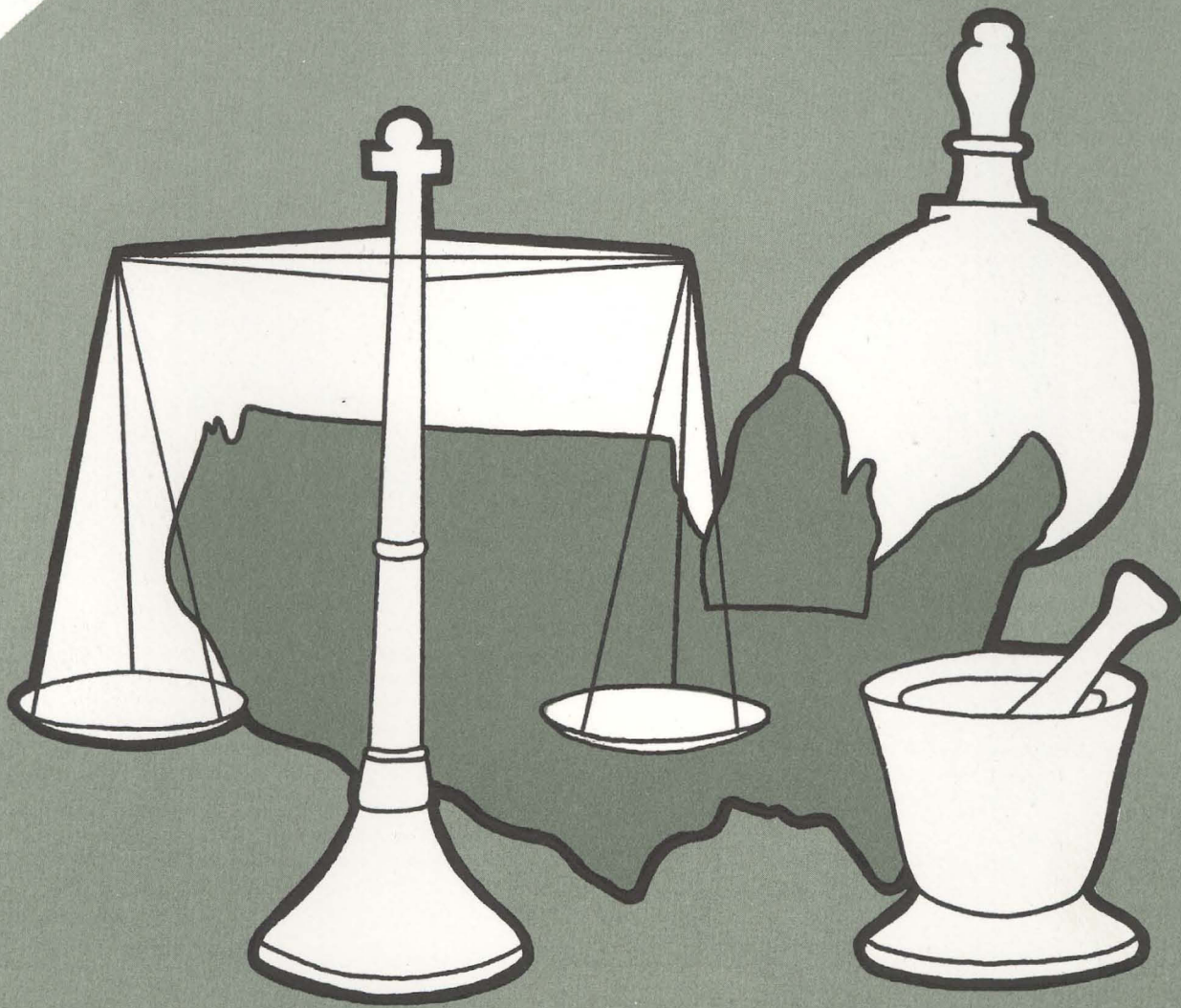


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THE WAYNE PHARMIC

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The Wayne Pharmic Editorial Page

Apathetic Non-Involvement

Today's Universities are becoming increasingly cognizant of the value of co- and extra-curricular activities in the educational itinerary of today's college student. However, there seems to be a tremendous unawareness of this important aspect of education among many of today's students. Collegiate organizations are not only crying for members, but also for active and responsible participants in their respective programs. The organizations of Wayne State University's College of Pharmacy like many other groups on campus are faced with this problem.

There are only a handful of students who realize the importance of participation in the organizations within the College and who contribute their energies toward the betterment of these organizations, the College, and their own professional lives. Many students faced with an opportunity to contribute to their College fail to realize the wealth of benefits that can be derived from these activities. Their usual and oftentimes unreflective response is that they simply do not have the time to contribute. This, although it can be a valid excuse, is in most instances a camouflage for their unwillingness to rise above their innate desire to put forth a minimum of effort in their day-to-day tortoise-like progression up the educational staircase.

Business leaders of today no longer screen applicants through a one-sided review of their academic achievements, but in addition place considerable emphasis upon the non-academic phases of campus life. The needs of industry today require that its leaders not only utilize the knowledge obtained in the classroom, but also those intangible assets which can only be acquired through their day-to-day professional and social interactions with their colleagues. The ability to act and converse intelligently and in a manner consistent with the social mores of today's business climate is paramount if today's student is to become tomorrow's leader.

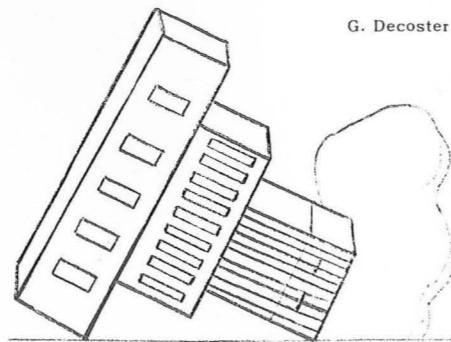
The format of higher education is founded upon the principle that a progressive society must produce not only an educationally informed people, but also an atmosphere providing a purposeful social milieu for the meaningful interactions of its citizens. Wayne State University and its College of Pharmacy do offer the student an opportunity to develop intellectually as well as professionally, so that he can succeed in today's highly competitive business climate. The opportunity is present, however, the initiative and drive needed for its realization is predicated upon the willingness of the student to accept the responsibility. The time will come when you will no longer be judged on your ability to excel on examinations, but on your capacity and willingness to interact in a meaningful and socially purposeful manner. Do not deprive yourself of this opportunity; contribute not only to your College and University but also participate to the fullest in those programs which provide the atmosphere necessary in the development of today's well educated leader.

Can You Justify Your Presence in College?

The requirements of higher education have progressed to a point where essentially only those individuals with superior scholastic backgrounds are given the opportunity to advance themselves in the knowledge entrapped in the minds of our universities' faculties. Constantly, we are being told that this is the overriding theme directing the decisions of today's progressive universities in their selection of applicants to these institutions. In light of this, I would ask you, the college student, "that noble individual enlightened with the wisdom and the mind for grasping the ideas, concepts and scientific contributions of the ages," whether or not your presence at this University continues to be justifiable? If not, perhaps you should re-evaluate your purpose in attending a complex university.

It is to those of you who are merely sponges, soaking up a minimum of knowledge through your mediocre participation in the educational program offered you, that this editorial is directed. Do you know that a total of 4/5ths of your education is paid for by the taxes of this state? Therefore, your unwillingness to strive conscientiously toward furthering yourself through the educational opportunities provided under this system of ours constitutes not only a squandering of your own talents, but also a thievery against the citizenry of this state.

At no other time in history has society been in a position to provide such a vast wealth of knowledge to its people, and yet we are constantly faced with students who refuse to fully avail themselves of the opportunities of higher education. How many of us are spending our time putting forth a minimum of effort in an attempt to fulfill the requirements prerequisite to the attainment of that impressive piece of parchment called a diploma? If you are one of those who fall into this category, I most earnestly recommend a re-evaluation of your purpose and goals while at this University. The five years spent in the pursuit of higher education are the most important and decisive years of your life.



G. Decoster

"I told you not to slam that door!"

The "Wayne Pharmic"

Circumstances of various sorts have led to the appearance of two extensive issues of the "Wayne Pharmic" in the first half of 1966. The first of these was the 1965 "Wayne Pharmic".

A small but active group has produced the present "Pharmic", the only issue which will be produced for the 1965-1966 school year. As might be expected, some members of the staff for this issue are graduating seniors. We wish them success and satisfaction in their chosen profession after they have left our College of Pharmacy.

For the school year 1966-1967 there can and perhaps will be some changes in the format of the "Wayne Pharmic", and there is hope of producing at least two issues or perhaps one issue per quarter. This is an invitation to all interested students in our College to submit an application giving name, address, telephone, present class level, previous publication experience if any, and an indication of preferred activity. We hope to arrange an organizational meeting of a new editorial board and to make preliminary or tentative plans for the Fall term publication schedule.

We need replacements for graduating seniors who have carried a considerable portion of the publication activities, as well as additional staff members for special features which could be included. A larger staff also could make more frequent and timely publications possible.

Let's have your ideas and your help in the publication of the '66-'67 editions of the "Wayne Pharmic".

The Wayne Pharmic is a student publication of the College of Pharmacy. Publication of the Wayne Pharmic is made possible through ad solicitations from the pharmaceutical industry, drug wholesalers and metropolitan Detroit community pharmacists. We encourage your continued support of our advertisers.

From the Dean's Desk



Dean Martin Barr

There are many conditions already presently affecting all aspects of pharmaceutical practice and promising to affect the course of future pharmaceutical practice. As students, you are being prepared to enter the broad field of pharmacy, rather than an isolated place of practice, so that you will be able to cope with these changes in such a way as to take maximum advantage of professional opportunities which are certain to present themselves. It is primarily for this reason that your College places emphasis upon preparation for future conditions and future vocational environments.

Below are listed some of the emerging activities and vocational positions for which increasing numbers of pharmaceutical personnel should be required in the future:

1) The use of medication, both that which is prescribed and that which is used in self-therapy, is increasing. Medication is now employed, not only in sickness, but also in health. Medication now has prophylactic and maintenance uses intended to affect the structure or functions of the body of man, as well as their customary use in the mitigation, treatment, or cure of disease.

2) The increased use of medication, and particularly medication as so-

*Prepared for *The Pharmic*, 1966.

phisticated as that even presently available, requires adequate safeguards in matters of its distribution and use. To guard against unauthorized use, misuse, or abuse of medication, a highly informed and socially responsible distributive system is necessary, and in the total system, professional pharmaceutical personnel, especially the community practitioner, are key factors.

3) Patient health is becoming increasingly centered about hospitals, nursing homes, and related health care institutions. Concurrently, there is a growing recognition of the need for improvement in professional pharmaceutical services in relation to such health care institutions. Activities of state and national organizations and agencies concerned with health care services have focused attention on present inadequacies and projected needs in terms of professional pharmaceutical services.

4) There is every reason to expect proliferation in private, state, and federal programs concerned with health care. Drugs and medications, or pharmaceutical services, are essential to a totally comprehensive health care program. Pharmaceutical personnel have limitless opportunities to answer the need for the executive, administrative, and technical personnel essential to such programs.

5) State health care facilities, as well as federal services including the military, veterans and other such programs, have been improving the nature and type of personnel employed in areas of pharmaceutical activity. Governmental programs or facilities generally are compelled to keep in reasonable pace with the minimum standards required in private or non-governmental counterparts. A redistribution of personnel is almost inevitable as is the creation of vacancies which demand professionally trained pharmaceutical personnel. Moreover, federal and state regulatory agencies concerned with drugs, pharmaceutical services, accreditation of persons or facilities, reimbursement or payment for health or welfare programs, and related matters, are aware of the exceptionally broad scientific and technical background of pharmacists, and there is growing appreciation of their executive or administrative abilities.

As students preparing for the profession of pharmacy, you should stretch your imagination to encompass the opportunities certain to present themselves to you during your future professional careers. You will make of yourselves and your profession just what you wish both to be. Your faculty is confident that you will choose wisely and perform with excellence.

Changing Patterns In Prescription Practice

The 13th Annual Stephen Wilson Pharmacy Seminar was held on February 22, 1966 at Shapero Hall and McGregor Memorial Conference Center. Mr. William Hennessy was the General Chairman, Ira Smith, president of the College of Pharmacy Alumni Association, presided over the morning session, and Neal S. Van Haften, president of MSPA, presided over the afternoon session.

MR. ROBERT HILLS—
Creative Federalism

The role of the federal government was presented by Mr. Robert Hills, Special Assistant to the Assistant Secretary (Legislation), of the United States Department of Health, Education, and Welfare.

The main point made by Mr. Hills was that the present Administration followed, in their domestic legislation, the policy of creation of choice. That is, in most areas, the government programs were carried out through support, expansion, and financial underwriting of private units. This is what is called creative federalism: a force which commands responses from the federal government in response to public inquiry. The government, however, does work through private units.



Mr. Robert Hills

Thus, the training of needed health professionals is being done, not by federal management of education, but rather by giving dollars needed for expansion and improvement.

Mr. Hills feels that Medicare in itself is a creation of choice for all involved—the physician still chooses his hospital, the patient still chooses his physician, Mr. Hills also feels that Medicare will cause increased activity for the pharmacists. Pharmacists will be faced with a creation of choice, or opportunity, to take part in the growth of nursing homes and in the growth of hospitals. They will be asked more and more to apply their knowledge to therapeutic committees. In summary: "The federal government, through prepaid social insurance, pays for hospital and hospital drug services and, through a system of co-insurance covers a major portion of medical service expenses."

Mr. Hills, in closing, stated that if professionals don't or won't fill the health needs of the public, then a vacuum is created which is often, and hastily, filled by legislation, regulation, and government management.

DR. JOSEPH D. McEVILLA—
Prepaid Prescription Service

Dr. Joseph D. McEvilla, Professor and Head of the Department of Pharmaceutical Economics, University of Pittsburgh School of Pharmacy presented his paper on "Private Approaches to Third Party Payment for Prescription Services."

"In discussing the ease of prepayment of pharmaceutical services, one must consider that its feasibility has been determined. Prepayment will become more of a reality only with the cooperation of all of pharmacy. Pharmacists can work together to remove the economic barrier between the patient and pharmaceutical service."

Dr. McEvilla presented many facts and figures to prove his case for prepayment of prescription services. The APhA launched a study in 1961 which included representatives from private carriers, Blue Cross, and members of the APhA interested in prepayment. The AMA was also represented. Dr. McEvilla followed with just a few of the many problems involved in making such a pilot study.

Blue Cross previously had in-hospital medication coverage and private carriers have provided "loss of income" insurance, which could conceivably be used for medication. But both groups were willing to study the feasibility and degree of public interest of prepayment.

Dr. McEvilla and the study group found that the problem of providing health services and particularly health services to all people is in fact a problem

13th ANNUAL STEPHEN WILSON PHARMACY SEMINAR

of cost. "Pharmaceutical service is a personal service. . .the very progress which makes medicine more and more valuable to more and more people makes payment of the cost more and more difficult."

There were three reasons why the study group felt the need of extended health service. "First, there is the much higher cost of health needs and services. Second, there is the wish to stop illness from depleting a source of income. Third, and most important, the public expects more care and more facilities as well as better techniques and better medication."

Pharmacists involved have tended to support a plan of prepaid prescription service, however, the problem of the professional fee posed some concern. Dr. McEvilla feels that the maximum fee must be left to the underwriter. The practitioner is, of course, free to reject or accept their findings.

Plans involving prepayment were tried, but had little success due to existing laws. However, there has been legislation passed recently on state levels allowing such pilot studies to be conducted.

ERNEST B. HOWARD, M.D.—
The AMA on Medicare

From the AMA, Dr. Ernest B. Howard, Assistant Executive Vice President, American Medical Association was to deliver his paper on "Medicine Views Future Health Programs." Instead, Dr. Brown of the AMA delivered the address.

Dr. Brown stated that we must promote the best features of the new Medicare law, but must also remain alert to bring about repeal of legislation that discriminates against quality care by eliminating individual attention and diversification. Our main fear is legislation which is the result of hasty action.

Dr. Brown (and the AMA) feel that the federal government is responsible for sharp imbalances in medical school education due to an accentuation on research. This has been the result of lucrative federal grants.

Medical insurance provides health care and health support for many. However, it will be misused by a large share of the public. The effect

of Medicare is to lower the expense of professional service to a minimum. Consequently, the physician will have a difficult time in keeping up with the increased demand for his services.

The AMA supported the Kerr-Mills proposal which would have provided health care to persons over 65 who were unable to pay their own way. However, it opposes the present King-Anderson Law (Medicare), because it provides financing of medical care to persons over 65 who are financially able to pay. In an attempt to improve present legislation, the AMA has set up committees with the U.S. Department of Health, Education, and Welfare to study ways to make Medicare a more beneficial law for those involved.

DR. AUSTIN SMITH—
Government and Industry

Dr. Austin Smith, Vice Chairman of the Board, Parke-Davis and Co. presented his paper, "The Medical Market."

Dr. Smith stated that government on all levels has become more and more interested in medical care, and is



Dr. Austin Smith speaking during the afternoon session of the Seminar.

already well-involved in this aspect with the Veterans Administration. The Public Health Service is a branch of government directly involved in health research. Indirectly, the government influences medicine through grants to expand educational facilities and medical care units.

Dr. Smith's point was that today there is a decline in the number of new products being marketed. This may be due to several factors, with both industry and government sharing in the blame. But here is existing legislation, often hastily conceived, that makes it difficult for pharmaceutical manufacturers to provide the medications required by today's physicians. This legislation has often been passed in response to pressure put to bear by citizens rightfully indig-



Mr. Robert Hills speaking on the role of the federal government in relation to Medicare.

nant, but not completely informed. Regulatory bodies too often become legislative bodies.

The Medicare field is complex, made up of a variety of different factors. Confusing this picture are the strict and sometimes ridiculous restrictions imposed upon the industry by misinformed government regulatory bodies and citizens.

DR. LINWOOD TICE—
Orientation for Professional Service

Dr. Linwood F. Tice, Dean of the Philadelphia College of Pharmacy and Science spoke at the dinner session. His address was entitled, "Orientation for Professional Service."

Dr. Tice said, "Leadership in American Pharmacy has not always managed to meet the challenge and needs of the time, and it is only in recent years that pharmacy in the United States has given clear-cut evidence of becoming a mature profession with clear-cut goals and with men who know what must be done to obtain these goals."

Pharmacists are now placed in a position where they must respond to the health needs and requirements of the people if they are to continue to merit public confidence and professional status. Pharmacists in the past have often taken positions on major health issues based, not on what is good for the people, but rather on their own immediate economic interests. This is partly why the AMA was defeated on its stand against Medicare. This provides a distinct warning for pharmacists.

Dr. Tice mentioned the need to re-evaluate the thinking in price competition. "If the charges for professional services are paid by a third party, namely government, an insurance company, or a union health plan, is the person seeking pharmaceutical service likely to go where he thinks the prices are the lowest, or is he likely to go where he knows by experience that he gets total professional attention?"

Medicare is here to stay. It may lead to full coverage by government of the costs of health care of all the Amer-



The evening was highlighted with dinner at the McGregor Memorial Conference Center.

ican people. If this is what the American people want, this is what they will get.

MR. R. BERNARD HOUSTON, Director of Social Welfare, State of Michigan was to present an address, "A State Social Welfare Director Reports." Instead, Mr. Kellogg delivered the address. Also presenting a paper was Mr. Lloyd R. Johnson, President, Michigan Nursing Home Association.

This Seminar was made possible through the co-sponsorship of the Wayne State University College of Pharmacy and the Pharmacy Alumni Association.

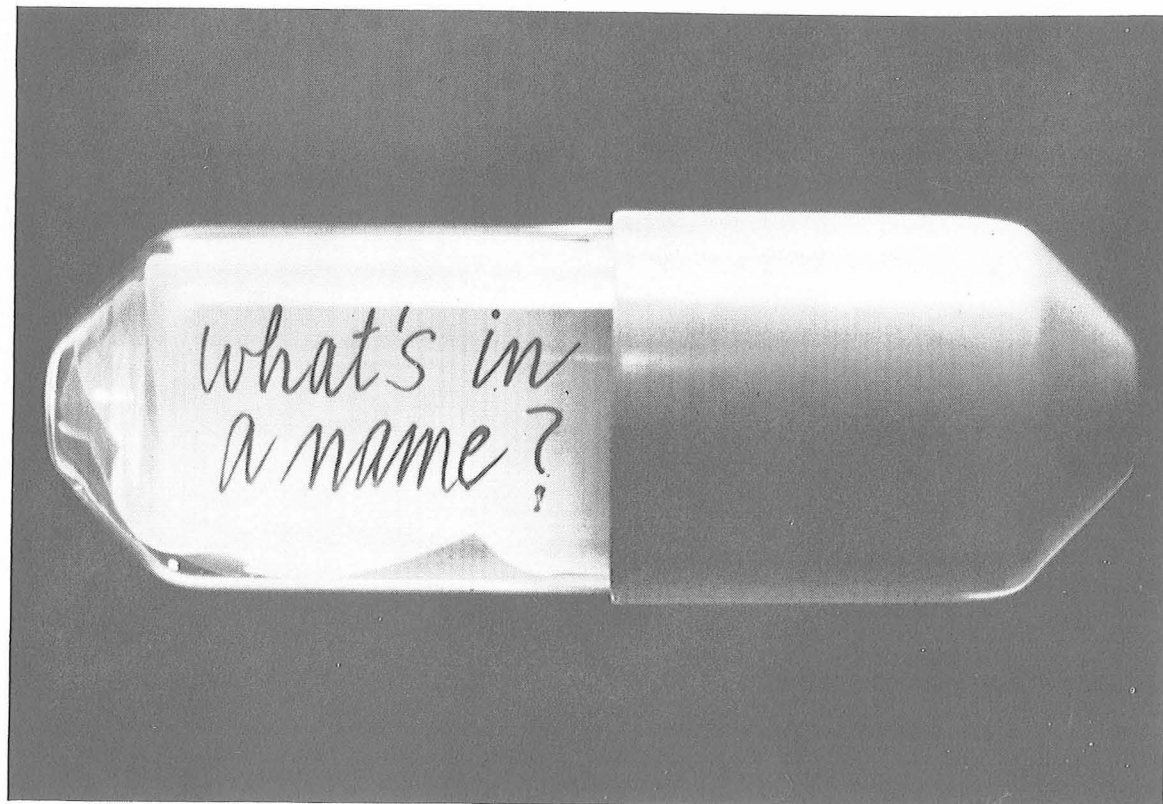
Dennis Kenealy



Mr. William Hennessy, Chairman of this year's Seminar program.



Dr. William Rea Keast, President, Wayne State University, and Dr. Linwood F. Tice, Dean of the Philadelphia College of Pharmacy and Science.



You'll be hearing a lot of talk in the time ahead about generic equivalents.

One view holds that as long as drug products carry the same generic name, they will be chemically and therapeutically alike in every respect.

Chemically alike? Maybe.

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Reason? Variations in technique of manufacturing and quality control which can affect such things as:

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- disintegration rate
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Obviously, laboratory analysis can reveal the components in a drug product. But manufacturing techniques can't be so readily learned. That's why drug products made according to techniques proven in clinical trials may perform differently than unproven chemical copies made by different processes.

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APhA REGION IV CONVENTION



Shown L to R: Fred Rizzo, Dean Martin Barr, John Jarvis, Wesley H. Stein and Signe Jarvis.

On March 3rd, 4th and 5th Wayne State University served as host for the 1966 APhA Region IV Student Chapter Convention. During the three day session, delegates from thirteen colleges of pharmacy from Michigan and the surrounding five states attended business meetings and social functions. Schools represented at the convention were Butler University (Indianapolis), Ferris State College (Big Rapids, Mich.), Ohio Northern University (Ada, Ohio), Ohio State University (Columbus, Ohio), Purdue University (Lafayette, Ind.), Toledo University, University of Cincinnati, University of Kentucky (Lexington), University of Michigan (Ann Arbor), University of Wisconsin (Madison), University of Wisconsin (Milwaukee), and Wayne State University.

Serving as delegates from Wayne State were Gary Ingram and Allen Potts. Also, William Smith from Wayne has served Region IV during the 1965-66 year as secretary-treasurer and was responsible for planning the 1966 convention. Dr. Dunker served as faculty secretary-treasurer and was advisor for the convention committee. Various members of the Wayne State student chapter of APhA and the pharmaceutical sororities and fraternities gave their support in the planning of the convention.

The highlights of the convention included a tour of Shapero Hall of Pharmacy, and Detroit's U.S. Food and Drug Administration facilities. Presentations by Parke-Davis & Co. on "The Pharmacist and Industry" and McKesson and Robbins on "The Pharmaceutical Center" were also of interest to the delegates.

Presiding over the 1966 convention was Fred Rizzo from the University of Cincinnati, who did an excellent job in conducting effective meetings and injecting the importance of APhA, its purpose and its future in the field of pharmacy. The annual Region IV convention provides an opportunity for the student chapters to get together and exchange ideas. They discuss current problems within their own colleges and also those facing the profession.

An important aspect of the convention was the report from each delegate on the activities of his chapter. Many of the chapters seemed to have the same problems. Membership in the APhA, and especially membership of the younger pharmacy students, was one of the major problems. Toledo University reported that it had some success in reaching the younger students by holding annual pharmacy days which were attended by high school students, members of the college, and those pharmacy students not in the APhA. Many chapters were involved with internship requirements within the various states. The Univer-

sity of Kentucky chapter is actively involved in the passage of a new pharmacy law in the state of Kentucky. The University of Cincinnati and the University of Michigan are trying to present health fields outside of pharmacy to their members, while Wayne State has presented interesting speakers on over-the-counter pharmaceutical items.

Many chapters also reported having social functions as a part of their activities.

One of the most important committees formed during the convention was the curriculum study committee. Their purpose was compiling information on various subjects from each of the colleges of pharmacy. This data will then be sent to Purdue University where the APhA representatives will classify all the information and present it in a report, which will be available in the fall of 1966. The major topics under discussion concerning curriculum were the required pharmacy courses, the required courses outside the college of pharmacy, the unique pharmacy courses at each college, the authors and titles of the major pharmacy textbooks, and information concerning graduate school. Also, the committee decided to conduct a study on internship requirements of the various states.

A major event during the convention was the election of officers for the 1966-67 year. At the final business session, Sam Coomes from the University of Kentucky was elected president, Sid Huling from the University of Cincinnati was elected vice-president, and John Decker from Butler University will serve as secretary-treasurer. Each of the newly elected officers then expressed their intention to coordinate Region IV activities and to promote professionalism in pharmacy.

The delegates of the convention unanimously agreed that Region IV, 1966 had been a success. Because they had the privilege of attending this convention, these future pharmacists are better equipped to understand their profession and the purpose of their professional organization—the APhA.

Sandra Sharrard

Congratulations Graduates

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Wayne State University Student Chapter

AMERICAN PHARMACEUTICAL ASSOCIATION--

MICHIGAN STATE PHARMACEUTICAL ASSOCIATION

The Student Voice of the Profession

New Faces on the Faculty

by Isa Abu-el-Hasan

JANARDAN B. NAGWEKAR, Ph.D.

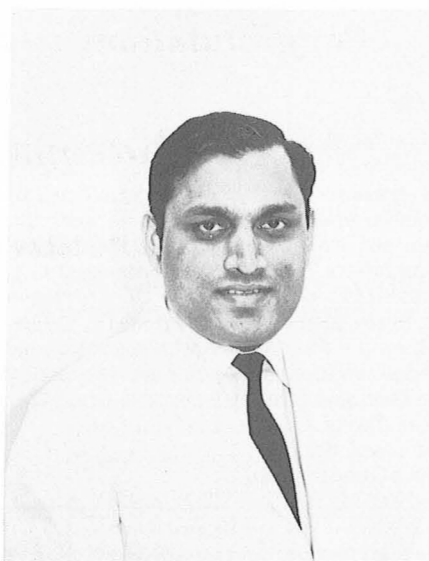
Born October 25, 1930 in Bombay, India, Dr. Nagwekar began his college studies at the University of Baroda at the age of twenty. Four years later, he received his Baccalaureate degree in Chemistry, after which he enrolled at the University of Bombay where he studied an additional two years and received a Baccalaureate degree in Pharmaceutical Technology.

Utilizing this educational background, Dr. Nagwekar worked for two years as an analytical chemist for a pharmaceutical company in India, after which he came to the United States to continue his studies. He enrolled in the Philadelphia College of Pharmacy and Science where he worked toward a Master's degree under our present Dean, Dr. Martin Barr. After completing his studies, Dr. Nagwekar went to Temple University and received a Doctoral degree in Biopharmaceutics in June, 1965.

With this illustrious educational background, Dr. Nagwekar had received several offers for work and research from leading universities throughout the country, but Wayne was his choice because, as he says, Wayne's future... "is very bright and the opportunities for work and research are very great in this rapidly growing University."

Dr. Nagwekar is a member of APhA-MSPA, and the Rho Chi Honor Society. He is a recipient of the Lunsford Richardson Pharmacy Award for his research on "Hydrophobic Bonding." He is Assistant Professor of Pharmaceutics and is currently developing a graduate program for majors in Biopharmaceutics and Kinetics of Drug Degradation and Stabilization.

Dr. Nagwekar's special message to the student body is that he urges all capable students to continue their studies in graduate programs because, "this is



Janardan B. Nagwekar, Ph.D.
Assistant Professor of Pharmaceutics



Henry C. Wormser, Ph.D.
Assistant Professor of Pharmaceutical Chemistry

the best way one can contribute and actively help the progress of Pharmacy and the drug field in all its aspects."

HENRY C. WORMSER, Ph.D.

Born September 10, 1936, Dr. Wormser spent the major part of his youth in France, his native country. He came to the United States in 1953, where he studied two more years in high school and graduated in 1955. After his graduation, Dr. Wormser enrolled at Temple University College of Pharmacy where he received his Baccalaureate and Master's degrees in Pharmaceutics. He later went to the University of Wisconsin, received his Doctoral degree in Pharmaceutical Chemistry and spent approximately two years teaching at the University's College of Pharmacy. In July 1965, "encouraged by Wayne's progress and its continuous development. . ." Dr. Wormser came to Wayne State University.

Currently, Dr. Wormser is Assistant Professor of Pharmaceutical Chemistry. He is teaching senior courses in Pharmaceutics and is planning to offer an undergraduate course in Biopharmaceutics in conjunction with Dr. Nagwekar. His graduate program includes a course in Pharmacobiodynamics. Dr. Wormser is a Registered Pharmacist and a member of APhA-MSPA. He has been attracted to pharmacy since his childhood, and when he started his college studies he became interested in pharmaceutical chemistry. Dr. Wormser says, ". . . this is the most fascinating field of scientific study. Problems usually arise in this field and it is a challenge and a delight to untangle such problems and find a solution, and by that, help pharmacy in its progress and development."

ROBERT RAVIN, M.S., R.Ph.

Mr. Ravin received his B.S. degree in Pharmacy from the University of Buffalo in 1957. He then came to Michigan, continued his studies at the University of Michigan, and received his M.S. degree in Hospital Pharmacy in 1960. Mr. Ravin is a member of several professional organizations: The Rho Chi Society, APhA-MSPA, and the American Society of Hospital Pharmacists. He is Chairman of the Safety Practices Committee (ASHP) and the Intern Study Committee (MSPA).

Currently, Mr. Ravin serves on a part time basis as assistant professor of Hospital Pharmacy, and as such, is intimately involved in the newly developed graduate program in Hospital Pharmacy at the College. He also is an instructor and lecturer at the University of Michigan College of Pharmacy, and he is Pharmacy Director at St. Joseph Mercy Hospital, Ann Arbor, Michigan.

Mr. Ravin, at the request of Dean Martin Barr, came to Wayne in 1965 to help develop and expand the graduate program in Hospital Pharmacy, a program for which there is a definite need. Emphasis is being placed on two points:

1. Most of the courses offered are to be available in the evenings so that the student can pursue a Master's degree either on a full-time or a part-

time basis without having to leave his present hospital position.

2. The program is to emphasize both departmental management and the potential role of a director of pharmaceutical services in clinical therapy.

An undergraduate course in Hospital Pharmacy (Pharmaceutics 0490) will also be offered and will, in essence, be an orientation course in Hospital Pharmacy.

Mr. Ravin strongly urges all capable students to go as far in their studies as possible. He believes that, ". . . the future of professional practices is brighter than ever before, if we will accept the challenges facing us and be willing to adapt to changes due to technological advances that are being made. The pharmacist of the future must concentrate on using his brain, not his hands."



Robert Ravin, M.S., R.Ph.
Assistant Professor of Hospital Pharmacy

Congratulations to the June Graduates

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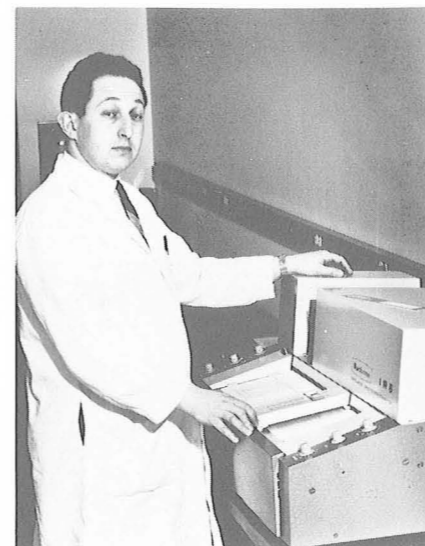
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Henry Drug Co.

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Dr. Wormser working with the Beckman Infrared Spectrophotometer.

Researchers in the health sciences have long hoped and wished that it might be possible to discover and state in precise terms some general theory to explain the mode of action of various drugs at the cellular or subcellular level. Today the possibility of achieving this goal is becoming more and more of a reality due to our deeper understanding of the fundamentals of molecular pharmacodynamics.

During the past two or three years many theories have been presented in order to try to explain the basic mechanisms of drug action. Although many of these lack the direct experimental proof required for universal acceptance, they represent a wealth of new ideas and approaches which, coupled with the techniques now available for studying molecular structures and interactions, suggests an exciting future in this area.

It is a fundamental postulate of biopharmacodynamics that there exist in living tissues and cells specific functional elements with which drugs undergo chemical reaction. Paul Ehrlich was the first to suggest that cells and tissues contained these structures which we now call drug receptors. No drug receptors have yet been isolated or identified as units either on the surface of the cell or within the cell itself. The greater the specificity required in the structure of a drug molecule to produce a given effect, the more probable it is that the effect is based on an interaction of the drug molecule with certain specific areas of tissue proteins. The ability of proteins to distinguish between closely similar structures of small molecules has also been observed in the study of the interaction between hapten and antibody, substrate and enzyme, and may be in-

Pharmacobiodynamics

by

Henry Wormser, Ph.D.
Assistant Professor of
Pharmaceutical Chemistry

involved in the carrier systems of active transport processes. Features common to most of these systems can be summarized as follows:

1. the principal attractive forces are easily broken chemical bonds;

2. the principal repulsive forces are electrical repulsions and steric hindrance;

3. the three-dimensional geometry of the protein establishes different combinations of these forces in individual cases;

4. the amino acid sequence of the protein plays a key role in establishing this three-dimensional geometry;

5. only a small fraction of the amino acid residues of the protein are directly involved in the specificity of the interaction, but some which are distant from the active site play a role in establishing the necessary geometry of the essential amino acids.

There are four main methods which have been used in the chemical study of the active site of enzymes:

1. inhibition by a group-specific reagent, protection against this inhibition by substrate being taken as evidence that the observed reaction occurs at the active site;

2. correlation of the pH dependence of catalytic activity with the pH of the groups at the active site;

3. use of a reagent which reacts at the active site to form a stable compound which on degradation can lead to identification of the amino acids in the vicinity of the site;

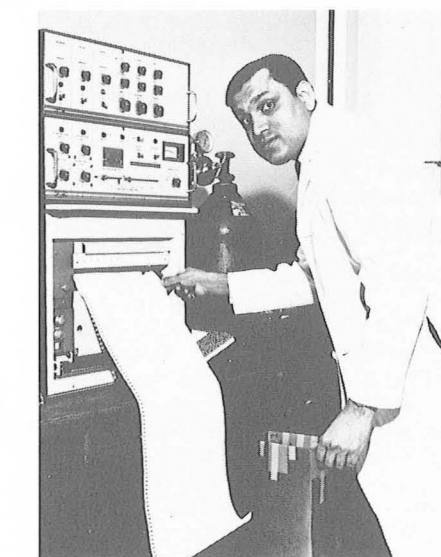
4. use of reactions which form an observable or stable enzyme-substrate intermediate whose properties can be explored.

It has also been suggested that the

active site of an isolated crystalline enzyme may not necessarily be a negative component of the substrate, but becomes so only after interaction with the substrate which triggers a conformational change in the protein. This is the "induced fit" hypothesis which calls for an ingathering of the appropriate groups of the enzyme molecule around the substrate to form the enzyme-substrate complex. Precise alignment of catalytic groups is presumably needed for enzyme action and the conformation changes leading to the correct alignment of these groups are caused by substrates and not by non-substrates. It is possible that drug receptors may be equally flexible rather than having fixed geometry.

Baker has emphasized the importance of the chemical structure adjacent to the active site. He theorizes that antagonists which already fit the active site of an enzyme stereospecifically may be made even more efficient by adding chemical groups which will be attracted by and bound to the area immediately surrounding the catalytic center. This is the concept of exoalkylation.

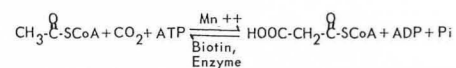
In our research laboratories the main theme is drug-enzyme active site interaction. Concentrated efforts are placed on excretion mechanisms, metabolic oxidative mechanisms and close examination of the enzymes and co-factors involved in the mechanism of



Dr. Nagwekar collecting data from the F & M Research Gas Chromatograph.

Pharmacobiodynamics (Continued)

saturated fatty acid biosynthesis. More specifically one of the programs deals with the enzyme acetyl CoA carboxylase which catalyzes the conversion of acetyl CoA to malonyl CoA, a key step in lipid metabolism:



d-Biotin serves as a catalyst for this carboxylation reaction. By modifying chemically the natural catalyst we hope to be able to probe into the portion of the enzyme essential for activity and to determine the amino acids in the peptide chain directly involved in the carboxylation reaction. Since malonyl CoA is an active intermediate in the biosynthesis of mevalonic acid which in turn gives rise to the important body sterols, this research could give some insight as to a possible control of body cholesterol.

Several drug models, which have been synthesized, are also being utilized to explain active transport of materials across cell membranes through the mediation of a carrier system. Here, urinary kinetic studies will afford data which should reveal the nature and characteristics of the carrier. Recent studies dealing with the kinetics of urinary excretion of the optical antipodes of mandelic acid in humans have

shown that the rates of excretion of these drugs are very significantly modified by a simultaneous administration of probenecid. The biological half-life of each isomer of mandelic acid is increased from three hours to six hours. It is also known that probenecid, when administered in combination with sulfonamides, decreases the rate of excretion of the sulfonamides, thereby increasing their biological half-lives. These experimental observations indicate that both sulfonamides and the mandelic acids are secreted by an active transport mechanism via the kidney tubules, and probenecid interferes with this active process.

These observations also suggest that both sulfonamides and the mandelic acids are probably secreted by the same mechanism. If this is the case, an optical isomer of mandelic acid and a sulfonamide when administered simultaneously to human subjects should compete for the secretory mechanism and increase the biological half-life of each other. By utilizing a homologous series of sulfonamides (e.g. sulfadiazine, sulfamerazine, sulfamethazine) as test compounds, this study might also provide some insight with regard to structural specificity of a drug molecule for the active transport mechanism present in the membranes of kidney tubules.

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The Upjohn Tour

Stepping out of the bright sunlight, which today was our friend, but which in days to come was to become the symbol of all that was evil, we rapidly and orderly boarded the train. The time was approximately 11:30 A.M. on October 18, 1965. Amidst the shuffling of suitcases, strangely emanating a sound which was strongly suggestive of tinkling glass, we headed for Kalamazoo, Michigan and a visitation to the Upjohn Company.

The time rapidly flew by, and as a result, the card games remained friendly and the suitcases somewhat closed. After a three hour trip, we stepped from the train into the waiting Upjohn buses. We were quickly transported to the Harris Motor Lodge where, after a brief rest in the afternoon, we were treated to one of the most delightful smorgasbords im-

aginable. Most of the students took advantage of the movie passes given them, contentedly biding their time and conserving their energy for the long night ahead. The evening festivities were climaxed in the party room of the hotel.

Monday morning began with almost one hundred per cent attendance at breakfast. Immediately after breakfast we proceeded to the Upjohn production plant where, after a brief introduction to the history of the Upjohn Company, we were divided into small groups and assigned a charming female guide. The entire day was spent in viewing the extensive manufacturing and production facilities. Capsule manufacturing, extractions, tablet and sterile product manufacturing, packaging and labeling and many other processes were viewed first hand.

Tuesday morning was enjoyably spent viewing the research facilities. Once again guides were provided, and we were presented with a first hand view of the pharmacological research facilities, product research development and evaluation, assays and quality control. The formal portion of the visitation was concluded with an unexpected explanation of some of the Upjohn policies with regard to the pharmaceutical profession. This was the result of a spirited discussion at one of the dinner tables the night before.

At about 4:00 P.M. on Tuesday afternoon, amidst the shuffling of now strangely silent suitcases, we boarded the train. The spirited, anticipating, boisterous group of two days before, now rather subdued, but nevertheless satisfied and contented, settled back into their seats for the trip back to Detroit.

We, the fourth and fifth year students who participated in this "trip" would like to thank the Upjohn Company for extending their invitation and hospitality and, also, Drs. Bailey and Nagwekar for enduring the presence of our company.



Each a specialist in his field

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GREEKS CORNER



PHI DELTA CHI

The Brothers of Phi Delta Chi, Alpha Eta Chapter, moved from their old house on West Hancock this past September. They purchased a home at 724 West Delaware, which was made possible with the Phi Delta Chi Alumni Association. After much labor, they had a permanent place of residence, at the new location approximately one mile north of the University campus.

The success of continual leadership and progress of our fraternity in Pharmacy cannot be accredited to any one member. The success of any fraternity depends on the members' cooperation in accomplishing the goals set forth in their professional endeavors. Much credit must be given to the officers of the fraternity. Serving as President of our fraternity for the '65-'66 school year is Ronald Ponichter. Working with Ron this year are Charles Weinert, Vice-President; Tom Rolands, Treasurer; Denniz Kenealy, Correspondent; Michael Zmich, Recording Secretary; and John Jarvis, Chaplain. The Brothers of Phi Delta Chi thank each of these officers for outstanding leadership.

The pledge program for the Fall Quarter was conducted under the able supervision of Brothers Dave Little and Jack Cronk. Their effort was rewarding as six pledges were initiated into the fraternity at the end of the Fall Quarter. The new Brothers are Kenneth Bortnem, Gary Ingram, Bill Kahn, Dennis Lisagor, Carlos Ortiz and Tim Redman. The Brothers of Phi Delta Chi welcome these new members and, along with them, pledge their support to the professional activities of the College during the remainder of their academic career.

The fraternity has a large graduating class this June; among them are many outstanding leaders in the College of Pharmacy. Recognition goes to Zack Gill, Tom Graham, John Jarvis, Bill Kiley, Fred Lane, Carlos Ortiz, Walter Peregon, Kenneth Schultheis and Michael Zmich. Daniel Bazner was the only graduating senior from Phi Delta Chi in December. Special recognition goes to these graduating seniors: John Jarvis, APhA President, Co-editor of the Pharmic; Kenneth Schultheis, President of the

Student Advisory Board, College of Pharmacy Representative to the Student-Faculty Council, and Co-editor of the Pharmic; Walter Peregon, Student Advisory Board Representative.

Athletic competition between Phi Delta Chi Fraternity and the Kappa Psi Fraternity has been reinstated during the past two quarters. These spirited football and basketball games have provided Phi Delta Chi with two more trophies which are well polished daily. These activities are in keeping with the maintenance of physical fitness as well as mental alertness.

As many people in Detroit have read in an article appearing in the Detroit News, January 11, 1966, four members of Phi Delta Chi went to the Annual Convention in Philadelphia and brought back the 1967 Convention to Detroit. Our hats are off to Ronald Ponichter, Kenneth Schultheis, Dennis Kenealy and Mel Dailey. Mayor Cavanaugh also expressed his gratitude to Phi Delta Chi for keeping the wheels of progress in Detroit moving.

The night of April 16, 1966 should bring back memories to many individuals, for on this night the "Vegas Venture" was held at the new fraternity house. We will always remember it as a wonderful and a very successful evening. Adding to the current news, the formal banquet of the Phi Delta Chi Fraternity will be held at the Rathskeller on June 18, 1966. The banquet represents the formal initiation of all new members for the year '65-'66.

The Brothers of Phi Delta Chi would like to express their thanks and gratitude to Dr. Richard K. Mulvey for his continued friendship and guidance throughout the past year.

Kenneth Bortnem

RHO PI PHI

The 1965-1966 school year proved to be a very successful one for the brothers of Xi Chapter of Rho Pi Phi International Pharmaceutical Fraternity. Both the brothers of Rho Pi Phi and the College of Pharmacy were fortunate in acquiring Dr. Henry Wormser, who is the faculty advisor to Xi Chap-



PHI DELTA CHI

Back Row (L to R): Al Watson, John Lozen, Tom Hanchon, Tom Graham, John Chinonis, Gary Ingram, Ken Bortnem.

2nd Row (L to R): Walter Peregon, Ron Ponichter, Dennis Kenealy, Herb DeLong, John Jarvis, Zack Gill, Bob Glinski.

1st Row (L to R): Tom Rolands, Paul Munzenberger, Jack Cronk, Fred Lane, Carlos Ortiz, Tim Redman, Ken Schultheis.

Not Shown: Mel Dailey, William Kahn, Bill Kiley, Dave Liley, Dennis Lisagor, Dave Little, Bill McLay, Ted Ouellette, Bill Robinson, Paul Taube, Dan Tedder, Jim Wallace, Charles Weinert, Michael Zmich.

ter and is Assistant Professor of Pharmaceutical Chemistry at the College.

In the fall quarter, 1965, the active members, along with the alumni, entertained the pledges at a rush party at Larco's Inn, where a very enjoyable evening was had by all. Guest speaker for the event was Dr. Janardan Nagwekar. Another highlight of the fall quarter, the Upjohn trip, was both an educational and enjoyable experience for the Rho Pi Phi actives who made the trip.

Officers for 1965-1966 were Joe Silverstein, Chancellor; Sander Fields, Vice-Chancellor; Al Winer, Scribe; Gary Smith, Exchequer; Leonard Tracht, Historian; and Yale Hechtman, Pledge Master.

The members of Rho Pi Phi also performed two community service functions. One of these was noting the importance of Poison Prevention Week and making it known to other students at the University. This was accomplished with the help of a showcase in State Hall depicting the importance of poison pre-

vention and by the distribution of leaflets to the students.

A second community service included a toy drive held by the Chapter. The toys were collected from Alumni members and fellow university students, who made their contributions by dropping them in a collection box in State Hall. After their collection, the toys were donated to the Childrens Hospital in Detroit.

The Brothers of Rho Pi Phi wish to extend to their graduating brothers, Mike Marx, Al Margolis, Leonard Tracht, and Ralph Kaye, the best of luck.

Sander M. Fields

KAPPA PSI

Kappa Psi has grown during the past year as we added twelve new members from our Spring and Fall, 1965 pledge classes. They are Jerry Cacciaglia, Phil Cole, Tom Cummings, Al Mousty, Ed Posuniak, Ken Resztak, Jerry Savel, Ken Sayes, Bill Smith, Larry Timek, Al Trager, and John Triantaflos.

We held a fraternity picnic at Brother Pete Krajewski's cottage during the summer, and everyone had a good time. During the Fall quarter, we participated in a reception for new pharmacy students at the Alumni Lounge. The break for the holidays was highlighted by a Christmas and a New Year's party.

A few of the members went to the national convention of Kappa Psi in San Francisco during the week between Christmas and New Year's and, from what the rest of us can gather, they had a great time. Our new officers for 1966 were installed in January and they are: Phil Cole, Regent; Al Mousty, Vice Regent; Ken Sayes, Treasurer; Tom Cummings, Secretary; Al Trager, Chaplain; Paul Anderson, Historian; and Ed Posuniak, Sgt. at Arms.

The chapter was well represented at the Annual Stephen Wilson Pharmacy Seminar in February. Our coming events include the Kappa Psi Province convention in Cincinnati during the spring break, and our spring pledge program. Our June graduates for 1966 include: Anthony Boutt, Eugene Coe, Gerald DuFresne, Pete Krajewski, Richard Sawicki, and William R. Smith. Jim Henderson, Al Potts and Ben Price will graduate in December.

In closing, the men of Mu Omicron Pi Chapter of Kappa Psi wish to congratulate the graduates of 1966. We know they will go on to make the profession of Pharmacy better for those of us who will enter in the years to come, as well as for the public in their associations with the profession.

Paul Anderson

ALPHA ZETA OMEGA

L - R: Stanley Remer, Ernest Gurwich Milton Stern, Harvey Williams, Mike Magner, Philip Kraft, Harvey Klein.

Not Pictured: Fred Band, Fred Lindstrom, Bernard Friedman, Gary Helper.



ALPHA ZETA OMEGA

This year has proved to be successful, even though there have been numerous obstacles to overcome. Class schedules and working hours have made meeting in school difficult, however, the chapter has been able to continue its operation by meeting at different members' homes.

A highly successful smoker was held at the Northland Inn early in September and three promising pledges were signed. The three included Milton Stern, Harvey Klein, and Mike Magner. Also, during the fall quarter, Phi chapter along with their Alumni held a banquet at Larco's Inn. Winter quarter for the most part was a quiet one, and one in which the fraters were able to catch up on their studies. However, we were able to let loose one night and held a stag dinner in behalf of Sheldon Levine's forthcoming marriage. During the winter quarter break another Phi Chapter dinner was held. This took place at the King's Arms. Dean Martin Barr and Supreme Directorum of Alpha Zeta Omega Herbert S. Garde were honored guests.

This year as in past years in AZO, the scholarship of its members is the most important thing on the agenda. This year's recipient of the AZO scholarship award was presented to Stanley Remer, acting Directorum of Phi Chapter.

As the end of the fraternal year 1965-1966 approaches we of Phi Chapter find ourselves heading for a year of great reconstruction. Four of our senior members who have held important positions throughout the past year are graduating; Gary Helper (Signare), Fred Lindstrom (Treasurer), Bernard Friedman (Bellarum) and Fred Band (Pledgemaster). Although it will be hard to replace these four, the small but hard core nucleus that will be back next year will do much to keep Phi chapter as one of the most active on campus. The men returning next year are Stanley Remer, Philip Kraft, Milton Stern, Harvey Williams, Harvey Klein, Ernest Gurwich and Mike Magner.

Stanley Remer

LAMBDA KAPPA SIGMA

As Lambda Kappa Sigma is the only pharmaceutical sorority on campus for the fellowship of women in pharmacy, the "weaker sex" has continued to serve in various activities at Shapero Hall. The sorority also provides for active participation in leadership positions and educational activities.

The Lambs welcome the new members who pledged in the Fall; Barbara Wilczynski, Alice Rice, Rosemary Bonnett, and Eva Witeczek. A "Little Sister-Big Sister" dinner was held in their honor, and formal initiation took place at the Park Shelton.

Projects for the year include making old fashioned rock candy using volatile oils and a contribution to the S.S. Hope. The sorority served to help at the pre-pharmacy reception in the fall quarter, the Annual Stephen Wilson Seminar, and the Region IV meeting of the student APhA.

Several members are also active in other organizations: Pat Burr, Chapter President, is Secretary of the student APhA-MSPA Chapter on campus; Gerri Bielak, Vice-President, is treasurer of the student APhA-MSPA. Kay Taylor, Treasurer, and Pat Burr are also members of the Student Advisory Board.

We wish to congratulate all of our graduating senior members: Gerri Bielak, Pat Burr, MaryAnn Dziurlikowski, Jan Hunter, Esther Rose and Lottie Samul, as well as the entire class of 1966.

Lottie Samul

Congratulations

Graduates

ALPHA ZETA

OMEGA



Compliments of Omicron Chapter

LAMBDA

KAPPA SIGMA

SORORITY



CONGRATULATIONS TO THE GRADUATES

RHO PI PHI

FRATERNITY

Xi Chapter



PHI DELTA CHI

The Professional Fraternity of Pharmacy



Ken Bortnem

John Chinonis

Jack Cronk

Mel Dailey

Herb DeLong

Zack Gill

Bob Glinski

Tom Graham

Tom Hanchon

Gary Ingram

John Jarvis

Bill Kahn

Bill Kiley

Dennis Kenealy

Fred Lane

Dave Liley

Dennis Lisagor

Dave Little

John Lozen

Bill McLay

Paul Munzenberger

Carlos Ortiz

Ted Ouellette

Walt Peregón

Ron Ponichter

Tim Redman

Bill Robinson

Tom Rolands

Ken Schultheis

Paul Taube

Dan Tedder

James Wallace

James Watson

Charles Weinert

Mike Zmich

Dr. R.K. Mulvey
(Advisor)

VEGAS VENTURE



Pharmacy students with millions of dollars??? It seems quite impossible, but it happened April 16, at the Vegas Venture. The only problem was that the portrait on the \$100,000 bills featured a mortar and pestle instead of Woodrow Wilson. The currency may not have been authentic, but there was no doubt about the fun. It was genuine in every way.

The event was held at the Phi Delta Chi House (Detroit's answer to the Stardust). Gambling equipment and decor were brought in just for the occasion, or so we were told! Most important, the casino atmosphere was present. Millions of dollars were bet on the roll of a dice and the turn of a card. The guests quickly became proficient at figuring the number of \$100,000 bills per million. The professional way in which the gamblers handled themselves demonstrated the broad educational background the pharmacy curriculum affords. Veteran Blackjack dealer, Leonard Tracht had the opportunity to exhibit his skill with slight-of-hand card tricks (part of his intern training?) Meanwhile at the Craps table, John Jarvis kept repeating something about his "baby needing new shoes."

Dr. Dunker represented the faculty at this affair. Meeting instructors at a social gathering gives the students an opportunity to talk with faculty members on a more informal basis. Anyway, it is much more pleasant to talk about the odds for roulette than the odds for passing a course.

At midnight, the gifts were auctioned to the highest bidders. The prizes included electric toothbrushes and razors, a hair dryer, an electric carving knife, an FM radio, and a genuine Zorro lunchbox.

And so, for one night, pharmacy students were millionaires.

Students Are . . . The College of Pharmacy

Juniors

Sandra Sharrard

The Junior Class of Wayne State's College of Pharmacy is composed of approximately thirty members. These students come from diversified backgrounds, have varied interests, and comprise different philosophies of life, but they are united in one common goal—to become a pharmacist. These young men and women, the future of the pharmaceutical profession, are proud of their chosen profession and anxious to do their best in their studies and activities in the College.

The following are some interesting statistics concerning the Junior Class. Out of approximately thirty members, 24 per cent are women. The class can be proud that 56 per cent belong to the APhA, and 48 per cent are members of the Greek organizations in the College. Of the 47 per cent who are practicing externs, 29 per cent are externing in a hospital pharmacy. It is also interesting to note that only 8 per cent of the third year students are from areas other than Detroit and the surrounding suburbs.

While all the members in the Junior Class are taking the same classes and are involved in many of the same activities, each person has his own special interests. Ken Bortnem has an extensive coin collection and sings part-time in a religious trio. He is active in the APhA and Phi Delta Chi. Sue Chenevert belongs to a Bowling League and enjoys reading, sewing and cooking. Ron Coleman is a member of Alpha Phi Alpha. He enjoys fishing—anytime and anywhere.

Tony Ghassoub from Lebanon is one of the few in the class who are from outside Detroit. When he finishes his education at Wayne, he plans to return to Lebanon and become a practicing pharmacist. Bob Glinski is an accomplished musician with an ability to play the piano, trumpet, accordion and baritone sax. He enjoys sports and is active in many campus organizations including APhA, Phi Delta Chi, and the Newman Club. Ernie Gurwich is a member of Alpha Zeta Omega. Yale Hechtman is quite a talented amateur photographer. He is active in the APhA, Rho Pi Phi fraternity and the "Pharmic" staff. Gary Ingram is a member of APhA and Phi Delta Chi. He served as one of Wayne's delegates to the APhA Region IV student convention in March, 1966. He enjoys sports and hunting. Elizabeth Kereji works part-time with the University's registration office and is a member of APhA.

John Krohn externs in Livonia and enjoys deer hunting. Dennis Lisagor lives in Oak Park, but is originally from West Virginia. He is a member of APhA and Phi Delta Chi and participates in rifle competition. Pam Morrison is active in the APhA, Alpha Delta Pi and the "Pharmic" staff. She dances with the USO group from Detroit and has gone on many tours with this group. Al Mousty is a member of APhA, Student Advisory Board, and is vice-regent of Kappa Psi. His hobby is playing the drums.

Paul Munzenberger is a member of APhA and Phi Delta Chi. He enjoys sports of all kinds. Joe Ponchart is a member of APhA and Kappa Psi. He is a ham radio operator and likes to race sports cars. Mike Preuss enjoys snow skiing and is a member of APhA and Kappa Psi. Tim Redman holds memberships in APhA, Phi Delta Chi, YMCA and serves in the Naval Reserve, Submarine Division. He likes folk music and collects stamps, coins, and navy postmarks.

Gerry Savel is a member of Kappa Psi and is a motorcycle enthusiast. Vera Sawchuk is a member of APhA, active in the WSU's Ukrainian Student's Club, and a leader of a Ukrainian Girl Scout troop. Susanne Rosenberger has been very active in the WSU Trampoline and Gymnastics Club. She is an accomplished pianist. Milt Stern belongs to the APhA, Alpha Zeta Omega and the "Pharmic" staff. He enjoys swimming, weight lifting and art. Kay Taylor belongs to Lambda Kappa Sigma, is secretary of the APhA and the Student Advisory Board as well as a state official in the association of Rainbow Girls. Chuck Weinert is a member of the APhA and vice-president of Phi Delta Chi.

During 1966 the members of the Junior Class spent an enriching year and experienced many new and varied events in their first year of professional studies. They are well on their way toward a successful pharmaceutical education.

Graduating Seniors

by Dick Sawicki

In today's complex society, each of the seniors has reached another crossroad in their lives. Graduation from Wayne's College of Pharmacy is such a crossroad. Many avenues are open to the graduates such as continued education, military service for our country, research in pharmaceutical industries, medical service representatives, community pharmacy practice and hospital pharmacy. Many of the class members are still undecided as to their immediate future with their military obligation still facing them. Time seems to be the only

answer to this ever increasing, perplexing and involved situation.

Our graduating class is very diversified in its outlook for the future. To show this diversification of our graduates in the professional fields of pharmacy open to them, a brief look at some of the possible endeavors of our graduates will be presented.

Don Autio will finish his internship at Providence Hospital. He will continue his education in "Pharmaceutical Chemistry" with the hope of someday teaching pharmaceutical chemistry.

Kathy Sugierski will finish her internship at St. Joseph Hospital in Mt. Clemens. Kathy, on August 13, 1966, will obtain her second degree. This one bestowed upon her will be the degree of "Mrs." Raymond Polidori. Congratulations to both you and Ray.

Mike Zmich will finish his internship at Nottingham Pharmacy. He plans to join the Navy in January, 1966 as a pharmacist mate.

John Jarvis has earned the respect of each member of the senior class for his determination to obtain a degree in Pharmacy. A second degree should be awarded to John's wife, Signe. Congratulations John, to you, your wife and five children. Community pharmacy is John's desire for the future.

Tony Boutt will finish his internship at Deaconess Hospital. He will enter Wayne's Medical School in September and will continue to work both in the lab and the pharmacy at Deaconess.

Allen Margolis plans for a future in community pharmacy practice. He claims that teaching may be another of his endeavors and may attempt to teach on a part time basis.

Frank Pruitt will finish his internship at Mt. Carmel Mercy Hospital. His draft classification at the present time is 1A, therefore, any immediate plans are made day by day.

Carlos Ortiz is strongly looking toward a job in the "Peace Corp". If this does not work out, he will try to enter medical school at Arizona State College and hopes to someday return to Puerto Rico and practice there.

Bernie Friedman has planned to enter D.O. school in January, 1967. He will continue to work at Arnold Drugs to finance his education.

Pete Krajewski is seriously thinking of entering the military service. He hopes to continue his education in hospital pharmacy someday.

No matter what area of pharmacy we go into, we must always remember that we are now professional men and our everyday actions should be in accord with our high professional standards and ethics. Our profession can only be as good as the men in it.

Graduate School

by Fred Kamienny

Every day of every month of every year, new and more beneficial pharmaceutical preparations find their route to become tools of the health professions. It is the pharmacist who is at both ends of these new preparations, discovering and testing, and dispensing to the patient. If you will be vocationally satisfied in dispensing these fine pharmaceuticals, then, upon graduation, community or hospital practice should be your endeavor. However, if you are an individual who would rather help in the discovery of new pharmaceuticals, who would rather aid in the uncovering of the basis of a drug's pharmacological actions, who would rather determine new analytical procedures for a drug, or who would just like the challenge of the unknown, graduate school is eagerly awaiting your arrival.

Today, the opportunities for an individual with a pharmacy degree past the baccalaureate are unlimited. It is not only the direct applications of pharmaceutical education to be used in the pharmaceutical houses of the world, but indirect applications are more numerous. Some may be mentioned: the fields

of the paint chemist, the photographic and surface chemist, the organic chemist, the botanist, the administrator, and so on ad infinitum.

However, there is a price to pay in order to obtain any of these opportunities. As the old maxim of Publilius Syrus denotes, "Everything is worth what the purchaser will pay for it." Or as Miguel de Cervantes in Don Quixote said, "It is past all controversy, that what cost dearest is, and ought most to be valued." Pharmacy graduate school will take 1-5 years spent as a full-time student, the exact time varying with the degree sought and the time required for research.

Admission to graduate study requires the student to have the equivalent of a baccalaureate degree and adequate preparation and ability to pursue graduate study in the major field selected. The College of Pharmacy at Wayne State University offers a Master of Science program in hospital pharmacy, pharmacognosy, pharmaceuticals, pharmaceutical chemistry, pharmacology, and pharmaceutical administration. The Doctor of Philosophy program also is offered.

Honors Convocation

Since 1954, the College of Pharmacy has held Honors Convocations to recognize students outstanding in academic and extra-curricular activities. These provided a more intimate recognition than was possible at the large honors program sponsored by the University. In 1966, the University is suspending its Honors Convocation, and probably will not list the award winners in the commencement program. Our College program now assumes a greater significance.

Our early College convocations were held in one of the lounges in Mackenzie Hall and later in McGregor Memorial Center or in the Alumni Lounge. Beginning in the spring of 1965, the convocation was held for the first time in College facilities in the lecture room in Shapero Hall.

Our first fall awards were presented October 8, 1957, at a special Pharmacy Week meeting sponsored by the Student Chapter of the American Pharmaceutical Association. In the Fall of 1959 a somewhat enlarged convocation was held during National Pharmacy Week under joint sponsorship of the Student Chapter and in 1960, entirely under the sponsorship

(Continued on page 22)

Congratulations
and best wishes to the
1966 Pharmacy Graduates
from your
PHARMACY
ALUMNI
ASSOCIATION
Your 1966 membership
to the association is our
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for joining the ranks
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from the Student Advisory Board

Ken Schultheis
President

Fred Lindstrom
V.P.-Treasurer

Kay Taylor
Secretary

Pat Burr

Ben Price

Anthony Boutt

Don Autio

Walter Peregón

Fred Kamienny

John Jarvis

Al Mousty

Michael Marx

Jack Cronk

Fred Band

WOULD YOU BELIEVE?

by
Kathy Sugierski
and
Carlos Ortiz

Professor Dauphinais as a consultant for McGregor Sweaters, Inc. . . .Dr. Mulvey as the head of a notorious ring of dog-nappers. . . .Mr. Delbert Konnor as a go-go dancer at the "Hello Dolly". . . .Ken Schultheis as a priest. . . .John Jarvis as a celibant monk. . . .Mrs. T. as a consultant for Banner Linen Company. . . .Fred Band as a laboratory instructor in Dispensing Lab. . . .Al Margolis as a butcher. . . .Bill McLay working for the U.S. Public Health Service. . . .Jim Henderson as the leader of "Hells' Angles". . . .Jan Hunter winning \$32,000 in the pro golf circuit. . . .Ted Ouelette as the treasurer of the S.A.B. . . .Dr. Dunker being replaced by a computer. . . .Walt Peregón being a photographer for "Playboy" Magazine. . . .Benny Price making a speciality of dancing on chairs. . . .Bill Smith and Al Potts taking baths in liquids other than water. . . .Would you believe: Carlos Ortiz has just won the Jim Causley safe driving award. . . .Tom Rolands, Bill McLay and Dan Tedder are experts at breaking into locked cars. . . .Tony Boutt still uses that greasy kid stuff. . . .Bill Kiley was the Pistons' first draft choice this year. . . .Ken Schultheis receiving his master's degree in History of Pharmacy. . . .Dean Barr as basically an electrician. . . .Would you believe anyone throwing a toga party on the Upjohn trip. . . .Mike Zmich buys his shoes for comfort and sweaters for warmth. . . .

Fred Lindstrom as Mr. Barbara Pavich. . . .Timek getting less than a B. . . .Al Trager using his own notes and books. . . .Mel Boyer winning the College of Pharmacy well dressed man of the year award. . . .Phil Kraft as a biochemistry major. . . .Sandy Sharrard initiating a panty raid in Helen Newberry Joy Dorm. . . .Lottie Samul growing her own opiates on the farm. . . .Jack Cronk starting a new band---the Marijuana Brass. . . .Bob Glinski as a future Bobby Baker. . . .Would you believe: Mark Balmer as Elmer Gentry. . . .Mike Marx the Clyde Beatty of Pcl. Lab. . . .Zack Gill as a green beret. . . .Tom Hanchon as an instructor at Vic Tannys'. . . .Chester Scott as a future Mitch Miller. . . .Kathy Sugierski the founding member of Kappa Epsilon sorority. . . .Mary Ann Dziurlikowski opening the "His and Hers Pharmacy". . . .Would you believe: Dick Sawicki as the ring leader of the Detroit chapter of the Sharks. . . .Milt Stern as a beatnik art student. . . .Gerald DuFresne and Gary Helper as the two, caped crusaders fighting a never ending battle for truth, justice and the APhA. . . .Charlie Weinert can't dance. . . .Bernie Friedman as another Walter Mitte. . . .Ian MacGillivray as captain of the Mousketeers. . . .Don Gitersonke starting a correspondence course in physics with "discounted" rates to all seniors. . . .Fred Beuthin the father of quints. . . .

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Stanley Iczkovitz, R.Ph.

Honors Convocation

(Continued from page 20)

of the College. The awards presented in the fall were primarily tuition scholarships. This year, the Fall 1965 and Spring 1966 Honors Convocations were combined on Tuesday, May 31, from 11:30 a.m. to 1:30 p.m. Since last spring, public address equipment has been donated and installed in the lecture room, improving the usefulness of the room for large functions.

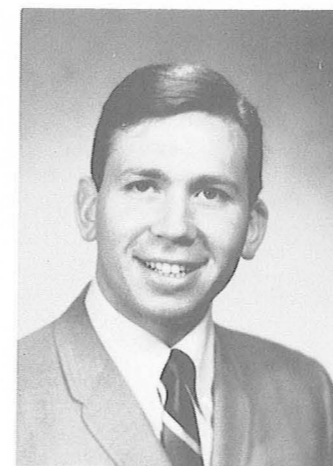
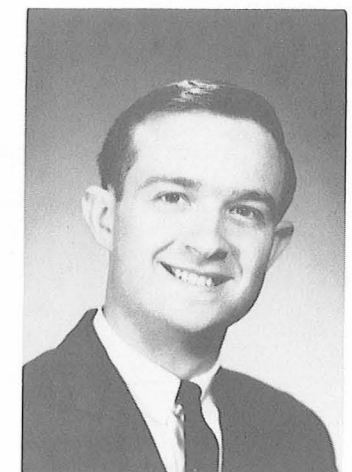
The faculty and student organizations will have an opportunity to recognize academic achievement of both graduating seniors and outstanding under classmen, and various groups will recognize student members for their extra-curricular activities in the sorority, the fraternities, and College activities.

The occasion is always a pleasant one to which parents and friends of the recipient are invited. The faculty has the opportunity to meet with some of the parents under more favorable conditions than at University Commencement.

'65 Graduating Seniors '66

Donald E. Autio
23; Single
Rho Chi
APhA

Mark Balmer
22; Single
Wayne Christian
Fellowship
APhA

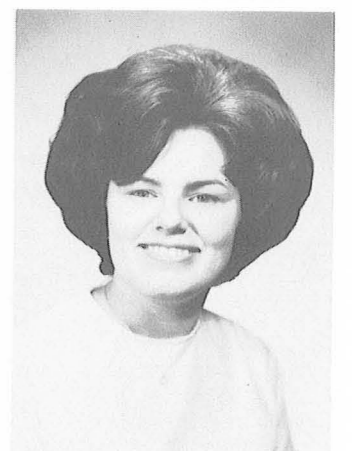


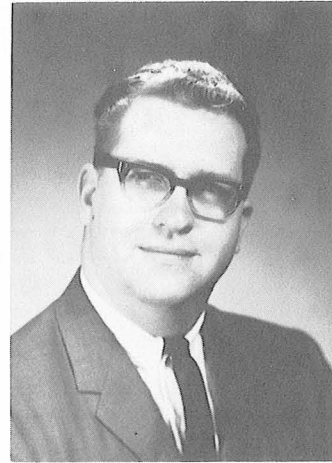
Frederick Band
24; Single
Kappa Psi
Student Advisory Board
APhA

Geraldine Bielak
23; Single
Lambda Kappa Sigma
Student Advisory Board
APhA

Anthony E. Boutt
23; Single
Kappa Psi
Student Advisory Board
APhA

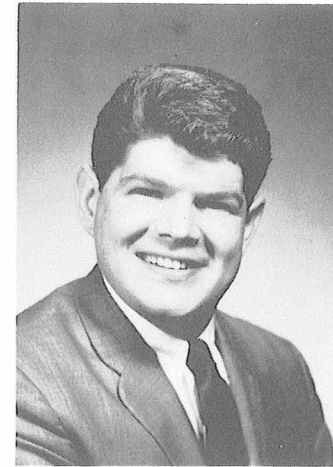
Patricia A. Burr
23; Single
Lambda Kappa Sigma
Student Advisory Board
APhA





Eugene A. Coe
22; Married
Kappa Psi
APhA

Gerald DuFresne
23; Married
Kappa Psi
Student Advisory Board
APhA

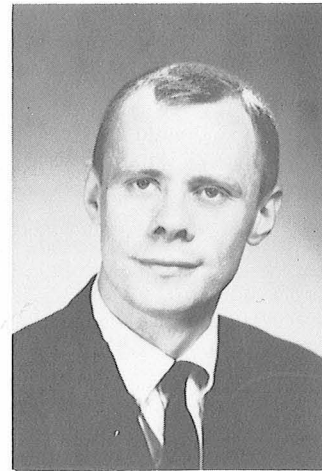
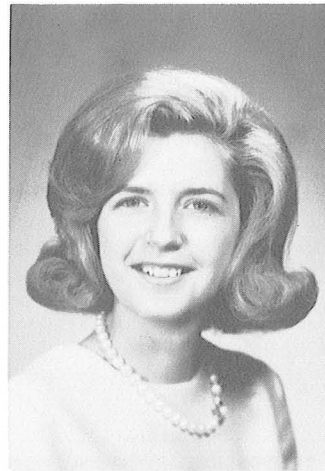


James Henderson
26; Married
Kappa Psi
APhA

Phyllis Jan Hunter
23; Single
Student Advisory Board
APhA

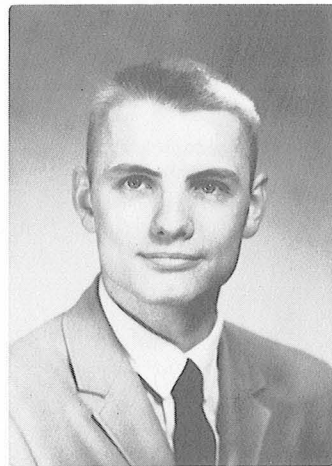
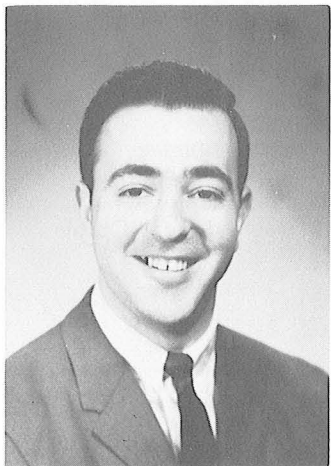
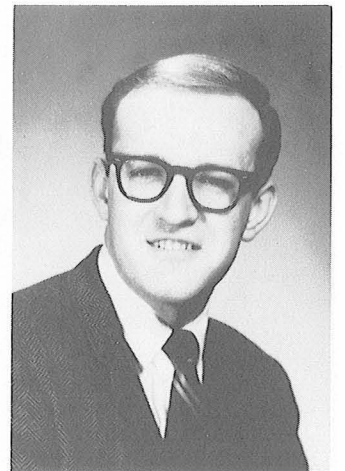
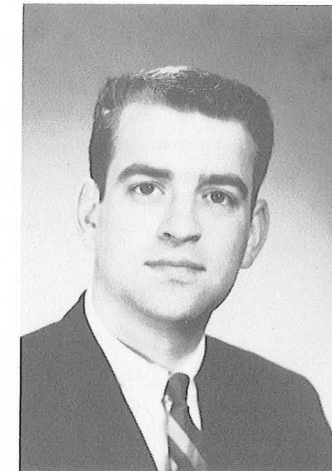
Mary Ann Dziurlikowski
23; Married
Lambda Kappa Sigma
Student Advisory Board
APhA

Barron Fill
23; Married



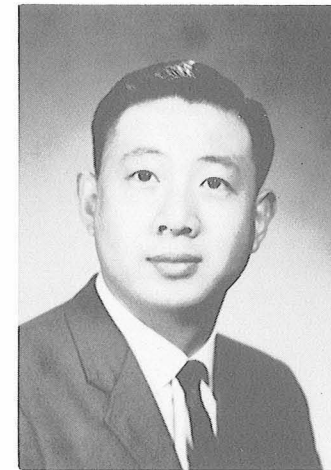
John G. Jarvis
26; Married
Phi Delta Chi
Student Advisory Board
Wayne Pharmic
APhA

Peter Krajewski
23; Single
Kappa Psi
APhA



Bernard Friedman
24; Married
Alpha Zeta Omega
APhA

Zack Gill
22; Single
Phi Delta Chi
Wayne Christian
Fellowship
Wesley Foundation
APhA

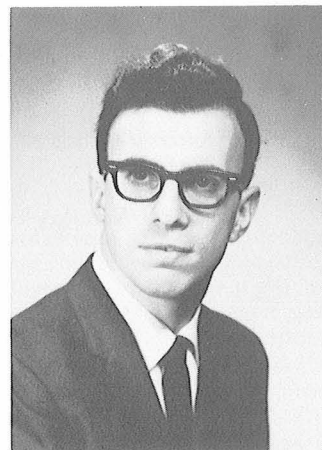
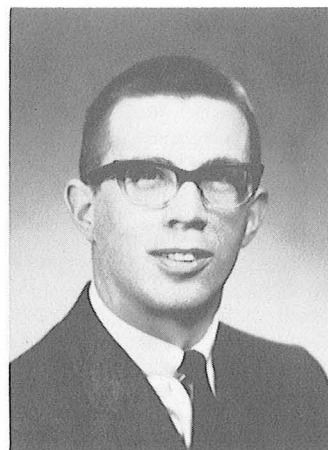


Fred S. L. Lane
29; Single
Phi Delta Chi

Fred Lindstrom
24; Single
Alpha Zeta Omega
Student Advisory Board
APhA

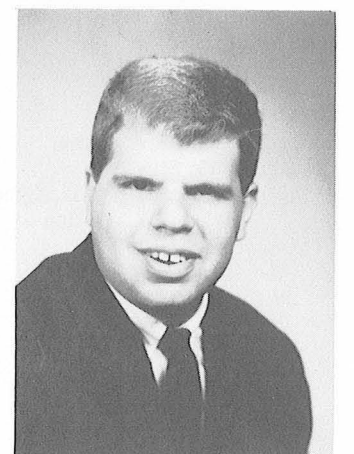
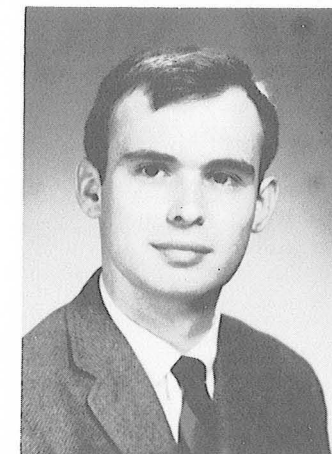
Thomas Graham
25; Married
Phi Delta Chi
APhA

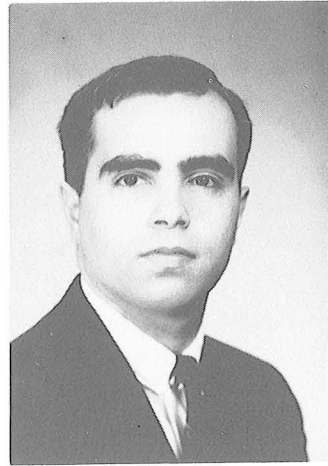
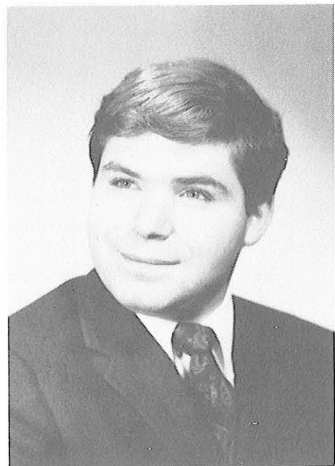
Gary Helper
23; Single
Alpha Zeta Omega



John M. Lozen
23; Married
Phi Delta Chi
APhA

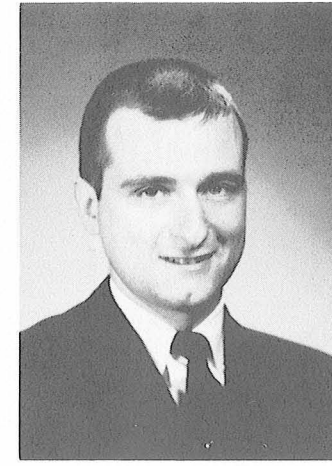
Allen Margolis
22; Single
Rho Pi Phi





Michael Marx
23; Single
Rho Pi Phi
APhA

Carlos Ortiz
22; Single
Wayne Pharmic
Phi Delta Chi
APhA



Kathleen Sugierski
21; Single
Wayne Pharmic
APhA

Leonard A. Tracht
24; Single
Rho Pi Phi
APhA

Kenneth P. Schultheis
24; Single
Phi Delta Chi
Student Advisory Board
Student-Faculty Council
Wayne Pharmic
APhA
Omicron Delta Kappa

William R. Smith
24; Single
Kappa Psi
Student Advisory Board
Wayne Pharmic
APhA

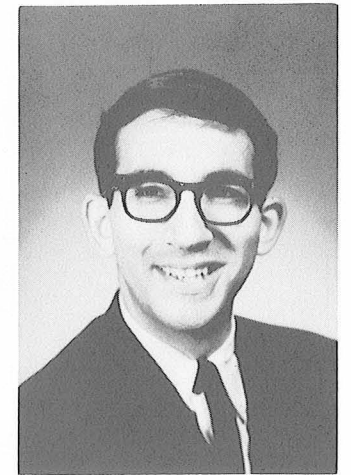
Walter J. Peregón II
23; Married
Phi Delta Chi
Student Advisory Board
APhA

Benjamin A. Price
23; Single
Kappa Psi
Student Advisory Board
APhA



Franklin Pruitt
23; Married
Omega Psi Phi
APhA

Esther M. Rose
22; Married
Lambda Kappa Sigma
APhA



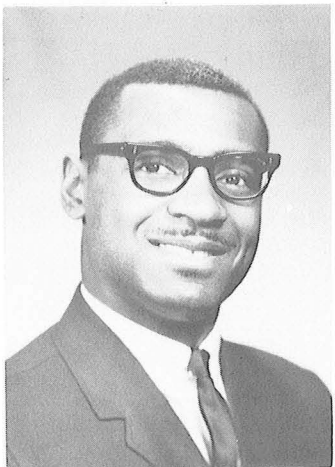
NOT PICTURED

George Bachoua
22; Single

Ralph Kaye

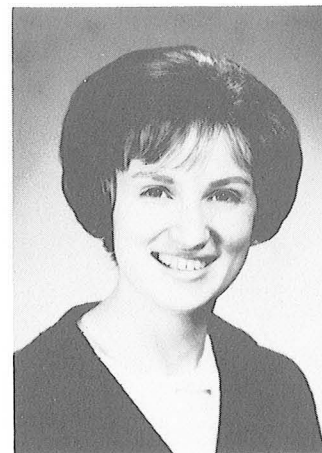
William Kiley
24; Single
Phi Delta Chi

Michael Zmich
24; Single
Phi Delta Chi
APhA



Lottie A. Samul
22; Single
Lambda Kappa Sigma
Wayne Christian
Fellowship
APhA

Richard Sawicki
23; Single
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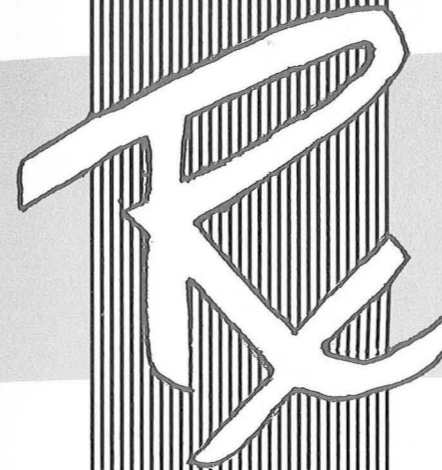
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