Dr. Harnwell To Retire in 1970

Dr. Gaylord P. Harnwell, president of the University of Pennsylvania, has publicly announced his intention to retire from the presidency of the University on or around his 67th birthday on September 29, 1970. Dr. Harnwell has said that the precise effective date of his retirement should be set so as to be convenient to his successor.

At earlier meetings of the University Trustees, Dr. Harnwell had reminded them that in his initial agreements with the representatives of the Trustees, he had said he would raise with them the question of retirement upon his reaching the age of sixty-seven. At previous meetings he had also asked that the Trustees give early consideration to any desirable redefinition of the purview and responsibilities of the position, its relationship to the Trustees and its Chairman and to the University's senior supporting administrative structure.

A working committee on criteria and procedures related to the selection of a new University president is being established under the chairmanship of William L. Day, chairman of the Trustees of the University. This committee, which will include Trustees, members of the faculty, and students, is expected to complete its work within five or six months, at which time a search committee will be appointed.

Named to the working committee are Trustees Henry M. Chance, II; Robert G. Dunlap; Paul F. Miller, Jr.; William D. Patterson; Ernest Scott, Esq.; and Bernard G. Segal, Esq.

The Faculty members serving on the committee will be Dr. Charles C. Price, Dr. Ned B. Williams, Dr. Julius Wishner and Bernard Wolfman. Dr. Price is chairman of the University Council, Mr. Wolfman is chairman-elect of the Senate, and Dr. Williams and Dr. Wishner are the most immediate past-chairmen of the Senate. Student members of the working committee are yet to be selected.

University Communications Currently Being Studied

A study of communications patterns among University of Pennsylvania faculty, staff and students as well as with neighbors of the University in the West Philadelphia community is now underway.

Miss Lillian G. Burns, planning coordinator in the University's Office of Coordinated Planning, is executive director of the study.

(Continued on page 2)
New Solid State Electronics Lab Dedicated at the Moore School

The dedication of its new Solid State Electronics Laboratory has been announced by the Moore School of Electrical Engineering. The $250,000 laboratory, one of the most complete of its type, houses scientists and graduate students investigating new materials for future use in solid state devices such as transistors and integrated circuits.

According to Dr. Jay N. Zemel, director of the new facility, the laboratory has a large number of single crystal thin film growing evaporators. Investigators will grow and use these thin films to study various materials such as lead and tin chalcogenides and their alloys.

"Once we establish the properties of a given material," Dr. Zemel points out, "we can start thinking about possible applications." The group is especially interested in sensors to detect heat radiation or laser beams in the various atmospheric "windows." The work on sensors, he says, will have strong ties with the Moore School's efforts in biomedical engineering.

Dr. Zemel says the Laboratory will also be studying phenomena occurring at semiconductor surfaces. "Since transistors and semiconductor devices are often limited by surface behavior, we're concerned with understanding how the electrical and optical properties of the materials are affected by the surface."

Another area of interest involves the way semiconductors react with atmosphere and liquids: "We're looking for potential sensors of molecules and ions in solution—to evolve new forms of detection," he explained.

Thus, the projects at the Solid State Laboratory focus on both new materials, especially those useful in detecting infrared waves, and new methods and techniques of using such materials to sense the world around us.

In addition to a $50,000 high field, superconducting electromagnet expected to be installed in the late spring, the laboratory also contains equipment that can measure electronic properties at temperatures close to absolute zero (-459 degrees) and optical equipment that can measure from ultraviolet to infrared on the spectrum.

The Laboratory itself was constructed in part with funds from the Ford Foundation and has obtained equipment grants from various electric utilities and electronics firms. Its staff will include three permanent professors, two visiting professors and twelve graduate students. It is located on the third floor of the Graduate Research Center of the Moore School.

Museum Exhibits Photographs, Artifacts From Its Expeditions

For almost 80 years, The University Museum of the University of Pennsylvania has been carrying on research in every corner of the world. In the last 3 years alone, it has sponsored more than 25 expeditions in the field. Now a special exhibit displaying major techniques of archaeology and finds of the Museum's expeditions is on view, free to the public, through Memorial Day.

The exhibition, entitled "Where in the World," is made up of photographs and artifacts representing the Museum's various ethnological and archaeological expeditions, including the conservation program at Tikal (Guatemala), deep wreck identification off the coast of Turkey and arts and crafts in the Pacific Islands.

The exhibit also shows digging operations at the Palace of Tell-Es-Ša'idiyyeh in the Jordan Valley, field work in Egypt, archaeology in the British Solomon Islands, archaeology in the Atigun Valley (Alaska), various work throughout South Asia, excavations at Yengema Cave, Sierra Leone, and proof that the long lost Greek city of Sybaris has finally been found.

Trustees Approve Additional Faculty Appointments, Leaves

New faculty appointments and leaves have been approved by the University Trustees. These include:

- Dr. Bernard R. Gerber, assistant professor of biology; Dr. Thomas E. Webb, assistant professor of psychology; Dr. H. M. Doty, visiting professor of industry; Dr. Hiroshi Takamori, assistant professor, and Dr. C. West Churchman, adjunct professor, of statistics and operations research; Dr. Aaron Gellman, adjunct associate professor of transportation and regional science; Dr. E. Gerald Hurst, assistant professor of industry.

- Dr. Robert H. Cagan and Dr. Irving M. Shapiro, assistant professors of biochemistry; Dr. J. Kent Blasie and Dr. Martin Pring, assistant professors of biophysics; Dr. Paul M. Fine, assistant professor of child psychiatry; Dr. Nicholas S. Gimbrel, associate professor of surgery; Dr. Maurice R. Hilleman, adjunct professor of virology in pediatrics; Dr. Hiroshi Kanai, visiting associate professor of physiology; Dr. Richard R. Lindquist, assistant professor of pathology; Dr. Eugene N. Myers, assistant professor of clinical otolaryngology; Dr. Donald K. Carman, visiting assistant professor in periodontics; Dr. Harley C. Sullivan, Jr., assistant professor of periodontics; and Dr. Dudley E. Johnston, visiting associate professor of surgery.

Those granted leaves this semester in addition to faculty members previously listed in the Almanac, are:

- Dr. Craig C. Lundberg, assistant professor of industry, who is taking residential training at Esalen Institute in California.

- Dr. Daniel Cohen, professor of epidemiology and public health, who is undertaking studies in the international aspects of veterinary public health; this includes a program of activities with the World Health Organization as a consultant in Indonesia, Thailand, India, Israel and probably Europe.

- Dr. Robert H. Cagan and Dr. Irving M. Shapiro, assistant professors of biochemistry; Dr. J. Kent Blasie and Dr. Martin Pring, assistant professors of biophysics; Dr. Paul M. Fine, assistant professor of child psychiatry; Dr. Nicholas S. Gimbrel, associate professor of surgery; Dr. Maurice R. Hilleman, adjunct professor of virology in pediatrics; Dr. Hiroshi Kanai, visiting associate professor of physiology; Dr. Richard R. Lindquist, assistant professor of pathology; Dr. Eugene N. Myers, assistant professor of clinical otolaryngology; Dr. Donald K. Carman, visiting assistant professor in periodontics; Dr. Harley C. Sullivan, Jr., assistant professor of periodontics; and Dr. Dudley E. Johnston, visiting associate professor of surgery.

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(Continued on page 6)
President Discusses Recent S.D.S. Demands

A faculty committee consisting of Dr. Charles Price, chairman of the University Council; Dr. Robert Davies, chairman of the Council's Committee on Research; and Dr. Louis Girifalco, chairman of the Subcommittee on Relations with the Science Center have been appointed by President Harnwell to examine the May 1967 background document on the University's relationship to the development of the Science Center.

The committee was established in answer to a demand made by the University's chapter of S.D.S. Earlier in the year S.D.S. had asked to see the document and was refused by the Trustees' who voted to maintain the traditional confidentiality of their proceedings and not make the document public.

In order to avoid any apprehensions this decision may have caused, the President explained that he will ask the Trustees to allow the three-man committee to read the document and report on it to the University community.

OTHER DEMANDS PRESENTED

The S.D.S. chapter also presented six other demands to the President. These were:

- That expansion of the University and the allocation of its resources be made by the University community as a whole;
- That a portion of the University budget be allocated for the needs of the surrounding community for such projects as that community shall determine;
- That the corporations represented on the University's Board of Trustees provide the money necessary for the building of a significant number of low-cost housing units in Area III;
- That the University City Science Center provide land, housing and community services for all people displaced by them;
- That the University City Science Center have no classified, military related research or development contracts;
- That if the University City Science Center does not comply with demands four and five, the University of Pennsylvania sever all connections with it.

RESPONSE QUESTIONED

While questioning the value of responding to "demands" as a format for rational discussion, President Harnwell explained that he felt it important to clarify the substantive questions raised by S.D.S.

In answering the first demand, that decisions be made by the University as a whole, the President said that one of the first problems was to define the "University Community as a whole." He expressed the hope that this will be one of the outcomes of the Task Force on Governance, now in the process of formation.

Regarding the request that a portion of the University's budget be allotted to the community, Dr. Harnwell pointed out that the University is currently engaged in many ways to meet the pressing needs of the community. "Ideas, staff expertise and facilities—resources which in the long run may be more significant than money—have been expended as well as University funds in support of projects determined by community groups."

PROGRAMS CITED

Such programs include The Young Great Society Adult Leadership and Training Project in which Herman Wrice's group developed objectives and the University secured Federal funds, matched them out of its own resources and helped conduct the course; Project Mantua in which Andrew Jenkins of Mantua Community Planners and his staff form plans for changing the economic and social condition of Mantua then use University faculty members' advice and contacts to carry out their program (financial support for the project comes from a private industry grant to the University); and a training program in which YGS advisors and twenty suburban women will join in an education program for white suburbia on the problems of urban life, again using Federal funds with a matching grant from the University.

There are numerous other projects, Dr. Harnwell said, some under way and others in prospect, in which the University has responded to community requests. Seven black organizations recently initiated discussion for a new kind of business training in the Wharton School and such a program has just been started; black leaders concerned over the lack of minority representation in the building trades are working with the University to seek solutions to this problem.

Replying to the demand that corporations represented on the Trustees provide money for low-cost housing, Dr. Harnwell reminded the S.D.S. chapter that Trustees are elected as individuals and not as representatives of corporations.

Admitting that the role of the business community is by no means complete, he went on to point out a few programs in which business is involved, one of the most dramatic being the recent compact with the Black Coalition and the city's business and financial leaders, starting with a $1 million commitment to help carry out projects developed by the black community itself. Fifteen separate projects have been approved covering a medical center for Mantua, a gang activities control program for Northwest Philadelphia and several recreation and job training programs.

SCIENCE CENTER DISCUSSED

Commenting on the demand that the Science Center provide housing, the President said that the Center's charter does not allow it to get into housing, community services or land use for housing: "It must confine itself to creating a research and development center in the area," he explained.

He did note, however, that the Center has already returned to the Redevelopment Authority a triangle of land at 36th and Filbert Streets where some 80 apartment units are scheduled to be built by Renewal Housing, Inc., a corporation affiliated with the Volunteer Community Resources Council headed by the Rev. Edward Sims.

In speaking of the Science Center, the President stated that research and development policy is a matter for the "University City Science Center Board of Directors to determine and one which requires continuing evaluation." He said that such an evaluation is now in progress and although he felt it premature to comment at this time, he did point out that the major thrust of the Center's research effort is now in the life sciences and he saw nothing which would blunt or negate that thrust.

As for pulling out of the Science Center, the President remarked that he felt it would be manifestly self-defeating. "The University can work more effectively with the other shareholding institutions of like views inside the corporate structure of the Science Center than as a withdrawn non-member."

MORE NEEDS TO BE DONE

In summarizing his views the President explained he by no means feels the University is now completely fulfilling its responsibility to the University neighborhood.

"An inventory of University-community involvement projects is now being compiled as a first step in measuring the distance and direction we still have to go in creating an appropriate environment," he said. "As I pointed out in my recent annual message, each university must address itself to striking a balance with respect to its resources and responses in regard to the public service role."

He explained that Pennsylvania is now engaged in doing precisely that in planning the future character and mission of the University for the decade of the seventies.
Physics Faculty Discuss Teaching of High Schoolers

( Editor's Note: Because the following letter speaks more eloquently than any article based on it could, it is being published, with only slight editing, just as it was received.)

For ten weeks last spring, faculty and students in the physics department carried out a program aimed at teaching the basic principles of the radio to fifteen high school students from West Philadelphia High School. The students, all but one of whom were black, were from all three grades and were mostly underachievers (i.e., not well motivated). The fact that only a couple of the students who started the program failed to complete it, though it was completely voluntary, made us feel that it was a success and is the reason we are writing this letter about it.

The basic format of the program was as follows: The students were brought to the University each Saturday morning for about two hours. During the first hour a faculty member would lecture on the basic physical principles of the radio. Six professors alternated teaching the lecture-demonstration session, and six graduate students set up the demonstrations.

During the second hour (often two hours) the students went into a laboratory and built radio kits, the graduate students helping them with the construction (although after a few weeks they were there only as advisors).

The actual program was essentially the same as planned. Rather than outline this program in this letter, we would instead like to make some comments about what we learned from giving the lectures.

First of all, it was not really clear from the beginning what the objectives of the program really were. Partly we hoped that we might stimulate some of the kids into becoming interested in a future in science or engineering. But this was, of course, a very secondary objective. Perhaps the primary motivation was to see if we could hold their interest. If they got interested in what we were trying to say and had some fun learning about and building a radio, that would be enough. So the first challenge to face was in the lectures.

The first lecture was an outline of what was to come and we stuff it full of the most entertaining demonstrations we could devise. Perhaps the biggest shock came after about five minutes of lecturing when the students were asked a rhetorical question about how the sound from a fist banging on the table reached their ears. Instead of waiting for the lecturer to answer his own questions, the students spoke up. Several of them had comments. "Sound waves in the air," "vibrating air," "waves"; the response was surprising and very encouraging. After that it always became clear when they were getting snowy or bored because that was when they would quiet down. The only way to salvage the lecture was to stop whatever you had in mind and make contact again with them, by any means you could.

It was not too difficult to hold their attention during the first few lectures, providing you kept them interacting and talking. But later on it became more difficult. This was undoubtedly due in part to the newness wearing off. Also we might have been getting less ingenious about demonstrations. Some of the things we did in the beginning were rather entertaining (of course, it was the graduate students who had to put the ideas into working demonstrations).

For example, in the first lecture we wanted to show them how one could transmit some information on an electromagnetic wave, e.g. on a light beam. So we used a Supremes record to modulate a neon bulb and sent the light through some lenses to a photo cell. Eventually you heard the sound come out of a loudspeaker on the other side of the room. The distortion was pretty bad but you could tell it was the Supremes. Well, perhaps we were more impressed that it worked than they were, but things like that really did put some life into the lectures. With a fair amount of time and some proper equipment one could make a whole physics course around just what is in a radio. It might be a very good way to teach high school science.

After several weeks, in spite of this kind of ingenuity, it became clear that the main drawing card was not the lectures but the radio construction itself. The kids picked up the necessary techniques for soldering and cutting wires and learned very readily what the components were called. In the lectures we tried to teach them what the components really did and that was more difficult.

Perhaps with more time in the lectures we could have been more successful. But the combination of lecturing and then building seems to us to be a real potential key to success. Either one alone wouldn't be very effective.

After about seven weeks one of the faster students finished his radio kit. He turned it on and it worked perfectly. That was a great thing for all of us and we figured we had it made. Well, some of the other kits were not built so well, so the graduate students had to rework them. When we finally finished after ten weeks, all the kits but one worked. The kids wanted to keep coming and I think that made us all feel rather good.

Obviously we all learned more than they did—about the radio and about Negro high school kids. But it's not clear—maybe those radio kits taken home to show their parents and friends will do more for them than the satisfaction of trying something new did for us.

Finally, we would like to thank those who helped make the program possible. Radio Electric (Mr. Herb Levinson) and Almo Scientific (Mr. Morrie Green) donated the radio kits; and the College of General Studies (Dr. A. P. Hess, Jr.) made the funds available. Mr. Manny Duker, Mr. John Rappolt, and Professor William Stephens, all in the Physics Department, helped make the arrangements. Mr. Pete Parkinson and Mr. Jim Hobbs helped with the demonstrations and laboratory equipment. The graduate students involved were Paul Chaikin, Gary Gladstone, Art Epstein, Marjorie Klein, and Rick Rillo. Mr. Harry Richman of the West Philadelphia High School Science Department was the key man behind the scenes. Thanks also to the high school students who kept coming.

John Gardner  Tony Jensen
Alan Heeger  Doug Scalapino
Don Langenberg  Bob Schrieffe
Student Lab Assistants Learn About Health Careers

Three different programs meant to give students a realistic introduction to career possibilities in the health professions and to motivate them toward the education necessary for these careers are now being offered by the medical schools of the University.

Currently, 76 Philadelphia high school students and 34 students from Lincoln University are working as lab assistants on campus, learning what goes on in laboratories that develop new drugs, probe the sub-microscopic world of the cell or look for disease causes.

Dr. Helen C. Davies, assistant professor of microbiology who is a spokesman for the medical school faculty committee that arranged for two of the programs, puts it this way:

"We need more doctors, more nurses, more therapists, laboratory technicians and other trained health professionals. The best way to get them is to interest young people while they are still in high school, before they've decided on another career."

She pointed out that many high school students aren't aware of health careers and therefore don't take the necessary subjects to prepare themselves.

The first program got underway last September and involves 27 students selected by West Philadelphia, Bartram and Benjamin Franklin high schools. Most of these young people were already in college preparatory courses, but were not necessarily science-oriented. The program, funded by a three-year grant from the Josiah Macy, Jr., Foundations, of New York City, makes it possible to pay the students an hourly "wage" for the 10 after-school hours they work at the School of Medicine each week.

In addition to their laboratory work, the students attend seminars and are taken on tours of various clinical departments so they will be acquainted with the actual practice of medicine.

39 STUDENTS VOLUNTEERED

A second program involves 39 students from Simon Gratz High School, most of whom live in the urban North Philadelphia area. The program is similar to the first, but students volunteered for it instead of being selected. Twenty-one are working in laboratories at the School of Veterinary Medicine under the direction of Dr. M. Raja Iyengar, associate professor of biochemistry, and another 18 are at the University's Graduate Hospital.

Ten other high school students are spending three hours each week with senior computer programmer Hillel Bardin in the Pharmacology department at the medical school, learning the elements of computer programming. Mr. Bardin, in charge of programming for the pressure research laboratory of Dr. Christian J. Lambertsen, is instructing them on the applications of computers in aerospace and undersea physiology. He is being assisted by Jeffrey Seld, a graduate student in biomedical engineering.

(The General Electric Time Sharing System has contributed the time for the students to use the computer. Mr. Bardin hopes to expand the program to full-time status over the summer.)

LINCOLN STUDENTS GRADED

The 34 Lincoln University students are spending their month at the University in three schools: 15 are in the veterinary school, 14 in the medical school, and four in the dental school. Upon completion of this introduction to medicine program, each student will submit a report to Lincoln University and receive both a grade and credit for the experience.

While at Pennsylvania, the Lincoln students are working in laboratories and attending seminars. And they are being encouraged to enter one of the health professions upon completion of their undergraduate work.

Most of the students are living with faculty families in Philadelphia. Several parties are being given for them so they will have an opportunity to meet informally with medical students and faculty.

PROGRAMS UNUSUAL

Dr. Davies said these programs are unusual because they are taking place during the school year rather than in the summer and that the students are actually doing research.

Dr. Alfred A. Gellhorn, dean of the medical school, is chairman of the faculty committee that arranged the programs. Dr. Helen O. Dickens, assistant professor of obstetrics and gynecology and an associate dean, is coordinating the lecture program in the clinical departments. Dr. Harrison McMichael, assistant dean and assistant professor of pathology, is in charge of liaison with the high schools.

The Macy Foundation grant, and gifts from Mr. and Mrs. Leasing Rosenwald and Mr. and Mrs. I. M. Scott are aiding the University in funding these programs.

75 High Schoolers Now at University Studying English, History and Physics

Seventy-five West Philadelphia High School students have begun an independent study program in cooperation with volunteer faculty members of the University this semester, Walter H. Scott, principal of the High School, has announced.

The 75 have been given released time from one regular high school class, to study that same subject at the University. Tenth-graders are taking English, 11th graders, American History and 12th graders, physics. Coordinator of the program is West Philadelphia High School English teacher Barry Slepian who is also a lecturer in English at the University.

The English and American history classes started January 20 and the physics classes February 3. All will continue through May 1, meeting two hours a week at the University. The students spend additional study time in the University libraries and laboratories and in the High School Cultural Center when their released time falls between other classes at the High School.

Three-quarters of the students chosen are above-average in the subjects of their independent study, Mr. Slepian said, with the remainder "mild risk" cases whose work is expected to improve in the new setting. Classes are limited to eight students each.

Teaching English to the tenth-graders is Peter Conn, instructor in English at the University; William R. Adams, assistant dean of admissions at the University and a former high school English teacher; and Thomas Gallagher, director of administration of the Young Great Society and a 1967 graduate of the University.

In American history, the faculty members are Dr. John L. Shover, associate professor of history; Dr. Seymour I. Mandelbaum, associate professor of city planning; Dr. Perry Viles and Dr. Michael Zuckerman, assistant professors of history; and Theodore Hershberg, instructor in history.

Those conducting physics classes include Dr. C. W. Ufford, professor of physics; Dr. M. Anthony Jensen, assistant professor of physics; and research associates Dr. Joel Cohen and Dr. Anthony F. Garito. 
Scientists Monitor Aquanauts Who Are Underwater for 60 Days

This month four of seven aquanaut scientists took up stations in a four-chamber "habitat" 50 feet beneath the surface of Great Lameshur Bay, St. John, Virgin Islands. During the next 60 days, the team will work out of their underwater home to study the biological and geological aspects of marine life and be studied themselves in turn by biomedical teams on the surface using remote-control monitoring devices.

Assisting in monitoring the subjects during and after their underwater operation will be a University team of 11 medical experts, headed by Dr. Christian Lambertsen, director of the Institute for Environmental Medicine. Before beginning their underwater adventure—known as Tektite I—the aquanauts spent a week at the University Medical School being examined by this same team.

During the seven-day period, known as Biomedical-Behavioral Control Week, the men were given tests to indicate whether they were physically fit for prolonged underwater stays. They were also checked out for social and psychological adaptability to a confined, hazardous environment and were taught to administer routine medical examinations to each other, including blood tests and dermatological checks.

A complete medical and psychological profile for each subject was drawn up during the control week and will be compared to later monitoring records. Of particular importance will be the analysis of the effect of prolonged inhalation of the nitrogen-oxygen atmosphere by the crew.

Normally, helium-oxygen combinations are used for saturation diving, but helium is a rare, expensive gas requiring extensive use of tanks and other equipment for supply purposes. Nitrogen, on the other hand, is abundant enough to be extracted directly from the atmosphere.

Thus the Tektite project will be a test of such a breathing mixture. If successful, nitrogen-oxygen saturation diving can probably be applied on a wide scale.

The Tektite I project is financially supported by the Navy, NASA and the Department of the Interior; the General Electric Company designed and built the habitat for the crew.

Penn Known for Underwater Research

The University of Pennsylvania was assigned a major role in the Tektite project because for over twenty years it has been a leading center of underwater research. Dr. Christian J. Lambertsen, director of the Institute for Environmental Medicine, who has been sponsored by the Office of Naval Research in the last decade—symposia that have become the bibles of the field—and the University has been a leader in basic research in underwater physiology and has trained many of the leaders in the field. Three of the diving medical officer-investigators involved in the Sea Lab project are alumni of the environmental research laboratories of the University of Pennsylvania.

The University has played a major role in two milestones in underwater exploration. In 1947, University scientists proved that midget submarines could take off from full size submarines and return to them while the larger submarines were moving underwater—an event that has been compared with the first time an airplane successfully landed on a carrier. Dr. Lambertsen piloted the one man submarine himself the first time it made a landing.

In 1964, Penn scientists helped set a record for sustained saturation diving that remained unbroken for the next three years—a 432 foot, two day dive in which University scientists teamed with the explorer and inventor E. A. Link. This was the second open sea saturation dive and the first that lasted more than a few hours. For this operation, the University designed the first deck decompression chamber designed to receive divers who have been brought up from the bottom in pressurized compartments.

The Tektite project grew out of NASA and the Office of Naval Research's interest in a psychological problem that is an important aspect of manned space flight and underwater operation: the behavior of men who are living in an environment in which they know they can't be rescued for several hours if an emergency takes place.

NASA and the ONR were looking for an easily-observed environment in which men could be "trapped" in the same way they are trapped aboard space capsules and under the sea. Dr. Lambertsen suggested extended, open-sea saturation dives in an oxygen-nitrogen atmosphere. Men living in such an environment would be easy to observe, since they would only be fifty to a hundred feet below the surface, and at the same time they would be many hours—or even days—away from rescue. Once a diver's system adjusts to the artificial atmosphere of the habitat, that is, becomes "saturated," it can take up to eighteen hours to make the transition from 50 feet to normal environment.

The experimental dive will also test equipment, and give bio-medical researchers valuable data. The aquanauts are all marine biologists and geologists, and they will be studying the ecology of the continental shelf at first hand. The physiologists and psychologists gathered at the site will be studying their reactions as they engage in work that can only be performed under the sea. Such extensive testing will probably open up the continental shelves of the world.

In Plastics Art Exhibit

The Institute of Contemporary Art's first show of the new year, "Plastics and New Art," is now on view in the ICA Gallery in the Fine Arts Building. The exhibit can be seen through February 25.

Both the formal East Coast and the "funky" West Coast styles are represented in the exhibition which includes more than 40 works ranging from austere minimal shapes to fanciful, brightly colored, flamboyant inventions. The 20 artists whose work are on view employ such materials as polyester resin, polychrome vinyl, fiberglass, Formica and Plexiglas.

Gallery hours are 9 a.m. to 5 p.m. Monday through Saturday and noon to 5 p.m. on Sunday.
Dr. Ehrenstein Dead at 69; Helped Develop The Pill

Dr. Maximilian R. Ehrenstein, emeritus professor of biochemistry at the School of Medicine and chief of the Division of Steroid Research at the Hospital, died December 28. He was 69.

Dr. Ehrenstein's early work with the steroids called 19-norsteroids is credited with being the basis of the development of modern oral contraceptives and of other therapeutic agents. In 1944, he synthesized a small amount of a steroid named 19-norprogestosterone which is chemically related to the natural female sex hormone progesterone.

Dr. Ehrenstein was born in Munich, Germany, and received his doctorate in 1921 from the University of Gottingen, Germany, where he worked with the steroid chemist and Nobel laureate, Adolf Windaus. He was a Rockefeller Foundation Fellow in Organic Chemistry at the University of Zurich.

After holding several postdoctoral positions, Dr. Ehrenstein became a regular faculty member ("Privatdozent") of Friedrich-Wilhelms University, Berlin, where for three years he taught medical chemistry, and in 1934 accepted a position at the Medical School of the University of Virginia. In 1937 he came to the University of Pennsylvania, where he was named full professor in 1949.

Dr. Ehrenstein lectured frequently at the Free University of Berlin, and since 1963, has held the title of Professor of Physiological Chemistry on the medical faculty of the University of Hamburg.

In 1965, the Free University conferred an honorary degree of Doctor of Natural Sciences upon him, citing his investigations of steroid hormones, and in 1966 the president of the Federal Republic of Germany awarded him the Officer's Cross of the Order of Merit because of the active role he played in bringing about the exchange of students between the Universities of Pennsylvania and the Free University of Berlin.

Dr. William Fontaine Dies; Taught in Philosophy Dept.

Dr. William T. Fontaine, associate professor of philosophy, died December 29 at his home. He was 59.

Dr. Fontaine received his B.A. degree from Lincoln University in 1930 and his Ph.D. from the University of Pennsylvania in 1936. He also attended Harvard University and the University of Chicago. In 1958 he was chosen lecturer of the year by Penn's Ivy Club.

Among other things . . .

APPOINTMENTS:

Dr. E. A. Hildreth, chief of immunology in the department of internal medicine and associate professor of medicine, has been named Director of the Department of Medicine of The Reading Hospital. He began work in his new position last month.

AUTHORS:

Dr. Richard Schwarz, assistant professor of obstetrics and gynecology, is the author of the book Septic Abortion recently published by J. B. Lippincott. In addition, Dr. Schwarz and his colleague, Dr. John Emich, associate clinical professor of obstetrics and gynecology, recently attended the American Association of General Practitioners in Las Vegas where they presented a scientific exhibit. Following the meeting, Dr. Schwarz spent a day as a consultant in the Indian Services Hospital in Tuba City, Arizona and Dr. Emich presented another exhibit at the American Osteopathic Association in Miami.

Dr. Marten Brouwer, visiting associate professor of communications, is the author of Stereotypen Als Folklore (in Dutch) published by Vinkeveen, Amsterdam. An English edition by Academic Press is due this year.

Dr. John L. Cotter, visiting associate professor of American Civilization, has compiled and published The Handbook for Historical Archaeology, the first such offering in English, based on the work of his graduate students since 1964. Dr. Cotter organized and chaired a symposium on historical archaeology at the 1968 Pennslyvania Americana Forum and gave papers on the topic of the future and teaching of historical archaeology at meetings of the Southeastern Historical Sites Archaeology at Tucson. Dr. Cotter was first president of the Society for Historical Archaeology and editor of its first yearbook, Historical Archaeology 1967.

The Great Society Dictionary, written by Dr. Edward S. Herman, associate professor of finance, will soon be published by the Philadelphia Resistance and covers such topics as Vietnam and the Great Society.

Dr. Herbert G. Grubel, associate professor of finance, is the author of the recently published book International Monetary Order: Efficiency and Practical Alternatives. His report, Foreigners in U.S. Science Manpower has been distributed by the National Science Foundation while the paper, "The MBA Education Myth" appears in this month's issue of the Journal of Business. During the month of December Dr. Grubel delivered a paper, "The Interdependence of International Equity Markets" (coauthored by Kenneth Kadner) at the Econometrics Society meetings at Chicago.

Dr. Herbert R. Hawthorne, emeritus professor of surgery; Dr. Alfred S. Frobeses, associate professor of surgery; and Dr. Julian A. Sterling, assistant professor of surgery at Temple, are authors of the text, The Acute Abdomen and Emergent Lesions of the Gastrointestinal Tract recently published by Charles Thomas.


Dr. Albert P. Selzter, associate professor of otolaryngology, has had the following articles published in the Journal of the National Medical Association: "Skin Grafting by Magnetism," "Removal of a Massive Facial Keloid and Subsequent Skin-Grafting by Magnetism," and "The Use of Magnets to Maintain Centralization of the Nasal Septum Following Submucous Resection."

HONORS:

Jefferson B. Fordham, dean of the Law School, was elected the new president-elect of the Association of American Law Schools at its annual meeting last December in New Orleans. He will serve as president-elect during 1969 and will become president of the Association in 1970. Earlier in December, Dr. Fordham became a member of the Council of the American Law Institute.

Dr. Frederick V. Bruchter, Jr., associate professor of chemistry, has been elected a Fellow of the American Institute of Chemists in recognition of his contri- (Continued on next page)
Among other things . . .

Travelers and Speakers:

Dr. Martin Beller, assistant professor of orthopaedic surgery, and Dr. Irvin Stein, associate professor of orthopaedic surgery, presented a paper on “Anterior Cervical Spine Fusion” at the Pennsylvania State Medical Society 1968 Scientific Session in Pittsburgh in late October. Dr. Stein later presented two papers in Tokyo at the XVI Biennial International Congress of the International College of Surgeons: “Circulation of the Femoral Head in Dogs” and “Anterior Cervical Spine Fusion.” Two other papers, “Complication of Paget’s Disease” and “Evaluation of Tendon Repair with Plastic Adhesive Approximation Contrast with Suture,” were given by him in Osaka.

Dr. Frederic Roll, professor of mechanical engineering, was an invited participant in the Engineering Foundation Research Conference on “The Performance of Full Scale Structure” which was held last fall in Andover, New Hampshire.

Dr. Mitchell Litt, associate professor of chemical engineering, and Dr. Warren D. Seider, assistant professor, attended the 61st Annual Meeting of the American Institute of Chemical Engineers in Los Angeles last month where Dr. Seider presented two papers, one entitled “Confined Jet Mixing in the Entrance of a Tubular Reactor,” coauthored by Dr. Stuart W. Churchill, Carl V. S. Patterson Professor of Chemical Engineering; and the other entitled, “A Chemical Engineering Calculating System for Use in Education,” coauthored by Professor Bruce Charnahan of the University of Michigan. Dr. Litt presented a paper, “An Experimental Study of Flow Instability on a Rotating Disc,” coauthored by D. T. Chin, a doctoral student at the University.

Dr. Churchill attended the Winter Annual Meeting of the American Society of Mechanical Engineers in New York where he was named a member of the Editorial Advisory Board of a new journal of translations to be published by ASME and entitled, Soviet Research-Heat Transfer. Both he and Dr. A. Norman Hixson, Jr., assistant vice president of engineering for graduate studies, also attended a meeting of the Executive Committee of the Engineering Council for Professional Development; Dr. Hixson is a member of its Board of Directors.

Dr. Paul J. Korshin, assistant professor of English, read a paper entitled “The Genesis of Johnson’s Letter to Chesterfield” before the Group Meeting of English 8 (Literary Tendencies during the Second Half of the Eighteenth Century) at the Modern Language Association Annual Meeting last December in New York. Dr. Korshin was also chairman, for the second time, of the scholars’ conference on Neoclassicism, which at the 1968 meeting was called “Problems of Neoclassicism: Theories of Imitation.”

Dr. Michael Jameson, professor of classical studies and chairman of the graduate group in ancient history, spoke at the annual meeting of the Archaeological Institute of America in Toronto last December on “Halicarnassus” before the Group Meeting of Ancient History, discussing the past season’s work at the University’s joint dig with Indiana University in Greece. During the work in Greece a skeleton was found which, according to Dr. Elizabeth Ralph who directs the University’s radio-carbon lab, dates back to about 7600 B.C., the earliest complete skeleton found in Greece. Before attending the meeting, Dr. Jameson was interviewed by the Voice of America concerning the University’s Center for Ancient History.

Almanac is published monthly during the academic year by the University for the information of its faculty and staff.

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