

Notre Dame

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Father Hesburgh breaks ground for Notre Dame's new television station, WNDU-TV. Other participants include (left to right) Vincent Fraatz, University engineer; Father Joyce, executive vice-president; and George Smith, chief engineer of WNDU-TV. See feature article on page 6.



VOL. 8 • No. 1

FACULTY DEVELOPMENT

Fourteen Distinguished Professors Appointed

Financial support in 1954 from corporations and other generous benefactors has made possible the addition of fourteen distinguished professors to the Notre Dame faculty, according to a recent announcement by the Rev. Theodore M. Hesburgh, C.S.C., president. In a progress report Father Hesburgh listed the new faculty members in three categories: 1) Lecture series or occasional lectures; 2) Semester appointments; 3) Permanent appointments.

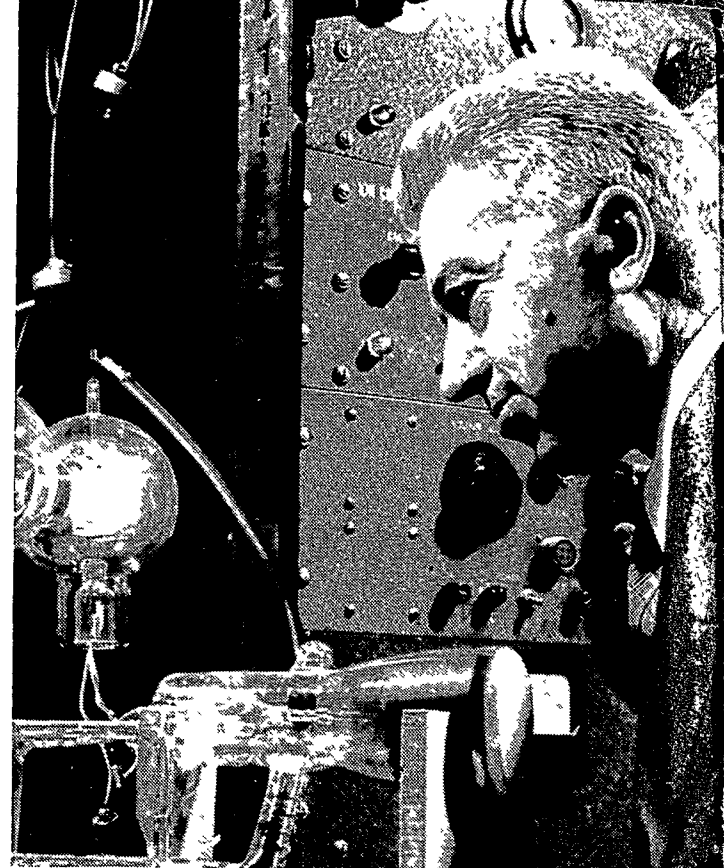
The fourteen distinguished professors are the first group of an anticipated 45 to augment Notre Dame's present faculty under the provisions of a special program inaugurated last year at the University. At that time Father Hesburgh invited corporations to participate in a plan for obtaining additional, outstanding teachers on the Notre Dame staff. As originally outlined, this program would cost a minimum of \$450,000 annually.

Those who are scheduled for a Lecture Series or Occasional Lectures include:

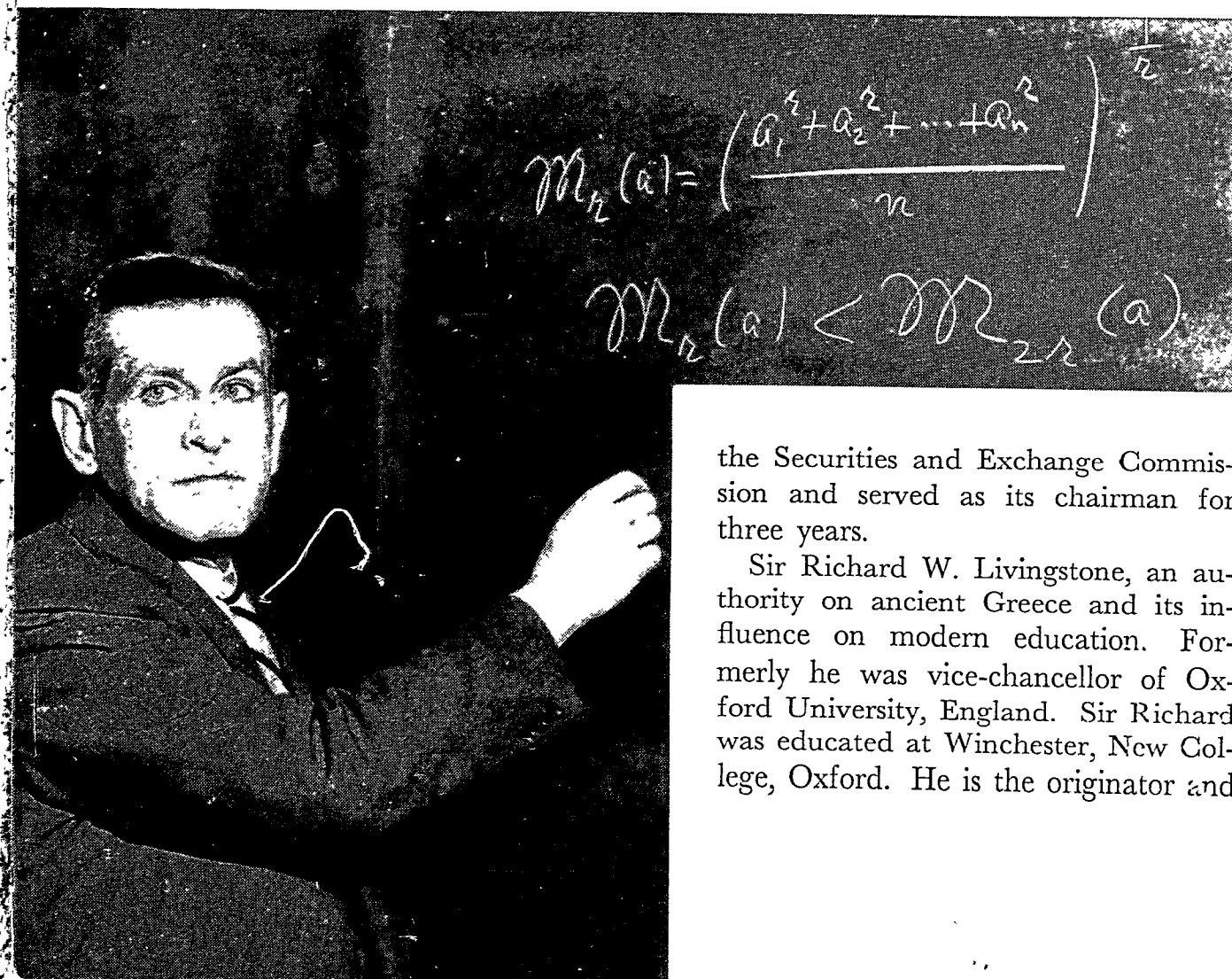
Dr. Vladimir Seidel

A. P. d'Entreves, an eminent natural law scholar, who has been Serena Professor of Italian Studies at Oxford University, England, and also a fellow of Magdalen College, Oxford, and of the Royal Historical Society. He was educated at the University of Turin and received a doctor of philosophy degree from Oxford in 1932. Dr. d'Entreves is the author of *Natural Law, An Introduction to Legal Philosophy, Dante as a Political Thinker* and several other books. He is editor of *Selected Writings of Thomas Aquinas*;

William O. Douglas, an associate justice of the Supreme Court of the United States since 1939. He was educated at Whitman College (A.B. degree) and received a bachelor of laws degree from Columbia in 1925. Justice Douglas holds several honorary degrees and practiced law in New York City from 1925 to 1927. In the early part of his career, he was a high school instructor at Yakima, Wash. Justice Douglas has been a member of the Columbia and Yale law faculties. From 1934 to 1939 he was associated with



(Top) Dr. Joseph Becker
Professor Ivan Mestrovic



the Securities and Exchange Commission and served as its chairman for three years.

Sir Richard W. Livingstone, an authority on ancient Greece and its influence on modern education. Formerly he was vice-chancellor of Oxford University, England. Sir Richard was educated at Winchester, New College, Oxford. He is the originator and

editor of the Clarendon Series of Greek and Latin Authors and also was editor of the *Classical Review* in the 1920's. Among his writings are *The Greek Genius and Its Meaning to Us, Plato and Modern Education, A Defence of Classical Education, The Future in Education, Education and the Spirit of the Age, and Greek Ideals and Modern Life*. He is a native of Liverpool, England, and maintains his residence in Oxford, England;

Arnold J. Toynbee is a distinguished British historian who has lectured in the United States since 1947. Dr. Toynbee served as director of the Research Department in the British Foreign Office in 1939-46 and was a member of the British delegation at the Paris Peace Conference in 1946. As director of studies he has been associated with the Royal Institute of In-

ternational Affairs for many years. Dr. Toynbee was professor of modern Greek and Byzantine studies at King's College, London University, for five years. He was a war correspondent in Greece for the *Manchester Guardian*. Dr. Toynbee taught ancient history at Balliol College, Oxford, from 1912 until he entered government service during World War I in the Political Intelligence Department of the Foreign Office;

Distinguished professors who will receive semester appointments to the faculty consist of:

Joseph A. Becker, a noted research physicist who has been a specialist in surface physics at Bell Telephone Laboratories since 1924. He was educated at Cornell University, receiving a doctor of philosophy degree from there in 1922. Dr. Becker also attended the California Institute of Technology as a national research fellow. He was a visiting professor at Stanford University and worked for Westinghouse and the Bureau of Standards as a laboratory assistant. Dr. Becker has written about forty technical articles and is the author of a book soon to be published entitled *Adsorption—Advances in Catalysis*. He is a member of several academic and professional societies and received the Mendel Medal award from Villanova University in 1941. Dr. Becker is vice-chairman of Notre Dame's Advisory Council for Science and Engineering;

Robert C. Turner is a former presidential economic advisor and since 1948 has been professor of business administration at Indiana University. He was educated at Hiram College, Northwestern University and received a doctor of philosophy degree from Ohio State University. Dr. Turner was a White House economist in 1946-48 and a member of the Council of Economic Advisors in 1952-53. He was associated with several government agencies including the War Production Board and the Civilian Production Administration. Dr. Turner is a member of the American Economic Association, American Academy of Political and Social Science, American Finance Association and Indiana Academy of Social Science. He is the author of several books, *Member Bank Borrowing*, *Export Control*, and he has also written numerous journal articles;

Rev. Martin C. D'Arcy, S.J., noted

British philosopher and theologian, began a semester appointment to the Notre Dame faculty in February of this year. Recognized throughout the world for his scholarship, Father D'Arcy has served as Master of Campion Hall, Oxford University, and as provincial of the Society of Jesus in England. He has been awarded honorary degrees from Georgetown, Fordham, Marquette and the National University of Ireland. Father D'Arcy is the author of several philosophical and theological works including *The Idea of God*, *Mirage and Truth*, *The Problem of Evil*, *Thomas Aquinas*, *Belief and Reason*, *The Nature of Belief* and *The Mind and Heart of Love*;

Rev. Philip Hughes is a noted English Catholic historian and recognized internationally as an authority on



Rev. Philip Hughes

Church history. He is a native of Manchester, England, and was educated at St. Bede's, Manchester, at Ushaw College, the University of Leeds and Louvain University. During 1923-24 he was a member of the faculty at the College of St. Thomas, St. Paul, Minn. From 1934 to 1939 he was archivist at Westminster Cathedral. Father Hughes has written numerous books including *Rome and the Counter-Reformation in England*, *The Continental Reformation*, *A Popular History of the Church* and *The Faith in Practice*. He has just published the third volume of his definitive work *The English Reformation*. Father Hughes was a contributor to *The English Catholic* and he has also written many articles for the *Dublin Register*, *The Tablet* and *Clergy Review*. He is a recipient of the John

Gilmary Shea Historical Prize from the Catholic Historical Society. While at Notre Dame, Father Hughes will teach a course on "England, 1688 to the Present" and conduct a seminar on "The English Reformation";

Fritz Fischer is a distinguished German historian and has been professor at the University of Hamburg since World War II. He is a specialist in the field of relations between German Protestantism and German politics in the 19th and 20th centuries. Dr. Fischer was selected by the United States State Department as one of several German scholars who toured the United States to study teaching of political science in American universities. Dr. Fischer is a native of Bavaria and was educated at Eichstatt in Bavaria. He has also studied at the University of Erlangen and the University of Berlin. He received a doctorate in divinity as well as a doctorate of philosophy and for some years worked as an assistant in Greek and Latin at the University of Berlin. At the University of Hamburg, Dr. Fischer helped to found a school of research in recent history and in international relations.

Permanent appointments include the following professors:

Vladimir Seidel is a noted mathematician and has been professor at the University of Rochester since 1935. He was educated at the University of Edinburgh, at Harvard and received a doctor of philosophy degree from the University of Munich. Dr. Seidel has also been a member of the faculty at Harvard. He is a native of Odessa, Russia, and is now an American citizen. Dr. Seidel was a member of the Institute for Advanced Study at Princeton University and formerly was associated with the Institute for Numerical Analysis in Los Angeles, Calif. He is highly regarded for his contributions to the theory of functions of a complex variable;

Bernard C. Barth is the vice-president and general manager of Notre Dame's radio and television stations. He is a veteran of 18 years in both of these fields and came to Notre Dame after having been general program manager for WLW in Cincinnati. He was formerly associated with WLOS, Asheville, North Carolina, KRGV, Weslaco, Texas, and served as announcer, writer and producer with WFIL, Philadelphia, and WKRC, Cincinnati. He began his radio career

as a vocalist in Aberdeen, South Dakota, in 1936. Mr. Barth is a native of Houghton, South Dakota, and was educated at the South Dakota State College of Mines. He is a former member of the faculty at the University of Cincinnati's Department of Music and was choir director at the Cathedral of the Immaculate Conception in Rapid City, South Dakota;

Charles Brambel is a noted Baltimore biologist and biochemist and will be the head of Notre Dame's Department of Biology. He assumes his new post here in September, 1955. Dr. Brambel currently is director of the anti-coagulant clinic at Mercy Hospital, Baltimore, as well as a faculty member at the University of Maryland Medical School. He is internationally recognized for his research in dicumarol prophylaxis and therapy and has presented papers at international medical conventions in Switzerland and Washington, D. C. He was educated at Johns Hopkins University, having received his doctorate there in 1931. From 1932 to 1942, Dr. Brambel was an instructor at Johns Hopkins and during this same period was a consulting clinical biochemist at Mercy Hospital. He is a frequent contributor to professional journals. Dr. Brambel is a member of the American Chemical Society, the American Society of Zoologists, the Baltimore Medical Society, the Maryland Association of Pathologists and the International Society of Hematologists;

G. F. D'Alelio is the newly appointed head of Notre Dame's Chem-



Dr. G. F. D'Alelio

istry Department. He is a former vice-president and manager of research for the Koppers Company, Inc., and has more than 300 patents. Dr. D'Alelio is a native of Charlestown, Mass., and received his bachelor's degree at Boston College in 1931. He was awarded the Charles J. O'Malley Fellowship at Johns Hopkins University where he received his Ph.D. in chemistry. Dr. D'Alelio has been affiliated with the Industrial Rayon Corporation, Cleveland, Ohio, as manager of high polymer research and with the Prophylactic Brush Company, Northampton, Mass., as vice-president and director of research. He was staff chemist and director of General Electric's plastics laboratories from 1941 to 1943. Dr. D'Alelio is the author of six books and laboratory manuals including *Fundamental Principles of Polymerization*—

Rubbers, Plastics and Fibers. He is a member of many professional and scientific societies including the American Chemical Society, the American Society for the Advancement of Science, the American Institute of Chemical Engineers and the American Institute of Chemists;

Ivan Mestrovic is an internationally famous sculptor and has been professor and sculptor in residence at Syracuse University since 1947. He is regarded as the outstanding living sculptor of religious subjects and his works in stone, wood and clay can be found in museums, private collections, churches and parks from Belgrade to Chicago. A bronze sculpture of the crucified Christ by Mestrovic is in the foyer of the O'Shaughnessy Hall of Liberal and Fine Arts at Notre Dame. One of the artist's more recent projects consisted of 29 panels on the Life of Christ which he sent to Yugoslavia as his gift to the Croatian people. His works have been included in international exhibitions for nearly 50 years. Among them are many sculptures of Christ, the Blessed Mother and the saints as well as more recent portraits of Pope Pius XII, Cardinal Stepinac, former president Herbert Hoover and the late president of Czechoslovakia, Jan Masaryk. He was educated at the Art Academy in Vienna and the first exhibition of his early works in that city attracted considerable attention. Professor Mestrovic became an American citizen after coming to this country during the latter part of World War II.

Progress of the Distinguished Professors Program developed last Summer when Father Hesburgh and the Rev. Paul E. Beichner, C.S.C., Dean of the Graduate School, visited fifteen European universities. Simultaneously a Committee on Faculty, headed by the Rev. Philip S. Moore, C.S.C., Vice-President in Charge of Academic Affairs, explored the possibilities of new faculty appointments for this program in the United States.

In 1955, Notre Dame will continue the projection of a Faculty Development Program and again depend on the generosity of American business to assist, financially, in the advancement of this worthwhile academic cause. The partnership between Notre Dame and industry is another symbol in the struggle to combat the scourge of communism with young men who are morally educated.

Rev. Martin C. D'Arcy, S.J. (left) and Dr. Fritz Fischer.





At Notre Dame we are trying to engender in our young men a real sense of moral responsibility. We say this largely in reference to the social areas that will form the context of our students' lives following graduation. America today is on the brink of a great adventure. We hope that the young men whom we are educating at Notre Dame will be prepared to take a key part in directing that adventure.

This training begins the day a student arrives at the University. Here the boy can immediately recognize democracy in action. He is living with hundreds of other boys from all over America. There are no special groups. Each boy must win acceptance by what he is himself. His father's wealth or lack of it does not matter—living quarters are equal for all. He must learn to be a part, and a contributing part, of a larger group. To the extent that he succeeds, he will have good friends all over America in the years to come. All student activities, including student government, are open to all with no distinctions regarding social background, race, or religious preferences. One Protestant boy rose to our highest lay distinction of becoming in later years the Chairman of our Associate Board of Lay Trustees. Another became President of our Alumni Association. A poor boy, who worked his way through school, later joined the Congregation of Holy Cross and became President of the University.

The boys learn early that what really matters is what kind of a person they are, not what kind of a car their father drives.

In this atmosphere, a boy perceives that he cannot merely think of himself through life, that the social responsibility of leadership is one of the greatest opportunities that America affords. We try to develop this challenge of leadership, and to direct it towards the three great areas that face our students upon graduation.

The first and most basic opportunity for moral responsibility is in marriage and family life. Preparation here is of the essence. We have a Marriage Institute each Spring for our graduating seniors. In an eight-week session, we try to link the very real responsibilities of family life to the high honor and dignity of Christian marriage. Here is social life in its basic form. We discuss the all-important decision of choosing a qualified and capable life partner, the characteristics that make a good husband who will be worthy of the best kind of wife, the many practical factors and lasting human values that enter into successful family living. One wife wrote that the best thing she could say about Notre Dame is that it produces good husbands and fathers. We do hope that most of our graduates will first distinguish

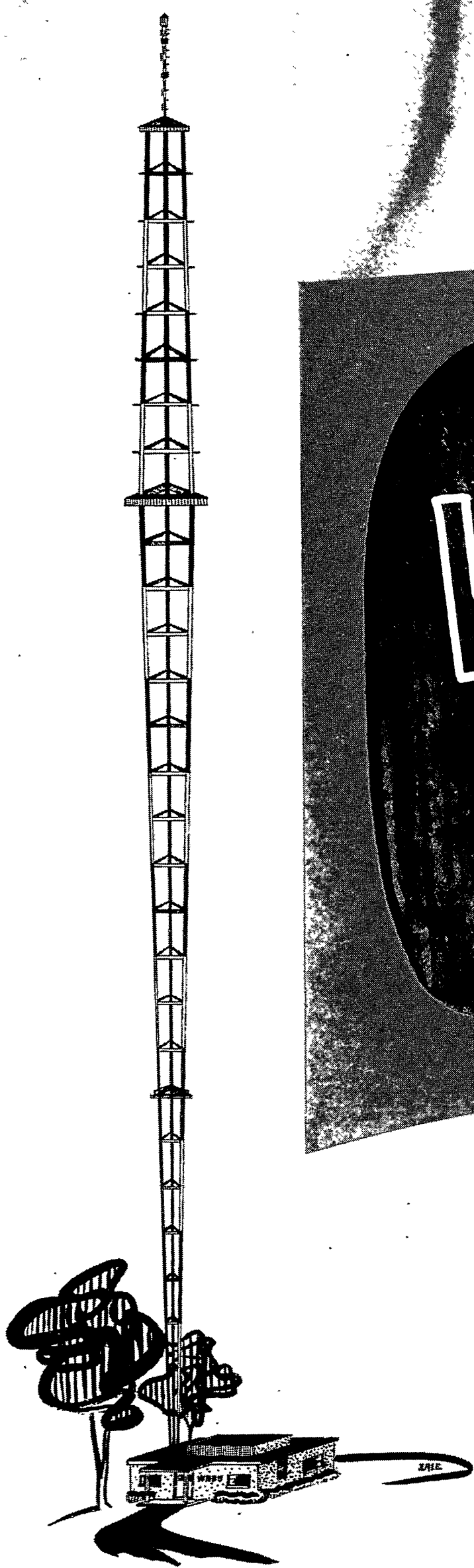
themselves this way, because here is moral responsibility that will touch the heart of America and keep it sound.

The second area we emphasize is responsible leadership in business and professional life. Here we point out to the students that the world does not owe them a living, but only an opportunity to prove that they can make a living by intelligent and purposeful effort. There is no substitute for hard work, competitive endeavor, and integrity. We want our men to be good not only for themselves, but good for the others in their business or professional groups. This calls for the discipline that is part of Notre Dame life, to live not as a passive unit, but as a contributing part of a larger group that is perfected by cooperative effort, teamwork, and responsible leadership. We want Notre Dame men to be respected and liked for their sense of organization and their spirit of contribution to the good of the whole.

Lastly, we insist that moral and social responsibility has a large part to play today in civic life—be it on the local, state, or national level. We hear so many people decrying corruption in political life and damning the cancerous spread of Communism. We, too, condemn these things, but cannot think that condemnation alone will help matters. The negative approach does not fill the gap. Moreover, it is largely pessimistic and frustrating. The world today needs intelligent and responsible leadership more than negative condemnation. We hope that our graduates will make some positive contribution to the political well-being of our local, state, and national life by actively participating in political action. Once more, here is a duty that is better viewed as an opportunity to serve. Here again, the future of America is at stake. We cannot have a first-rate country if it is run by second-rate public servants. Only men of intelligence, moral integrity, and devotion to ideals can keep this country attuned to the fine traditions that have made it great among the nations.

The seniors at Notre Dame make only one parting gift to the University—an American flag that flies over the campus during the year following their graduation. We accept it as a symbol of their loyalty. To this day, we have never been shamed by disloyalty in any of them. We hope we never will.

Intersburg, Va.



**Commercial Television Outlet Scheduled
For Campus; Programming
To Begin in Mid-Summer**

by John Adams

The author is a member of the Junior class and is majoring in Journalism. He is News Editor on the Notre Dame Scholastic, sings in the glee club and comes from Elmhurst, Ill.

NOTRE DAME IS ONE OF FIVE

According to a recent issue of Television Factbook, FCC, Notre Dame is one of five educational institutions owning commercial television stations. The other four are: Butler University, Indianapolis, Ind.; Iowa State College, Ames, Iowa; St. Norbert College, Green Bay, Wis.; and the University of Missouri, Columbia, Mo.

In a half-century of achievement the pendulum of scientific progress on Notre Dame's campus has swung from the first wireless message transmitted in this country to a modern-day commercial television station.

On Feb. 22, 1955, Father Theodore M. Hesburgh, C.S.C., president of Notre Dame, turned a spadeful of earth for what may conceivably be the most far-reaching and ambitious project in the history of the University, a commercial TV station. In less than six months the \$35,000, 538-foot tower rising out of the terrain near South Bend will be beaming a television signal into 140,000 receivers in and around the city. On the campus a complete, modern TV plant will have \$750,000 (including the above \$35,000 for the tower) worth of cameras, lighting, control panels, sound pickups, projection and transmitting equipment, sets and the like to handle a full day's programming for the 6500 square miles in the station's range. "This is WNDU-TV, Channel 46, Notre Dame," a voice will say.

TV Is Educational Medium

The story of just how and why Notre Dame has entered the highly competitive field of commercial television began to crystalize in June, 1952, when the Federal Communications Commission allotted South Bend one of 242 new educational channels. It had been obvious to Notre Dame officials for some time that television was probably the most potent form of communication in the history of the world and that its possibilities as an educational medium were almost unlimited. They could not fail to note, too, the desperate need for capable and responsible leadership in the industry. The golden opportunity having presented itself in the FCC action, the University administration was determined not to pass it

by without at least an examination.

Father Hesburgh and Father Edmund P. Joyce, C.S.C., executive vice-president, did a good deal of the bush-beating themselves in trying to determine the feasibility of television at Notre Dame. The undesirable aspects of an educational television station quickly came to the fore under their examination. It was expensive, for one thing, to start and operate since by-laws of the FCC forbid such a station to sell advertising. There would be a sharp limitation, for another, on the types of shows the University could produce. "It is a major achievement to put on just three hours of really good educational television a week," says Father Joyce in retrospect, "and that isn't what I call getting our money's worth out of the equipment."

In addition to this, the administration felt that Notre Dame could neither be of substantial help in establishing a workable set of standards for the industry nor could it train young men efficiently under such a limited program. Since, at this time, there was little precedent in the field of educational television, the University's officials took a pretty dim view of the whole enterprise and began to look elsewhere.

Michiana Telecasting Corp.

Father Hesburgh and Father Joyce noted that South Bend had been granted *three* television channels in all, two ultra-high frequency commercial channels in *addition* to the educational franchise. One had already gone to the South Bend *Tribune*, known as radio station WSBT, but the other was still open, although two applicants, the South Bend Broadcasting and the South Bend Telecasting Companies, had applied for it. The possibilities of a commercial station with a combination schedule of educational and recreational shows was apparent.

Notre Dame officials believed that if they got the other commercial franchise, they could meet WSBT-TV's first-rate competition with a good network affiliation and obtain substantial contracts of network advertising. Taking a chance on winning the channel grant, they formed the Michiana Telecasting Corporation, with all stock owned by the University, and applied to the FCC in September, 1952.

Whenever there are two or more applicants for a single channel, the FCC must decide which applicant will

render the most community service. Often this results in a hearing of many weeks. Fortunately for the Notre Dame contingent, this question was never brought before the Commission since the South Bend Telecasting Company dropped out of contention soon after the hearings were begun and the South Bend Broadcasting Company withdrew its application when the rights to its South Bend radio properties were bought by the University. The radio station will be operated in conjunction with the television station on the campus; a combined set-up not only has proved to be economical, but profitable in other locales.

Barth Selected As Manager

And so on August 13, 1954, almost two years after it had submitted its application to the FCC, the University of Notre Dame was granted the television franchise to channel 46 in South Bend.

In the next month, WNDU-TV's managerial post attracted many of the industry's top people. Bernard C. Barth, then program director for the Crosley network in Ohio, was selected and made vice-president-general manager of the Michiana Corporation. At thirty-five Barth was already a veteran of eighteen years in communications work, and a specialist in programming, the primary interest of the University in a manager.

Starting out in 1936 as a vocalist for KOTA in Rapid City, South Dakota, he had worked his way up to program director in three years. From then until he became connected with the Crosley Corporation seven years ago, Barth wrote, produced, directed, and announced for stations in Cincinnati, Texas, North Carolina, and the *Philadelphia Inquirer* outlet, WFIL. With the Crosley network, considered by many to be the finest television operation in the country, Barth moved up from producer-director and program director for WLW-TV, Cincinnati, to program coordinator for the network. Before becoming the network program director, he was for two years executive assistant to the vice-president, during which time he bought all the film properties for the network and handled the largest number of network properties outside of New York.

Barth was at work here within a month after his appointment. An affiliation had already been worked out with the National Broadcasting Company which enabled him to concentrate



on the station itself and the type of shows to be presented.

Barth began immediately to shop for three things, a piece of property well out of the way of the airline passing over the campus on which to build the TV tower, a chief engineer, and a sales manager.

The first he found south of the city limits at the corner of Ironwood and Kern roads. The particular advantage of this location is that it is on a direct line with WSBT-TV's tower and so

(L to R): Bernard C. Barth, general manager and vice-president of campus TV station; Father Edmund P. Joyce, C.S.C., University executive vice-president; William T. Hamilton, sales manager; and George B. Smith, chief engineer.

television antennas in South Bend will not have to be rotated for better reception when changing channels.

George Smith, who has laid out and set up three TV stations (UHF-VHF), was picked by Barth as chief engineer. Smith, like Barth, had been in communications work for eighteen years, but on the technical end of it. He was the chief engineer for the George Storer television stations, one of the largest privately owned TV operations in the country, before coming to Notre Dame.

The all-important post of sales manager was filled last month by William Thomas Hamilton, formerly a sales executive with the Columbia Broadcasting System. Hamilton has been in sales-advertising circles for twenty years and has a seat on the Board of Governors of the Radio and Television Executives Society.

Barth and his staff found South Bend to be almost unique in the television industry. All three of the South Bend channels are on the ultra-high frequency band which requires a \$35 converter on a regular set. Although there is only one UHF station on the air in South Bend, at least 92% of the 140,000 sets in the area are converted. A second channel will probably increase this percentage in a short time.

The Notre Dame station, which will be telecasting by mid-summer, is being

constructed on a lot adjacent to old Vetville Recreation Hall at the northeast corner of the campus. The simple, one-story structure, easily added to, will contain a single studio 80 feet long and 60 feet wide, a film projection room, a control room, and the main offices.

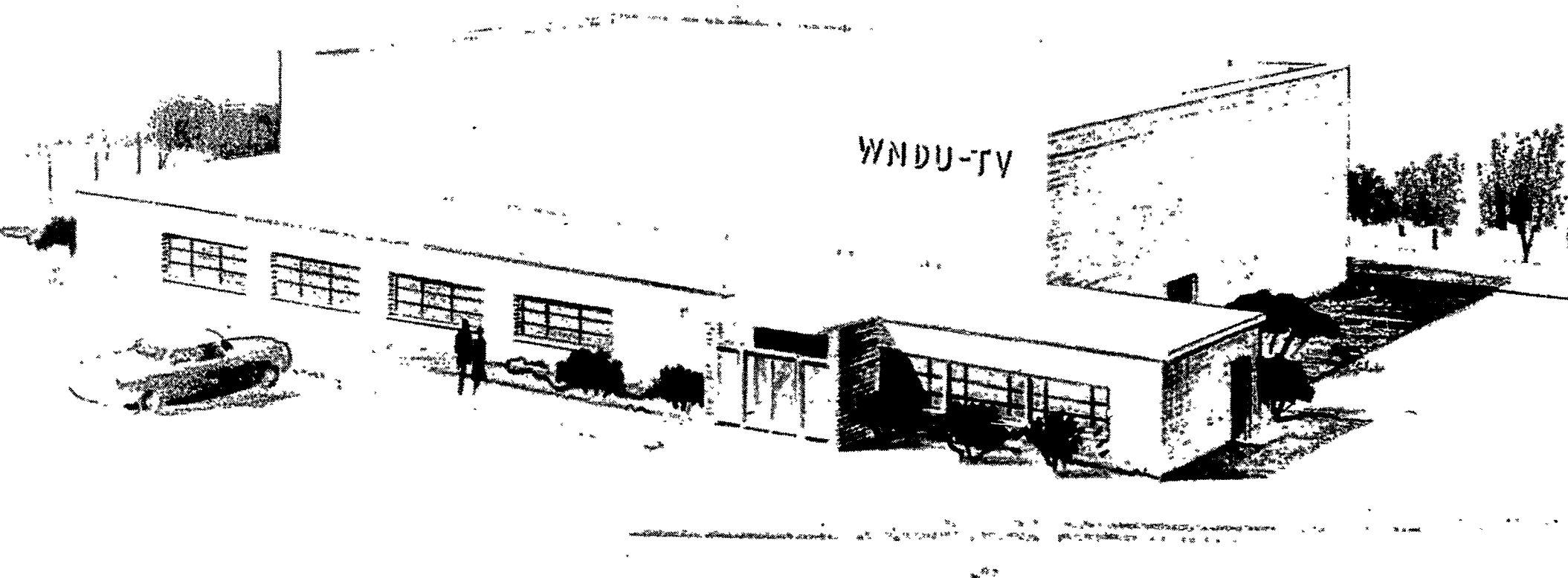
The studio will be similar to most commercial stations. A battery of three cameras will be used in the building; one will be strictly a studio camera but the other two will be combination indoor-outdoor mobile cameras. Most of the lighting will be on trolleys to facilitate moving from one set to another in the back-to-back floor plan, and sound pick-up equipment will consist of a pair of boom microphones plus a number of suspended 'mikes'. All of the equipment is RCA's latest design and is capable of transmitting network color programs.

Tower Transmitter

A saucer-shaped disk will beam the studio's signal into a similar disk attached to the powerful 12½ kw tower transmitter outside the city. The transmitter, in addition to housing the major transmitting equipment, will also encompass in its plans an emergency film and announcer studio.

Barth believes the most effective type of television to be a 'simple, wholesome vehicle, well publicized.' He cites as examples Bishop Sheen and the





comedian George Gobel, who literally couldn't *give* their shows away to begin with but who are now much in demand by all the networks. The Notre Dame station will, then, feature a few key personalities who will be versatile enough to do various types of shows.

"I think we can get good talent all right," says Barth, "because a lot of the name entertainers have tired of the tremendous pressure and competition in the big cities. They are now seeing that the almighty dollar just isn't worth the peace of mind."

The studio will probably have a full-day programming at its outset but the only "live" shows will be the service variety, such as news, weather reports, and the like. Gradually the schedule of "live" shows will expand until a number of programs, both of the educational type and for entertainment will emanate from the campus.

"We're not interested in putting just anything on the air, we want quality, real quality, something we can be

proud to put the Notre Dame stamp on," Barth says. The thinking behind this is that if enough good, wholesome shows are successful on the air, the public will demand them and the industry will soon have a workable set of standards to guide it.

Training TV Administrators

The second half of the program, the training of capable and responsible television administrators, will begin in a small way when the station opens. A limited number of students will be employed in the studio as prop men, boom men, cameramen assistants and the like. Chosen almost entirely on the basis of ability, about twenty-five students will be rotated among the available jobs and those who prove themselves will be moved up to more skilled and responsible positions.

The ultimate aim of the station is to expand into one of the largest and best equipped television centers in the country, with duplicates in most of the

equipment strictly for student use. The station will be the focal point of a new Department of Communication Arts, which is even now in the planning stages and may become a reality within the next three years. All profits from the station over and above what is needed to operate and buy new equipment will be used for the establishment of this department which will be an enterprise almost as costly as the station itself.

And so Notre Dame is embarking on a practically unexplored field in education. The next few years will decide how successful it will be. There is much to be learned and much to be done, little time and not always enough money.

Nevertheless, Barth says frankly, "Sure and although the staff realizes there's a tough road ahead with a lot of sharp turns in it, nevertheless they are confident that the job will be done well." Station WNDU-TV, Channel 46, is just around the dial!



Mr. Adelo, faculty instructor, teaches a special English course to foreign students enrolled at the University of Notre Dame.

*when is a
wise guy not
a "wise guy"?*

by James E. Murphy

The author is Director of Public Information at Notre Dame and a frequent contributor to this magazine.

Calling the dean a "wise guy" is hardly an auspicious beginning for a student's four years at college. Nevertheless, that's the way a Notre Dame dean was greeted recently by a foreign student who had just arrived in the United States.

"I'm very pleased to meet you, sir," the student said. "I've heard you are a wise guy," he added, smiling confidently.

The student, of course, meant no offense to the educator. In fact, he

thought "wise guy" meant a very intelligent person. The incident illustrates the language difficulty which many foreign students experience when they enroll in American colleges and universities.

To help foreign students overcome the language barrier, the University of Notre Dame offers a special course designated "English 11-X." It differs from the regular freshman English course in that it supplies special aids to students for whom English is a strange and confusing language. While a handbook of grammar is the basic text, students frequently are assigned reading in periodicals such as *TIME* and *NEWSWEEK* so that they may learn American idioms as well as grammar. They also view films on American life and culture and occasionally visit a typical business firm or civic institution.

There is a great influx of foreign students into the United States each year. Representatives from countries all over the world are coming to America to fulfill their college education; many of them to Notre Dame.

The majority of these foreign students come from Latin America, where they have been prepared for university work in their mother-tongue, Spanish. Many of the Spanish-speaking students took English as a foreign language while attending high school.

"English 11-X" enables the student to use English faster, to be able to express himself better, to be able to grasp the texts and lectures quicker and to be able to write examinations and papers with more ease.

The class, which meets three times each week, is taught by Abdallah Samuel Adelo, an instructor on the Notre Dame faculty. Notre Dame awarded a Bachelor of Arts degree to Mr. Adelo in 1947, and recently he was admitted to the Indiana Bar following his graduation from the ND School of Law. He has taken advanced courses at Northwestern University and will soon receive a Ph.D. in languages from that institution.

Mr. Adelo is a native of Pecos, New Mexico, (a small Spanish-speaking community) and his bilingual background has made him the ideal choice for teaching this special course. During World War II he served in the U. S. Army as an interpreter, translator and language teacher.

Students currently enrolled in English 11-X are from Japan, Nationalist China, Bolivia, Nicaragua, Peru, Costa Rica, Puerto Rico and Guatemala.

The excellence of American engineering and commerce schools is what attracts Latin American students to this country in Adelo's opinion. Another important factor, he says, is the desire of the Latin Americans to learn to speak English well since facility with the English language is becoming increasingly important south-of-the-border. Many Latin American students enroll at Notre Dame, "not only because it is one of the world's leading Catholic universities, but also because it enjoys a solid academic reputation here and in their own countries."

By helping Spanish-speaking students at Notre Dame understand lectures and textbooks more readily, "English 11-X" is helping make better engineers, architects and businessmen for the Latin American countries.

"They will return to their homelands as leaders in their professions," Adelo states. "More importantly, they will be well prepared for leadership in the growing struggle with Communism and Red infiltration in South America."

The 1954 Foundation Report

THE University of Notre Dame acknowledges with sincere gratitude a record year of generous support from alumni and non-alumni friends, from corporations and foundations.

SUMMARY

	<i>Number</i>	<i>Amount</i>
Alumni	10,132	\$ 481,202.54
Honorary Alumni	3	522,150.00
Non-Alumni	1,289	575,171.83
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	11,424	1,578,524.37
Research Grants and Fellowships		710,589.57
		<hr/>
GRAND TOTAL		\$2,289,113.94

DENOMINATIONAL GIVING

<i>Amount</i>	<i>Contributors</i>
\$ 1 - \$ 100	10,861
\$ 101 - \$ 200	121
\$ 201 - \$ 500	198
\$ 501 - \$ 999	59
\$1000 - \$1500	93
\$1501 - \$2500	22
\$2501 - \$5000	38
over \$5000	32
	<hr/>
	11,424

HIGHLIGHTS

★ Grand Total	\$2,289,113.94
(55% increase over 1953)	
★ Alumni Participation	50.1%
(47.7% in 1953)	
★ Number of Alumni Contributions (a new record)	10,132
★ Alumni Total Amount	\$481,202.54
★ Average Alumnus Gift	\$49.64
★ Non-Alumni Total Amount	\$575,171.83
★ Gifts for Faculty Development	\$456,215.21
★ Total of Research Fellowships and Grants	\$710,589.57
(18% increase over 1953)	
★ Included in the totals are 568 contributions from parents totalling	\$64,214.69
★ Gifts of \$1,000 and Over	185 Contributors

1954 TOP TEN STATES IN NON-ALUMNI CONTRIBUTIONS

	<i>Amount</i>		<i>Number</i>
1. Indiana	\$156,680.00	1. New York	193
2. New York	115,550.00	2. Illinois	165
3. Maryland	100,500.00	3. Indiana	144
4. Illinois	87,549.00	4. Michigan	105
5. Michigan	45,467.00	5. Pennsylvania	104
6. California	29,131.00	6. New Jersey	67
7. Ohio	16,188.00	7. Florida	63
8. Pennsylvania	13,341.00	8. Ohio	54
9. Texas	12,562.00	9. Texas	31
10. New Jersey	10,489.00	10. California	23
		Massachusetts	23

COMPARISON WITH PREVIOUS YEARS

	<i>Year</i>	<i>Number</i>	<i>Amount</i>
ALUMNI*	1947	7888	\$ 376,013.00
	1948	6973	451,898.28
	1949	7517	506,231.16
	1950	7114	2,032,437.94
	1951	6745	329,211.08
	1952	7006	963,992.63
	1953	9184	364,323.03
	1954	10132	1,003,352.54
FRIENDS	1947	302	\$ 175,790.00
	1948	691	163,041.14
	1949	1158	1,418,310.51
	1950	2695	373,749.26
	1951	1593	1,625,110.43
	1952	1351	351,883.52
	1953	1329	462,340.92
	1954	1289	575,171.83
RESEARCH	1947	-----	-----
	1948	-----	-----
	1949	-----	\$407,305.70
	1950	-----	505,400.35
	1951	-----	458,872.71
	1952	-----	580,301.00
	1953	-----	602,734.18
	1954	-----	710,589.57
TOTAL	1947	8190	\$ 551,803.00
	1948	7664	614,939.42
	1949	8675	2,416,647.37
	1950	9809	3,114,830.55
	1951	8338	2,413,194.22
	1952	8357	1,928,557.15
	1953	10513	1,470,851.13
	1954	11421	2,289,113.94

* Includes Honorary Alumni

PARTICIPATION PERCENTAGE OF QUOTA — ALUMNI

States

STATE 100% and Over

Arkansas
Delaware
Nevada
South Carolina

GOVERNOR

Raymond A. Marre, '37
Arthur A. Baum, '36
Edward P. Carville, '09
Thomas F. Armstrong, Sr., NA

90% to 100%

Kansas

George A. Schwarz, '25

80% to 90%

Florida
Idaho
Mississippi
New Mexico
Oklahoma
Texas
Utah

Faris N. Cowart, '34
Thomas J. Jones, Jr., '29
William H. Miller, '30
Thomas P. Foy, '38
William J. Sherry, '21
Clyde E. Broussard, '13
Philip J. Purcell, Jr., '35

70% to 80%

Arizona
Colorado
Connecticut
Dist. of Columbia
Georgia
Iowa
Louisiana
Michigan
North Carolina
Pennsylvania
Wyoming

John G. O'Malley, '36
James F. Hanlon, '18
Timothy J. Murphy, Jr., '24
William D. Kavanaugh, '27
Michael F. Wiedl, '34
Henry C. Wurzer, '25
Jules de la Vergne, '33
C. M. Verbiest, '20
Charles F. Powers, Jr., '36
*Joseph R. Farrell, '15
Thomas G. Kassis, '31

AMOUNT PERCENTAGE OF QUOTA — ALUMNI

States

STATE 100% and Over

Arkansas
California
Delaware
Idaho
Iowa
Kansas
Ohio
Oklahoma
Pennsylvania
Utah

GOVERNOR

Raymond A. Marre, '37
Leo B. Ward, '20
Arthur A. Baum, '36
Thomas J. Jones, Jr., '29
Henry C. Wurzer, '25
George A. Schwarz, '25
Thomas F. Byrne, '28
William J. Sherry, '21
*Joseph R. Farrell, '15
Philip J. Purcell, Jr., '35

90% to 100%

Connecticut
Missouri
New Jersey
New Mexico

Timothy J. Murphy, Jr., '24
Dr. Matthew W. Weis, '22
John J. Winberry, '28
Thomas P. Foy, '38

80% to 90%

Georgia
Illinois
Indiana
Louisiana
Maryland
Mississippi
Oregon
South Dakota
Texas

Michael F. Wiedl, '34
Leonard W. Condon, '32
Karl F. Johnson, '29
Jules de la Vergne, '33
Dr. Roy O. Scholz, '35
William H. Miller, '30
William C. Schmitt, '10
John E. Burke, '41
Clyde E. Broussard, '13

*Died Oct. 11, 1954

PARTICIPATION PERCENTAGE OF QUOTA—ALUMNI

Cities

CITY	CHAIRMAN		
100% and Over		80% to 90%	
Phoenix	Robert D. Kendall, '31	Bridgeport	Nicholas A. Lanese, '37
Boise	Francis H. Neitzel, '23	Ft. Lauderdale	Robert H. Gore, Jr., '31
Sterling	Joseph H. Bittorf, '33	Ft. Wayne	Col. John R. Flynn, '23
Marion, Ind.	James M. Gartland, '41	Muncie	Frederick E. Watson, '25
New Orleans	William B. Dreux, '33	Notre Dame	Lawrence H. Baldinger, '31
Dearborn	Peter J. Kernan, Jr., '49	Terre Haute	Louis F. Keifer, '16
Flint	Thomas F. Halligan, '44	Des Moines	Harold P. Klein, '26
Saginaw	Carl W. Doozan, '38	Battle Creek	H. Chase Black, Jr., '49
Albuquerque	Charles F. O'Malley, '39	Kalamazoo	Paul W. O'Connell, '44
Syracuse	John E. McAuliffe, '39	Muskegon	George E. Ludwig, '25
Columbus, O.	John C. Fontana, '28	Port Huron	Harry S. Erd, Jr., '46
Oklahoma City	J. Haskell Askew, '31	Paterson	Joseph A. Abbott, '30
Johnstown	Donald A. Schettig, '30	Trenton	
Oil City	William K. Bayer, Jr., '36	Schenectady	Francis M. Linehan, '45
Reading	Thomas P. Wolff, '51	Dayton	W. Edmund Shea, '23
Chattanooga	John W. Terrell, '39	Tulsa	Peter J. McMahon, '45
Beaumont-Port Arthur	Richard T. Braun, '14	Butler	William J. Rockenstein, '34
Dallas	Walter L. Fleming, Jr., '40	Harrisburg	Louis C. O'Brien, '44
Wheeling-Bellaire	George J. Sargus, '28	Sharon	Dr. James A. Biggins, '31
		Sioux Falls	Thomas M. Reardon, '36
90% to 100%		El Paso	Richard S. Smith, '37
Jacksonville		Ft. Worth	J. Lee Johnson, III, '49
Miami	Faris N. Cowart, '34	San Antonio	Edward G. Conroy, '30
Kokomo	Mark E. Zimmerer, '21	Tacoma	Robert F. Merz, '47
Monroe	William J. Gallagher, '50	Marinette	Frank J. Lauerma, Jr., '19
Asbury Park	John J. Wingerter, '28		
Altoona	Donald A. Schettig, '30		

AMOUNT PERCENTAGE OF QUOTA—ALUMNI

Cities

CITY	CHAIRMAN		
100% and Over			
Phoenix	Robert D. Kendall, '31	Canton	Maurice F. Zink, Jr., '48
Los Angeles	Eugene M. Kennedy, '22	Cleveland	Karl E. Martersteck, '29
Hartford	Francis T. Ahern, '27	Oklahoma City	J. Haskell Askew, '31
Ft. Lauderdale	Robert H. Gore, Jr., '31	Tulsa	Peter J. McMahon, '45
Jacksonville		Altoona	Donald A. Schettig, '30
Boise	Francis H. Neitzel, '23	Butler	William J. Rockenstein, '34
Moline	John R. Coryn, '22	DuBois	Regis J. Maloney, '29
Peoria	Bernard J. Ghiglieri, '44	Harrisburg	Louis C. O'Brien, '44
Rockford	James H. Dunn, Jr., '39	Johnstown	Donald A. Schettig, '30
Sterling	Joseph H. Bittorf, '33	Oil City	William K. Bayer, Jr., '36
Calumet District	William L. Travis, '27	Philadelphia	John P. Dempsey, '49
Elkhart	Robert F. Holtz, '38	Pittsburgh	Earl W. Brieger, '31
Evansville	F. Ralph Heger, '25	Reading	Thomas P. Wolff, '51
Ft. Wayne	Col. John R. Flynn, '23	St. Mary's	William P. Gies, '40
Notre Dame	Lawrence H. Baldinger, '31	Titusville	Matthew J. Bajorek, '45
Davenport	D. John Hickey, III, '36	Sioux Falls	Thomas M. Reardon, '36
Des Moines	Harold P. Klein, '26	Beaumont-Port Arthur	Richard T. Braun, '14
Baltimore	Franklyn C. Hochreiter, '35	Richmond, Va.	Francis J. Stumpf, '44
Springfield, Mass.	William A. Hurley, '28	Tacoma	Robert F. Merz, '47
Benton Harbor-St. Joseph	G. Clemens Theisen, '32	Wheeling-Bellaire	George J. Sargus, '28
Dearborn	Peter J. Kernan, Jr., '49	Marinette	Frank J. Lauerma, Jr., '19
Flint	Thomas F. Halligan, '44		
Monroe	William J. Gallagher, '50	90% to 100%	
Muskegon	George E. Ludwig, '25	Waterbury	William J. Andres, '18
Kansas City	Joseph M. Van Dyke, '44	Atlanta	Alfred R. Abrams, '21
Asbury Park	John J. Wingerter, '28	Joliet	William J. Bossingham, '25
Camden	Frank E. Vittori, '49	New Orleans	William B. Dreux, '33
Elizabeth	James T. Quinn, '27	Newark	John A. Pindar, '40
Paterson	Joseph A. Abbott, '30	Toledo	F. J. Solon, Jr., '38
Albuquerque	Charles F. O'Malley, '39	Youngstown	Charles B. Cushwa, Jr., '31
Buffalo	Anthony W. Brick, Jr., '36	Portland, Ore.	Phil Berthiaume, '28
Schenectady	Francis M. Linehan, '45	Sharon	Dr. James A. Biggins, '31
		Dallas	Walter L. Fleming, Jr., '40

1954 STATE CONTRIBUTION STATISTICS

<i>States</i>	<i>Contributions from Alumni</i>	<i>Contributions from Non-Alumni</i>	<i>Total</i>
Alabama	\$ 116.00	\$	\$ 116.00
Arizona	688.50	35.00	723.50
Arkansas	20,414.50	110.00	20,524.50
California	47,996.00	29,131.00	77,127.00
Colorado	2,070.50	536.00	2,606.50
Connecticut	2,264.43	153.00	2,417.43
Delaware	362.00	5,878.35	6,240.35
District of Columbia	3,380.52	7,424.00	10,004.52
Florida	3,944.00	7,204.00	11,148.00
Georgia	612.00	5,035.00	5,647.00
Idaho	380.00	20.00	400.00
Illinois	67,165.75	87,549.17	154,714.92
Indiana	43,893.55	156,680.74	200,574.29
Iowa	4,685.00	585.00	5,270.00
Kansas	1,256.00	210.00	1,466.00
Kentucky	4,180.50	787.50	4,968.00
Louisiana	1,940.00	710.00	2,650.00
Maine	124.00		124.00
Maryland	1,416.00	500.00	* 401,916.00
Massachusetts	3,140.22	6,789.00	9,929.22
Michigan	25,042.87	45,467.40	70,510.27
Minnesota	2,197.21	809.00	† 16,056.21
Mississippi	344.00	20.00	364.00
Missouri	18,567.75	4,304.00	22,871.75
Montana	362.50		362.50
Nebraska	554.50	1,241.00	1,795.50
Nevada	213.50		213.50
New Hampshire	144.00	133.00	277.00
New Jersey	8,932.54	10,489.00	19,421.54
New Mexico	598.50	125.00	723.50
New York	66,239.04	115,550.00	‡ 290,889.04
North Carolina	170.00	25.00	195.00
North Dakota	120.00	5.00	125.00
Ohio	72,878.58	16,188.66	89,067.24
Oklahoma	19,987.00	5,965.00	25,952.00
Oregon	2,027.00	570.00	2,597.00
Pennsylvania	21,048.70	13,341.75	34,390.45
Rhode Island	483.00	110.00	593.00
South Carolina	142.55	385.00	527.55
South Dakota	529.00		529.00
Tennessee	5,246.50	10.00	5,256.50
Texas	5,663.70	12,562.00	18,225.70
Utah	317.00		317.00
Vermont	120.00	2.00	122.00
Virginia	644.00	140.00	784.00
Washington	1,302.00	5.00	1,307.00
West Virginia	1,406.25	130.00	1,536.25
Wisconsin	7,913.17	5,442.00	13,355.17
Wyoming	158.00	520.26	678.26
Foreign	2,277.30	267.00	2,544.30
AFO-FPO	741.04		741.04
Anonymous	125.00	1,642.00	1,767.00
Gifts in Kind	4,676.87	30,385.00	35,061.87
GRAND TOTALS	\$481,202.54	\$575,171.83	\$1,578,524.37

Honorary Alumni Contributions: *\$400,000.00, †\$13,050.00, ‡\$109,100.00
(included in these totals)



Dr. Joseph B. Crowley, infirmary physician, 'observes'
as Mrs. Raabe administers to student.

TLC

Tender Loving Care-

(at) The Student Infirmary

by Peter Campbell

The author is a member of the Junior Class and is majoring in Journalism. His home is in Elkton, Md.

Breakfast in bed and three pillows under your head—is this Notre Dame? It is if one goes to the student infirmary.

For a family of 5,400, Notre Dame has been blessed with a high health-rate. This can probably be traced to the cleanliness of the student's living quarters and to the quality of the student's food; but nevertheless, the University finds it wise to maintain a large infirmary even though it has been filled only on rare occasions.

The infirmary, completed in 1936, is a beautiful three-story structure on the north side of the campus, some 400 feet behind the Administration building. Besides having a bed capacity of 93 it has many features of a regular hospital such as a contagion section, a student-patient dining room, a complete modern dispensary, a testing laboratory, a fully equipped modern kitchen, a sun porch, living quarters for some members of the staff and a chapel with a seating capacity of 50.

Accommodations are in either single or double rooms or in ten-bed wards, each having its own lavatory facilities. Windows are built on a slant to prevent drafts and all light shields are tinted blue to avoid eye-strain. There are a maximum number of windows in the building for it is constructed in a form similar to a cross.

Full-time Doctor On Duty

Students in need of care find a competent staff prepared to serve them 24 hours a day and seven days a week. Everything from a blister on the foot to a broken limb is treated.

The professional staff is headed by Sister Margaret Ann, C.S.C., R.N., supervisor of the Infirmary and a nurse for the past 35 years. She served as administrator of a 300-bed hospital in Anderson, Indiana, for six years.

Dr. Joseph B. Crowley, a native of Franklin, Mass., and graduate of Tufts Medical College, is the physician on full-time duty. Other physicians on

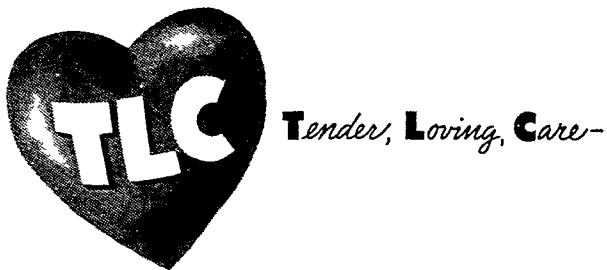
the staff for consultation include Dr. Sherman L. Egan, Dr. George Green, Dr. R. H. Denham, Jr., and Dr. Leslie L. Bodnar.

Rev. Thomas Lahey, C.S.C., is resident chaplain at the Infirmary. Father Lahey celebrates daily Mass in the chapel, distributes Holy Communion in the wards to those too sick to attend Mass, and assists the students with their various spiritual needs.

Additional members of the staff include eight registered nurses, three of whom are Sisters of the Congregation of Holy Cross; a practical nurse; a laboratory technician; a medical stenographer; two cooks; four maids; one janitor and a varying number of nurse's aids.

The infirmary has a slogan that is becoming well known around campus: "See us before it gets the better of you."

"If the student would only come to us at the very first sign of a cold or whatever ailment he has," explained



Sister Margaret Ann, "we could probably save him a great deal of time and misery. The most common troubles are coughs, head-colds, sore throats. Of course, we receive our share of sprains and fractures."

During the nine-month school year 11,000 treatments are administered and during the relatively quiet summer months another 1,000. The infirmary is divided into two sections: a ward that deals with cases requiring bed care; and an emergency or out-patient section that deals with cases that do not require bed care.

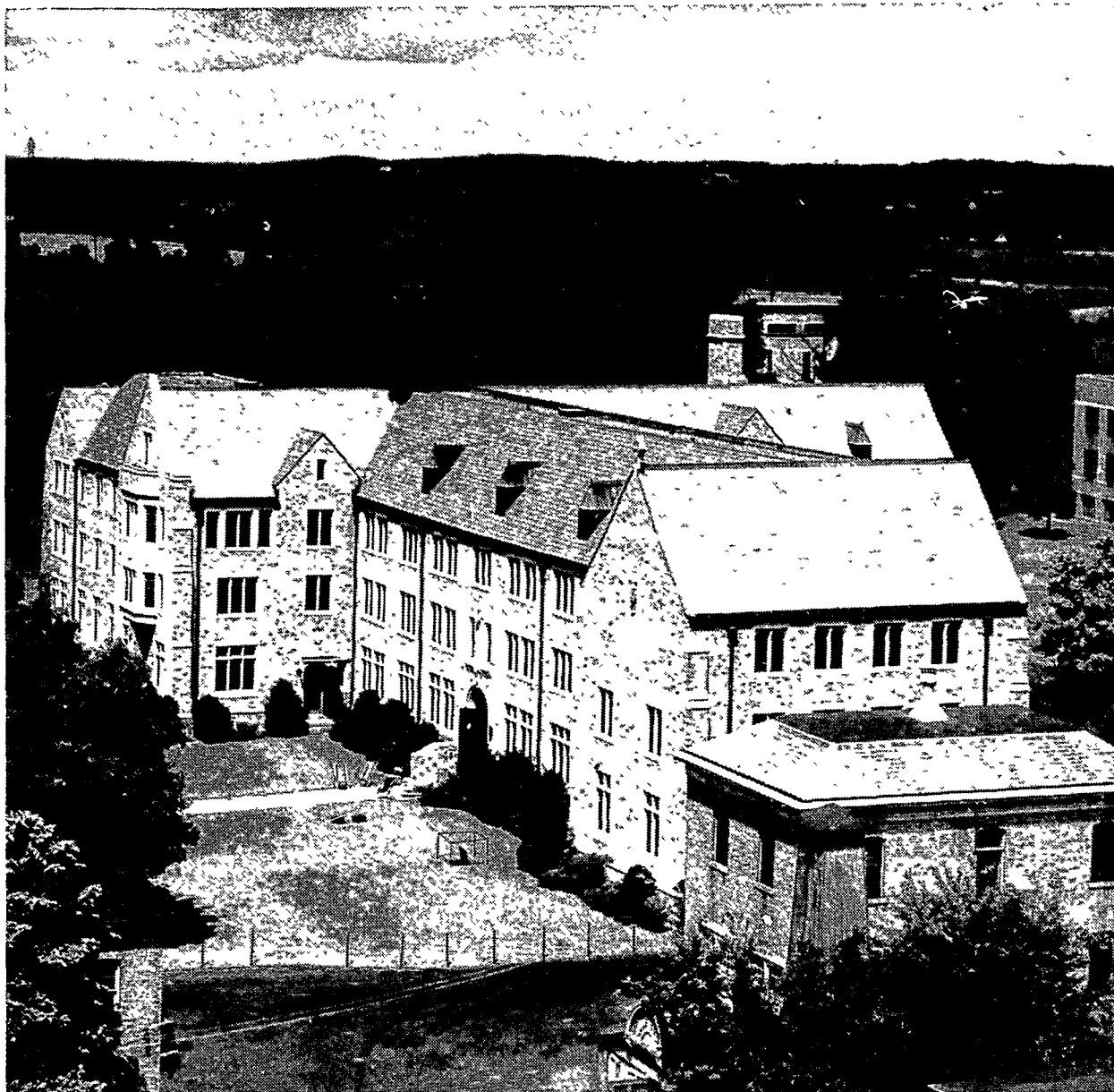
Early in the semester the infirmary gives inoculations to the ROTC units and physical examinations to those who wish to participate in varsity and intramural sports. January and February are usually the busiest months with 80 to 90 cases a day. This situation changes, however, depending mostly upon the weather. This year, for example, because of the extremely wet weather during home football games, there was a great deal of minor sicknesses during October and November.

In its recent history, the infirmary has been filled to capacity only once, that was in February of 1952 when a flu epidemic hit the South Bend area. Statistics show that four out of five students go through each year contracting little more than a mild cold; and those who are confined spend an average of only three to four days in bed.

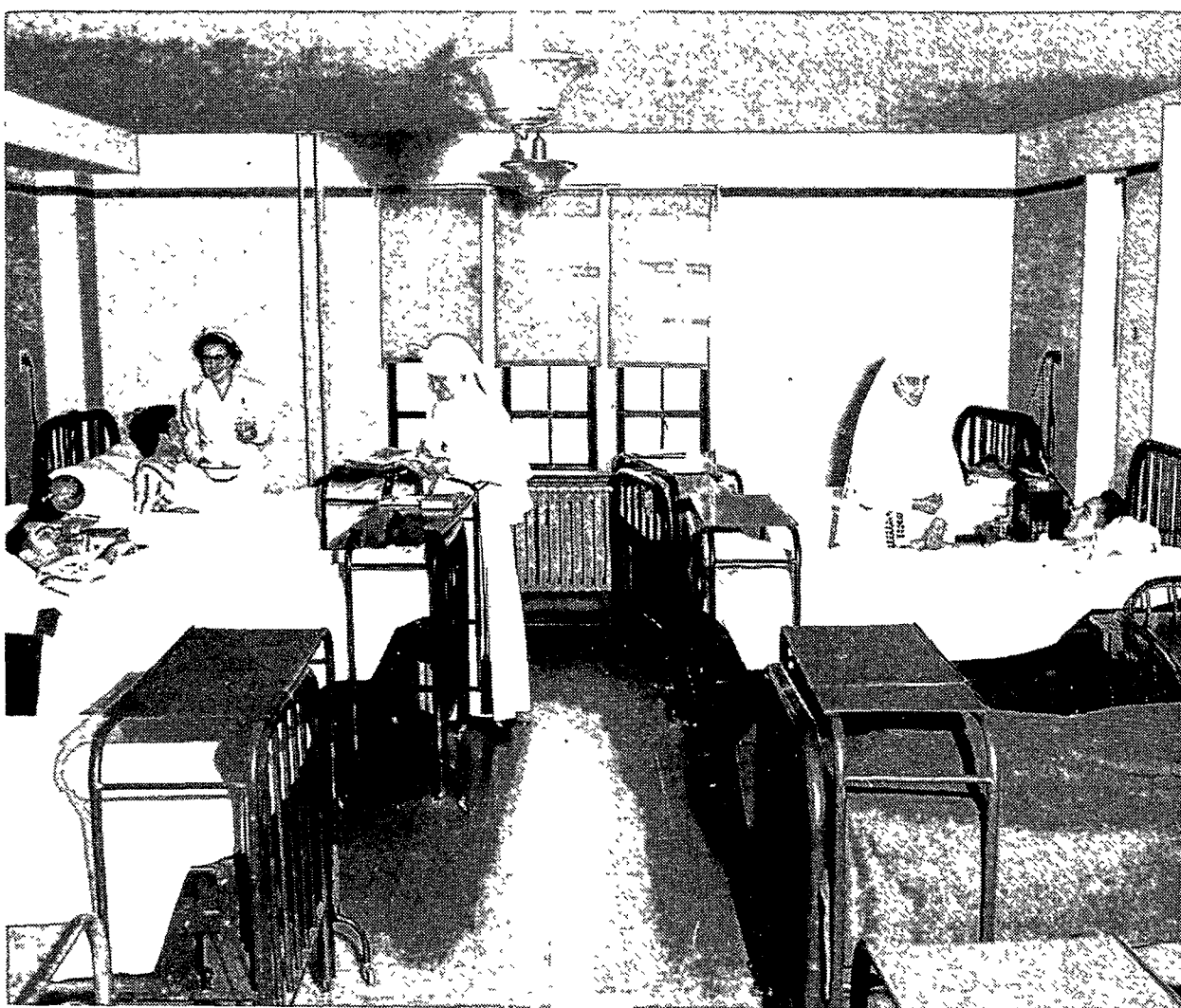
In special cases that require elaborate equipment or the attention of a number of doctors, the student is transferred to Saint Joseph's hospital, one and a half miles from the University. It is also under the direction of the Congregation of Holy Cross Sisters.

Rules of the infirmary are few and simple, but they are enforced. Besides the usual hospital regulations the infirmary does not permit radios to be played after 10 p.m., nor are visitors allowed above the first floor. Of course, exceptions are made for relatives of patients.

This is one place on campus where a fellow is treated like a king. He is under excellent medical care and soon



The Infirmary is an important factor in the student health program.



Sister Margaret Ann, C.S.C., (center) is supervisor of the Infirmary. Sister Aurelius, C.S.C., and Mrs. Bott are members of the staff which includes a total of eight registered nurses.

STUDENT HEALTH PLAN

The Notre Dame Student Health Insurance Plan, approved by the University and administered by the Continental Casualty Co., Chicago, Ill., has more than 1300 students enrolled during the present school-year. The cost is \$21 for the full 12 months and includes benefits from sickness and accident. The campus office is located in the LaFortune Student Center.

discovers that "T L C" is a main part of his diet. As Mrs. Bott, nurse of the second floor says, "The boys range from the age of 17 to 23, but nevertheless, when they're sick they like motherly attention. We try to give it to them and they call it T L C—tender loving care. I think they appreciate it."

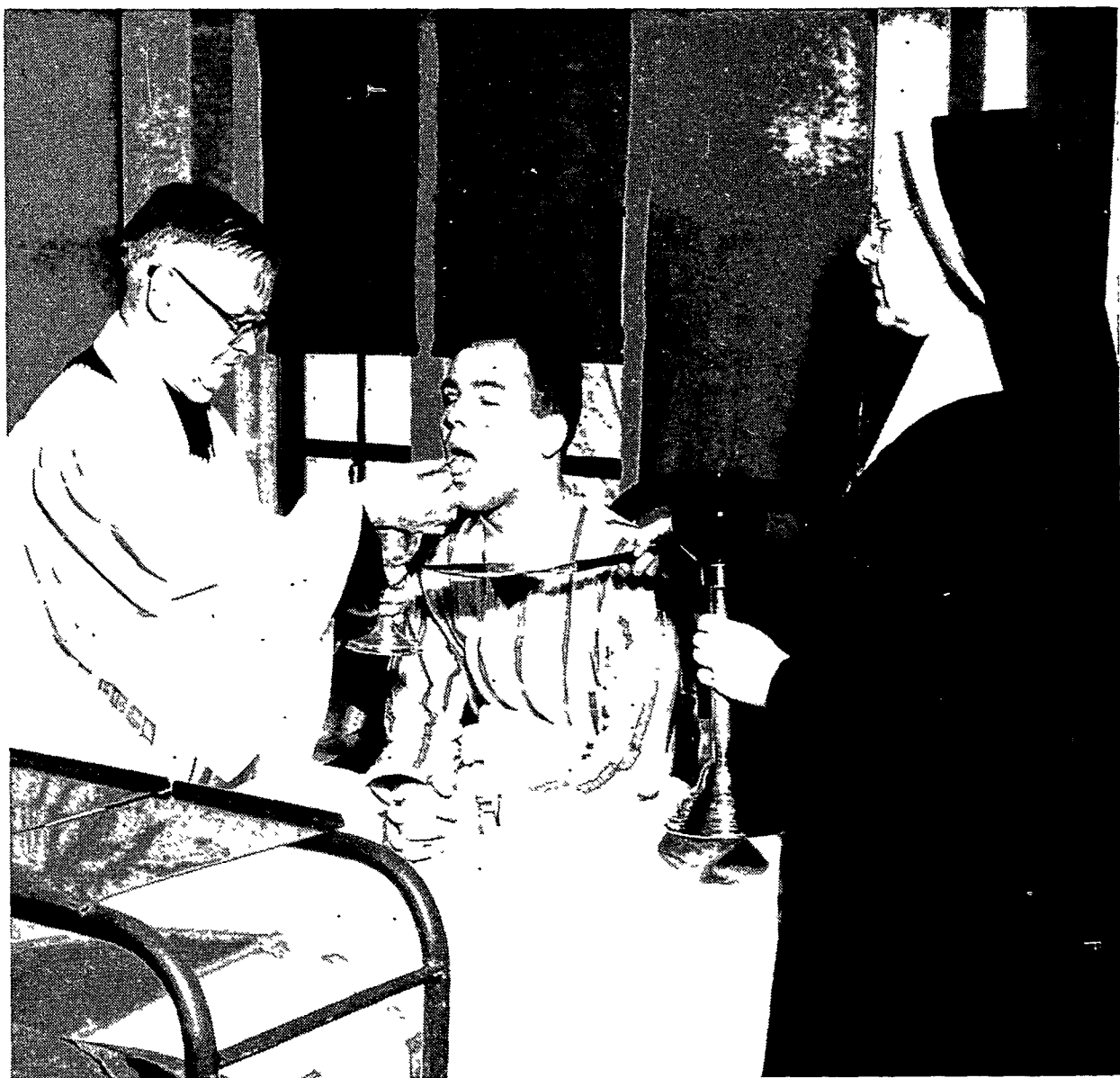
This year the infirmary introduced the new policy of seeing that if possible the student is served whatever he desires. "When boys are well they can eat almost anything," explains Sister M. Aurelius, "but when they are sick they have to be coaxed by good food and by the type that they like."

Students approve of this idea wholeheartedly. "The food is great," says Tom Camp of Chicago, "so good that you hate to admit that you're getting better and will have to give up this luxury." Bob Hutch of Westmoreland Hills, Maryland, puts it this way: "This is really the life; we get plenty of sleep, food and have fun, and believe it or not—a bed-time snack. Last night we had milkshakes and doughnuts before turning out the lights."

Except in cases of contagious diseases or very serious illness, all the students are ward patients. This helps make their stay more pleasant for they can talk, play cards or help each other with their studies. Usually the student doesn't even fall behind in his school work.

Even though visitors are not allowed into the wards the patient is still in contact with the "outside world." Members of the Third Order of Saint Francis circulate through the wards daily and bring whatever the student needs, such as his mail, his books, a pack of cigarettes or what have you.

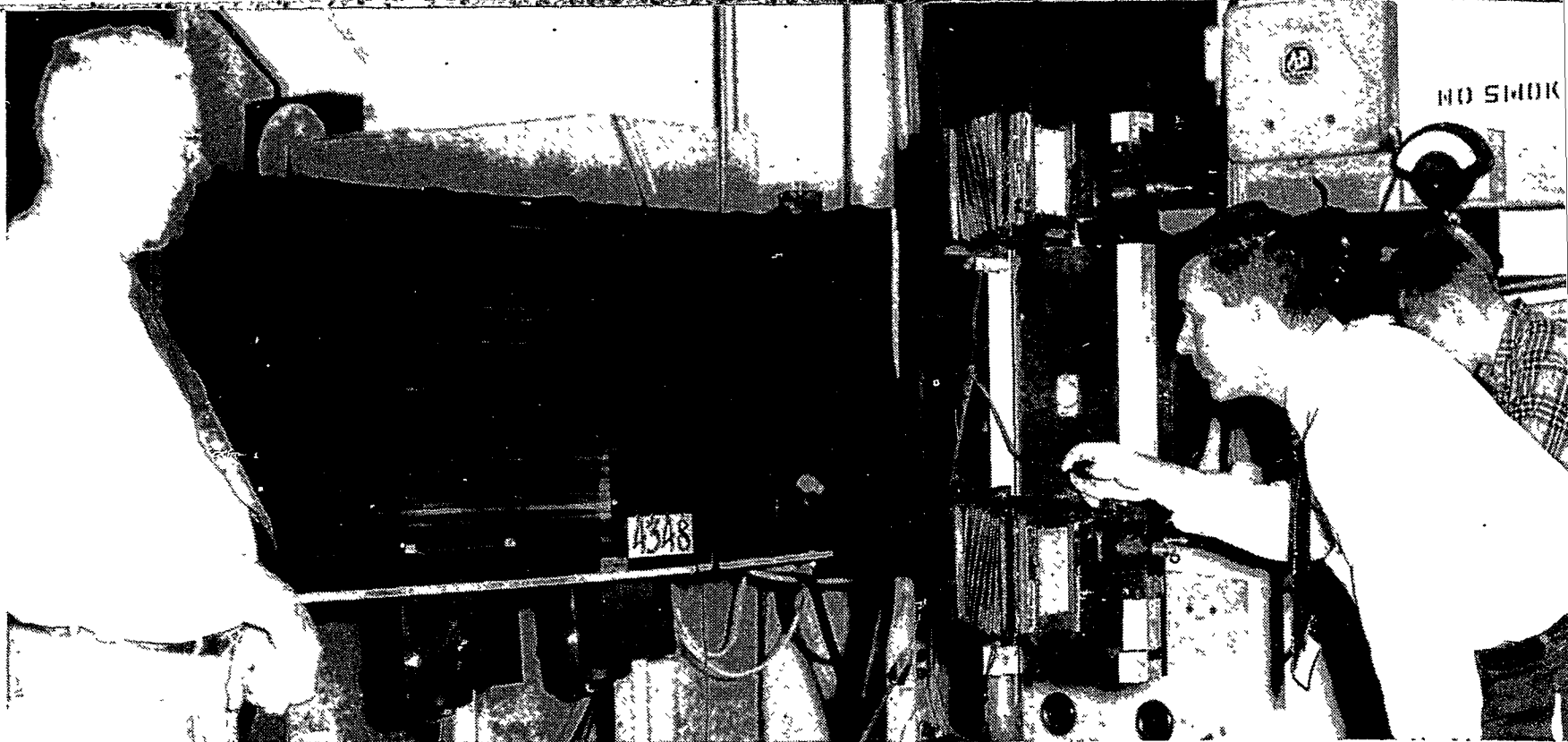
Although this is the only place on campus that one is served breakfast in bed, it still isn't a popular hangout. Who wants to be sick? However, when you are, you couldn't ask for a better place.



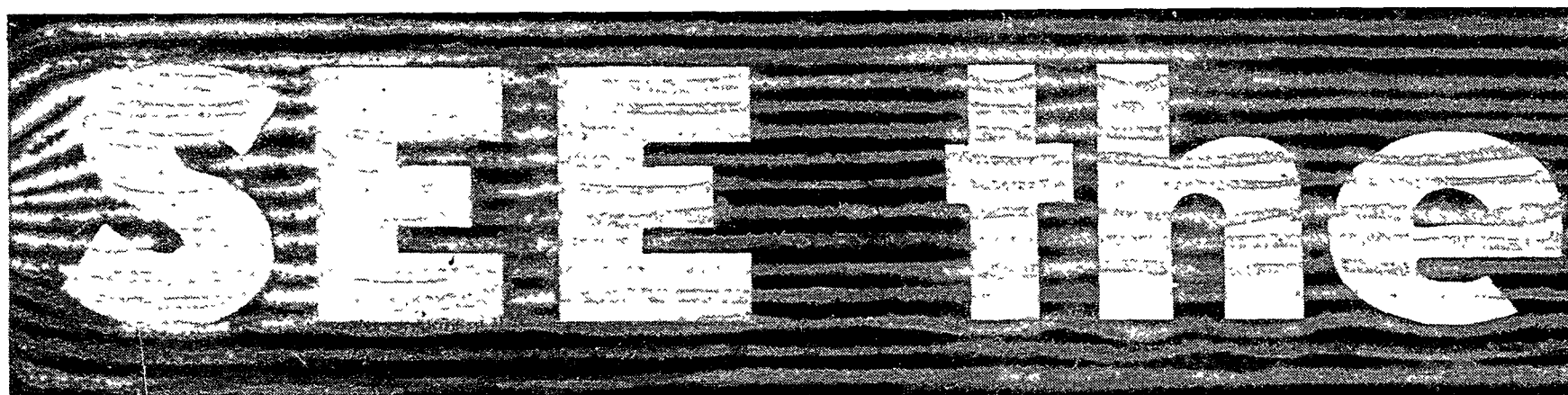
Father Thomas Lahey, C.S.C., chaplain, assisted by Sister Ann Rita, C.S.C., distributes Holy Communion to students who are sick and unable to attend daily Mass.



Mrs. Peterson 'signs in' student at registration desk.



Professor Brown (left) watches the process of photographing air flow within the smoke tunnel by Professor Eikenberry. This technique has been of great value in studying the effect of air flow around wing surfaces and on jet engines.



Aero Engineering Research at Notre Dame May Provide Important Data for Leadership in Jet Aviation

by Pat Brennan

The author is majoring in Journalism and formerly was a staff writer for the Denver Catholic Register. He is married, has two children and his home is in Denver, Colo.

The University of Notre Dame has made another unprecedented contribution to man's scientific progress.

Notre Dame engineers' original developments in smoke tunnel experimentation, which have enabled scientists literally to SEE the wind blow, may

prove to be a boon to jet aviation throughout the world.

F. N. M. Brown, head of Notre Dame's aeronautical engineering department, and Prof. Robert Eikenberry, on the university's faculty for 17 years, have become the first to apply the use of three-dimensional photography to a smoke tunnel. They are, in effect, the first to make the smoke tunnel—conceived by Marey in 1901 and “long tried” by scientists—actually *useful* in the fundamental study of air flow.

Brown in 1940 constructed at Notre Dame the world's first “useful” three-dimensional smoke tunnel, which could maintain “nearly zero turbulence up to 35 feet per second.” The university now has a tunnel that can maintain a near-zero turbulence at 185 feet per second and this tunnel is still the only one in existence to have passed the “20 feet per second mark.”

Eikenberry was the first to adapt the stereo-comparator—a device used today mainly for aerial mapping—to “very short distance photography” for use in smoke tunnel experimentation.

Prior to the Brown-Eikenberry developments, experimentalists working with

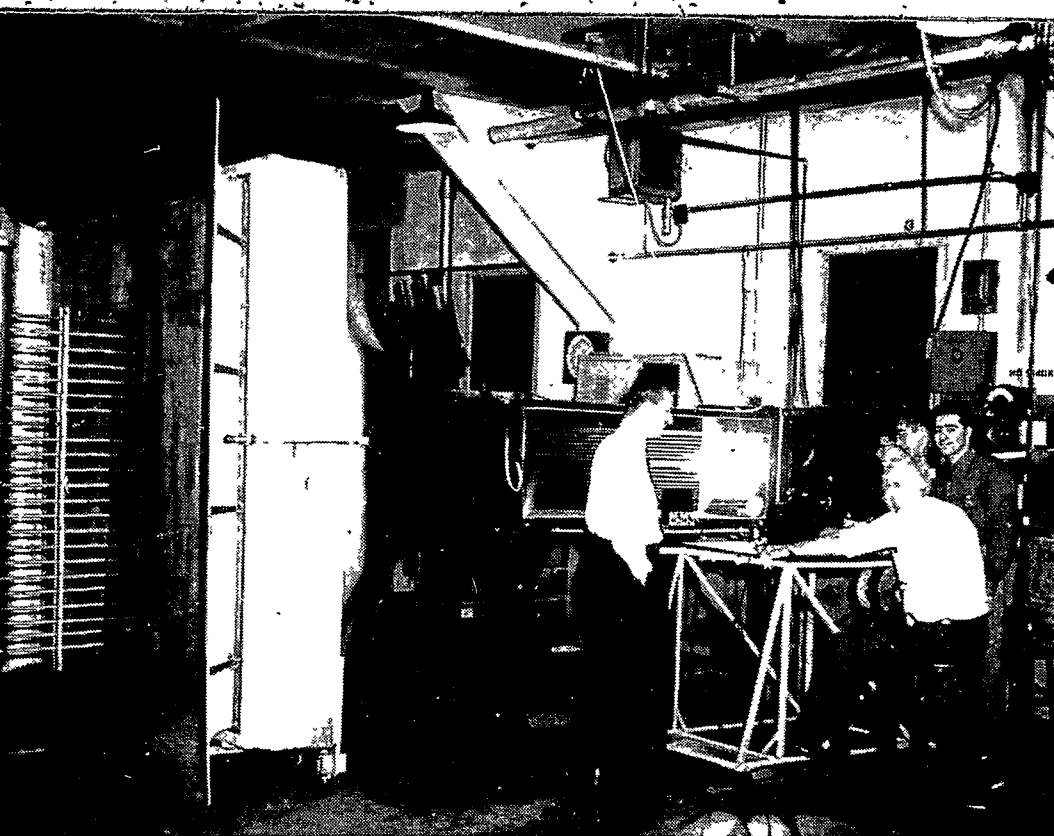
the old-type wind tunnel could only determine the *average* force of air on an object, could ascertain only the *average* pressure over the surface of a model, and the direction of the velocity was unknown to them.

“Now we not only can photograph a three-dimensional air pattern,” noted Brown, “but we can measure it with a stereo-comparator.”

What does this mean?

“We cannot see the air flow,” continued Brown, “but since we can photograph it the motion can be stopped for leisurely examination and measurement. Heretofore this was impossible. The net result could be a general improvement in the jet engine through the improvement of the turbine and the compressor blades.”

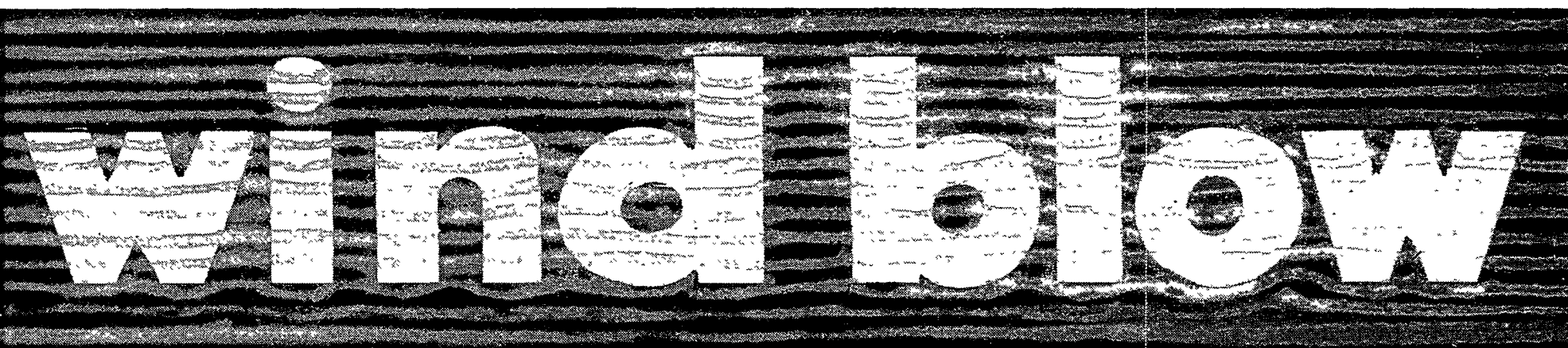
Making use of their unique three-dimensional smoke tunnel photography, Brown and Eikenberry, whose findings have already helped to solve “wing flutter trouble” on the Boeing B-52, have worked on sub-sonic diffusers for turbo-jet engines and are now studying the air flow around turbine blades for jet engines. Their discoveries have



A double-exposure picture was used by the above group to photograph clearly the air flow in the smoke chamber and at the same time to observe the participants gathered around the tunnel.



Professor Robert Eikenberry is using his stereo comparator in a study of air flow. He has been a member of the Notre Dame faculty since 1938 and is a licensed pilot.



made it possible for aeronautical engineers to "know what's going on" around these turbine blades. "This knowledge," points out Brown, "may help solve a 'surge' problem that has the effect of robbing the jet's engine of air, a phenomenon which causes the jet's flame to go out and may result in a forced landing. The 'surge' problem, however, is mainly one of uneven operation. The serious difficulty occurs on acceleration from low speeds and deceleration from high speeds. Our original developments here at Notre Dame may lead to a solution of the problem."

The Brown-Eikenberry experiments have attracted global attention. Through the Smithsonian Institution, pictures resulting from smoke-tunnel experimentation at Notre Dame this past summer were shown throughout Europe. The Encyclopedia Britannica will include examples of Brown's work in a future edition (probably 1956). This work at Notre Dame is the first U. S. experimentation in the field even to merit a mention by the editors of *Brittanica*.

Brown, a Protestant who came to

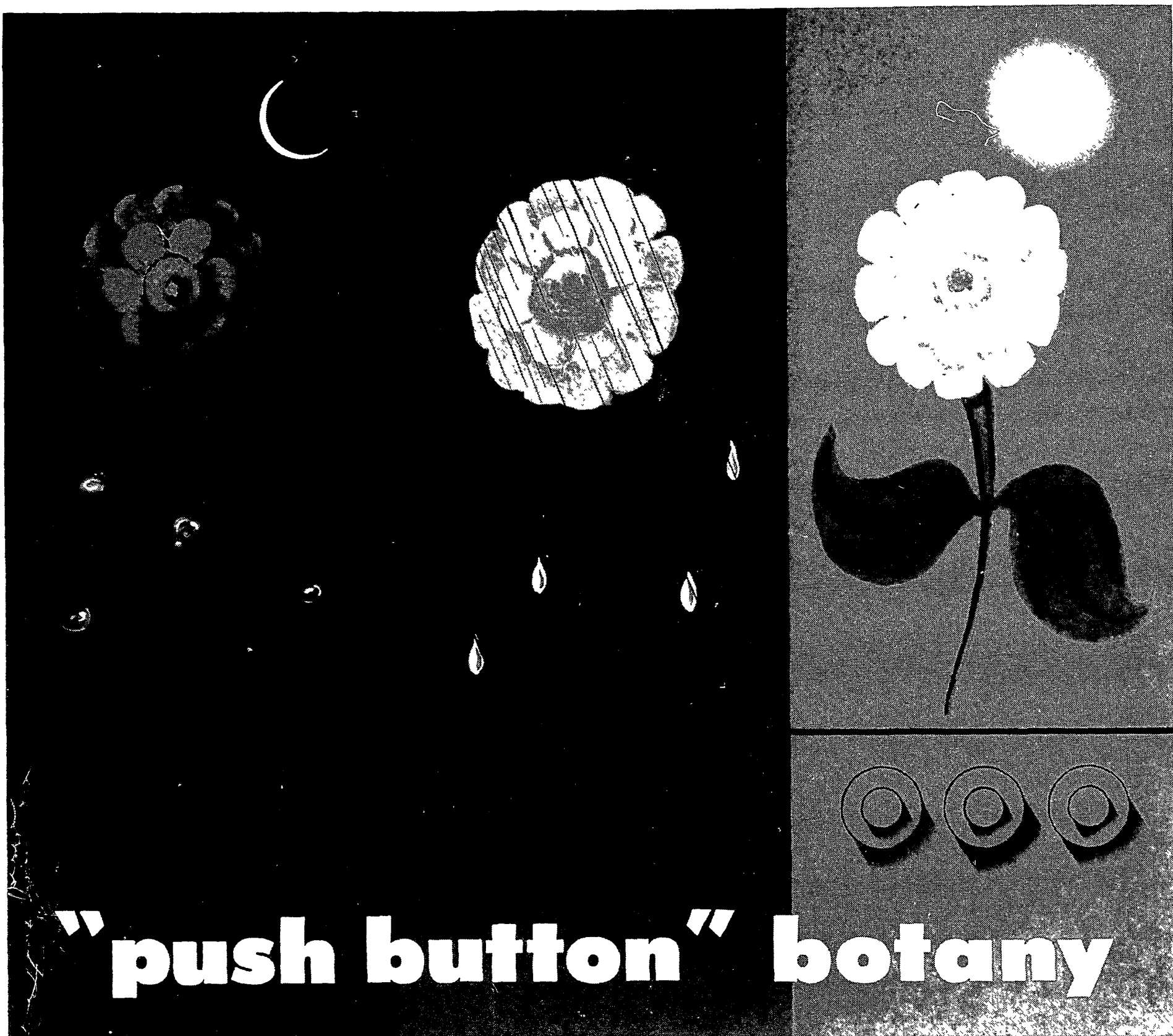
Notre Dame in 1935, credits the university heavily for his achievements. "I think the fact that the university has backed me to the hilt on every phase of experimentation has contributed much to the success of my original smoke tunnel experimentation," he said. "Every university is now building, or will build, a smoke tunnel. Our work was all a matter of development rather than invention and a great illuminator of stupidity."

In addition to his smoke tunnel development, Brown has two other "firsts" to his credit. His "Photographic Space-Time Recorder," which appeared in 1938, makes it possible for experts to determine how much force is applied in the landing process to the wheels of any particular aircraft. This calculation of "acceleration and loads" is obtained when Brown's invention records photographically the motion of an object in space against time.

The "Brown Navigator," developed in 1941, is a small plotting board which enables the student navigators to work a problem in flight, record the results, and save them for further study.

A licensed pilot is Professor Robert Eikenberry, who came to Notre Dame in 1938. The owner of a pilot's certificate with a private airplane rating and a commercial glider rating, Eikenberry is faculty adviser and instructor for the Notre Dame Glider Club. Unmarried, he received an undergraduate degree in physics at Swarthmore near Philadelphia in 1934. He obtained his M.S.C., a master's degree in aeronautical engineering, from the University of Michigan in 1938.

The unique Brown-Eikenberry technique for visual examination of air flow is just another illustration that the leadership which the University of Notre Dame has always maintained in the field of aeronautical engineering research is being perpetuated. This ingenuity nurtured by the university in its aeronautical engineering department may well be the crucial factor that will give the U. S. world leadership in jet aviation—a leadership indispensable both for superiority in peacetime industry and international commerce and for victory in the event of a decisive conflict between the Communist World and the West.



Plant Growth Research By Electronic Devices

Experimentation in plant growth via the 'push button' method is a new and important feature of Notre Dame's Department of Biology. Two rooms are equipped to recreate many environmental conditions occurring throughout the world by electronic devices which control temperature, relative humidity, and lighting. Each of these chambers has an air conditioner with the refrigerating capacity of five tons of air. Biologists now can trace the fluctuation of cell growth through the study of plant life.

For example: research is being conducted, presently, on colchicine, a chemical that affects the chromosomes

in a plant and in turn affects the size and production of the plant.

A singular development in the field of horticultural genetics made by a University of Notre Dame biologist and now in the process of being patented may within five years make possible a college education here for many deserving young men of inadequate financial means.

Utilizing Notre Dame's ultra-modern \$12,500 "growth rooms," by which experimenters can maintain "absolute control" over environmental factors affecting plant life, Dr. Albert Delisle, an associate professor at the university, has produced the world's first "synthesized aster hybrid derived from 'five-chromosome' parents. Actually, parents each have five pairs of chromo-

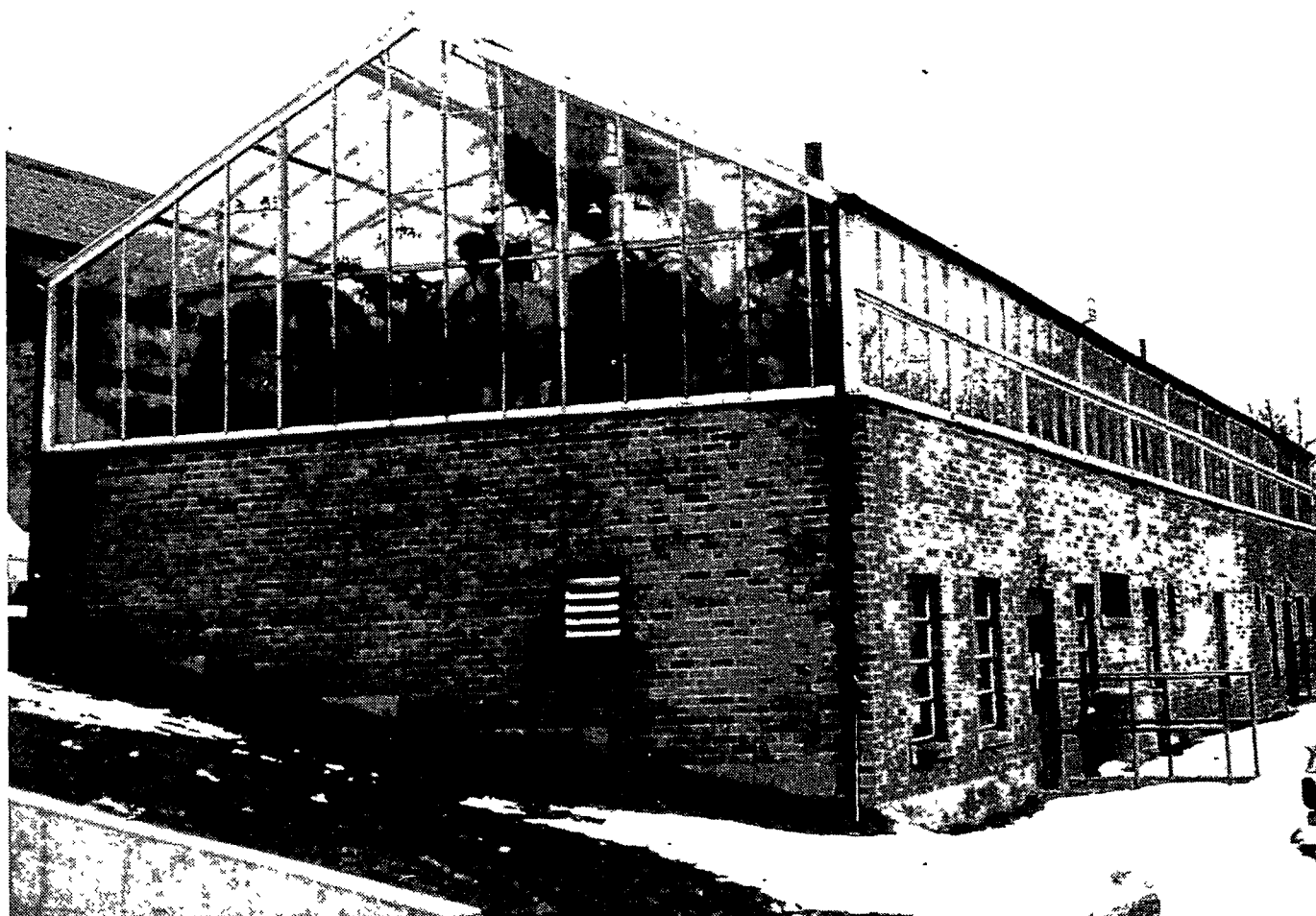
somes. Amazingly, what Delisle initiated as a pure scientific endeavor has de facto *blossomed* into a discovery replete with commercial possibilities, for, to the florist industry, his hybrid means a "more beautiful, more sturdy," and, perhaps, a more economical commodity which would be available in floral shops and markets everywhere.

Complementing his ingenuity with generosity, Delisle, realizing the money-making potential of his findings, immediately assigned the patent to the university "in the hope that a trust fund might be established to create scholarships for needy students without regard for specific curricula."

Delisle—the first biologist to discover that the basic number of

The Irish Greenhouse

A prime requisite of the University's graduate program in botany is the Notre Dame biology department's \$12,500 green house. It was completed in 1951, and is the culmination of plans initiated in 1945. There are four sections with automatic controls for temperature and light, which is making possible graduate work leading toward doctorate and master's degrees in botany. It has also contributed to research at the university. Equipped with a central "potting" room, the green house—begun after a study of latest facilities at other universities—is 91 feet long and 25 feet wide.



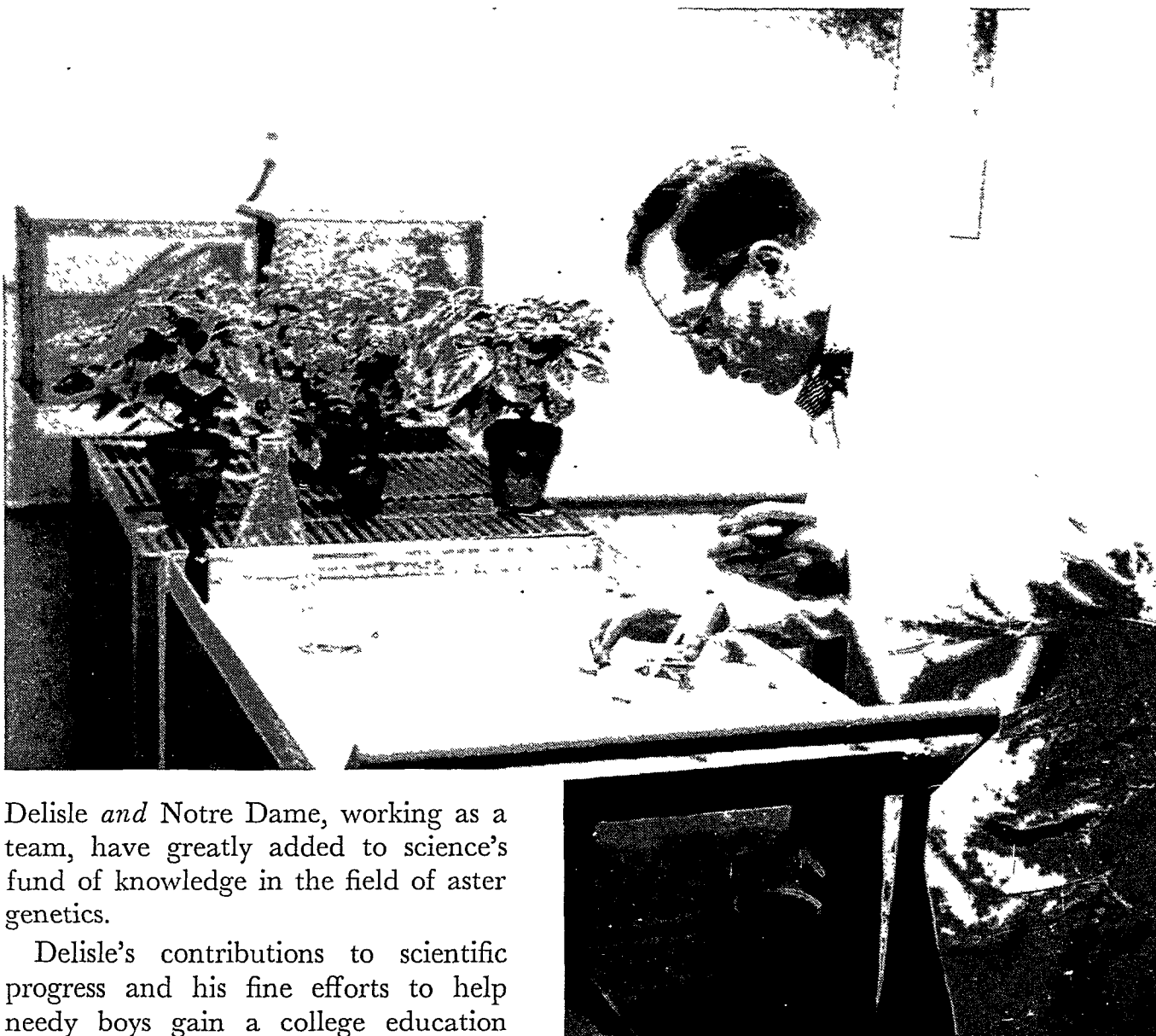
Ultra-modern greenhouse cost \$12,500 and was built in 1951.

chromosomes in the aster was five pairs, not nine pairs as previously believed—on Nov. 1, 1954, received a \$5,000 National Science Foundation grant from the U. S. government. This will further his research at Notre Dame. The botanist's significant discoveries in the field of horticultural genetics were made possible by the constant encouragement and co-operation of the university.

"The construction in 1953 of the new growth rooms and an excellent research green house are but two of many examples of how Notre Dame is striving to maintain its superiority in scientific development," notes Delisle.

The scientist earned his undergraduate degree at the University of Massachusetts, Amherst, Mass., in 1932, and he received a master's (1933) and a doctorate (1937) at Harvard. It was at Harvard that Delisle, together with K. V. Thimann, world-renowned biologist, scored another "first." Delisle and Thimann, among the first to root white pine cuttings were *the* first to discover an "age effect" on the rooting ability of cuttings (branch specimens) taken from trees of various ages. They were among the first to show that cuttings from young trees will root readily whereas those of older trees will not. Prior to these experiments horticulturists had thought it impossible to propagate white pine cuttings.

On the faculty of the College of William and Mary, Williamsburg, Va., from 1940 to 1943, Delisle came to Notre Dame in 1947. Besides the more outstanding results of their efforts,



Delisle and Notre Dame, working as a team, have greatly added to science's fund of knowledge in the field of aster genetics.

Delisle's contributions to scientific progress and his fine efforts to help needy boys gain a college education seem to be "natural," rather than sensational or unusual. It is the product of an educational system such as that of Notre Dame—an educational system that looks upon the material objects of scientific research as the "things that God has made."

Dr. Albert Delisle, associate professor in the Dept. of Biology, examines experimental "five chromosome" asters. The Notre Dame growth rooms afford perfect control of plant environment. This scientific project will provide scholarships for students.

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