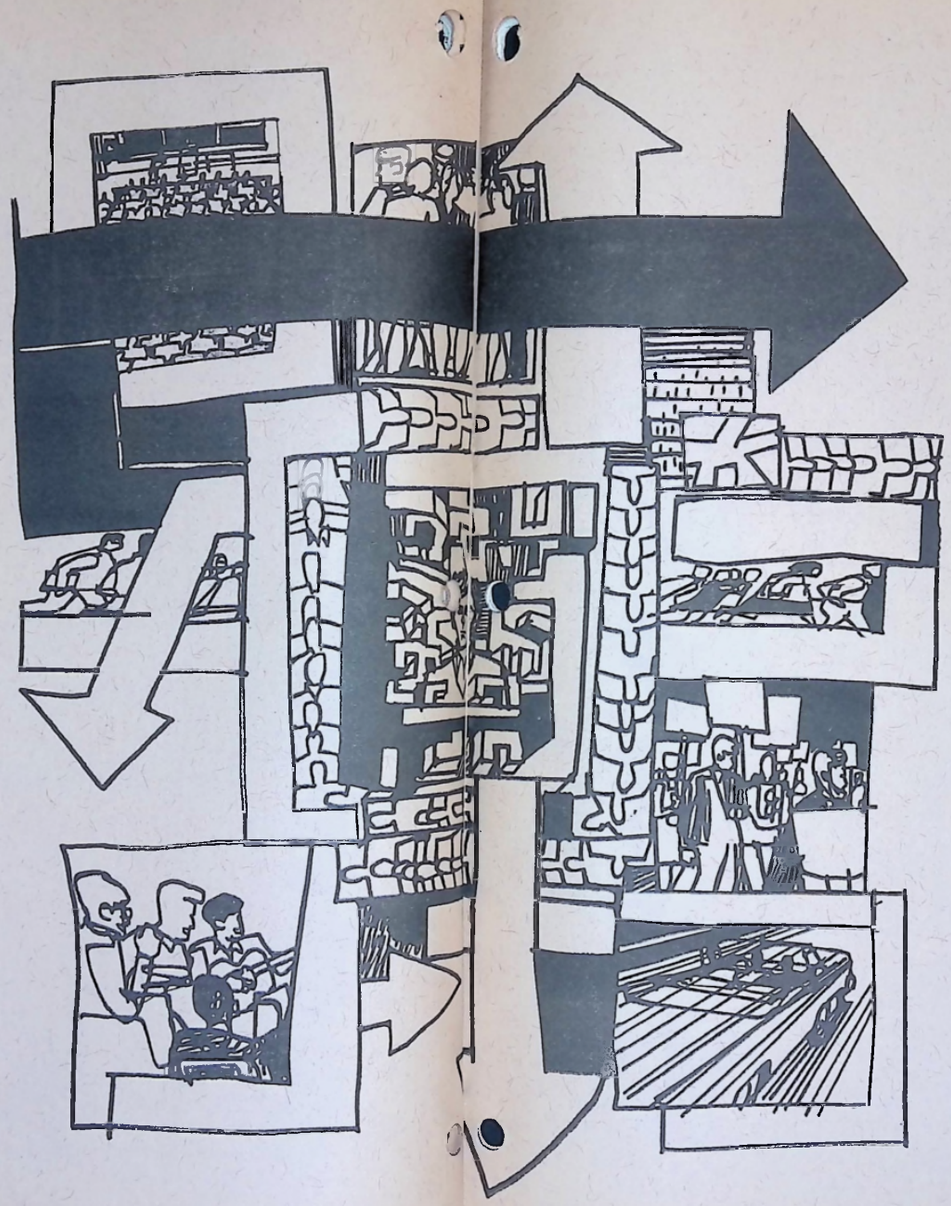
"Nowadays the only true believers in the liberal arts tradition are the men of business. They *really* prefer general intelligence, literacy, and adaptability. They know, in the first place, that the conditions of their work change so rapidly that no college courses can prepare for them. And they also know how often men in mid-career suddenly feel that their work is not enough to sustain their spirits."

Many college and university teachers readily admit that they may have neglected, more than they should, the main job of educating the young. But they just as readily point out that their role is changing, that the rate of accumulation of knowledge is accelerating madly, and that they are extremely busy and divided individuals. They also note that it is through research that more money, glory, prestige, and promotions are best attained in their profession.

For some scholars, research is also where the highest excitement and promise in education are to be found. "With knowledge increasing so rapidly, research is the only way to assure a teacher that he is keeping ahead, that he is aware of the really new and important things in his field, that he can be an effective teacher of the next generation," says one advocate of research-*cum*-instruction. And, for some, research is the best way they know to serve the nation. "Aren't new ideas, more information, and new discoveries most important to the United States if we are to remain free and prosperous?" asks a professor in the Southwest. "We're in a protracted war with nations that have sworn to bury us."

THE STUDENTS, of course, are perplexed by the new academic scene.

They arrive at college having read the catalogues and brochures with their decade-old paragraphs about "the importance of each individual" and "the many student-faculty relationships"—and having heard from alumni some rosy stories about the leisurely, friendly, pre-war days at Quadrangle U. On some campuses, the reality almost lives up to the expectations. But on others, the students are



The students react to "the system" with fierce independence

dismayed to discover that they are treated as merely parts of another class (unless they are geniuses, star athletes, or troublemakers), and that the faculty and deans are extremely busy. For administrators, faculty, and alumni, at least, accommodating to the new world of radical change has been an evolutionary process, to which they have had a chance to adjust somewhat gradually; to the students, arriving fresh each year, it comes as a severe shock.

Forced to look after themselves and gather broad understanding outside of their classes, they form their own community life, with their own values and methods of self-discovery. Piqued by apparent adult indifference and cut off from regular contacts with grown-up dilemmas, they tend to become more outspoken, more irresponsible, more independent. Since the amount of financial aid for students has tripled since 1950, and since the current condition of American society is one of affluence, many students can be independent in expensive ways: twist parties in Florida, exotic cars, and huge record collections. They tend to become more sophisticated about those things that they are left to deal with on their own: travel, religion, recreation, sex, politics.

Partly as a reaction to what they consider to be adult dedication to narrow, selfish pursuits, and partly in imitation of their professors, they have become more international-minded and socially conscious. Possibly one in 10 students in some colleges works off-campus in community service projects—tutoring the poor, fixing up slum dwellings, or singing and acting for local charities. To the consternation of many adults, some students have become a force for social change, far away from their colleges, through the Peace Corps in Bolivia or a picket line in another state. Pressured to be brighter than any previous generation, they fight to

feel as *useful* as any previous generation. A student from Iowa said: "I don't want to study, study, study, just to fill a hole in some government or industrial bureaucracy."

The students want to work out a new style of academic life, just as administrators and faculty members are doing; but they don't know quite how, as yet. They are burying the rah-rah stuff, but what is to take its place? They protest vociferously against whatever they don't like, but they have no program of reform. Restless, an increasing number of them change colleges at least once during their undergraduate careers. They are like the two characters in Jack Kerouac's *On the Road*. "We got to go and never stop till we get there," says one. "Where are we going, man?" asks the other. "I don't know, but we gotta go," is the answer.

As with any group in swift transition, the students are often painfully confused and contradictory. A *Newsweek* poll last year that asked students whom they admired most found that many said "Nobody" or gave names like Y. A. Tittle or Joan Baez. It is no longer rare to find students on some campuses dressed in an Ivy League button-down shirt, farmer's dungarees, a French beret, and a Roman beard —all at once. They argue against large bureaucracies, but most turn to the industrial giants, not to smaller companies or their own business ventures

The alumni lament: We don't recognize the place

when they look for jobs after graduation. They are critical of religion, but they desperately seek people, courses, and experiences that can reveal some meaning to them. An instructor at a university in Connecticut says: "The chapel is fairly empty, but the religion courses are bulging with students."

Caught in the rapids of powerful change, and left with only their own resources to deal with the rush, the students tend to feel helpless—often too much so. Sociologist David Riesman has noted: "The students know that there are many decisions out of their conceivable control, decisions upon which their lives and fortunes truly depend. But . . . this truth, this insight, is over-generalized, and, being believed, it becomes more and more 'true'." Many students, as a result, have become grumblers and cynics, and some have preferred to withdraw into private pads or into early marriages. However, there are indications that some students are learning how to be effective—if only, so far, through the largely negative methods of disruption.

IF THE FACULTIES AND THE STUDENTS are perplexed and groping, the alumni of many American colleges and universities are positively dazed. Everything they have revered for years seems to be crumbling: college spirit, fraternities, good manners, freshman customs, colorful lectures, singing, humor magazines and reliable student newspapers, long talks and walks with professors, daily chapel, dinners by candlelight in formal dress, reunions that are fun. As one alumnus in Tennessee said, "They keep asking me to give money to a place I no longer recognize." Assaulted by many such remarks, one development officer in Massachusetts countered: "Look, alumni have seen America and the world change. When the old-timers went to school there were no television sets, few cars and fewer airplanes, no nuclear weapons, and no Red China. Why should colleges alone stand still? It's partly our fault, though. We traded too long on sentiment rather than information, allegiance, and purpose."

What some alumni are beginning to realize is that they themselves are changing rapidly. Owing to the recent expansion of enrollments, nearly one half of all alumni and alumnae now are persons who have been graduated since 1950, when the period of accelerated change began. At a number of colleges, the song-and-revels homecomings have been turned into seminars and discussions about space travel or African politics. And at some institutions, alumni councils are being asked to advise on and, in some cases, to help determine parts of college policy.

Dean David B. Truman, of New York's Columbia College, recently contended that alumni are going to have to learn to play an entirely new role *vis-à-vis* their alma maters. The increasingly mobile life of most scholars, many administrators, and a growing number of students, said the dean, means that, if anyone is to continue to have a deep concern for the whole life and future of each institution, "that focus increasingly must come from somewhere outside the once-collegial body of the faculty"—namely, from the alumni.

However, even many alumni are finding it harder to develop strong attachments to one college or university. Consider the person who goes to, say, Davidson College in North Carolina, gets a law degree from the University of Virginia, marries a girl who was graduated from Wellesley, and settles in Albuquerque, New Mexico, where he pays taxes to help support the state university. (He pays Federal taxes, too, part of which goes, through Government grants and contracts, to finance work at hundreds of other colleges and universities.)

Probably the hardest thing of all for many alumni —indeed, for people of all loyalties—to be reconciled to is that we live in a new era of radical change, a new time when almost nothing stands still for very long, and when continual change is the normal pattern of development. It is a terrible fact to face openly, for it requires that whole chunks of our traditional way of thinking and behaving be revised.

Take the standard chore of defining the purpose of any particular college or university. Actually,

some colleges and universities are now discarding the whole idea of statements of purpose, regarding their main task as one of remaining open-ended to accommodate the rapid changes. "There is no single 'end' to be discovered," says California's Clark Kerr. Many administrators and professors agree. But American higher education is sufficiently vast and varied to house many—especially those at small colleges or church-related institutions—who differ with this view.

What alumni and alumnae will have to find, as will everyone connected with higher education, are some new norms, some novel patterns of behavior by which to navigate in this new, constantly innovating society.

For the alumni and alumnae, then, there must be an ever-fresh outlook. They must resist the inclination to howl at every departure that their alma mater makes from the good old days. They need to see their alma mater and its role in a new light. To remind professors about their obligations to teach students in a stimulating and broadening manner may be a continuing task for alumni; but to ask the faculty to return to pre-1950 habits of leisurely teaching and counseling will be no service to the new academic world.

In order to maintain its greatness, to keep ahead, America must innovate. To innovate, it must conduct research. Hence, research is here to stay. And so is the new seriousness of purpose and the intensity of academic work that today is so widespread on the campuses.

Alumni could become a greater force for keeping alive at our universities and colleges a sense of joy, a knowledge of Western traditions and values, a quest for meaning, and a respect for individual persons, especially young persons, against the mounting pressures for sheer work, new findings, mere facts, and bureaucratic depersonalization. In a period of radical change, they could press for some enduring values amidst the flux. In a period focused on the new, they could remind the colleges of the virtues of teaching about the past.

But they can do this only if they recognize the existence of rapid change as a new factor in the life of the nation's colleges; if they ask, "*How* and *what kind of* change?" and not, "*Why* change?"

"It isn't easy," said an alumnus from Utah. "It's like asking a farm boy to get used to riding an escalator all day long."

One long-time observer, the editor of a distinguished alumni magazine, has put it this way:

"We—all of us—need an entirely new concept of higher education. Continuous, rapid change is now inevitable and normal. If we recognize that our colleges from now on will be perpetually changing, but not in inexorable patterns, we shall be able to control the direction of change more intelligently. And we can learn to accept our colleges on a wholly new basis as centers of our loyalty and affection."

The report on this and the preceding 15 pages is the product of a cooperative endeavor in which scores of schools, colleges, and universities are taking part. It was prepared under the direction of the group listed below, who form EDITORIAL PROJECTS FOR EDUCATION, a non-profit organization associated with the American Alumni Council.

among the many...

EDWARD R. LIPINSKI, '65,

of 88 Kensington Avenue, Jersey City, New Jersey has been selected for training at Amarillo Air Force Base, Texas as an Air Force supply specialist.

Ed recently completed his training at Lackland Air Force Base, Texas.

ROBERT P. BOMBOY, '63,

has joined Business Week as assistant industrial production editor. Bob entered the editorial trainee program in June of 1965 after receiving his master's degree from the Columbia School of Journalism.

He has been assistant city editor of The Daily Intelligencer in Doylestown, Pennsylvania and a free-lance writer-photographer for The New York Herald Tribune. He was a trainee of the staffs of Chemical Week and Business Week.

Bob and his wife reside at 59 Crest Circle, Matawan, New Jersey.

MIMI WILSON, '64,

has been appointed Director of Public Relations and Fund Raising for the Penn's Woods Girl Scout Council.

Prior to this appointment Mimi did Public Relations for the Miners National Bank of Wilkes-Barre. She currently serves as a director of the Advertising Club of Wilkes-Barre as well as publicity chairman, program chairman of the Wilkes-Barre branch of American Association of University Women, and serves on both the Public Relations and Miss Torchlighter committees of the Wyoming Valley United Fund.

Mimi resides with her parents, Mr. and Mrs. Harry W. Wilson, Sr., 72 Franklin Street, Dallas, Pennsylvania.

GEORGE I. RIFENDIFER,

'43, has been appointed as Director of Personnel for Duquesne Light Company, Pittsburgh, Pennsylvania. Since joining Duquesne Light in June of 1948, George has held various engineering positions in the Power Stations Department. He came to the Personnel Department in 1960 as a supervisor of training and accident prevention, moving in 1962 to the position of union relations manager, the post he held until his most recent promotion.

George earned his B.S. degree in mechanical engineering from Bucknell University. He was a flyer for the U. S. Navy in World War II.

He is married, has four children, and lives at 313 Hankey Farms Drive, Oakdale, Pennsylvania.

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He is married, has four children, and lives at 313 Hankey Farms Drive, Oakdale, Pennsylvania.

among the many...

EDWARD J. COMSTOCK,

'65, is serving as a Peace Corps volunteer in the Phillipines. The group of volunteers with which Ed serves is working in elementary, secondary, normal and vocational schools throughout the islands. As "co-teachers," the volunteers work along side Filipino teachers, refining teaching methods and math, science and English curriculum. The co-teacher system enables the volunteer and his Filipino counter-part to make improvements by continually evaluating each other's work.

During his training, Ed studied Philipino, the official dialect of the Phillipines. He was also trained in new math, inductive science, and English teaching. He practiced his teaching in a school near the training site.

Ed's mailing address is c/o Peace Corps, Mabini Street, Ormac City, Phillipines.

CHARLES A. ZEZZA, '54,

has been appointed district group manager at the Madison Avenue group office of Connecticut General Life Insurance Company. In his new position he will direct the planning, sale and administration of all types of group insurance.

Charlie joined Connecticut General in 1956 and after serving seven years in the Albany group office as a group representative, senior group representative, and group manager, he transferred to the Madison Avenue group office as assistant district group manager in 1963.

He makes his home at 95 Wyckoff Avenue in Waldwick, New Jersey, with his wife, the former MARY POMICHTER, Class of 1955, and their three children.

HAROLD J. HYMEN, '51,

has been promoted to Manager of Office Services for International Business Machines Corporation in Endicott, New York. After graduating from Wilkes with a B.A. in Economics in 1951, Harold joined I.B.M. as Secretary to the Manager of the Development Laboratory, and in 1960 was promoted to Staff Assistant.

Harold resides at 204 Jefferson Avenue, Endicott, New York.

LEO SHEPORAITIS, '58,

has been working at the Missile and Space Division of General Electric in Philadelphia since 1961, during which time he was able to complete his Master's Degree program at Villanova University.

At the present time, Leo is on an educational leave of absence granted under General Electric's special fellowship program. His leave is devoted to research and work toward his Ph.D. in Applied Mathematics at the University of Pennsylvania.

Leo is married to the former Joan Sheluga of Scranton, Pennsylvania. They have a daughter, Linda, and reside at the Tanglewood Lane Apartments, King of Prussia, Pennsylvania.

KENNETH NORTHROP, '51,

was recently named vice-president and general manager of the school department of Holt, Rinehart and Winston, Inc., New York City. Ken was national sales manager of the department from June 1 of 1964 to last June when he became general sales manager. He entered publishing in 1950 as a salesman with Lyons and Carnahan and in 1959 he joined Macmillan as assistant eastern regional sales manager. In 1962 he became national sales manager.

Ken and his wife, the former JOYCE NOBEL, Class of '51, are the parents of two daughters and reside at Franklin Lakes, New Jersey.

WILLIAM H. TREMAYNE,

57, has been promoted to senior tax accountant by the Prudential Insurance Company, Newark, New Jersey. Bill helps supervise payment of the company's federal and state taxes. He has been a tax accountant since 1963. Bill joined Prudential immediately after graduation.

He is married and has two sons. The Tremaynes reside at 424 Rivercrest Drive, Piscataway, New Jersey.

REED D. LOWERY, '50,

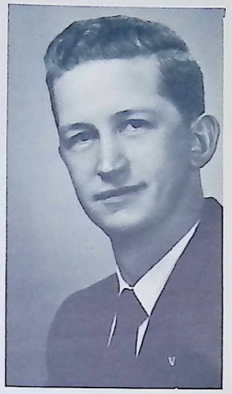
has been appointed as admissions counselor at the State University Agricultural and Technical College in Alfred, New York.

For the past eight years, Reed has been driver education instructor with the Steuben County Board of Cooperative Services in Greenwood, Canisteo, and Bradford Central Schools. Prior to that he taught English at Greenwood Central School.

Reed earned his masters degree in education from Alfred University in 1956.

A native of Chicago, Reed attended high school in Canada and served in the Royal Canadian Air Force from 1942 to 1944. He also served in the U. S. Air Force from 1944 to 1945.

He is married to the former PATRICIA COOPER, Class of 1953. They have a son Reed and a daughter Kim, and reside on Main Street, Greenwood, New York.



RICHARD B. CARPENTER,

'56, has been appointed Manager, Cost Control for the Westinghouse Atomic Power Division, Pittsburgh, Pennsylvania. In this position he is responsible for cost control and analysis of atomic power plants being built by Westinghouse.

Dick joined the Westinghouse Atomic Power Division in 1957. Previously, he had been employed in the Hall Laboratories of Calgon, Incorporated.

Dick has taken graduate courses at Carnegie Institute of Technology. He has been active in the Army Reserve Program and is presently a captain in the 28th Infantry Division.

He resides with his wife, the former Jeanne M. Machonis, and their daughter, Kimberlee Ann, at 3723 Windover Road, Murrysville, Pennsylvania.

MATMEN WIN M. A. C. CHAMPIONSHIP

The Colonels' matmen captured their sixth M.A.C. Championship in ten years of action at the Wilkes gymnasium on March 4-5. A total of 160 wrestlers from 20 member colleges and universities took part in the two-day event.

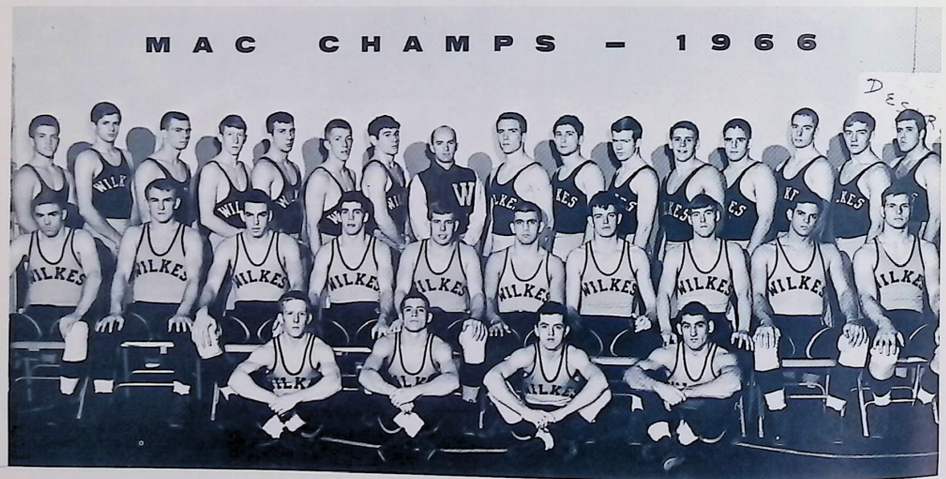
The Colonels, paced by three individual champions, John Carr, Dick Cook, and Alain Arnould, posted 74 points to lead a field of teams which included: Lycoming with 69 points; defending champion, Temple, with 63; West Chester with 52 points and Elizabethtown with 29. Four individual champions retained their crowns. In addition to Wilkes' unbeaten John Carr, the successful defenders included Garry Guasp of Lycoming, Don Milone of Temple, and Joe Bavaro of Gettysburg. Two other defending champions, Al Tilley of Temple, and Dick Horst of Albright, fell by the wayside. The Colonels took the lead in the early going of the tourney and held it through most of the championships. At the end of the preliminaries, eight out of nine Colonels had survived and Wilkes had 14 points while their nearest competitors, Temple, had 12.

When the quarter-finals were over on Friday night, the Colonels led Temple by 4 points, 21-17. They held this lead throughout the semi-finals.

Going into the finals held Saturday night, the Colonels held a slim 65-63 lead over Lycoming College. Both teams had four men in the finals. In the first match in the 123-pound class, defending champ Garry Guasp of Lycoming came up with a close 8-6 decision over Ron Bolognini of Temple. This put Lycoming ahead for the first time in the two days of the event. Then, in the 137-pound class, Rod Mitchell of Lycoming posted a 7-2 decision to put Lycoming out in front by four. In the 160-pound class John Carr came up with a 5-2 decision to successfully defend his crown and pull Wilkes within one point of Lycoming. In a must bout for the Colonels, Dick Cook took on Mel Fleming of Lycoming. Fleming took an early lead in the bout, but after an escape and a takedown by Cook, the bout was never again in doubt. With the final score 13-5, Cook had wrapped up the Colonels' second individual championship of the night.

The Colonels then led by two points, but in the 177-pound class Art Orachin of Lycoming had a chance to put his team ahead once again; however, he lost to Dave Mucka of Moravian, and the Colonels had their sixth M.A.C. championship in the bag. It could be termed anticlimatic in that Wilkes' Al Arnould came through in the unlimited division with a 6-3 decision and would still have brought the Colonels home in first.

At the conclusion of the Tournament Wilkes' John Carr and Temple's Don Milone, both successfully defending their championships, were named co-winners of the outstanding wrestler award.



FIRST ROW (left to right) — Chuck Comegys, Ed Witczak, Jim McCormick, and Jim Coffman.

SECOND ROW — John Gardner, John Carr, Barry Gold, Dick Cook, Fran Olexy, Francis Michael, Dave Hall, Vic Altonen, Jeff Gibbs, and Al Arnould.

THIRD ROW — George Stults, Roger Spence, Ed McDonald, Steve Kaplan, Joe Kiefer, Galen Cruse, John Butts, Coach John Reese, Joe Wiendl, Scott Mutchler, Mike Glancey, Mike Clark, Earl Bitely, Bill Shine, Brinley Varchol, and Dennis Spence.

COLONELS PLACE SECOND IN NCAA MAT TOURNEY

Wilkes' John Carr successfully defended his 160-pound wrestling crown at the NCAA small college championships held March 11 and 12 at Mankato, Minnesota, with a 5-0 win over Gerry Evans of Gustavus Adolphus in the finals.

The Wilkes team placed second in the standings coming in behind California Polytechnic. Portland State was third in the team tallying, while host Mankato was fourth and South Dakota State was fifth.

In capturing the crown, Carr had only a single point registered against him during the entire course of the tourney, covering five bouts.

Joe Kiefer, the only other Colonel entry in the finals, was pinned by Bob Palmen of Montana State in 4:40 of the second period.

Carr decisioned Neil Skarr, 10-0, in the afternoon's semi-finals to reach the championship round, while Kiefer got past Steve Boogell of Central Missouri, 10-4, in the semi-finals.

Bill Bachondy of Lycoming, who was only able to manage a third in the M.A.C.'s held here at Wilkes, copped the 167-pound championship with a 10-2 decision over Bob Ray of Eastern Michigan. Ray reached the finals by eliminating Wilkes' Dick Cook, 4-3, in a hard fought match in the semi-finals.

Joe Bavaro of Gettysburg, winner of the 152-pound M.A.C. crown, also took the same title at the N.C.A.A. tourney by decisioning Bill Miller of Cal Poly, 3-1, in the finals.

California Poly, the eventual winners, led throughout the tournament, but Wilkes was constantly within striking margin of the lead. At the end of the quarter-finals the Californians had 19 points while Wilkes held 18. California, however, had four men in the semi-finals to the Colonels' three, and that proved to be the difference.

John Carr defeated Gordon Rowe of Western Colorado, 10-1, to qualify for the semi-finals. The one point tallied by Rowe in the lopsided match proved to be the only point scored against Carr.

Other Wilkes stars that made it to the semi-finals were Dick Cook, 167, and Joe Kiefer, 137. Cook captured three decisions on Friday evening of the tournament, but lost on Saturday afternoon. Carr also was a three-time victor. Kiefer reached the semi-finals by winning two bouts.

Chuck Comegys, 115, Ed Witczak, 123, and Vic Altonen, 145, were eliminated in the first round. Jim McCormick, 152, Fran Olexy, 177, Barry Gold, 191, and Al Arnould, unlimited, bowed in the quarter finals.

In his first bout Carr pinned Fred Lieverthal of Portland in 6:50 of the 3rd period. He then decisioned Dan Lucas of San Francisco, 13-0, in the second round.

Out of the four defending champions of the tournament, only two successfully defended their titles, one being the Colonels' John Carr. The other successful defender was Joe Bavaro, another Pennsylvania boy from Gettysburg.

Falling by the wayside was Dale Stroghen of Western Colorado, who lost in the first round. The other defending champion, Jim Johnsen, of Fresno State, was beaten in the finals, 6-4 by Reveneu of California Polytechnic.

ALUMNI NEWS...

'35

GEORGE W. ANTHONY, C.P.A., of 305 Vaughn St., Luzerne, Pennsylvania, recently announced the opening of his office for the practice of general accounting and taxes at the Miners National Bank Building, Forty Fort, Pennsylvania. George is a member of the Pennsylvania Institute of Certified Public Accountants and the American Institute of Certified Public Accountants.

'38

WILLIAM ROSSER MORGAN recently was elected president of the Kingston School Board, Kingston, Penna. Bill is a real estate broker and makes his home and office at 30 Zerby Avenue, Kingston.

'41

Louise W. Van Riper, the former **LOUISE A. WILKIE**, is Programmer for Haverly Systems in Denville, New Jersey. Louise studied for a year at Rensselaer Polytechnic Institute on concentrated engineering courses. She and her husband Robert C. are the parents of two children, Robert C., Jr., and Ellen Marie. The VanRipers reside at 117 Lakewood Drive, Lake Arrowhead, Denville, N. J.

'42

DR. RICHARD E. CROMPTON was recently elected to active membership in the American Academy of General Practice a national association of 29,000 family doctors. Each member is required to complete 150 hours of post-graduate medical study every three years, a program which keeps member physicians abreast of the latest scientific developments of medicine. Dr. Crompton has been engaged in general practice in the Back Mountain area (Dallas, Pennsylvania) for the past 17 years and is associated with Nesbitt Memorial Hospital, Kingston, Pennsylvania.

'48

WILLIAM C. GEILSLEICHTER, who received his master's degree from the University of Maryland in 1954, is associated with IBM World Trade Corporation, White Plains, New York. Bill and his wife Helen are the parents of two children, W. Clyde and W. Christopher. They reside at 6 Branch Lane, Stamford, Connecticut.

'49

EUGENE L. MAYLOCK, guidance director of Florence Township Memorial High School, Willingboro, New Jersey, was recently elected president of Burlington County Guidance and Personnel Association. The association is an affiliate of the state and national organizations composed of school and college counselors, directors, psychologists and admission officers. Gene has earned several degrees including his master's degree in guidance. In addition, he has taken graduate work at N.Y.U., Pennsylvania State University, Syracuse University and Rutgers University. He has also been the recipient of awards including a G. E. fellowship to Syracuse University for graduate work in psychology and guidance and a National Defense Education Act award to Rutgers University Counseling Institute. He resides with his wife Zosia and three children at 15 Bosworth Lane, Willingboro, New Jersey.

JEROME N. MINTZER and his wife, the former **MURIEL BRANSDORF, CLASS OF 1948**, are residing with their two children, Kathi Ann and Richard Steven, at 96-10 57th Avenue, Apartment 4K, Rego Park, New York.

Doris Bartuska, the former **DORIS GORKA**, who received her M.D. from Woman's Medical College of Philadelphia, is Assistant Dean and Associate in Medicine at Woman's Medical College. Dr. Bartuska and her husband Anthony are the parents of six children, Ann, Kathy, Lisa, Karen, Christina and Mia. They reside at 3227 West Penn Avenue, Philadelphia, Pennsylvania.

Roberta Louise Rakes, the former **ROBERTA LOUISE RUSSELL**, resides at 165 Laurel Avenue, Millbrae, California with her husband Calvin and daughter Carmen Louise.

'50

GEORGE F. ERMEL recently was promoted to commander in the United States Naval Reserve. Prior to his appointment as assistant chief, Book Library and Army Map Service, Washington, D. C., George was assistant librarian here at Wilkes College. He is residing in Lanham, Maryland.

DR. GEORGE E. HUDOCK, JR., was named a Fellow in the American Society of Clinical Pathologists. He is the chief of pathology at Wyoming Valley Hospital and consulting pathologist at Nanticoke State Hospital, Berwick Hospital and Bloomsburg Hospital, all in Pennsylvania. Dr. Hudock received his master's degree in bacteriology from Bucknell University and his doctorate from Jefferson Medical College. He and his wife Helen Marie reside on Dana Street, Wilkes-Barre with their children, Judy and George.

A. TED WOLFE, residing at 818 East Penn Street, Whittier, California, is superintendent of Industrial Relations for the American Bridge Division of United States Steel Corporation, Los Angeles Plant. He and wife Lorraine are the parents of two boys, Robert and Mark.

Catherine G. Shantz, the former **CATHERINE M. S. SMITH**, is presently residing with her husband John and two children at 3224 Cleveland Avenue, N.W., Washington, D. C. Prior to her marriage, Catherine was employed as a policewoman in Wash., D. C.

ELLEN BRENNAN, who received her master's degree in library science from Drexel Institute of Technology in 1952, was recently named to the 1966-67 edition of "Who's Who of American Women," published by the A. N. Marquis Company. Ellen is a member of the Governmental Research Association, Council of Planning Librarians, American Society for Public Administration and the Booksellers Association. Her office address is 1345 Arch Street, Philadelphia, Penna. 19107.

'51

ATTORNEY HARRY HISCOX, residing at 38 Maffett Street, Wilkes-Barre, recently was admitted as a partner in the law firm of Rosenn, Jenkins and Greenwald with offices at 1000 Blue Cross Building, South Franklin Street, Wilkes-Barre. Harry was associated with the law firm for the past two years. Prior to that he was employed with the Trust Department of the Miners National Bank of Wilkes-Barre. He received his LL.B. from New York University Law School and is presently a director of Wyoming Valley Council, Boy Scouts of America.

THOMAS MORGAN recently accepted an assistantship at the University of Buffalo to work on his doctorate, effective in June, 1966. Tom received his master's degree from Columbia University and joined the Rye Neck faculty, Rye Neck, New York in 1954, where he has since taught.

WILLIAM H. ECKERT is quality manager for I.B.M. Corporation in Lexington, Kentucky. He resides with his wife Beverly and their four children, Karen, Janis, Mary and William, at 2398 Randolph Court, Lexington, Kentucky.

REVEREND WILLARD GIBBS PRATER is Rector of the Episcopal Church of the Holy Trinity in Bellefontaine, Ohio. He resides with his wife, the former **PHYLLIS ANN DEISHER, CLASS OF 1954**, and their daughter Alison Ann at 132 East Chillecothe Avenue, Bellefontaine, Ohio.

'52

EDWARD F. WHEATLEY of 2204 Brookline Road, Fairfax, Wilmington, Delaware, has been elected assistant secretary of the Bank of Delaware. Prior to this appointment, Ed was in the commercial loan credit department. He holds graduate certificates of the American Institute of Banking in both investments and commercial banking.

WILLIAM D. JONES has been appointed to the position of plant manager of the Pioneer Manufacturing Company, Wilkes-Barre. Bill will be in charge of all the company's facilities in Wilkes-Barre. He graduated from the School of Finance, Pennsylvania State University extension in Wilkes-Barre, Pennsylvania.

WILLIAM J. UMPHRED, general manager of the Commonwealth Telephone Company, Dallas, Pennsylvania, has been named to membership on the national commercial committee of the United States Independent Telephone Association, Washington, D. C. In the early part of 1965, Bill was included in the first edition of "Outstanding Young Men of America." He resides at 200 Scott Street, Wilkes-Barre, Pennsylvania.

THADDEUS C. PUTKOWSKI, O.D., has announced the opening of offices at 123 W. Noble St., Nanticoke, Pennsylvania for the practice of optometry. Thaddeus received his Doctor of Optometry at the Pennsylvania College of Optometry, Philadelphia. He holds membership in the Northeastern Pennsylvania Optometric Society, Pennsylvania Optometric Association and American Optometric Association.

'52 (Continued)

CARROLL V. STEIN, JR. is management engineer officer for the United States Navy in Norfolk, Virginia. He resides with his wife, the former **ADEginla**. He **LINE ELVIS, CLASS OF 1952**, and their two children, Linda and Jeffrey, at 8130 Walters Drive, Norfolk, Virginia.

'53

DOLORES GRABKO was recently assigned the position of Administrative Assistant for the Wilkes-Barre Deanery of the Russian Orthodox Church. Dolores has done graduate work at the Boston University School of Public Relations and is the former teenage program director at the Wilkes-Barre YWCA and public relations director and coordinator of student activities at the Catherine Laboure School of Nursing in Boston, Massachusetts. For the past two years, she has been serving as the national director of the Federated Russian Orthodox Clubs' Junior Division and on the staff of Ss. Peter and Paul Russian Orthodox Church of Syracuse, New York.

EDWIN E. COBLEIGH, 233 Academy Street, Wilkes-Barre, recently returned from a seven weeks' trip to Outer Mongolia and the Gobi desert, and visits to the Central Asian cities of Alma Ata, Tashkent, Samarkand, Bukhara and Dyushambe. Ed is a member of the faculty of GAR High School, Wilkes-Barre, Pennsylvania.

ANTHONY P. GIUSTI has been appointed assistant to the area manager-Far East of the Corning Glass International. Tony joined the company in 1953. In 1954 he was transferred to Harrodsburg, Kentucky and in 1956 was named plant accountant there. In 1958 he was named plant accountant at Parkersburg, Virginia and three years later was transferred to Big Flats, New York as production superintendent.

Ellen Jane McLoughlin, the former **ELLEN JANE HOPPE**, was recently named to the 1966-67 edition of "Who's Who of American Women," published by the A. N. Marquis Company. Ellen received her master's degree in guidance and counseling from Temple and has done post-graduate work at the University of Maryland. Prior to her marriage, Ellen was guidance counselor for the Judge's Juvenile Commission of Gloucester County, New Jersey. She resides with her husband Joseph and their daughter Ellen Jane at 118 Columbia Avenue, Trenton, N. J.

'54

Eleanor Young, the former **ELEANOR PERLMAN**, is presently residing at 95 Red Gate Lane, Amherst, Massachusetts. Eleanor's husband Stanley, former instructor at Wilkes, is now Professor of Management at the University of Massachusetts' School of Business Administration. Eleanor is currently working towards her master's degree in the Graduate School of Education at Massachusetts Univ.

EDWARD R. DAVIS was recently elected school director at Plymouth High School, Plymouth, Pennsylvania. Ed attended Rutgers University on a National Science Foundation Math Fellowship and is a life member of the Nat'l Education Association.

JOHN L. SCANDALE is sales representative for the Three M Company in Baltimore, Maryland. John is in charge of the sales printing products division, Minnesota Mining and Manufacturing Company. He and his wife Gloria are the parents of a daughter Cheryl and reside at 3 South Rolling Road, Baltimore, Maryland.

'55

DR. SANDY A. FUREY recently completed a residency in cardiology and internal medicine at Lankenau Hospital and Jefferson Medical College, Philadelphia and received an appointment as assistant instructor in medicine at the University of Pennsylvania Presbyterian Medical Center, Philadelphia. Dr. Furey will maintain offices at the Lankenau Medical Building, Overbrook and at 4028 Walnut Street, Philadelphia, beginning July 1.

G. DONALD KAYE, organist-choirmaster of Green Ridge Presbyterian Church, Scranton, Pennsylvania, was guest speaker at the third session of the Woman's World program recently. Don received his master's degree with honors from the Juilliard School of Music, New York City.

Doris Jane Merrill, the former **DORIS J. SADOWSKI**, is teaching health and physical education at the Nanticoke Joint Area School System, Nanticoke, Pennsylvania. Doris formerly was Dr. Eugene S. Farley's secretary and her son, Paul, is a freshman and plays defensive right end for Wilkes. The Merrills reside at 842 East Main St., Nanticoke, Pa.

RALPH MICHAEL ZEZZA is special agent for Paul Revere Life Insurance Company, Honolulu, Hawaii. Ralph and his wife Myrna reside at 429 Puamamane Street, Honolulu, Hawaii.

WILLIAM PRICE is flight officer for United Air Lines. Bill flies the Boeing 727 jet transport. He is presently residing at 1415 Floribunda Avenue, Burlingame, California.

'56

JAMES B. MITCHELL, JR. was named an instructor of biology on the faculty of Moravian College, Bethlehem, Pennsylvania. Jim has taken additional courses toward his master's degree from Johns Hopkins University and has been working toward a doctorate in zoology at the University of Penna.

REESE D. JONES was recently promoted to senior vice-president and consultant for Studley, Shupert and Company, Inc., of Philadelphia, investment counselors. He received his master's degree from the University of Pennsylvania and is presently on the staff at the Wharton School of the University of Pennsylvania teaching a course in banking. He previously taught at Villanova University, Temple University and Drexel Institute of Technology. Reese and his wife Ann are the parents of two children and reside at 210 Roberts Road, Ardmore, Pennsylvania.

Barbara B. DiSimoni, the former **BARBARA B. ARGONISH**, is residing at 41 Woodcrest Road, R.D. #1, Boonton, New Jersey with her husband Carmen and four children. Prior to her marriage, Barbara was hematology technician at Morristown Memorial Hospital, Morristown, New Jersey.

GEORGE BATTERSON is district sales manager for Varco Incorporated in Santa Clara, California. George resides with his wife Laurelle and their son Blake Matthew at 1854 Cordilleras Road, Redwood City, California.

FORREST BROMFIELD of 24 North Landon Avenue, Kingston, Pennsylvania was recently made Cashier of the Hanover National Bank, Wilkes-Barre. Since leaving Wilkes, Forrest also graduated from the Stonier Graduate School of Banking, Rutgers University. Forrest is also a member of the Housing Authority of Luzerne County and on the Advisory Board of the Installment Loan Committee for the American Bankers Association of the Third Federal Reserve District. He and his wife Marguerite are the parents of two children, Clark and Jay. Clark is presently a freshman at Wilkes.

CARL VanDYKE is training specialist for the Electronic Data Processing Department of R.C.A. in St. Louis, Missouri. He and his wife Debbie Lee and their son Ronnie reside at 1443 Doorack Lane, St. Louis, Missouri.

'57

DR. TERRY L. SMITH recently opened an office at 782 Wyoming Avenue, Kingston, Pennsylvania for the practice of orthodontics. He recently completed two academic years and requirements for a Master of Science degree in orthodontics at the Graduate Department of Orthodontics at Fairleigh Dickinson University at Teaneck, New Jersey. Dr. and Mrs. Smith reside with their two daughters at 416 River Street, Forty Fort, Pennsylvania.

ATTORNEY RICHARD MURRAY is presently with the Office of Emergency Planning in Washington, D.C. Dick's duties include legal advice in matters of emergency planning and general legal assistance to the Director of Emergency Planning. He received his LL.B from Boston University School of Law in 1960 and is presently residing at 5452 Sanger Avenue, Alexandria, Virginia with his wife Elaine and their two sons, David and Michael.

WILLIAM H. TREMAYNE of 424 Rivercrest Drive is a senior tax accountant with the Prudential Insurance Company, Newark, New Jersey. Bill recently was a candidate for election to the Piscataway School Board, Piscataway, New Jersey. He is a Chartered Life Underwriter of the American College of Life Underwriters.

'58

WILLIAM A. ZDANCEWICZ was recently General Chairman for the Pennsylvania Comprehensive Mental Health/Mental Retardation Plan meeting which was held in Wilkes new and beautiful Center for the Performing Arts. Bill was the publicity director for the current Library campaign here at the College. He is also secretary of the Greater Wilkes-Barre Jaycees and resides at 27 Myrick Street, Edwardsville, Pennsylvania.

'58 (Continued) . . . . .

DONALD K. JONES recently resigned as Pottstown Public Utilities Director and has accepted the position of vice-president and general manager of E. L. Gruber Company, successor to the Krasley Bleach and Dye Works. Don received his master's degree in governmental administration from the University of Pennsylvania and completed additional studies in accounting and personnel administration at LaSalle College and statistics at St. Joseph's College.

EDWARD J. HELTZEL, who received his master's degree in the field of mathematics, is presently teaching mathematics at the Dallas Senior High School, Dallas, Pennsylvania. Ed also taught mathematics on a part-time basis at Wilkes.

THELMA T. JANUSKIEWICZ, R.N., recently conducted a six-week course for mothers-to-be at the Wilkes-Barre General Hospital, Wilkes-Barre.

Nancy L. Knight, the former **NANCY LOUISE CASTERLIN,** is presently residing at 33 Wareham Lane, Roselle, Illinois with her husband, O. A. Knight, Jr., and their two children, Bryan and Kristy May.

PAUL HAVIR and his wife, the former **MARY E. WEST,** completed three months of training at the University of Hawaii and are presently serving with the United States Peace Corps in Malaysia. While in Malaysia, Paul and Mary will teach English, science, mathematics, education and commercial subjects in primary and secondary schools and colleges. During their three-month training, Paul and Mary studied the Malay language, the history and culture of South East Asia, United States history and world affairs. They also took education courses and practice taught in schools near the training site.

RONALD D. TREMAYNE is market analyst for I.B.M. Corporation in New York City. He resides at 441 William Street, Bound Brook, New Jersey with his wife Joyce and their two children, Kathy Lynn and Karen Lee.

DONALD E. WILKINSON, JR., residing at 1530 Theresa Drive, Library, Pennsylvania, is assistant manager for the Don Wilkinson Agency in Forty Fort, Pennsylvania. Don is the municipal tax consultant and collector in Library.

FRANK J. KOGUT is residing at 65 Mountain Laurel Drive, Wethersfield, Connecticut with his wife Barbara and their daughter Lisa Ann. Frank is auditor for the Public Housing Administration in New York City.

KEITH WILLIAMS, who is presently teaching mathematics at Neshaminy Joint Schools in Langhorne, Pennsylvania, spent eight weeks this past summer at North Carolina State University completing courses in data processing and computer programming for graduate credits. Keith resides with his wife Florence and their two children, Mark and Scott, at 48 Cinnamon Road, Cobalt Ridge, Levitown, Pennsylvania.

'59 . . . . . .

MARGARET SHELINSKI recently received her master's degree in education from Bucknell University. Margaret graduated from Geisinger Medical Center School of Nursing, Danville, Pennsylvania and is presently an instructor of nursing at Geisinger.

ALFRED D'ANCA, JR. has successfully completed his medical studies, graduating Cum Laude at Amsterdam University, Amsterdam, Holland. Al has received two offers to intern, one in Amsterdam and the other in Rotterdam. He also has accepted a full-assistantship in Anatomy to teach.

RICHARD J. ASTON of 239 East 12th Avenue, Columbus, Ohio is presently attending Ohio State University. He received his master's degree in Engineering from Pennsylvania State University in 1964.

ERNEST ASHBRIDGE was recently promoted to assistant cashier at the Hanover National Bank, Wilkes-Barre. Ernest has been with the bank since 1953 as a commercial loan department supervisor and has graduated from the University of Wisconsin Graduate School of Banking. He resides with his wife Betty and their two children, Ernest and Robin Lynn, at 90 West Mt. Airy Road, Shavertown, Pennsylvania.

WARREN W. SCHMID, who received his master's degree from William and Mary in 1961, is Principal at John B. Cary Elementary School in Hampton Virginia. He and his wife Juanita reside at 20 Hankins Drive, Hampton, Virginia.

HALE F. WALLACE is associate quality engineer for I.B.M. in Endicott, New York. Hale resides with his wife Charlotte and their two children, Scott and Michael, at 619 June Street, Endicott, New York.

ROBERT J. PITEL was recently principal speaker at the Industrial Management Club of Greater Hazleton. Prior to joining I.B.M., Bob worked for Price Waterhouse, Certified Public Accountants, and has been active in the Scranton-Wilkes-Barre-Hazleton area as a system engineer with I.B.M. for the past six years. He is married to the former **VERA WROBLE, CLASS OF '58,** and they reside in Mountaintop, Pennsylvania.

Dorothy A. Greene, the former **DOROTHY AMBROSE,** is residing with her husband Stephen and their son Stephen, Jr. at 1443 Laramie Avenue, Redlands, California.

'60 . . . . . .

FIRST LT. JEROME S. PAULEY was recently awarded the Air Metal for meritorious achievement during military flights at Carswell Air Force Base, Texas. A specialist in radar and celestial navigation, Jerry is a member of the Strategic Air Command.

REV. AARON G. HASTIE has accepted a position as pastor-director of the Geneva Larger Parish in Centre County, Pennsylvania. His new pastorate is supported by the Board of National Missions of the United Presbyterian Church. Rev. Hastie graduated from Pittsburgh Theological Seminary in 1960. He and his wife, the former **JANICE MACDONALD, CLASS OF 1963,** are residing in Bentleyville, Pennsylvania.

DARIO PETRINI, English instructor at Coughlin High School, Wilkes-Barre, was contest chairman for the annual Voice of Democracy Contest sponsored by the Parsons Memorial VFW Post 6227, Parsons, Wilkes-Barre.

RONALD G. PHILLIPS and his wife, the former **BEVERLY ANN BUTLER,** are residing at 40-1B Brookside Garden Apartments, Somerville, New Jersey. Ron is teaching in the Hills Borough School System and Bev is an instructor in the St. Peters General Hospital in Somerville, New Jersey.

ATTORNEY IRA K. HIMMEL is associated with Hooper, Kiefer and Sachs in Baltimore, Maryland. Ira received his LL.B. from the University of Baltimore in 1965 and he resides with his wife Sydney at 7525 Marston Road, Baltimore, Maryland.

'61 . . . . . .

Barbara Schafer, the former **BARBARA PRICE,** recently attended a clinical nursing conference sponsored by the American Nurses' Association in Chicago, Illinois. The conference was aimed at assisting nurses in planning and implementing progress in patient care. Barbara is a graduate of St. Joseph Hospital School of Nursing and the University of Pittsburgh.

WALTER J. ZIONKOWSKI is a Naval Officer stationed in Rodman, Panama Canal Zone. Walt received his master's degree from the University of Virginia and has done further post-graduate work at the University of Pennsylvania.

THOMAS FRANCIS FEENEY is presently working on his master's degree in guidance and counseling at Syracuse University. He will graduate in June of 1966. Tom is on a N.D.E.A. grant. Tom and his wife Paula are the parents of two children, Colette and Kevin, and reside at 824 South Avenue, Syracuse, New York.

WALTER JOSEPH FOLEK is assistant controller for Cel-Fibe, division of Johnson and Johnson, in Milltown, New Jersey. Walt resides with his wife Helen and their two children, Bethann and Joseph, at 817 Carpenter Road, North Brunswick, New Jersey.

FIRST LIEUTENANT MARTIN E. CHERONE recently graduated from the United States Air Force electronic warfare officer course at Mather Air Force Base, California. Following specialized aircrew training at other bases, he will be assigned as a B-52 Strato Fortress crew member at Carswell Air Force Base, Texas, and will join the Strategic Air Command.

ARTHUR J. REHN recently received his master's degree in music from Pennsylvania State University. Arthur is supervisor of instrumental music and band director at Montoursville Area Joint High School, Mountoursville, Pennsylvania. He and his wife, the former **CAROL ANN BRUSHKOSKI, CLASS OF 1962,** reside at 362 Broad Street, Mountoursville, Pennsylvania.

'62 . . . . . .

ATTORNEY MORGAN R. JONES recently received his LL.B. from Dickinson Law School. While at law school, Morgan was assistant managing editor of the law review and he graduated first in his class. Morgan served his clerkship in his father's office in Philadelphia and is to be associated with the law firm of Drinker, Biddle and Reath in Philadelphia. He and his wife Helen and their son Evan are residing in Philadelphia.

MARY JANE FOGAL recently spoke at a meeting of the Women's Guild of Zion United Church of Christ in Womelsdorf, Pennsylvania. Mary Jane spent three years in Worawora, Ghana, Africa working in the Evangelical Presbyterian Church Hospital. She received her training at Lankenau Hospital School of Nursing in 1959, and is presently working there since her return from Africa.

EDWARD YADZINSKI, noted saxophonist and clarinetist with the Buffalo Philharmonic Orchestra, was recently guest soloist at the regional festival of the Pennsylvania Music Educator's Association in Turbotville, Pennsylvania.

DARRY GINTEL is presently working for Gimbel Brothers Department Store in New York City.

LT. JEROME J. KRASA has been selected for the Advocate Generals Department. He is currently taking officer basic training courses at Lackland Air Force Base in Texas. Jerry graduated from Vanderbilt Law School, Nashville, Tennessee with a law degree.

RICHARD THOMAS REES has been appointed vice-principal at Metuchen High School, New Jersey. Rick is also working towards his master's degree at Rutgers University. He and his wife Linda are residing at 57 Koyen Street, Fords, New Jersey.

Carol Jean Kalafut, the former **CAROL THOMAS,** is presently residing with her husband Stephen and daughter Wendy Jill at 1101 Murray Hill Road, Binghamton, New York. Prior to her marriage, Carol taught in the Binghamton School District.

A. JOHN DIMOND is residing at 2 Sunset Court, Forty Fort, Pennsylvania. John is an executive with Bergman's Department Store in Kingston, Penna.

Judith Niznik, the former **JUDITH ANN POWELL,** is mathematics instructor at Mount Vernon Seminary in Washington, D.C. Judith resides with her husband John at 940 Wakefield Street, Arlington, Virginia.

YORATH DEAN EVANS recently received his master's degree in education from Lehigh University in Bethlehem, Pennsylvania.

'63 . . . . . .

SECOND LIEUTENANT STEVEN L. PANKEN recently graduated from Keesler Air Force Base, Mississippi in the training course for United States Air Force communications officers. Steve has been reassigned to Blytheville Air Force Base, Arkansas for active duty.

THOMAS SARA recently took part in the Reticuloendothelial Society's second National Scientific Meeting in Salt Lake City, Utah. Tom's topic dealt with the development of an invitro technique for evaluating hepatic phagocytic mechanisms and the role of opsonins as a factor in particle behavior. Tom is residing at 1905 Jefferson Avenue, Apartment #4, Memphis, Tennessee.

JOHN F. SHEEHAN, JR. is Personnel Testing Supervisor for the Armed Forces Training and Entrance Station in Columbus, Ohio. He resides with his wife Jacqueline at 3070 East Livingston Avenue, Apartment #5, Columbus.

Barbara Anne Levine, the former **BARBARA ANN FIGARSKY,** is residing at 100 South Ocean Avenue, Freeport, New York with her husband Richard and their daughter Heidi Lisa.

DONALD DAYTON LONG is teaching in the Lancaster City Schools while pursuing his master's degree in education at Temple University. Don resides at 1040 North Duke Street, Lancaster, Pennsylvania.

DONALD E. DAVIS has been named Director of Admissions for Virginia Wesleyan, Norfolk, Virginia. Prior to his appointment, Don served as the assistant to the director of admissions at Girard College in Philadelphia.

Elaine Ann Izbicki, the former **ELAINE ANN SZYCHOWSKI,** is residing at Box 20397, University Station, Baton Rouge, Louisiana with her husband Anthony and son Kevin Michael.

JOHN S. ADAMS is manufacturing representative for J. S. Adams and Company in Macungie, Pennsylvania. John is residing with his wife Pat at 2 Linden Circle, R.D. #1, Macungie.

ROBERT GLENN FLEMING and his wife Mary reside at Laurel Manor Apartments, Franklin Road, Rockaway, New Jersey. Bob is teaching at the Morris Hills High School, Morris Hills, New Jersey. He is also basketball and baseball coach.

Linellen C. Strauss, the former **LINELLEN CHARLTON,** is residing with her husband Herman and son William C. at 7227 Ventnor Avenue, Ventnor, New Jersey.

NOVEMBER 4 - 5, 1966
FRIDAY AND SATURDAY
19th ANNUAL HOMECOMING 19th
WILKES vs. P. M. C.
PLAN NOW TO ATTEND! CLASS REUNIONS: '36-'41-'46-'51-'56-'61

'64 . . . . . .

PRIVATE HARRIS TOBIAS recently completed advanced artillery training as a cannoneer under the Reserve Enlistment Program at the Army Artillery and Missile School, Fort Sill, Oklahoma. Harris completed his basic training at Fort Dix, New Jersey. Before going on active duty, Harris was a Peace Corps Volunteer in Guatemala, Canal Zone.

LT. JOHN D. HAUGHWOUT was recently honored with an appointment as instructor at the Military communications school, Keesler Air Force Base, Mississippi. Doug received his commission in 1964 after completion of Officer Candidate School at Lackland Air Force Base in Texas.

JEFFREY GALLET is presently a law student at Brooklyn Law School, Jamaica, New York.

DONALD BALDWIN was appointed director of the chorus for the Sunbury Social Club Chorus, Sunbury, Pennsylvania. Ron teaches music in the elementary schools of the Shikellamy District.

JANG HAE KIM is presently studying Regional Planning at the University of Pittsburgh Graduate School of Public and International Affairs, and is working with the Bureau of Community Development, Pennsylvania State Department of Commerce.

RONALD POHALA has accepted a teaching position at Crestwood High School, Mountaintop, Pennsylvania. Ron is teaching science at Crestwood and is on the basketball and baseball coaching staffs. He is also attending the University of Scranton for his master's degree in Biology and is being aided by a grant from the National Science Foundation. Ron previously taught at Rockaway Junior High School, New Jersey where he also served in the capacity of assistant coach in basketball, football and baseball.

Barbara Stoffa, the former **BARBARA GALLAGHER,** is residing with her husband John at 209 North Seventh Street, Allentown, Pennsylvania. Barbara's husband is vocational counselor for the Pennsylvania Bureau of Vocational Rehabilitation.

Mary Ann Parsons, the former **MARY ANN LASKOWSKI,** is residing with her husband Robert at 4661 36th Street South, Arlington, Virginia.

Janet Smith, the former **JANET GIBBON,** is presently residing with her husband Robert and their son Robert, Jr. at 51 Vulcan Street, Wilkes-Barre. Prior to Janet's marriage, she taught fourth grade in the Kingston School District, Kingston, Pennsylvania.

CLINTON G. HESS is management analyst for the Defense Depot in Mechanicsburg, Pennsylvania. Clint and his wife Catherine are the parents of a daughter Ellen Kay and they reside at R.D. #4, Glenwood Street, Mechanicsburg, Pennsylvania.

NEIL DOUGHERTY was recently promoted to first lieutenant in the United States Air Force. Neil is presently assigned to the South Ruislip Air Station, London, England. His duties include being chief of the aircraft loading branch.

Barbara Ann Yencharis, the former **BARBARA ANN KARCHESKI,** resides with her husband Jerome and their son Jerome at 628 Highway #3, South, Apartment 12D, League City, Texas.

Carol Ruth Savona, the former **CAROL RUTH PLONNER,** is serving with the United States Peace Corps in Venezuela. Carol and her husband Luis reside at T.I.M., cia Avenida Principal, San Jose de Guanipa, Anzoategui, Venezuela.

BARBARA THIEMAN recently received word of her acceptance into the Registry of Medical Technologists of the American Society of Clinical Pathologists. In September of 1965, Barbara completed training at Wilkes-Barre General Hospital School of Medical Technology and she is on the laboratory staff of the General Hospital.

ALAN GUBANICH is currently studying for his master's degree at the University of Arizona. Alan spent the past summer working on his master's thesis. He is a teaching assistant at the University and is in charge of two laboratory sections of the general zoology course. Alan plans to start work toward his Ph.D. in the fall.

'64 *(Continued)* . . . . .

WILLIAM JOHN MULFORD was married November 25 to Geraldine Ann Joyce in Dakar, Senegal, Africa. Bill is serving with the United States Peace Corps in Senegal.

DAVID M. WOODS was married to Pamela G. Stauffer on October 13. Dave is an accountant with his uncle, Ronald Woods, in a public accounting business. Mr. and Mrs. Woods are residing at 2720 Pittston Avenue, Scranton, Pennsylvania.

BARBARA GALLAGHER became the bride of John Stoffa on November 20. The couple is residing in Allentown where Mr. Stoffa is a rehabilitation counselor for the Pennsylvania Bureau of Vocation Rehabilitation.

J. DOUGLAS HAUGHWOUT was married September 4 to Ann Marie Brinola. Doug recently graduated from the U.S.A.F. Officer's Training School, San Antonio, Texas, and is now stationed with the Air Force in Biloxi, Mississippi. Mr. and Mrs. Haughwout are residing at 107 Pine Grove Avenue, Biloxi, Mississippi.

LUANNE LISNAK became the bride of Michael J. Purcell on September 4. Luanne formerly was health director and instructor on the faculty of Nesbitt Memorial Hospital, Kingston, Pennsylvania. The couple is residing in Pensacola, Florida where Mr. Purcell is attending Naval Flight School.

STEWART NAPOLEON was recently married to **LESLIE ANN WEINBERGER.** Stewart is an assistant buyer at Abraham and Strauss Department Store in Brooklyn, New York.

'65 . . . . . .

JANE COCHRAN became the bride of Thomas F. Chambers on September 18. Jane is employed by the Bell Telephone Laboratories of New York City, and her husband Tom is a recent graduate of Pennsylvania State University.

BARBARA ANN MENARICK became the bride of Philip T. Russo on November 25. Barbara is on the teaching staff of Kingston School System, Kingston, Pennsylvania.

JANE R. CHARLTON became the bride of Charles J. Huey on August 28. Jane is on the teaching staff of Kingston Borough School District. Her husband Charles is in his senior year at Wilkes. Mr. and Mrs. Huey are residing at 308 Bennett Street, Luzerne, Pennsylvania.

FLORA SUE ANDERSON became the bride of William L. Weber on August 7. Flora is a member of the faculty of Takoma Park, Maryland elementary school. Mr. and Mrs. Weber are residing at 6007 Springhill Drive, Number 304, Greenbelt, Maryland.

RITA ANN DOUGHERTY recently became the bride of Edward Groves in Philadelphia. Mr. and Mrs. Groves are residing in Bayside, Long Island, New York.

ELAINE DONATA ROCK became the bride of **THOMAS JOSEPH SHIVELL, CLASS OF 1963,** on August 28. Elaine is a member of the faculty of Charles F. Johnson Elementary School, Endicott, New York. Tom is a graduate of Pennsylvania State University and is employed by IBM, Endicott, New York.

THIS BRIGHT NEW WORLD . . .

'37 . . . . . .

Mr. and Mrs. Robert T. Bohn of 16 Monarch Road, Marion Terrace, Lee Park, Hanover Township, Pennsylvania have welcomed into their home a son, Robert Thomas. They also have a daughter, Mary Kiera.

'48 . . . . . .

Mr. and Mrs. Reese E. Pelton of 10 Gordon Street, Dallas Pennsylvania have welcomed into their home an infant daughter, Holly. The couple also has a son, Christopher, age three.

'49 . . . . . .

a son to Mr. and Mrs. Jerome Markoch, 244 Main Street, Duryea, Pennsylvania on November 30.

'51 . . . . . .

a daughter to Mr. and Mrs. Raymond Sweetra, 111 Eley Street, Kingston, Pennsylvania on January 13.

a daughter to Attorney and Mrs. Harry R. Hiscox, 38 Maffet Street, Wilkes-Barre in January. Mrs. Hiscox is the former **BEVERLY BLAKESLEE, CLASS OF 1958.**

'52 . . . . . .

a son to Dr. and Mrs. Robert Shemo, 373 River Street, Forty Fort, Pennsylvania on February 3.

'53 . . . . . .

a son to Major and Mrs. C. P. Rowlands, Camp LeJeune, North Carolina on August 22.

'55 . . . . . .

a daughter to Mr. and Mrs. Clarence F. Florkiewicz, 831 Chanook Avenue, Akron, Ohio on November 17.

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'57 . . . . . .

a son to Mr. and Mrs. Richard Morris, 165 Spruce Street, Emmaus, Pennsylvania on January 25.

a daughter to Mr. and Mrs. John Doran, 192 Lyndwood Avenue, Lyndwood, Wilkes-Barre, Pennsylvania on January 31. Mrs. Doran is the former **MARGARET WATKINS, CLASS OF 1958.**

a son to Mr. and Mrs. George Kolesar, 350 North York Road, Hatboro, Pennsylvania on December 1. Mrs. Kolesar is the former **NANCY CARROLL, CLASS OF 1961.**

'59 . . . . . .

a son to Mr. and Mrs. William Acornley, 98 Matson Avenue, Wilkes-Barre, Pennsylvania on January 17.

a son to Mr. and Mrs. J. Roger Lewis, R.D. #3, Montrose, Pennsylvania on February 15.

a daughter to Mr. and Mrs. James Cornelius, 261 North Mountain Boulevard, Mountaintop, Pennsylvania on November 12.

'61 . . . . . .

a son to Mr. and Mrs. William Matus, 210 North Main Street, Wilkes-Barre, Pennsylvania on August 28. Mrs. Matus is the former **ARLENE GALLIA.**

'63 . . . . . .

a son to Mr. and Mrs. Jerry A. Mohn, 1026 Flair Court, Creve Coeur, Missouri on January 29. Mrs. Mohn is the former **ROWENA SIMMS.**

a daughter to Mr. and Mrs. Henry W. Shemanski, 118 Almond Drive, Albany, Georgia on February 16. Mrs. Shemanski is the former **CHRISTINE HELEN WENTZ.**

'64 . . . . . .

a son to Mr. and Mrs. James Winebrake, 130 Ninth Street, Wyoming, Pennsylvania on January 3. Mrs. Winebrake is the former **RACHEL ALTAVILLA, CLASS OF 1962.**

a daughter to Mr. and Mrs. Raymond Tait, 10801 Kelvin Street, Philadelphia, Pennsylvania on August 29.

'65 . . . . . .

a daughter to Mr. and Mrs. Joseph P. McAndrew, Ashley Garden Apartments, Apartment C, Ashley Avenue, Hackettstown, New Jersey in November.

'65 . . . . . .

JOHN PITMAN is presently attending United States Navy Officer Candidate School in Newport, Virginia. John enlisted in the United States Navy and was commissioned an ensign. He is affiliated with his father in operation of the John Pitman and Sons Furniture Store, Freeland-White Haven Highway, Freeland, Pennsylvania.

MARIAN BARAN is conducting a special typing class for adults in association with the Newton Adult School Program, Newton High School, New Jersey.

JACK COVELL BARNES, JR. recently accepted a position as retail sales representative of Eastern Pennsylvania with Campbell's Soups.

JAMES B. JENKINS was recently commissioned a second lieutenant in the United States Air Force upon graduation from Officer Training School at Lackland Air Force Base in Texas. Jim has been assigned to Craig Air Force Base, Alabama for pilot training.

LEONARD STANLEY RISHKOFSKI, residing at BB5 Rodney Apartments, Dover, Delaware with his wife, the former **MARILYN THOMAS, CLASS OF 1965,** is presently training for store management with Sears Roebuck, Dover, Delaware.

CARL JOHN MISSAL is on the teaching staff of the Groton Schools, Groton, Connecticut where he teaches fifth grade. Carl and his wife Patricia are the parents of two children, Pamela and Karl, and they reside at R.F.D. #1, 138 Beechwood Road, Oakdale, Pennsylvania.

ROBERT JAN PETHICK and his wife, the former **ROMELLE GOMBA, CLASS OF 1963,** are residing at 787 Wyoming Avenue, Kingston, Pennsylvania. Jan is presently attending graduate school at Tyler School of Art. Romelle is art supervisor of grades 1-7 in the 9 elementary schools of Kingston. Romelle received her master's degree from Tyler School of Art in 1965.

DAVID CHARLES WALKER is presently stationed in Pensacola, Florida with the United States Naval Air Station.

KATHLEEN RUTH DENNIS is a biologist with Merck and Company in Rahway, New Jersey. Kathleen resides at 1103 University Terrace, Linden, New Jersey.

ANNE MARIE MASLEY is presently teaching art in Marley Elementary School, Annapolis, Maryland. Anne makes her home at 15 German Street, Annapolis, Maryland.

Patricia Ann Egidio, the former **PATRICIA ANN BRADY,** and her husband Frank are residing at 57 Nicholson Street, Wilkes-Barre, Pennsylvania. Pat is teaching at GAR Memorial High School, Wilkes-Barre.

CRAIG M. HOULISTON is teaching history in the 11th and 12th grades at Woodrow Wilson High School, Levittown, Pennsylvania. Craig is planning to attend Temple University for his master's degree in history this coming June. He resides with his wife, the former **ANTOINETTE CHIARELLI, CLASS OF 1963,** at Camelot Apartments, Levittown, Pennsylvania.

PAULINE HOMKO is serving as a Peace Corps Volunteer, having completed 16 weeks of training at Portland State College, Portland, Oregon. Polly has been assigned to Turkey where she is assisting in conducting X-ray surveys, skin tests, inoculation campaigns, and in the home care of tuberculosis patients. During her training, Polly studied Turkish language and history, United States history and world affairs. She took special courses in public health and tuberculosis control and did field work in the low-income areas near the training site.

JOSEPH P. McANDREW was recently accepted into graduate school at Lehigh University in Bethlehem, Pennsylvania. Jay is presently teaching school in Hackettstown, New Jersey and resides with his wife Bonnie and their daughter Kimberley at Ashley Garden Apartments, Ashley Street, Hackettstown, New Jersey.

DOWN THE AISLE . . .

'59 . . . . . .

AUDREY J. BARTLETT became the bride of Robert C. O'Connell November 27 in Brussels, Belgium. Audrey received her master's degree from the University of Michigan, the Prix de Virtuosite from the Schola Cantorum of Parish and a Fulbright Fellowship to study in Rome, Italy. She has served as organist and choir director at the British Embassy Church in Paris and at St. Paul's American Episcopal Church, Rome. Audrey also served as accompanist for the Coro Bonaventura Somma of the Centro Agostiniana in Rome, Italy.

DAVID COMPTON was married September 3 to Myra Elaine Souers. Dave is employed at Reynolds Metals Company in Grottes, Virginia.

'60 . . . . . .

CLEDITH ATEN MILLER, JR. was recently married to Pamela Prime. Cledith received his master's degree from Michigan State University and is presently assigned to Walter Reed Army Medical Center, Washington, D. C. Mr. and Mrs. Miller, Jr. are residing in Silver Springs, Maryland.

'61 . . . . . .

DIANA WILLIAMS became the bride of **ROY J. MORGAN, CLASS OF '63,** on October 28. Diana is a graduate of the Nesbitt Memorial Hospital School of Nursing and is in the obstetrical department at that hospital. Roy is news director for station WILK in Wilkes-Barre. Mr. and Mrs. Morgan are residing at 139 Franklin Street, Dallas, Pennsylvania.

MICHAEL G. EVANKO recently was married to Geraldine Pauline Masko. Mike is presently employed at Craft Associates, Inc., Wilkes-Barre.

ALBERT R. STRALKA was recently married to Margaret Anne Leary in Shawnee, Michigan. Al received his master's degree from Penn State and is currently working toward his Ph.D. at the same university. Mr. and Mrs. Stralka are residing at 873 North Allen Street, State College, Pennsylvania.

EUGENE MATTHEWS was married August 21 to Arlene Waiter. Gene is on the faculty of the Nanticoke Junior High School, Nanticoke, Pennsylvania.

'62 . . . . . .

FLORENCE J. GALLAGHER recently became the bride of Charles J. Bischof, Jr. Florence has done post-graduate work at Marywood College, Scranton, Pennsylvania and Connecticut College. She is a research assistant in pharmacology at Charles Pfiyer and Company, Groton, Connecticut. Mr. and Mrs. Bischof, Jr. are residing at 281 Gardner Avenue, New London, Connecticut.

'63 . . . . . .

RONALD J. SOCASH was married to Joanne Marie Stefanowski on November 25. Ron has done post-graduate work at Temple University and is presently on the teaching staff of Conshohocken High School, Conshohocken, Pennsylvania. Mr. and Mrs. Socash are residing at 1820 North Hills Drive, Norristown, Pennsylvania.

WILLIAM R. CLOSE was married August 21 to Donna Lee Heness. Bill has served in the United States Marine Corps and is working toward his master's degree at Temple University. He is also on the teaching staff of Plymouth High School, Plymouth, Pennsylvania. The couple is residing at 40 Church Street, Plymouth, Pennsylvania.

THOMAS TOMALIS recently was married to Barbara M. Mezanko. Tom is currently in his third year at Villanova University Law School. The couple is residing at 124 Walnut Avenue, Ardmore, Pennsylvania.

JOHN F. SHEEHAN, JR. recently was married to Jacqueline S. Jenkins. John is presently working toward his master's degree at Ohio State University. His wife, Jacqueline, will play violin with the Columbus Symphony, Columbus, Ohio this fall. Mr. and Mrs. Sheehan, Jr. are residing at 3070 East Livingston Street, Columbus, Ohio.

CAROLYN D. DRAPER became the bride of David H. Lippincott on August 28. Carolyn is on the teaching staff of Coughlin High School, Wilkes-Barre, Pennsylvania and she and her husband David are residing at 1 Oliver Street, Wilkes-Barre.

PAUL EDWARD GAVEL was married to Mary Lou Mulligan on January 22. Prior to his graduation from Wilkes, Paul studied at Stanford University. He also served with the United States Air Force and is presently associated with Johnson and Johnson Company. Mr. and Mrs. Gavel are residing in Yonkers, New York.

'64 . . . . . .

NANCY CAROL SWANTKO became the bride of Gerald M. Pegarella on December 27. Nancy is on the faculty staff of the Wilson Elementary School, Allentown.

PATRICK F. RUTKOSKI was recently married to Marjorie L. Reakes. Pat is stationed with the Second Marine Air Wing at Cherry Point, North Carolina.

WHAT'S YOUR LINE?

THE CLASS NEWS that you have been reading has come from this questionnaire. There will continue to be class notes as long as you continue to send this back to us with information concerning you and your eventful lives.

1. NAME ..... (LAST) (FIRST) (MIDDLE)

   MAIDEN NAME .....

   Street .....

   City ..... State ..... Zip Code .....

   Telephones: Home ..... Business .....

2. WILKES DEGREE ..... Curriculum ..... Year Graduated .....

   Withdrew ..... Transferred to .....

   Degree ..... Date .....

3. ADVANCED DEGREES Source Date

   ....

   ....

4. PLACE OF EMPLOYMENT ..... Title .....

   Business Address .....

   Duties .....

   .....

5. MARRIED ☐ SINGLE ☐

   Spouse (Name) ..... Wilkes Graduate? .....

   Children: Name ..... Date of Birth .....

   ....

   ....

   ....

6. LAST POSITION HELD: Title ..... Employer .....

7. PERMANENT REFERENCE ADDRESS ..... (NAME) ..... (PHONE)

   ..... (STREET) (CITY) (STATE) (ZIP CODE)

Code 6-66